The Songs of Fionn mac Cumhaill:
An Historical and Musicological Analysis
of Indo-European Musical Poetics
in Ireland, Scotland and Nova Scotia

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Abstract

The purpose of this study was to investigate through archival and musicological analysis the audio recordings of Fenian lays made in the middle of the last century. These recordings were made from informants who learned the material orally; they contain cultural elements that assist in comprehending the musical mechanics of Fenian lays at a time when their performance practices were being extirpated by foreign musical influences. These elements include Indo-European (IE) thematic material, poetics, language register, pitch structuring, rhythm, and vocal techniques.

Audio recordings of Fenian lays from Ireland, Scotland, and Nova Scotia, Canada were analysed in terms of their linguistic-musical material. Results show that the rhythm of the lays did not display a repetitive musical metre but the more complex structure of speech. However, rhythmic patterns did alter with volume. Also, resonance tuning was apparent. Many characteristics associated with volume in lay recordings exist in declaimed speech as well; both may be seen to act as a bridge between speech and metered song.

Lay poetry appeared to be syllabic, which is unusual for a stress-timed language; this reflects an Indo-European genesis that is supported by the presence of oral-formulaic language. Both stress and accent shifted pitch by poetic line to match spoken characteristics. A high language register was present, which does not indicate composition by the intelligentsia for use at court, but rather a fear-induced protective linguistic device apparent in all social classes. Moreover, the addition of delineated pitch to spoken declamation may be seen as an attempt to further increase the communicative register. The pitch structure was seen to be anachronistic, matching the linear scales played by pastoral instruments, particularly that of wooden shepherd trumpets used since at least the beginning in the Early Neolithic Age.
I am indebted to a great number of people who helped me with this work; their wisdom and encouragement have resulted in this dissertation.

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Previous Publications


CHAPTER ONE

Introduction

1.1. Prolegomenon

The mythological Gaelic figure Fionn mac Cumhaill and his band of dissolute young compatriots ranged over Ireland in the 9th century C.E. Their exploits were set to poetry and sung; the songs were passed down through oral tradition until at least the middle of the last century. Performances of such songs have been captured through the medium of sound recordings in Ireland and the Scottish and Nova Scotian diasporas. Due to the historical value attached to these songs by Gaelic culture which maintained ancient practices, it should be possible to trace aspects of such songs’ thematic material, poetic usage, language register, pitch structuring, rhythm, pitch accent, and vocal technique to Indo-European (IE) cultural practices.

Although commonly thought of as song, this type of musical form is more correctly termed “lay” (Scottish Gaelic, laoidh; Irish Gaelic, laoi, French: lai, German: leich). Various other terms in English have been used to describe this type of sung poetry; for example, the word “ballad” is often used. Unfortunately, this term tends to make one think of 19th century English romantic verse (Meek, 1987, p. 132). Therefore, the term “lay” will supplant other English terms or Gaelic words such as dàn, duan, laoidh, or laoi in this dissertation.

The name of Fionn mac Cumhaill can be traced to the 6th century C.E. For example, Meyer dates the first instance of the name “ Fiangalach mac Colmán of the Eoganacht Húa Cathboth” who was the leader of the fianna, also known as Fenians, to approximately 589 C.E. Place names concerning Fionn may be dated much earlier (Meyer, 1993, p. vii). However, the fianna, a social stratum of right-of-passage youths, roved over the Irish landscape during at least the Iron Age and into the early Middle Ages; Shields (1993) believed that their heroism was celebrated in song from as early as the 9th century. A myriad of pressures, notably from the Christian church, discouraged and ultimately extirpated this social group; the fianna died out for the most part by the beginning of the Early Middle Ages (Nagy, 2001). By the 12th century, the exploits of these rather wild young men began to take shape in the minds of the Irish people and to evolve into myth. The fianna then became a single group of youth who possessed supernatural powers. Each band originally had its leader, but the leader of one fian, Fionn mac Cumhaill, began to be solidified as the primary leader of the Fenians in the minds of the Irish people during the 12th century although possibly earlier. The tales seem to give a glimpse into the mind of an early Iron-Age Celt (Jackson, 1964, p. 5); however, Kim McConne (1990)
has also argued extensively that the tales were not simply reflections of the past, but were actual events that were witnessed by the early Christian monks. These behaviours have been traced to a common Proto-Indo-European (PIE) past; for example, Wyatt (2009) sees a connection of the *fianna* to the Norse *Berserkr* (p. 101) and present-day Ethiopian *Mursi* (p. 82); there is also a suggestion of the survival of the Germanic *Männerbund* (which is linked to the *fianna* by many researchers, including McConne (1990)) in Russia by Luguev (2003) in his “Vardish: A Survival of the Old *Männerbund* in Dagestan”.

These tales were almost always set to poetry and sung. They were very popular and were performed throughout the Middle Ages and almost into modern times. Remarkably, a number of audio recordings exist which were taken from native speakers of Gaelic in the early to middle part of the last century. Where these primary materials may be found has been a defining characteristic of the present study. Much like a common, root language can be reconstructed through analysis of similar words that exist is scattered communities (a process termed comparative linguistics), so too can this process be accomplished through comparing similar characteristics of music. By tracing the Gaelic diaspora and investigating surviving remnants of sung Fenian lays, it might be possible to reconstruct a unified, core performance practice that is more complete than by analysing Fenian lays from any one surviving community. Also, these common elements may reflect a more ancient past where a few millennia ago, most of Western Europe and India (termed Indo-European, or IE) shared a common, parent culture. This original parent culture, termed Proto-Indo-European (PIE), is thought to have existed perhaps as early as c.8,100 B.C.E. ±1,900 years and arrived in Insular Britain c.3,200 B.C.E. ±1,900 years (Forster & Toth, 2003, p. 9079). Dates of origin are varied but are based on common linguistic, archaeological, and genetic evidence.

The Fenian tales developed in Ireland and were maintained in the language spoken by the people there; they were brought with the *Dál Riada* expansion into Scotland where the culture and language supplanted the local language thought to be Pictish. This began during the 4th century, and by 1,000 C.E., the culture and language were generally uniform (Fortson, 2010, p. 327). This common language, termed Early Old Irish, became Old Irish by the 8th century. Classical Modern Irish became rather fixed by the 12th century in Ireland but was already changing in Scotland to Scottish Gaelic. Scottish Gaelic became unique somewhere around 1500 (Stifter, 2006, p. 7). The Gaelic spoken on the Isle of Man (or “Mann”; the language is Manx) became separate at about the same time. So at one time, Fenian lays were spoken or sung in Ireland, Scotland, and the Isle of Man concurrently. It should also be mentioned that Classical Modern Irish was artificially maintained in Ireland, Scotland, and Man in the aristocratic courts until the demise of the Gaelic aristocracy in Ireland by 1650 and in Scotland by 1750. Therefore, the term Classical Modern Irish refers not only to the language difference between Old Irish and Modern Gaelic (both Irish and Scottish) but also specifies that high register Gaelic was used in formal settings, indicated by the use of the word “classical”. See McManus (1996) “Classical Modern Irish” and (Ó Cuív, 1966) “The Phonetic Basis of Classical Modern Irish Rhyme”.

While there have been occasional movements of people identified with the Gaelic language and culture out of Insular Britain, the expansion into Scotland, North America, and
Australasia has been significant, with some survivals of the Gaelic language¹ being attested in small pockets in Australia, New Zealand (Waipu), and The United States of America (New York City and Boston). However, a significant population existed in Nova Scotia, Canada, particularly on Cape Breton Island; there, due to its isolation, elements of the Gaelic language and culture have survived to the present day. In Latin, the term Nova Scotia means “New Scotland”. Since there is only one Nova Scotia (in Canada), the island of Cape Breton is now a part of Nova Scotia, and Fenian lays have come from both mainland Nova Scotia and Cape Breton Island, it seems sensible to refer to the only known place of origin of Fenian lays in the New World² as coming from Nova Scotia, although a “Caper” (someone from Cape Breton Island) might be affronted if referred to as a Nova Scotian.

After a thorough searching of archives around the world in the aforementioned regions, recordings of Fenian lays were found in three distinct areas: Ireland, Scotland, and Nova Scotia. Lays discovered in these areas were found to have exhibited many of the same traits that are distinct from many Western European art music characteristics and may reflect Indo-European (IE) musical practices. Although there are a few native Gaelic speakers in Scotland and a few academics in Ireland and Nova Scotia who are capable of singing Fenian lays, the ability to transfer them to the next generation through oral transmission has effectively been lost.

1.2. Objectives

The purpose of this study is to investigate through archival and musicological analysis the audio recordings of Fenian lays made in the middle of the last century. These recordings were made from informants who learned the material orally, and they contain cultural elements that help in comprehending the musical kinetics of Fenian lays at a time when their performance practices were being extirpated by foreign musical influences. These elements include Indo-European (IE) thematic material, poetics, language register, pitch structuring,

¹ Often, studies into cultural diasporas focus on an immigrant population within the physical confines of one geographic location where a diaspora is located, “[p]ast and present social and cultural experiences and their structures of feelings, memories, and imaginations through rich ethnographic treatment; as an analytical category for probing the deeper meanings and implications of diasporic conditions of [a people’s] expressive cultural forms and practices; as a mode of awareness for critiquing and problematising the pervasive, often Western-centered notion of the dipolar order of the totalizing global system and fragmented local responses; and, at the same time, as a vehicle for oppositional politics against the oppressive and hegemonic national narrative and culture formations” as stated by Zheng in Claiming Diaspora: Music, Transnationalism, and Politics in Asia/Chinese America (2010, p. 11). Studies may also work within an area according to language such as Gray’s From Vodou to Zouk: A Bibliographic Guide to Music of the French-speaking Caribbean and its Diaspora (2010). A more relevant study done by Cooper in The Musical Traditions of Northern Ireland and its Diaspora: Community and Conflict (2009) traces the diaspora of social conflict in North Ireland into North America. Unlike these, the present author is attempting to do something altogether different: trace a particular element throughout a diaspora and compare variations to extrapolate a common past, much like a comparative linguist searches many IE languages to find a common PIE root characteristic.

² The Irish diaspora into North America occurred mainly at New York City, Boston, and in mining communities in Pennsylvania. There was also a strong presence forged in Newfoundland, in what since 1949 is now Canada. The Scottish diaspora originally came to the Carolinas and the state of New York, where after a violent period during the Revolutionary War, emigrated through the Adirondack Mountains to Glengarry, Ontario, Canada. Still, the greatest influx of Scottish Gaels has been into Cape Breton, what is now Nova Scotia, Canada. Some Protestant Gaelic-speaking immigrants, termed Normanites, were formed in Pictou, Nova Scotia; they then moved to Antigonish, Nova Scotia, then to Cape Breton, and eventually to Waipu, New Zealand. Incidentally, there is a community of Welsh in Patagonia, Argentina who still speak the Welsh language. The Welsh people are not a part of this study although their relationship to the Gaelic culture will be discussed in the following chapter.
rhythm, and vocal techniques. In order to understand these Fenian lays, this research asks a simple yet poignant question: how are Fenian lays from Ireland, Scotland, and Nova Scotia structured in terms of their linguistic-musical material? In order to understand the possible answer to this question, one must have a thorough understanding of externally imposed musical scales and practices introduced by the early Christian Church that impinged upon these lays so as to see possible deviations from ancient performance practices.

Moreover, Fenian lays existed within a cultural backdrop, and Gaelic culture and language was not isolated from those of other cultures and languages. Indeed, these lays displayed a uniform manner of performance that was congruous with the sung heroic lays throughout Europe. So, it is not merely the thematic content of heroic lays that are similar across Europe exemplified by Fenian lays in Gaeldom, but the performance practices themselves. The original, free-flowing manner of Fenian lay performance has been described as being like that of chant or the recitation manner of a Roman Catholic Priest at Mass (Shields, 1993, p. 16). This description of performance practice, characterized by a lack of repetitive rhythm, is remarkably similar to the performance practices possible to lay singing of scôps, skalds, minnesingers, troubadours, and trouvère before and during the Middle Ages in North-western Europe. Therefore, connectivity between lay performance practices across Northern Europe will be made which will also include plainchant and recitativi secci convenions. These performance practices extend beyond such moribund forms and into modern practices, such as in sprachsinge and musical theatre.

Yet, there are differences between lay singing traditions not only across Europe but between sub-cultures of the Gaelic diaspora as well. Since lays are sung in a narrative manner, rhythmic features of each language affect sung rhythmic characteristics. So what is the basic pattern of Irish and Scottish Gaelic and how does Gaelic music, and particularly the lays, reflect this? What are the changes that have taken place in the language, and what has been the effect on the poetic metre and grammatical structure of the lays by vernacularisms? How do other languages and their characteristics affect the rhythmic nature of a culture’s music, or, if there are pitch distinctions, affect the pitches of that culture’s music? Simply put, is there such a thing as the language of music, or do different language patterns act as a fulcrum to divide one culture’s music from another?

Moreover, if there are differences between differing cultures’ musics due to language idiosyncrasies, then applying a single analytical method would be inappropriate. With such a

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3 Jackson (1953) notes the language shifts within Britain itself in his Language and History in Early Britain due to contact with other cultures.

4 Chambers (1903) discusses this at length. Moreover, Seaholm (1974) has commented on a remarkable connection between Welsh, Irish and Scots Gaelic and the Scandinavian Languages (p. 5); he especially noticed Gaelic elements in his native language of Swedish in the province of Scania (p. 25). Also, Shields (1985a) produced a book, translations, and audio recordings of various narrative songs in the Celtic diaspora; the Celtic language group includes both the q-Celtic (Irish Gaelic, Scottish Gaelic, Manx) languages and the p-Celtic (Welsh, Cornish, Breton) languages.

5 For more information on this, please see Hirt (2008).

6 See Sachs (1943) who warns of treating folk music from an ecclesiastical (the Latin language was sung using melodic patterns developed from the diatonic scale) viewpoint: “As a fatal consequence, they [music historians] have tested all archaic melodies with a modal gauge, [...such songs], have indiscriminately been called Dorian or Phrygian or Lydian and thus likened to Gregorian melodies” (p.351).
non-specific approach, the particular nature of each culture’s music would be whitewashed and forced into a common mould. Yet this very approach has been used in the analysis of Gaelic music in the past. Foreign musical structures have been brought to bear on Gaelic music patterns in an attempt to divine their essence. However, the forces behind such practices of analysis have not been entirely without cultural and political bias. Indeed, Gaelic culture, especially as celebrated in music, has been oppressed for quite a long while. Almost all written descriptions of Gaelic music, whether describing performance practices, structures, language, or notational practices, have been created with the inherent desire to defend the value of the culture as espoused through music. If this is so, how can an understanding of these prejudicial conditions help to reveal the true structure of Gaelic music which in turn is inherent in Fenian lays?

In conclusion, the objective of this dissertation is to explore the very nature of the performance practices of Fenian lays and thereby to ascertain musical elements that have been erased by the force of uniform European art music practices on all aspects of Gaelic music. This may help to not only act as a tool to identify extant musical practices surviving in Fenian lays, but to recreate the heroic lay traditions of other cultures and to reinvigorate popular music conventions that may have perhaps become moribund and trite.

1.3. Problem Formulation

A number of inconsistencies have been noted while listening to Fenian lays and Gaelic music in general with regard to modern European art music models. Firstly, Fenian lays employ antique language forms. These forms include high register (formal) speech and poetic ornament that were created and maintained by mainly illiterate people. Secondly, the lays were sung narratively; that is, speech patterns of the words do not fit into a prescribed metric pattern. Syllable lengths of words are not forcibly elongated or truncated as is done with metered Gaelic music (for example, puirt à beul) and most European art music. Moreover, distances between stressed syllables are not forced to be of an equal length, as is happening to other once-similar narrative song; for example, recitativo secco. How is the narrative singing of Fenian lays connected to other heroic lay traditions?

Thirdly, pitch structuring seems to match that of the so-called folk music scale that is described as being gapped, tetratonic, pentatonic, hexatonic, etc. Additionally, ecclesiastical modal appellations have been used in the past which seem incongruous to the non-institutional, rural, or pastoral nature of Gaelic social boundaries. Fourthly, stereotypes of Gaelic vocal performance do not seem to match reality. Gaels will often sing with a small, consistent vibrato with varied dynamics in contrast to popular myth as stated by many including Ó Boyle (1977). This can be proven, not through quoting secondary sources, but by

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*European art music here refers to non-indigenous music believed to have been developed from the theorems of Pythagoras. However, one might simply see such music as any offspring borne from the artificial introduction of a non-indigenous musical structure mated to a native custom. This becomes problematic since almost all music experienced through popular media today contains some characteristics of indigenous European musical forms. It is my personal belief that art music differentiates itself from indigenous European music through the use of dissonance which follows from the presence of half-step intervals. Art music is also now almost entirely rhythmic with almost no rhythmic sections that might be described as “narrative”.*
measuring it. Additionally, Fenian lays seems to be to sung syllabically (one note per syllable),
and not neumically (two or three notes per syllable, probably from the Greek word pneuma
meaning breath), which does occur on occasion; however, Fenian lays do not seem to have
been sung melismatically in any example heard to date. This latter performance practice being
absent in Fenian lays is in stark contrast to sean-nós singing in parts of Ireland today. Since
sean-nós (in Irish Gaelic meaning “old-custom”) singing is closely tied to Fenian lays in that
both are narrative, one would expect both to share melismata; however, this does not seem to
be the case. Fenian lays seem to be syllabic and most sean-nós delivery is melismatic.
Moreover, the use of the nyahh (explained below) and other traditional elements considered
proper Gaelic vocal pedagogy seem to be prevalent in recordings of Fenian lays. How does this
contrast to more modern performances of Gaelic song?

So what are the elements of Gaelic heroic lay singing, particularly those of Fionn mac Cumhaill
that have survived from the late Middle Ages to today, and how do they differ or have become
infused with modern performance practices of European art music?

1.4. Data collection

In order to accomplish the above objectives, research was conducted and results were
analysed. There were two primary methods used concurrently when conducting research
necessary to answer the questions stated above: secondary research and primary research.
Secondary research involved searching and reading material that had been written by others
and juxtaposing different opinions against one another. Primary research involved the
application of new techniques to an older problem, or discovering something new and valuable
through fieldwork. Generally, primary research involves the collection of data whereas
secondary research involves the analyses of previously collected material (Randolph, 2009,
p. 5). Primary research should also contribute to the field of study. Both forms of research are
important and complement one another. Each type of research may then be subdivided into
separate elements as can be seen below.

1.4.1 Secondary Research

Secondary research was conducted following a qualitative literature review based in part on
the phenomenological method (Moustakas, 1994). A qualitative format was chosen since the
focus of this dissertation is in investigating the physical manner in which Fenian lays were
performed, not a historical study or analysis of thematic material. Additionally, the
phenomenological approach was used (Ogawa & Malen, 1991) since the present researcher has
had empirical experience with the phenomena of narrative singing. This has included
extensive training and professional performance of religious chant in Latin and English (for
over forty years), training in recitativi secci (by maestri trained in the Italian School of singing)
in Italian, French, English, and German (thirty years), and narrative singing in sean-nós (Irish
Gaelic solo, monophonic song, ten years).

The first step in this type of research was to identify what was to be investigated and “bracket”
this with the investigator’s own experiences (Randolph, 2009, p. 10). This led to the
formulation of the above “Problem Formulation” section. It also led to the dissection of the
literature review. Also, research materials that were unique to a particular place required identification. Since a great deal of research had been accomplished in language patterns and historical literature while obtaining a Master of Arts degree in Celtic Studies at St. Francis Xavier University in Nova Scotia, Canada, the present researcher had already accomplished a good deal of background research in Celtic Studies. A previous Masters’ degree in Music: Vocal Performance in Opera had also been acquired, but not specific research into Fenian lay singing. Therefore, primary and secondary research in this area was divided into three separate phases.

Firstly, initial musical and limited secondary research was conducted at the University of Otago in Dunedin, New Zealand. There, an initial preparation by supervisors was conducted with access to an extensive music library with a focus on ethnomusicology. The library at the University of Otago was excellent as far as librarian assistance and electronic research is concerned. Moreover, the international connection to far-away universities and remote services were excellent. As an example, Naturskalaen, by Eivind Groven (1927) was an important resource which previously could not be located. The University of Otago quickly found this resource and obtained the book. Other written resources from Russia to Ireland were also speedily procured. Physical research was conducted at the University of Sydney as well.

Secondly, although some research had been conducted in Nova Scotia, where the present writer had previously lived and studied, more work was needed. Personal connections were rejuvenated and personal interviews were conducted. The St. Francis Xavier University’s Special Collections department was utilised which possibly has the second largest collection of Gaelic material in North America. The central Nova Scotia location of this library acted as a focal point for research at archives in Cape Breton (Beaton Institute) in Sydney, Memorial University (Snow Collection) in Newfoundland, and the Nova Scotia Archives (Helen Creighton Collection) in Halifax, published material by organisations online (Tobar an Dualchais, BBC, Trinity College Dublin, Smithsonian Institution/Folkways, etc.), and personal archives of individual enthusiasts. Additionally, physical research was conducted whenever possible in disparate areas with large Gaelic populations such as Buffalo, Binghamton, and Syracuse, New York, the University of Sydney (Australia), the University of Edinburgh, and the University of Glasgow.

Thirdly, the scope of the material required definition. The primary information to be collected (primary research) consisted of obtaining a corpus of audio recordings of Fenian lays; that is, any poetic lay that had in any way been recorded. This was necessary in order to create a gamut of examples spanning spoken poems to sung lays. Since there are only a limited number of Fenian lays that exist in audio format, printed material documenting the performance of these specific heroic lays is vitally important. Additionally, since behaviours change over time, a written record may be useful to define changes in performance practices and cultural milieu. Therefore, the following subjects needed to be investigated so as to concatenate the recordings of Fenian material within a cultural context in order to determine the forces of change impinging on Gaelic society and musical practices: written narratives of Fenian lays; written poetic Fenian lays; transcribed Fenian lays from living persons; analysis of Gaelic poetry;
observations of how Gaelic music was performed; musical instruments from the Middle Ages to the present and the resulting scales with that contrasted to ecclesiastical music from that time; notational practices and how they were used to describe Gaelic music; analysis of Gaelic music; and vocal pedagogy.

1.4.2 Musical Notational Sources of Fenian Lays

There are examples of Fenian lays that have been annotated in musical terms. Staff notation has been the most commonly used, but sol-fa notation has been as well; for example, MacFarlane utilised the latter in the Transactions of the Gaelic Society of Inverness Vol. XXVII (1915). Whilst there was a great deal of emphasis on placing a few examples of Fenian lay tunes in song-book collections after James Macpherson published Fingal (1996), there has never been a concerted effort to do so. However, examples exist, and they can be divided into two categories. The first is the most complete where both musical transcriptions and the sung poetry is annotated. The second is where only the tune is printed. An example of the former includes three volumes of Kennedy’s (1909), (1917), (1921) Songs of the Hebrides. An example of the latter is Patrick MacDonald’s Collection of Highland Vocal Airs originally published in 1784 (2000). Drawing any type of conclusion from these notated sources should be done judiciously as many native tunes have been altered to match characteristics of European art song. Therefore, the use of accidentals and the diatonic scale should alert the reader to possible musical manipulation, which may be inappropriate to the intrinsic nature of the song. This is especially true with the Gesto Collection (K. N. MacDonald, 1895) and the highly romanticised songs present in the Kennedy-Fraser trilogy mentioned previously. There are also many examples of Fenian lay musical notations that sporadically occur in larger monographs such as Father Allan’s Island (Murray, 1920). Modern notations of Fenian lays have also been provided by Hugh Shields (1993), where in his Narrative Singing in Ireland, he transcribes a number of Fenian lays from collections of audio recordings of lays from the School of Scottish Studies in Edinburgh, collections by Alan Bruford, etc.

1.4.3 Printed Transcriptions of Heroic Lays

The above section describes one type of secondary source that preserved some melodies of Fenian lays that were recorded from informants using music notation, albeit imperfectly. Collections of only spoken words from living informants were made as well. This is particularly true in Scotland in response to the Macpherson controversy at the end of the 18th century which will be discussed in Chapter 6. Therefore, literary sources or discussions of transcribed lays exist in Leabhar na Féinne (J. F. Campbell, 1872), Reliquiae Celticae, Vol. I (Alexander Cameron, 1892) and Reliquiae Celticae, Vol. II (Alexander Cameron, 1894) in Scottish Gaelic, and in Duanaire Finn, Part I (E. MacNeill, 1908), Duanaire Finn, Part II (Gerald Murphy, 1933), and Duanaire Finn, Part III (Gerald Murphy, 1953) in Irish Gaelic, amongst others.

As helpful as these resources may be, transcriptions of sound recordings must be made. This poses a problem in that the language used in recordings of Fenian lays is not only often antique but is also spoken. So the words themselves are not common in the lexicon, the grammar is often different, and sound combinations are not familiar to a modern fluent speaker, making identification of words difficult; if words are even slightly unusual, the surrounding unfamiliar
grammatical context does not allow the words to be surmised, lending the entire utterance unintelligible. Gaelic linguists possessing a Ph.D. in that field are not immune to these problems. To further complicate the transcription process, the pronunciation is normally by older informants who have difficulty in speaking and who are often recorded on machines of poor quality by today’s standards; for example, there are a few recordings made from wax cylinders or wire tape. Modern digitisations are often not made from the original wire or wax recording but of a secondary or tertiary recording medium such as cassette tape.

An analogy of the difficulty of transcription may be of a scholar in possession of a doctorate in contemporary English prose attempting to transcribe spoken medieval poetry preserved on the Outer Banks of the Carolinas where a Shakespearian-era English dialect has been preserved in isolation. There would be no connection between the sound and the meaning of the word since the sounds would not match a known modern word, the context would not help with meaning, and the grammar is unfamiliar. Finding transcribers for the Fenian lays presented in the following chapters has been extraordinarily difficult.

1.4.4 Observations on Performances of Lays and Gaelic Music

There have been quite a number of scholarly works produced by a number of Irish Celtic music scholars as mentioned above, Hugh Shields being foremost. His (1993) Narrative Singing in Ireland is exceptional, but there are others who have produced brilliant work. Alan Bruford’s (1987) short work “Oral and Literary Fenian Tales” is an excellent summation on the performing of narrative song. Unfortunately, most observations are made from a scholar’s or even an instrumentalist’s perspective. Terms such as abair amhrán (lit. say a song) and si canta come si parla (lit. one sings as one speaks), which are basic to a singer’s training, confound academics and instrumentalists. There seems to be a parallel between learning music through reading notation versus learning music without relying on written music, and literacy versus illiteracy. That is, it seems as though a person who learns music through reading musical notation seems to develop a tendency for requiring repetitive rhythmical patterns in sung music. Once a person learns to perform music through written means, then repetitive, measured bars seem to be necessary in order to perform any and all types of music. However, if a person learns music without seeing it written, especially old narrative forms of music, then the performer does not seem to require metered bars. This may be analogous to the literacy versus illiteracy conundrum suggested by Lord and Parry (Lord, 2003) where once a person learns to read, his ability to develop methods of memorizing long passages of verse are compromised.

Musical analysis has also been extensive with Gaelic music in general, but has been flawed. The primary reason for this is that Gaelic music has been approached from a Western European art music perspective. Therefore, such later musical developments in the Christian Church in Western Europe as octave equivalency, and hence terms such as “pentatonic,” “hexatonic,” and “heptatonic” are routinely employed (Sachs, 1943).

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* Scottish Celticists who have turned their eye to describing Fenian lays include Bruford, Matheson, Meek, and particularly MacInnes, who have done quite admirable work. MacInnes (1987) is an excellent starting point for any serious study in the performance practices of these lays.
Moreover, one cannot merely take Gaelic music treatises at face value. It was customary to use racial pejoratives when discussing music since music was, and is, considered a reflection of a culture. Therefore, there was a great desire to justify one culture’s music through making it equal or as complex as another. This behaviour can most clearly be seen in Bunting's work concerning the Belfast Harpers' Festival of 1792 (1969). Bunting was a professional organist and expert in European art music performance and notational practices. When he published the performances of old harpers, he paid little attention to any unusual musical practices. Moloney (2000) in particular made reference to this. However, the harper Simon Chadwick has shown that Bunting notated a number of exercises with precision which are now invaluable in learning how to play the wire-strung harp (personal communication, January 13, 2005). Additionally, the use of accidentals in Gaelic music was restricted to one, or at most, two sharps; yet Bunting (1969) transcribed and published the traditional music of Irish harpers in any of a number of keys incorporating flat symbols. The harps were tuned in a Pythagorean manner, which allowed for only the diatonic scale, yet not only the natural minor appeared, but also the harmonic and melodic minor; these were clearly not possible with the instrument as it was tuned at the time.

The most descriptive analysis of the intonational system of Gaelic music to date has been by Francis Collinson’s (1966) *The Traditional and National Music of Scotland*. Collinson understood that with pentatonic Gaelic music, there are no “half-steps.” This is universally true with Gaelic music, but may not be true in other cultures; that is, “pentatonic” means that the music has five notes per octave, not that they are equally spaced. Interestingly, the interface between hexatonic and pentatonic music has been explored in a dissertation by Scott McCormick (1989) in “Scale and structure in Anglo-American folk songs: An analysis of Child ballads in the Sharp collection”. In this work, McCormick suggests that the hexatonic scale is created through a combination of two pentatonic scales being played at the same time.

A better approach of musical analysis of Gaelic music is through investigating the music from its own perspective. As mentioned above, a seminal work in this regard was written by Eivind Groven (1927) entitled *Naturskalaen: Tonale lover i norsk folkmusikk bundne til seljefløyta*. In this publication, Groven demonstrated that the intonation of Norwegian folk music matches that of the willow flute, an instrument whose pitches stem from the harmonic series (also termed the natural scale or overtone series). All other instruments, for example, the hardanger fiddle (*hardingfele*), follow the intonation of this flute (also termed a sallow flute: *seljefløyta*). There are also descriptions of contemporary Gaelic music that are invaluable.

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9 For more information, see Boswell (1896). This series of books details elements of the Macpherson controversy and is an excellent example of accepted cultural bias.

10 Another example of this can be seen in Grattan-Flood (1905) where European art music conventions are used to describe Gaelic music; this was described by MacFarlane (1915) as well. In another work, Dauney and Dun (1838) noted that Gaelic music has a unique intonation system; he makes the error of assuming that this intonation arises from the difference between Pythagorean tuning and equal temperament (for his time) and that Gaelic music was based upon Pythagorean tuning. The primary conclusion reached by the consensus of scholars over that last few centuries is that there was a strong pentatonic or hexatonic element to the music. With this understanding, Gaelic modal analysis sprang up using ecclesiastical forms modulated by hexatonic and pentatonic melodies.

11 For example, see Breatnach (1985); the difference between Irish and Scottish Gaelic music is probably best described by Budgey (2002), Harrison (1983), Ó Boyle (1977), and Ó Canáin (1993); the most informed seems to
1.4.5 Analysis and Interpretation of Secondary Sources

The myth and legend of Fionn mac Cumhail and his band of compatriots, the *fianna*, have been exhaustively researched. Both Meyer (1993) and Nagy (1987), (1981), and (1985) have investigated the date of composition of these lays due to linguistic considerations, and have also considered their social traits when placed in context to a greater European cultural whole.

1.4.6 Personal Insight

During the process of writing this dissertation, a need was revealed to occasionally refer to the present author’s insider experiences. That is, the scope of this dissertation crosses so many different fields and intellectual boundaries, that the reader might be confused as to the reasoning of the approach or wonder why the dissertation entered into so many different fields. Therefore, I will try to explain my background and thereby fill in the gaps of curiosity that may develop in the reader. Although normally forbidden in the hard sciences and in the arts in the United States of America, I will write in the first person singular whenever this type of explanation is required. So my insider experiences can be seen, the following is provided.

I was raised in Central New York State in an area where people often shifted speech registers and where generally well educated; today, 98% of the high school class went on to tertiary education. My High School of 1,500 students had two orchestras, two bands, a 200-voice choir, select 40-voice choir, madrigal group, popular choir group, and staged 1,500-seat musicals (with pit orchestras) and plays. I was in most of them and was given the award of best singer as a junior (third year) and best instrumentalist as a senior (fourth year). There was also the Syracuse Symphony and regional opera company in the area. I took courses in Algebra, Geometry, Trigonometry, and Calculus. I also had two years of Latin and German. Geology, Biology, Chemistry and Physics were also required as well as the arts.

During tertiary education, I sang in the community choir, glee club, was the paid soloist at a local church, played 2nd-4th trumpet in the 35-piece jazz band, 2nd trumpet in the college brass ensemble, travelled to Syracuse to perform with the Syracuse Symphony and Syracuse Opera chorus. In the summers, I was paid to sing with the Syracuse Symphony Pops series and played lead trumpet in the orchestra pit band for musicals. Courses included Calculus I-III. Differential Equations, Statistics, Mathematical Methods in the Physical Sciences (Eigenfunctions and Eigenvalues, Vector Mechanics, Complex Numbers, Linear Algebra, Fournier Series and Transforms, Probability and Statistics), Thermodynamics, Biology, Chemistry, Quantum Mechanics, Electro-Magnetic Theory, Musical Acoustics, etc., plus courses in the humanities, music history and theory, Shakespeare, German and Russian.

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be that of Ó Riada. In *Our Musical Heritage*, Ó Riada (1982) attempted to explain the juxtaposition of European art music and Irish Gaelic music.

12 Nagy (1985) is particularly a good source of the culture of the *fianna*.

13 Slotkin (1977) has suggested that there is a possible stress-timed nature to old Gaelic poetry in concordance with the obvious syllable timing. Meek, Bruford, et al., appear to pursue knowledge of the performance practices of Fenian lays for the sole purpose of discovering the possible performance practices of *dán díreach* poetry. Yet the Fenian lays do have Indo-European tendencies that Watkins would support: the metre is syllabic; the register is very high; and the motifs are those of an Iron Age man’s mentality.
After graduation, I travelled all over the eastern seaboard in the United States where I sang as a professional section leader in a multitude of denominations (Episcopal/Anglican, Roman Catholic, Presbyterian, Methodist, United Methodist, Unitarian Universalists, etc.). One of these churches sponsored me to take private lessons with Sondra Gelb, who often sang with New York City Opera, then conducted by Christopher Keene who had been the conductor in Syracuse. I began to sing roles with Virginia Opera before leaving and moving back to New York State. I was then hired to sing a leading role with the Binghamton Pops orchestra and was directed by Tom Kremer who was a student of Stella Adler, the famous Stanislavski teacher of Robert De Niro, Anthony Quinn, Diane Baker, Warren Beatty, Peter Bogdanovich, Marlon Brando, Susan Clark, James Coburn, Kevin Costner, among many others. I took courses with Tom in the Meisner Technique and worked with him for about two years.

I also took voice lessons with Carmen Savoca and Peyton Hibbitt who co-founded Tri-Cities Opera. Some of their student include: Richard Leech (who often sang with Kiri Te Kanawa), Jake Gardner, Raúl Melo, Aaron St. Clair Nicholson, John M. Russell, Richard Taylor, etc. I was given a full scholarship and Assistantship for a Master's degree in Music with a specialty in Vocal Performance in Opera, but the degree was considered a source of amusement to the people running the programme. The affiliation with the university was a scheme by which they could get young talent for free. They had little respect for conservatory singing and routinely mocked it. I took individual pronunciation courses in Italian, German, and French, and enrolled in language courses in them as well. I became competent enough to be hired to perform leading roles in fully-staged opera and musical theatre productions with full orchestras in 1,500-seat auditoriums without electronic amplification. I also have done “legit” stage and film work. I have been a professional cantor and musical director.

I decided to learn about the Gaelic language and moved to rural Nova Scotia. I studied Scottish and Irish Gaelic and have both Bachelor (First Class Honours) and Master’s degrees in Celtic studies, which is language-based. More than that, I lived with descendants of Scottish Gaelic immigrants where Gaelic is still spoken, attempting to understand the way they saw themselves in the world.

I have worked as a technical writer, industrial controls engineer, teacher, and served for six years as a U.S. naval officer on active duty and fourteen in the reserves (becoming a Lieutenant-Commander). While this might seem quite a non sequitur, it actually informs my observations. As an officer, I had power to make law. I created or adjusted systems (environments) to effect a positive change in the result. This might be seen as an analogy to a giant pinball machine. I moved the bumpers, flippers cushions, etc. and men bounced around and ended up where I wanted them. If something unfortunate happened, it was my fault, not theirs. I should have known of their fortes and foibles and adjusted the system accordingly. It was an exercise in creating a result through an etic perspective. Becoming involved in the actual process of an event was considered inappropriate since one’s perspective could be lost. Emotion was forbidden.

Stanislavski acting is the polar opposite of this, yet also fits within it. In this acting style, there are no differences between any two people. Our behaviour is mainly the result of our
environment, not our genetics. Adolf Hitler and Mahatma Gandhi are the same people; it is how they saw themselves in their environment that created a change in behaviour. As such, I and any other person (or actor) are both of these people at the same time. Therefore, this acting style is difficult to grasp since it is at odds with material, class-bound societal norms. In order to perform well in this technique, one must imagine possible circumstances that caused someone to behave the way that they did. Once the framework (or “given circumstances”) are created, the actor must release his own intellectual constraints and react to these surroundings without regard to any pre-conceived result. So the actor them becomes completely emic. The phrase specific to this perspective is “to live (or be) in the moment”. This is a specific term in Stanislavski acting that has spread into common usage. Neither Stanislavski acting nor the Italian school of singing seem to be present in any of the Commonwealth nations I have visited or lived.

These two disparate perspectives can be used to great effect and were used in this dissertation. If I understand the given conditions of the past, forget everything I know, and deal with those circumstances, I see the world in a very different way that most people do. This helps me to understand the past and why people did what they did.

1.4.7 Primary Research

Primary research consisted of collecting known or unknown recordings from archives and then analysing them using various means; this included using human hearing which was supported through computer analysis.

Finding extant recordings of these lays was rather difficult. Firstly, informants were and are rare. There were only a few people who remembered these lays and the way that they were sung by the time that the technology of audio recording had been developed. Secondly, the recordings themselves were made with equipment that today would be considered primitive; therefore, the quality of the recordings, even if in pristine condition, is poor. Thirdly, modern sensibilities have made the performance practices of these songs difficult for the modern listener to enjoy, relegating extant recordings to distant archives where access to the public is forcefully restricted.

Thankfully, modern technology including the internet are beginning to connect disparate cultures. In this manner, the diaspora of Gaelic culture can be re-connected, but several problems still exist. First amongst them is the lack of a world-wide civil law and court process that should facilitate dispersal of audio files without fear of unauthorized use. This is compounded by the tendency of archivists to hoard information and to make accessibility deliberately difficult if not impossible; this trait was found by the present author at the greatest repository of Fenian lays located in Scotland.

Fortunately, most leadership at archives understand the nature of the music business and have developed the compromise of degrading the quality of audio recordings to those of non-loss-

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14 Resources such as YouTube.com have placed marginalized folk music at one time enclosed behind the so-called Iron Curtain available to the average person. Archives such as the Carmichael Watson Project, Tobar an Dualchais, and Gaelstream have placed early recordings of Gaelic music online.
less recording formats. Typically, WAV or AIFF files are reduced to MP3 files, which incur a 90% degradation in sound information and are then either sent over the internet to those requesting the information, or provided to them without cost online. Archives who follow this model include St. Francis Xavier University, Antigonish, Nova Scotia, Canada, the National Folklore Collection of the University College Dublin (Cnuasach Bhéaloideas Éireann, An Coláiste Ollscoile Baile Átha Cliath), Nova Scotia Archives and Records Management (NSARM) in Halifax, Canada, the Beaton Institute at Cape Breton University, and the Scottish National Trust in the form of Tobar an Dualchais, and the National Gaelic Archive based at Sabhal Mòr Ostaig on the Isle of Skye.

There are additional private sources for Fenian lays that are in the public domain. For example, Dr. Michael Newton has a number of copies of lays sung on the radio, which would then require BBC permission to reproduce; Andrew Kyte, a student at St. Francis Xavier University, recorded Peggy Morrison singing two lays in 1989. Moreover, it is important to know the provenance of the recordings, as there are some that are not necessarily authentic. All lays found in Ireland and Nova Scotia were analysed with a few exceptions to avoid redundancy. A spoken lay found in Nova Scotia was also analysed since it seemed worthwhile to see how spoken poetry may have morphed into sung poetry. Quite a number of Fenian lay recordings were found in Scotland. Since space restricted which lays from Scotland could be analysed, it seemed logical to match any lay found in either Ireland or Nova Scotia to an example of the same lay found in Scotland. Although analysis was performed on quite a number of lays, the ones chosen were the most typical. The lay "Duan na Muiligheartaich" was used as an example although it was sung at the greatest speed and was atypical; however, it was found to have been recorded in Scotland several times from at least 1946 to 1989 from the same informant; this same lay was then sung by a modern performer. It seemed like an excellent opportunity to trace the act of "oral composition" in one singer over the span of more than forty years and then see if transmission to the next generation introduced modern musical conventions. This condition also existed in Ireland with a modern singer adapting the lay "Laoi na Mná Móire" to a modern audience. The present author also saw the opportunity to demonstrate analysis of shifting pitch accent, resonance, and vibrato on a lay preserved through secondary sources and juxtapose that with one example of "Laoidh Fhraoich" which was also a recreation using an academic approach. It also seemed logical to order the lays chronologically whenever possible in order to see if perhaps there might be modern musical practices introduced slowly with time.

1.5. Methods of Analysis of Primary Material

The recordings collected required a rigorous screening process whereby a specific set of values was extracted by applying focused criteria. Many of these criteria were developed after analysis began. That is, patterns and characteristics were heard and then tools were found to delineate and then describe such traits. These characteristics were then placed in a logical sequence.

An example of this can be seen in some recordings made by William Matheson. He would choose a Fenian lay poem and match it to the Patrick MacDonald musical manuscript, originally printed in 1784 (2000), and then record it. There are also a few modern recordings made by young singers.
This pattern was then extrapolated backward to the beginning of the dissertation and used as a backbone for discussion in Chapter 2, Chapter 3, and Chapter 4. Specific characteristics included: plot summaries, linguistic patterns of register, rhyme ornament, syllable-timing characteristics, pitch summary, rhythmic patterns (or lack of them), pitch accent, resonance tuning, vibrato, and volume.

In order to examine these characteristics, the methodology in the following material was employed. Definitions of the headings will be explored in Chapters 2, 3, and 4. Analysis in Chapters 5, 6, and 7 will be given in the same order.

1.5.1 Thematic Material or Plot Summary

Each lay was identified. A thorough review of secondary sources was conducted into thematic material and a plot summary was developed. Most published material on Fenian lays is actually tertiary; that is, since the tradition of lay performance is sung poetry, any written record is in itself secondary. Most modern written works concerning Fenian lays rely upon such sources and are therefore tertiary to the actual performance. Therefore, although such interpretation is important, actual secondary sources were used as a focus of a discussion of thematic material.

It should also be noted that even though thematic material may seem similar, it is in constant flux. No two stories are the same; for example, even two versions of “Teanndachd mhór na Féinne” from Nova Scotia, with the same number of verses and almost the same language, are different. Therefore, only large congruencies between lays will be identified (such as by identifying two lays by the same title). There are far too many subtle shifts between lays to identify slight variations or discuss them. This would be a complete dissertation in itself.

1.5.2 Rhyme Ornament

The recordings required transcription. This was exceptionally difficult since the language was antique. Expert transcribers were located and their work utilised whenever possible. The resulting transcriptions were investigated for the ornament of rhyme. The interplay of rhyme was identified and indicated by using a number of different fonts what are specified for each lay. Normally, assonantal and perfect rhyme are indicated with bold font, alliteration is indicated with italics, and aicill rhyme is either indicated with a bold font or a bold, underlined font. Definition for these terms are provided in the following chapter.

1.5.3 Linguistic Patterns of Register

The language of the lays displayed poetic indicators that might be considered formulae. For example, the expression flath na féinne might be pronounced fhath na féinne and transcribed as ath na féinne or something similar. The grammar also followed a high-register pattern and often begins with a “that clause” and causes confusion to a transcriber not accustomed to this pattern. Also, Gaelic is a VSO (verb, subject, object) language today, but older forms were often VOS.
1.5.4 Syllable-Timing Characteristics

Syllables appeared to be counted; this may have been the result of rhythm in oral formulae that was present. Often, dialectical variants added an additional syllable or its reduction in a word. For example, tighinn was pronounced either as one syllable or two. Since a descriptive, not a prescriptive, approach was used, syllables were counted as they were performed, not as they should have been performed. This often was not the case in the past as transcribers altered the syllable count to force a perfect count by the reader of a transcription; such discrepancies will be discussed for individual lays.

1.5.5 Graphic Analysis

A general graphical summary was made of one verse of each lay. The sound file was viewed using the Praat© application and the transcription written into it. The Praat© application created by Paul Boersma (2010) and David Weenink is often used by linguists in determining pitch accent and displaying it in academic publications. It has the additional functionality of plotting both pitch and amplitude contours simultaneously. Praat© has the additional feature of supporting electronic postscript (EPS) export.

The pitch contour and words of individual Fenian lays were extracted and a musical staff applied on top of the image. The pitch structuring was as simple as possible, often matching the natural scale. The starting pitch of the most prominent, stable syllable was indicated for each lay. Throughout the analysis, the reader can see the pitch and rhythmic patterning at a glance.

1.5.6 Pitch Summary

A pitch summary was used with each Fenian lay example so as to see the pitch structure used in the lay. This structure was then matched to the most probable of the following possible scales: natural, willow flute, bagpipe, “rural mode”, or diatonic (a discussion of each is provided in Chapter 3). Most examinations into Gaelic music utilise the diatonic scale; however, the diatonic scale was developed by the early Christian Church in the 10th century from the theoretical constructs introduced by Boethius (475-524) and Cassiodorus (485-580) in the 5th century (Hoppin, 1978, p. 69). The indigenous music of Western Europe was perhaps based on the instruments that existed at the time that were in use due to necessity. In particular, shepherds used long wooden trumpets (bugles) to herd livestock before the deliberate breeding of small herding dogs. These instruments played the natural scale. Instruments of leisure included the willow flute and lyre, the latter probably tuned to existing instruments which preceded the introduction of the diatonic scale. Music matching the lower frequency spectrum of the natural scale is rather effortless to play on long instruments or represents music played on shorter instruments with more difficulty. Bagpipe melodic intonation may be seen to match the linearity of this scale; there is also a restrictive scale where both shepherd trumpets and bagpipes can play together termed the “rural mode”. However, this mode, although more restrictive, might be seen as a development of organised music and

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16 According to Alberti (1968), “Guido established a six-tone, or hexachord, scale using the pattern C, D, E, F, G, A. This was a significant step closer to our modern diatonic scale” (p. 40).
not an indication of the age of the music. The development of the modern musical diatonic scale and associated harmonic progressions can be seen as a result of the convergence of the natural scale and diatonic scale which resulted in the development of organum, equal temperament, triadic harmony, major and minor modes, and the “rural mode” becoming the “choral key” of D major.

The pitch summary will reduce the Fenian lays to their principal notes and juxtapose them to all of the scales mentioned above (also discussed in Chapter 3) in order to suggest the antiquity of the melody. Melodies played at the lower end of the natural scale indicate the greatest age, short trumpets being roughly associated with the early Neolithic Age; short natural trumpets played by adults are well attested in the early Middle Ages although in the later Middle Ages, senior shepherds carried longer, 2 m. instruments.

1.5.7 Rhythmic Patterns

If a strong rhythmic pattern emerged, it was annotated using a Praat® graphical detail.

1.5.8 Pitch Accent

Pitch accent was determined through selecting a line of poetry as sung in the Praat® application and having the programme automatically select the highest pitch. The syllable on this pitch was indicated with bold font. Stressed syllables were made into capital letters in the text without regard to general hyphenation conventions. This was done to specify if a consonant was accented or not. This convention allows for differentiation between accented and stressed syllables, as accented syllables were not necessarily stressed.

1.5.9 Resonance Tuning

Audacity® (Mazzoni, 2010), which is an excellent, open-source application, was used for general listening and to capture resonance tuning through a spectrum-plotting feature. This application seemed to show this property in the clearest fashion. Waveform range was 96 dB, sample rate was 16 kHz., and generally, a Bartlett window is most often used (specific window displays vary the y-axis scale to a function that is not linear). Gaussian, Blackman-Harris, Hanning, etc. windows were also useful. Windows used will depend upon which present the clearest waveform.

1.5.10 Vibrato

The Tartini® (McLeod, 2010) application was used for vibrato analysis since it possessed a tool designed for this. Tartini® was also used to assist in musical transcription since it had the capacity to create a rough musical score of monophonic song or an instrumental tune; coincidentally, it was developed at the University of Otago by Philip McLeod.

1.5.11 Volume

Volume differentiation between stressed and unstressed syllables was often comparably large in the performances of more recent performers. When this was clear, the Praat® application was used which has an intensity contour feature. In order for the reader to see the interplay between pitch and amplitude, pitch was indicated by a dashed line and intensity with a solid line with words displayed underneath the image. This presented a time vs. frequency (Hz.)
and intensity (dB) image where the reader can see if pitch and intensity are inter-related or not.

Additionally, Adobe Illustrator® was used to fine-tune the images and combine pitch contours with music notations.

1.6. Summary

Analysis of thematic material, linguistic patterns of register, rhyme ornament, syllable-timing characteristics, pitch summary, rhythmic patterns (or lack of them), pitch accent, resonance tuning, vibrato, and volume all demonstrated an historic manner of performance. This will be examined in the ending chapters (Chapter 5: Ireland Fenian lays, Chapter 6: Scotland Fenian lays, and Chapter 7: Nova Scotian Fenian lays). Preceding chapters will expand upon the reasons for each of the sub-sections of analysis.

The following chapter will explore the nature of the Gaelic language group (Goidelic) and the features of the language that are used in the ornament of rhyme. It will also identify formulae and register usage that are routinely employed.
2.1. Introduction

Fenian lays from Ireland, Scotland, and Nova Scotia are structured through their poetic organisation; this is a reflection of the structure of the Gaelic languages. The poetry is unusual in a number of ways; firstly, it is syllabic. This is highly unusual in a stress-timed language. Secondly, the poetry displays the ornament of rhyme. Thirdly, the poetry is in a high language register. Fourthly, the poetry displays indications of oral-formulaic language. Maintaining these poetic elements becomes difficult as pronunciation, grammar, register, and vocabulary change over time. It is remarkable that the oral transmission of Fenian lays maintained antiquated words and linguistic forms. If such elements have been preserved, then it is quite possible that related musical traditions have also been preserved, which will be discussed in the following chapter. A possible corollary is that both phonetic and musical structures worked together to preserve ancient practices.

One aspect of Fenian lays that suggests their antiquity is their tenacity in maintaining archaic speech characteristics and patterns. Therefore, a necessary component of Fenian lay analysis is an understanding of pronunciation on a micro-level (phonemics) and how pronunciation may change depending upon macro-tendencies (phonetics and phonology). On a micro-level, a minimum of understanding between palatal and non-palatal vowels and consonants is required for understanding Gaelic language poetics for non-native speakers. Intertwined with this are the modern and older orthography conventions of Ireland, Scotland, and Nova Scotia. It is fortunate that even with the expanse of time and distance between Gaelic language dialects, the spelling systems are easily traced and fairly consistent. On a macro-level, understanding repetitive physical patterns, grammatical shifts, and changing societal attitudes of formality help to reveal elements of Fenian lays that the modern veneer of comfortable contemporary conventions disguise.

Oral transfer of Fenian lays has been maintain in Gaelic society until recently, as MacInnes states:

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17 A full explanation of the difference between stress-timing and syllable-timing will be explained in Chapter 4.
18 Generally, phonetics is descriptive, and phonology is theoretical. Perhaps “articulatory phonology” might be a more inclusive system than using the terms phonemics and phonetics.
Now if the Fenian ballads appear as early as the twelfth century in literary form, the fact that oral versions exist at all in a living tradition at the present time is undeniably a remarkable instance of cultural continuity and survival. (1987, p. 103)

Yet, linguistic change is inevitable. No language ever stands still, and changes are certain to occur. Additionally, the oral-aural transfer of folklore and poetry is imperfect; although memory in Gaelic society is highly prized and developed (see Chapter 6), systematic errors occur. These errors apply to Fenian lays and have resulted in their slow change over time.

### 2.2. Fenian Lay Language History

Since such a great deal of this dissertation is devoted to the synthesis of words and music, it is appropriate to understand some characteristics of the first element: language patterning. Fenian lays are sung in Gaelic; therefore, the phonemic and phonetic structures of Irish and Scottish Gaelic should be known in a cursory manner, especially when relating to the reader’s experience which is assumed to be English.

The Gaelic language, both Scottish and Irish (the branch of which is termed Goidelic; see Figure 2.1, below), is perhaps one of the many offspring of the Proto-Indo-European (PIE) language. PIE is a theoretical language created by scholars to explain why there seems to be a common link between languages that range between India and the uppermost reaches of Northern Europe. From this one parent language all other subsequent daughter languages developed. Modern-day descendants of PIE are said to be Indo-European (IE). This does not mean that all European languages sprang from this conceptualised language; for example, Basque, Finnish, Estonian, Hungarian, etc., are considered non-Indo-European languages.

Recent research is beginning to expand our understanding the origins of the PIE culture and resulting language. This is being done through a combination of genetic and archaeological developments; archaeological discoveries not only link cultural behaviours of disparate IE cultures through artefacts, but through associated words used to describe such artefacts which are correlated to inscriptions of words in religious texts preserved on grave markers, votive offerings, and dedicatory monuments. The linguistic record, combined with material evidence in the form of archaeological evidence and genetic markers, is beginning to reveal general patterns of tribal movement across Europe, Western Asia, India, Iran and Turkey and continuing today into the Americas and Australasia; today, over 2.5 billion people speak an IE language (Clackson, 2007, p. 2).

Yet, defining an IE dispersal time-line is fraught with controversy since language history, genetic markers, and historical time-lines do not seem to be congruous as Pereltsvaig and Lewis explored in *The Indo-European Controversy: Facts and Fallacies in Historical Linguistics* (2015, p. 17); however, there are a number of themes that are broadly linked and

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19 This does not mean that this creation is haphazard. The study of language relationships using comparative linguistics and comparative poetics is quite developed.

20 These are mainly from the Ugric language group. There have been several theories proposed to account for their isolated existence amidst a majority of IE languages. None are very satisfactory. The most plausible is that the last Ice Age reduced the indigenous European population to isolated groups. The infusion of Neolithic people (the Yamnaya culture from the Russian Steppe in one theory) and the IE languages surrounded the practitioners of Ugric.
are revealed through analysis of Fenian lays. One significant characteristic of Fenian lays is that they were sung to melodic patterns that were produced by musical instruments (often defined as pastoral or rural) used for herding livestock; this will be discussed in Chapter 3. These instruments were used before the development of small herding dogs and may be traced to the Neolithic Age (Sachs, 1940, p. 63). The Neolithic Age was inaugurated by the development of animal husbandry and agricultural methods that dramatically increased human survival rates during the famine of winter. This technology was thought to be introduced from either Northern Turkey or the Steppe of Russia:

Discussion of Indo-European origins and dispersal focuses on two hypotheses. Qualitative evidence from reconstructed vocabulary and correlations with archaeological data suggest that Indo-European languages originated in the Pontic-Caspian steppe and spread together with cultural innovations associated with pastoralism, beginning c. 6500–5500 BP. An alternative hypothesis, according to which Indo-European languages spread with the diffusion of farming from Anatolia, beginning c. 9500–8000 BP, is supported by statistical phylogenetic and phylogeographic analyses of lexical traits. (Chang, Cathcart, Hall, & Garrett, 2015, p. 194)

So a new food technology moved across Europe in antiquity and continued with the Gaelic diaspora in the modern day. While ancient musical elements in Fenian lays will be discussed in subsequent chapters, linguistic features may exist in lays that might show a connection to a PIE base. One strong linguistic feature that is evident in Fenian lays is that of poetics; using comparative poetics, particularly that of Watkins in his “Indo-European Metrics and Archaic Irish Verse” (1963a), it might be possible to show a connection, not simply to early medieval poetry and metrics, but to common IE poetic characteristics. Before embarking on this journey, it might be prudent to trace Gaelic language history and poetic features.

The Celtic languages, of which Gaelic is a part, were at one time divided into two groups based upon whether they were spoken in continental Europe or in insular Europe (the Britain Isles). The Insular Celtic language was divided into two groups, Goidelic (modern Scottish, Irish, and Manx) and British (Welsh, Cornish, and Breton) and was based upon the apparently major division between pronouncing a word as a [k] sound or a [p] sound. For example, consider how the word "son" in modern Scottish Gaelic and Welsh is spoken. In Scottish Gaelic, the word is mac, in Welsh, it is (m)ap (or 'ap, the /m/ being abandoned). The [k] and [p] at the terminus of the words differentiates them from one another. To avoid confusion as to whether to use <k> or <c> for the identifying letter in describing this differentiation, <q> was chosen to represent the [k] sound in Gaelic. Hence p-Celtic and q-Celtic are the names chosen to represent these two groups of languages. There are presently three q-Celtic languages: Irish Gaelic, Scottish Gaelic, and Manx (almost extinct, but undergoing a revival). There are other terms for these languages which makes initial investigation into the cultures which use these languages confusing. For example, “[I]linguistically English-oriented central powers brought about the use of the term ‘Irish’ instead of ‘Scottis’ for Gaelic. ‘Ersche’ or ‘Erse’ are dialect [sic] variants” (MacInnes, 2006b, p. 99). The word “Gaelic” is often used to refer to the Gaelic

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21 It should be mentioned that the Modern Breton language did not survive from Continental Celtic, but was imported from Britain. The Celts in Britain (England) were forced out of their lands by the Angel, Jute, and Saxon invaders and migrated to Amorica, modern-day Brittany in France.

22 The symbols // will be used to delineate specific sounds in a particular language, [] to express universal or theoretical sounds, and <> to identify letters.
spoken in Scotland; this is confusing since Gaelic (Gaeilge) is the name of the language spoken in Ireland as well. In order to differentiate between the two, the terms “Scottish Gaelic” and “Irish Gaelic” will be used in this dissertation. For brevity, the term “Gaelic” will be used for these three languages. Although Fenian lays were undoubtedly sung in Manx, there are no known survivals in that language. Therefore, the term “Gaelic” will apply specifically to Gaelic languages spoken in Scotland and Ireland. Below (Figure 2.1) is one model of the hypothetical categorization of languages descending from PIE with special emphasis placed on that group of IE languages spoken in the British Isles (†=extinct) as stated by Stifter (2006, p. 1):

From Figure 2.1, it can be seen that Insular Celtic diverged into British (p-Celtic) and Goidelic (q-Celtic) groups. In Scotland, p-Celtic was spoken until the invasion of the Irish Dál Ríada after which q-Celtic became the standard. So although at one time a unified Gaelic was spoken in Scotland and Ireland and was pronounced approximately the same (Early Old Irish/Goidelic or Old Irish), the language eventually developed dialectical distinctions that broadened over time, making Irish and Scottish Gaelic distinct. Since this dissertation is focused on how Fenian lays were sung, more emphasis will be placed on pronunciation differences than grammatical ones. This is unusual but necessary since the poetry of Fenian

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23 However, there are written records of Fenian lays in Manx. An example might be “Finn as Oshin” which exists in three manuscripts as discussed by Broderick (1990, p. 51).

24 Stifter (2006, p. 2) briefly discusses the differences between Karl Horst Schmidt (1993) and Kim McCone’s models of the Celtic language tree.
lays was created to be performed, not read. Therefore, emphasis will be placed upon the temporal aural qualities of the poetry.

2.3. Pronunciation Characteristics

In order to understand the nuances of the Gaelic language and the poetic ornaments in Fenian lays, one must first understand the phonemic building blocks of the language. In order to do this, a detailed explanation of the sounds of the Gaelic languages must be presented. Unfortunately, literature that addresses the minimum required to understand Gaelic poetic ornament only exists in high-level linguistic surveys. These documents also assume that the reader is a linguist and possesses a great deal of knowledge of phonetic symbology; therefore, detailed explanations are not provided in these complex texts. Rudimentary explanations of phonetic symbols are often given at the beginning of language instruction courses; unfortunately, those explanations are not detailed enough for the present dissertation. The following “middle-ground” explanation is therefore provided.

2.3.1 The International Phonetic Alphabet

In order to understand the ornaments of Gaelic poetry, a cursory knowledge of the phonemic elements of the Gaelic languages is required. Yet, most references to pronunciation are general and limited and those that are more detailed are on such a level as to make them incomprehensible to the uninitiated. In order to understand the function of ornament such as assonantal/consonantal rhyme, internal rhyme, end rhyme, comhardadh slán/briste, aicill, etc., the shift between palatal and non-palatal ending vowels and consonants is necessary. The present section is devoted to briefly defining the phonetic foundation of ornament in Gaelic poetry.

When analysing poetry, or any field of study, one’s perspective is important. An “etic” perspective is one where one examines something from a distance, much like a scientist watching the behaviour of insects under a microscope. In an “emic” position, one becomes an insect, looking around the world as the insect. Both roughly correlate to the “insider” and “outsider” perspective of ethnologists. So, from an emic perspective, European languages all

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25 Whilst at one time obtaining Gaelic language-learning resources was quite difficult, general texts on both the Scottish and Irish Gaelic languages now abound; the Teach Yourself series are available in both languages. The present author was taught Irish Gaelic (Gaeilge na h-Éireann, Gaelic of Ireland) by Joy Kelleher (Ni Chathasaigh) and Dr. Kenneth Nilsen using Domhnallain’s (1967) Buntús Cainte and Irish Grammar (Brothers, 1980). Additionally, the relatively new Micheál Ó Siadhail’s (1988) Learning Irish is a good but rather intensive introductory text. Dictionaries of value are De Bhaldráith’s (1959) English-Irish Dictionary, Donaill’s (1977) Pocóir Gaeilge-Béarla, but especially Quin’s (1990) Dictionary of the Irish Language (often abbreviated to DIL); both the hardbound version and the online version (the eDIL: (Quin, 19998)), are extremely important. Primers of Scottish Gaelic (Gàidhlig na h-Alba, Gaelic of Scotland) were also once rather rare, but are now to be found in relative abundance. The present author began with Parson’s (1986) Gàidhlig Troimh Còmhraidh taught by Catriona NicIomhair Parsons although Ronald Black’s (1997) Cothrom Ionnasachaidh is also considered the standard. Good dictionaries are more rare. The Pronouncing and Etymological Dictionary of the Gaelic Language by MacLennan (1979) is of value since pronunciation seems absent in all other dictionaries; however, dialectical variants are absent in MacLennan’s version. The foremost reference by far is the Dwelly’s Illustrated Gaelic-English Dictionary by Edward Dwelly (1994). There are two difficulties in using this reference. Firstly, since the dictionary was first published in 1901, future publications consist merely of lithographic versions, making legibility a challenge. Thankfully, Michael Bauer and William Robertson placed this resource online at www.cairnwater.co.uk/gaelicdictionary/ (Dwelly, 2015).

26 See Borgström (1940), (1941), Tomás De Bhaldráithe (1975), de Búrka (1970), Mhac an Fhailigh (1980), O’Rahilly (1972), and Ofstedal (1956) amongst others.
seem markedly different. However, from an etic position, they are remarkably cohesive. Their differences are important, but their similarities are striking. Indeed, moving from one language to the next seems largely an exercise in voicing unvoiced consonants (or vice versa) and aspirating positive consonants (or vice versa). Such shifts explain the apparent disconnectedness of such word-pairs as *pater* “father” and *mit* “with.” Yet, from an etic position, all of the dialects in Europe (minus the isolated non-PIE languages) may be seen to be dialects of one another.

Perhaps one difficulty facing the reader of this present dissertation is that written English orthography which uses the Roman alphabet did not keep pace with spoken phonetic changes. Therefore, monoglot English speakers find it a difficult task to decipher Roman type symbols, whilst their European counterparts do not. Simply, English today is not spelled in Roman type the way that it is pronounced. Consider the words, “light”, “late”, “I”, “ice”, etc. All of these examples have either added sounds not represented by letters, or have letters that are no longer pronounced; this makes the pronunciation at odds with the written word. The *i* in “light” is pronounced “ah-ee” (/a:i/); the *gh* sound is no longer pronounced although at one time it was: the *h* indicated aspiration of the preceding consonant, here, the voiced *g*. The *a* in “late” is now pronounced “eh-ee” /e:i/ instead of /a/ whilst the *e* at the end is no longer pronounced, etc. To alleviate this problem, linguists created a system where individual symbols are used to represent small units of sounds that bridge all of the IE languages; the system conveniently incorporates many Roman letters as they were originally used. Below is the system termed the International Phonetic Alphabet (IPA), Figure 2.2.

In the IPA, there is a unique symbol that is mated to a sound. Unfortunately, there seems to be little reason why any given symbol is assigned to any particular sound. At one time in history, this was not so. The Western Semitic letter Aleph (Proto-Canaanite alphabet), which means “head”, specifically the head of an ox, was shaped to look like one: $<$; it came to represent the first vowel of the word “ox” and was used in the Latin and Cyrillic alphabets as “A”. This is not relevant in English concerning the Roman alphabet. Symbols do not visually match any object that represents a sound. However, in Scottish Gaelic the names of letters are given the names of large plants (trees); each letter starts with the corresponding sound of a particular tree. For example, *Ailm* = <A> (the Elm tree), *Beith* = <B> (the Birch tree), *Coll* = <C> (Hazel), *Darach* = <D> (the Oak tree), *Eadha* = <E> (the Aspen tree), *Fèarn* = <F> (the Alder tree), *Gort* = <G> (Ivy), and so on.

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27 Observe the so-called Grimm’s Law (1819) and the associated Verner’s Law for an explanation of this. Jacob Grimm (of “The Brothers Grimm”) did not actually discover this law but it is named after him for convenience because the aforementioned reference included its full description.

28 If <h> represents the action of making a plosive (exploding) consonant a fricative (a friction-sound), and bold-to-normal type shows an unvoiced-to-voiced shift, then *pater* → *phather* → *pha*th*er* [*fa:ðər*] (father) and *mit* → *m*ith [*µiθ*] (with).

One obstacle with IPA is that it does not assist in discerning relationships between similar sounds or physical movements such as exist in the Gaelic languages; that is, there are repetitious processes that occur in the language, and links between similar sounds are not represented by visual relationships with symbols; for example, the voiced-unvoiced relationships between palatal and non-palatal [t] and [d] are not apparent by looking at the symbols <t> and <d>. 

Figure 2.2: IPA Chart
2.3.2 Phonetic Symbols of Vowels

Two major divisions may be made in Gaelic with respect to vowels. The vowel may be palatal or non-palatal, long or short. The Gaelic languages, like many European languages, are inflected; that is, a word may change subtly so that a specific time, mood, person, number, gender, voice, etc. might be expressed. This is especially apparent in Gaelic when the pronunciation of nouns changes depending upon whether nouns are in the vocative, nominative, genitive, or prepositional cases. In Gaelic, this is done by having the ends of the words, and often the beginnings, shift between a line of vowels classified as palatal and those classified non-palatal. Consider the former dichotomy between palatal and non-palatal vowels as described below.\(^3^1\)

Palatal Vowels

In order to produce the [i] (ee) and [e] (eh) sounds, the front of the tongue must rise to near the palatal/pre-palatal position. Therefore, since the tongue approaches the palatal area, the [i] and [e] sounds are called palatal vowels. For a pictogram of the most forward position (the vowel [i]), see Figure 2.3, below ("Pronunciation Power," 1995):\(^3^2\)

![Figure 2.3: The [i] Vowel](image)

If the front of the tongue relaxes and slowly falls flat on the bottom of the mouth, a series of vowels is created: [i], [e], [ε], [a]. This approximates the sounds of English ee—eh—ah. This sequence is designated as the palatal line. The final position of the tongue at [a] is displayed in Figure 2.4, below ("Pronunciation Power," 1995):

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30 This is normally done at the ends of words; for example, who (nom.), who (voc.), whose (gen.), whom (dat.), etc.

31 Gaels often designate the forward area (toward the teeth) as "slender" or palatal. Anything below this region (toward the back of the throat) is referred to as "broad" or non-palatal, which includes the velar area. Case is defined by shifting between palatal and "anything else" that is, anything below the palatal region, hence the term “non-palatal”. The velar region is a specific region that applies to specific non-palatal sounds. So when used in a grammatical environment, the terms “palatal” and “non-palatal” are used, but when noting an exact phonetic sound, “velar” may be used for some non-palatal sounds. This dichotomy between palatal and non-palatal is instrumental in understanding inflectional shifts and the poetry of Fenian lays.

32 The images in Figure 2.3, Figure 2.4, Figure 2.5, and Figure 2.6 were captured from the computer application “Pronunciation Power” created by English Computerized Learning (ECL) Inc. Inclusion in this dissertation and permission to alter the images was kindly granted by ECL in return for acknowledging them as the originator of the images.
Here, one can see the tongue in its most relaxed position on this line.

**Non-Palatal Vowels**

From this last [a] sound, if one attempts to raise the back of the tongue so that it approaches the velar place in the mouth, [ɑ] is produced and can be seen in Figure 2.5 ("Pronunciation Power," 1995), below:

As the back of the tongue rises higher in the mouth, a new series of vowels is produced: [ɑ], [ɔ], [ʊ] (ah—uh—oh—oo). In order to accomplish this, the tongue will begin to curl quite a bit in the front, allowing the back of the tongue to rise in a sharp curve. As the back of the tongue continues to rise, it will reach the [u] position; see Figure 2.6 ("Pronunciation Power," 1995), below:
Notice that the lips become pursed at this point.

**Comparing the Two Lines of Vowels**

These two lines are important because a Gaelic speaker will transfer tongue placements between the two lines to define case. The following (Figure 2.7)\(^{33}\) shows this connection:

![Figure 2.7: Linking Palatal and Non-Palatal Lines](image)

In observing the figure above, one can then perhaps understand how a Gael will pivot back and forth from one line to the other to alter case. This is an extremely important distinction and a feature of the Gaelic languages. For example, the Scottish Gaelic word for “music” in the nominative case is *ceòl* (*ceól* in Irish Gaelic). The ending vowel is non-palatal as is the ending consonant. To form the genitive case, one must shift the end of the word to a sound on the opposite line of Figure 2.7; this produces the word *ciùil*. The non-palatal ending of *ceòl*, */ol/\(^{34}\), changes to the palatal ending */Il/\(^{34}\). The sounds and letters */ò/\(^{34}\) are changed from */ô/\(^{34}\) only because of *umlaut*, where a following vowel influences the preceding one. Another example of the palatal to non-palatal transposition due to case change can be seen with the name of “Donald” or *Dòmhnull*. If someone is the son of Donald, that is expressed as the “son” (nom.) “of Donald” (gen.); in this case, *Dòmhnull* (nom.) becomes *Dhòmhnail* (gen.). The ending */ull/ shifts to the opposite side of Figure 2.7 to */ill/; the */i/ also pulls the */u/ forward to */a/ which again is the action of *umlaut*.

**Vowel Length**

The second division that takes place in vowels is that there are often length differentiations. As an example, “my father” is *m’athair*, but “mother” is *màthair*. Both are pronounced approximately the same, but the */à* sound in *màthair* is spoken longer than the */a* sound in

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33 This image was created by the present author.
34 As one might imagine, the ending consonant changes depending upon the preceding vowel. This is indicated by Celticists by writing a lower-case letter */l/ for a soft ending (as in the English “let”) or an upper-case letter */L/ for a broad ending (as in the English “laugh”). The Latin names of soft (*lenis*) and strong (*fortis*) are used to make this distinction. To make things more confusing to the learner of Gaelic, there are slender/palatal and broad/non-palatal versions of both of these two sounds.
m’athair. In Irish Gaelic, the lengthened vowel is indicated by the accent acute <á>; in modern Scottish Gaelic orthography, it is indicated by the accent grave <à>.

Symbol Combinations

A detail concerning spelling conventions is required with regard to letter combinations. This is particularly important since the performance of Fenian lays can elongate normally compacted diphthongs or hidden vowels, making them distinct and increasing the syllable count. Every important and distinct sound or sound group that is important and defines meaning is a phoneme, a theoretical representation of a single sound in the mind of the speaker. A phoneme can either be represented by one letter, for example, <b>, <k>, etc., or two or more letters. When using two letters to represent one sound, the sound representation is a digraph; for example, at the end of a word in Scottish Gaelic <(a)dh> is pronounced /g/. Sometimes a combination of one vowel following another is pronounced so smoothly that the listener equates the combination to one sound and not two.

When sounds are transcribed phonetically, there are no digraphs. Every sound is quantified and made as exact as possible. As an example, consider the two Scottish Gaelic words, fìon (wine) and bioball (bible). Both <io> combinations in both words are considered phonemes and are also considered diphthongs. Yet, in the first instance, fìon has a longer /o/ sound than the word bioball. Many native Scottish Gaelic speakers would consider the <io> combination in bioball to be a digraph; that is, one single sound of /i/. However, on close examination, /o/ is actually slightly pronounced as the tongue falls away ever so slightly from the /i/ sound. Also, in the IPA, there are no allophones. An allophone is a symbol that represents more than one particular sound, but the listener may not hear it; that is, different sounds may be represented by one symbol since the listener cannot differentiate between the two sounds.

The essential point is that the Gaelic languages are spelled much more closely to how they are pronounced than English. The difficulty in understanding this is that if there are two vowels spelled next to each other, one may be pronounced so quickly that it is not identifiable to the listener, yet the minority vowel is still slightly present. Native speakers often refute this issue; however, computer analysis shows that secondary vowels are pronounced albeit often infinitesimally quickly. If a vowel is inserted in an apparent attempt to show that the following or preceding consonant has either a palatal or non-palatal quality, there is always a vowel glide to or from that consonant. This will be discussed in the section on consonants, below.

Hiatus

When two adjacent vowels have two points of attack; that is, two clearly pronounced separate vowels, they are said to be separated by hiatus. In Modern Gaelic, this is indicated by now-silent letter groups of th, sh, bh, fh, dh, mh, etc. These groups were at one time pronounced as single sounds. In English, the diaeresis (or dieresis) symbol was once used to indicate this separation, but now a hyphen is used; for example, “coöperate” is now generally spelled “cooperate” or even “cooperate”; “naïve” is now spelled “naive”. In the Gaelic languages, in order to separate these two sounds in writing so that they are not mistaken for a mixed-vowel or a diphthong, apparently irrelevant letters have been retained from an older spelling system. These vestigial digraphs still mark a boundary between the two vowels that they separate. The
separated vowels are pronounced as two distinct sounds with a clear vocal stress on the secondary vowel so that it can be heard. This is something akin to an English speaker deliberately omitting an intrusive /n/ between the indefinite article and a noun that begins with a vowel, such as “an apple”. So if “a apple” is pronounced without a glottal stop on the <a> of “apple”, there will be a slight push of air on the beginning of “apple” that separates the indefinite article from the noun, making the two words distinct.

Hiatus is important because its presence increases syllable count. Common examples are the shortening of ni bhfuil to nil (is not) in Irish Gaelic, and the shortening of latha to là (day) in Scottish Gaelic. In both examples, the expressions are reduced from two syllables to one.

**Vowel Intrusion**

There are vowel insertions into Gaelic words where tight consonant clusters make pronunciation difficult. This often happens in combinations of <lm>, <ln>, <lbh>, <rm>, etc. Epenthetic vowel insertion (also called svarabhakti or the “schwa” [ə]) were named for neutral vowel interjections. Even where intrusive vowels occur, they do not “count” as vowels. Therefore, they do not add to the syllable-count of a line of poetry. As Jackson notes, “As svarabhakti was never admitted in the traditional metres of poetry, it has always been regarded as un-literary [...]” (1953, p. 337). This is true in the Gaelic languages whether the poetry was literary or composed by an illiterate Gael:

[S]varabhakti groups are recognized as monosyllabic by educated native speakers. This may be partly due to the spelling, where the second vowel of a svarabhakti group is left out [or(o)m, fal(a)bh]; but it is significant that in songs, even local òrain that have never been written down, a svarabhakti group is sung on one note. (Oftedal, 1956, p. 29)

Examples of Scottish Gaelic words where intrusion is present include: falbh /fa:Laf/ (go), orm /o:rom/ (on me), tarbh /ta:raf/ (bull), salm /sa:Lam/ (psalm), etc. In English, Nova Scotian residents still say /kl:In/ for “kiln”, /jo:is/ for “joists”, /mo:dren/ for “modern”, /ta:vren/ for “tavern”, and /la:ntrn/ for “lantern”. Other American and British English speakers also routinely say “nuclear” as /nu:kər/; “kettle” as /ke:təl/ instead of /ke:tlə/, “fiddle” as /fl:dlə/ instead of /fl:də/, etc.

Unfortunately, linguists often write the epenthetic or intrusive vowel as <⟩, regardless of its actual sound; this may be due to the confusion generated by using the word and symbol to refer to both a particular sound and any unstressed vowel. This duality poses difficulty for singers since the schwa position correlates to the “resting place” of a language; languages and dialects have different resting places. Particularly in North American English, the schwa acts as a focal point or target; after a singer sings a stressed vowel, the singer begins to relax to this point, but before this is accomplished, the next stressed vowel arrives and the singer must re-

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35 There is a difference between an intrusive vowel and an epenthetic vowel. Whilst true, such delineation will add unnecessary complication to this dissertation.

36 Quotation drawn to the present author’s attention by Hall (2004, p. 6).

37 In French, the sound is “peu” as is mentioned consistently by Grubb (1979). If singers remember this and migrate to this position for unaccented syllables and ends of words in French, the singer’s accent is much improved; for example, the end of the word beaüté sounds more “French” if the ending é is treated as an umlaut with a phantom following “peu”.
energize the tongue to pronounce the new vowel correctly. Therefore, the [ə] sound acts as an aiming point for unstressed vowels that is never achieved.

**Intruding Aspirations**

Aspirations are important in that they act to divide syllables, which is important when counting syllables in a poetic line. In English, one says, “An apple” not “A apple”. An /n/ is inserted to separate the two conjoined (<a>) vowels. In a like manner, Gaels insert an /h/ to make certain nouns beginning with vowels stand by themselves. This is not always written, especially in old texts. This feature is included in the present discussion because the intruding /h/ can make two syllables of the conjoined words or may not, depending on the intent of the poet. That is, two vowels placed concurrently normally only count as one syllable.

**2.3.3 Phonetic Symbols of Consonants**

This section describes the consonantal features particular to Gaelic. Since the IPA does not integrate well with the Gaelic languages, Celtic linguists have developed a system of showing migration between palatal and non-palatal consonants through various conventions described below.

**Palatal versus Non-Palatal Consonants**

Most non-Gaelic speakers are unaware that consonants are placed in the speaker's mouth where the following or previous vowel is placed. This is particularly important for singers; the translated axiom in the Italian school of singing is to “[p]ut the consonant where the vowel is”. In the English spelling system, there is no true vocal palatal/velar connecting feature, so there is no need to have a precise spelling system. Gaelic requires specificity in order to delineate the exact stroke of the tongue when pronouncing consonants. This has the effect of making written Gaelic appear to have superfluous letters in a word, when in fact, Gaelic orthography is rather exact. Consider the following illustration:

Observe the English word “cough”. The first vowel, the /a/ (aw) sound in “cough”, is created by placing the back of the tongue toward the soft palate (non-palatal, near the velar region). The preceding consonant also stops the flow of air for a moment; therefore, when the <c> (the /k/ sound) in “cough” is spoken, the first consonant will be made where the tongue is closest to the area above the mouth.

Now observe the pronunciation of the English word “keel”. The first vowel, the /i/ (ee) sound in “keel”, is created by placing the front of the tongue toward the hard palate (near the pre-palatal/palatal region). The preceding consonant, written as <k>,\(^3\) is an exploding consonant (termed a “plosive”), which stops the flow of air for a moment. The tongue’s position when producing the consonant <k> will be at the position where the vowel /i/ will be made. In the

\(^3\) Although there seems to be a tendency in English to write <k> with palatal consonants such as “kind”, “keep” etc., and <c> for non-palatal consonants such as “cage”, “coco”, and “cool”, the IPA has this reversed with the <c> symbol being used for palatal plosives and <k> for velar ones. In the above examples, <k> instead of <c> is used to demonstrate the system currently in use by Celtic linguists.
phonetic orthography system developed by Celticists, the spelling of this palatal consonant\textsuperscript{39} is written as \textasciitilde{/k'/}; the spelling of a non-palatal consonant is \textasciitilde{/k/}. For example, the two words above would be phonically spelled \textasciitilde{/k'i:l/} and \textasciitilde{/k:ʃ/}.\textsuperscript{40} Since this dichotomy is not a feature of English, most native English speakers do not hear this consonantal distinction. Yet, the native English speaker knows that the pronunciation is incorrect if the two consonant sounds are reversed; the speaker simply cannot identify specifically what is incorrect.

In modern Gaelic orthography that utilises Roman type, either a palatal set or a non-palatal set of vowels flanks the consonant(s) to indicate if it (or a group of consonants) is palatal or non-palatal. The popular expression in Scottish Gaelic is, "Caol ri caol agus leathan ri leathan" (slender [palatal – \textasciitilde{/i/} or \textasciitilde{/e/}] to slender and broad [non-palatal – \textasciitilde{/a/}, \textasciitilde{/o/}, \textasciitilde{/u/}] to broad); the expression is similar in Irish Gaelic, "Caol le caol agus leathan le leathan". By bracketing each consonant with a set of palatal (\textasciitilde{/i/} or \textasciitilde{/e/}) or non-palatal (\textasciitilde{/a/}, \textasciitilde{/o/}, \textasciitilde{/u/}) vowels, any question as to whether the consonant is palatal or non-palatal is removed; moreover, since people do not speak in precise, digital movements of the tongue, but rather in gliding actions, every vowel placed before and after a consonant is actually pronounced, albeit in some cases extremely quickly.

This is not known by Gaelic speakers or Gaelic language teachers in general,\textsuperscript{41} but can be seen through computer analysis. Therefore, the spelling system of Gaelic is an “air flow chart”, a map of fluid tongue movements.

\textbf{Voiced versus Unvoiced}

One major differentiation must be made with consonants in order to understand how the Gaelic languages function. This distinction is also a delineator between Irish and Scottish Gaelic that is not indicated by the orthography. Voiced and unvoiced variation is vital to deciphering written Gaelic and understanding poetic consonant class, particularly Irish Gaelic,\textsuperscript{42} although slightly less so when transcribing it.

Consonants can either be voiced or un-voiced (also termed devoiced). This distinction is rather straightforward in North American English. As an example, if the words “dog” and “tog” are said, the beginnings of each word can be seen to be different. Both consonants \textasciitilde{/d/} and \textasciitilde{/t/} are articulated in the same place between the upper tooth-line and the alveolar ridge with the

\textsuperscript{39} In both the Irish and Scottish Gaelic languages, the spelling system avoids the \textasciitilde{/k/} symbol. Its use might seem to solve ambiguity, but since the orthographic system specifies palatal or non-palatal quality by the vowels that flank the consonants, it actually would make its inclusion redundant and cause unnecessary confusion.

\textsuperscript{40} This is the way that such sounds are written to describe sounds. In the orthography system, \textasciitilde{/k/} is not used, rather, \textasciitilde{<c>} is. This actually helps to differentiate between how words are written and how they are pronounced.

\textsuperscript{41} It is also true that words beginning with the letters \textasciitilde{l'}, \textasciitilde{n'}, or \textasciitilde{r'} undergo a type of lenition that is not spelled. For example, using the personal possessive pronoun “her”, in “her daughter”, the result is spelled \textit{a nigithean}, not \textit{a nhighean}. Since there is no spelling shift, many Gaelic teachers often incorrectly believe that there is not a pronunciation shift. However, there is. Celtic linguists use upper and lower case letters to indicate these pronunciation shifts termed as \textit{lenis} and \textit{fortis} when writing words phonetically, such as \textasciitilde{/n/}, \textasciitilde{/N/}, \textasciitilde{/N'/}, etc. Since such specificity is not needed to understand Gaelic poetry, such symbols have been avoided in this dissertation, as it would cause unnecessary confusion.

\textsuperscript{42} For example, in Irish Gaelic, consider \textit{air an dtonn} (on the wave), which makes the noun \textit{dtonn} look confusing. To find the meaning of the word, the reader must know that \textasciitilde{/d/} is the voiced cognate of \textasciitilde{/t/} and therefore, even if the word is pronounced \textasciitilde{/daːn/}, the root word is \textit{tonn}. 

The blade of the tongue. The difference lies in the functioning of the speaker’s vocal chords. With /d/, the speaker’s vocal chords are vibrating (humming); with /t/ they are not. Also, the tongue placement may be the same for both /d/ and /t/ with the words “dog” and “tog” since the following vowels are the same. If the following vowels are different, the placement shifts and would require an apostrophe if written phonetically (/d’/ and /t’/). Therefore, the only difference between the two consonants is that the vocal chords are moving on /d/ and not for /t/.

Table 2.1: Cognate Voiced and Unvoiced Consonants

<table>
<thead>
<tr>
<th>Voiced</th>
<th>Unvoiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>d</td>
<td>t</td>
</tr>
<tr>
<td>g [g]</td>
<td>k</td>
</tr>
<tr>
<td>j [g] or [d’]</td>
<td>ch [t’]</td>
</tr>
<tr>
<td>v</td>
<td>f</td>
</tr>
<tr>
<td>z</td>
<td>s</td>
</tr>
<tr>
<td>b</td>
<td>p</td>
</tr>
<tr>
<td>th [θ−“the”]45</td>
<td>th (θ−“with”)</td>
</tr>
</tbody>
</table>

This pattern is not unique to these two consonants, but rather somewhat equally divide all consonants into two groups. Therefore, most consonants can be divided between voiced and un-voiced (devoiced) consonants. Although a gross simplification, the chart above (Table 2.1) provides some understanding due to contrast.

This is not important when reading Gaelic poetry, but is when listening. Irish Gaelic speakers pronounce ending voiced consonants; Scottish Gaelic speakers have mostly devoiced them. This is similar to how North American speakers still voice ending voiced consonants while British English speakers mainly devoice them (“God” is /ga:d/ as opposed to /ga:t/).

Aspiration

The term “aspiration” is used throughout the present dissertation because the term “lenition” can be confusing. Language teachers often use lenition to mean different things in different languages, and it is used by Gaelic language teachers to explain a changing of the initial consonant sounds of nouns; it means something else in French. What is important for the present reader analysing poetry is that the letter <h> seems to be inserted with abandon. This

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43 It is common for a learner when pronouncing both sounds concurrently (with the hand placed over the Adam’s apple to feel the humming) to pronounce /ta/ and not simply /t/ thereby defeating the purpose of the exercise. The /a/ sound which is voiced makes the learner incorrectly conclude that /t/ is voiced.

44 It should be noted that with the sounds /t’/ or /d’/ in Gaelic, the blade rests against the lower teeth, not by the alveolar region as in English. Confusing the two positions makes word combinations, such as the common Irish Gaelic greeting Dia dhuit (God to you) tortuously difficult to pronounce as well as sounding incorrect.

45 The distinction between these two cognates was once spelled as <dh> “eth” and <th> “thorn” (indicated by [θ] in the IPA). Later, an <h> was added to <t> to form <th> which is merely an aspirated full dental <t>. In Gaelic, there was a distinction used in orthography to indicate this shift by writing “eth” as <dh> and “thorn” as <ch>. The Gaels then began to cease pronouncing these aspirants (dental aspirants are fairly rare in the world’s languages), yet continued to use the spelling. This is known because English pronunciations of place-names did not shift although Gaelic ones did. Therefore, an Englishman may say “Athenry” (Ath’n Ri), preserving the older pronunciation, but an Irishman may not.
is not the case, but occurs at specific places for specific reasons to indicate a shift in pronunciation. It occurs with the plosives: \( d \), \( t \), \( c \) (/\( k \)/), \( g \), \( p \), and \( b \). This occurs as well for palatal and non-palatal cognates. If \(<h>\) is inserted after these consonants, it often indicates that the plosive consonant is softened by making it into a slight fricative (friction-sounding consonant). To do this, the organs of the mouth are not allowed to completely touch; this allows air to flow through slightly, creating a hissing, friction sound – termed a fricative. Sometimes the consonant is drastically aspirated such as \( t \) or \( d \). Other consonants that are not plosives may have an \(<h>\) inserted after them; for example, \( s \) or \( f \). This indicates that they are super-aspirated. Sometimes the super-aspiration can be heard (\( fh\)athast), sometimes not (\( f\hat{h}a\)thast).

In the older Irish Gaelic script, Cló Gaelach, the Irish would indicate this aspirated condition by placing a dot over the aspirated letter (ponc séimhithe). Since Roman type was found to be simpler and more accessible, in the Irish reform of 1953 (Stifter, 2006, p. 14), Roman type was introduced with aspiration being denoted by adding the letter \(<h>\) after the aspirated consonant. This may be seen in secondary sources of Fenian lays such as the example of Tóiteán Tithe Fhinn in Chapter 5. Scottish Gaelic has not been published in Cló Gaelach to my knowledge; Scottish Gaels seem to have always used the added letter \(<h>\) or simply omitted it completely.

In Gaelic poetry, plosives (whether voiced or unvoiced) and associated fricatives are considered to be of the same class; so when both terminate words at the ends of lines with the same vowel, the rhyme is considered to be perfect. For example, in English, “kid”, “submit”, and “with” all rhyme. Therefore Table 2.1 is important since any cognate across a row or a cognate followed by \(<h>\) are all perfect rhymes. This can be disconcerting at first.

**Nasalisation (Eclipsis)**

Amongst others, the well-known linguist, Kenneth Jackson, stated that there is a linguistic tendency called "eclipsis" that originated in Wales and migrated into Ireland (1953). This tendency then began to move into Scotland and seems to be very slowly advancing northward. Therefore, this tendency may be found in parts of Scotland closest to Ireland. It is written in Irish Gaelic but is not indicated in Scottish Gaelic orthography.

The characteristics of this feature is that in certain situations, normally following particular prepositions, consonants beginning nouns are nasalized. Therefore, unvoiced consonants which begin nouns following certain prepositions on the voicing/unvoicing chart of Table 2.1, above, become voiced. Moreover, for already voiced consonants, the consonant is directed into the nasal cavity somewhat. Therefore, the results of both actions can be seen in Table 2.2, below:

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46 The group \(<th>\) often acts as a hiatus marker; \(<dh>\) acts as a digraph for \(/g/\) in Scottish Gaelic or is pronounced or not in Irish Gaelic depending upon the dialect.

47 This is not entirely true as the English \(<t>\) in “submit” is an alveolar stop (plosive). In Gaelic, both \(<t>\) and \(<d>\) are full dental stops.
Table 2.2: Normal and Nasalized Consonants

<table>
<thead>
<tr>
<th>Normal</th>
<th>Nasalized</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>d</td>
</tr>
<tr>
<td>c</td>
<td>g</td>
</tr>
<tr>
<td>p</td>
<td>b</td>
</tr>
<tr>
<td>b</td>
<td>mb</td>
</tr>
<tr>
<td>d</td>
<td>nd</td>
</tr>
<tr>
<td>g</td>
<td>ng</td>
</tr>
</tbody>
</table>

The Irish Gaels are rather specific about annotating this orthography since it occurs across all dialects. Hence, Irish Gaelic can look confusing to the novice. This is due to the addition of the nasalized form to the original word so that the original word can be identified. As an example, there is a song, “An raibh tú ag an gCarraig?” (lit. Wast thou at the rock?). Here, the <g> is prefixed to the root word of carraig. The <c> is not pronounced, but the <g> is. It “eclipses” the <c>. The root of the word can therefore be seen in the spelling of the word. This linguistic feature is still rather rare in Scottish Gaelic but is becoming more prevalent.

2.3.4 Irish, Scottish, and Nova Scotian Gaelic Orthography

Beside the different grammars, there are a number of pronunciation characteristics that are unique to specific regions of the Gaelic language diaspora. These characteristics should be identified as they have an effect on the micro-linguistic elements and hence an effect on the resulting poetry. For example, Nova Scotians speak a dialectical version of Scottish Gaelic, maintaining Scottish dialectical distinctions since whole groups of emigrants from the same geographical area in Scotland would land and occupy the same territory in Cape Breton, Nova Scotia; however, there have been pronunciation shifts that have affected all Gaelic-speaking Nova Scotians. For example, the word for “one-hundred” is normally cead or ceud. In Nova Scotia, it is pronounced /k'i:at/ and spelled as it is pronounced: ciad. Also, the broad (non-palatal) <l> has become pronounced as <w> (/µ/).\footnote{This takes some getting accustomed to since common words such as latha (or là) sound to English speakers like “wah”.

48} This may be noticed when listening to Fenian lays recorded in Nova Scotia while reading the accompanying text.

Some supposed spelling differences between the Gaeltacht(d) dialects are spurious. For example, many believe that the spelling of “Mc” before a surname indicates a Scottish Lowland or Irish origin, with “Mac” referring to a Scottish Gael. This is not correct, as the spelling is simply mac in all dialects of Gaelic. The abbreviation of “M” is also common as is making “ac” a superscript and underlining it to indicate Jacobite sympathies (<M\textsuperscript{ac}>). It may surprise the present reader, but Jacobite traditions have been maintained in Nova Scotia to a certain degree as can be seen in the toast, “Sláinte, Sláinte mhath, Sláinte mhor”. The last word is mhor not mhòr or mhór in order to indicate the reference to Morag who helped “Bonny” Prince Charlie to escape detection after the failure at Culloden. As the toast is performed, the speakers stand higher and higher on chairs and tables to indicate that they are toasting
someone over the Atlantic Ocean. The common non-Jacobite toast is simply *air do shlàint’* (to thy health).

There is a significant issue in Gaelic orthography that concerns all texts of both the Irish and the Scottish Gaelic Fenian lay secondary resources and the presentation of this material in the present dissertation. There have been orthography changes that have not been completely accepted by all Gaelic speakers. In 1948, Irish Gaelic went through a change where the old Gaelic script (*cló Gaelach*) was changed to Roman script. This was called the *Caighdeán Oifigiúil*; further reform occurred in 1957. This necessitated changing the way that sounds were represented. Amongst other things, this changed the indication of aspiration on plosive consonants; for example *<bh>* was replaced by the main consonant *<b>* followed by *<h>* resulting in *<bh>*. Nasalization and “h-aspiration” also became annotated as well as various other shifts. The Irish reform also removed consonant and vowel-consonant groups if the sound seemed to have become absent. This is a very dangerous policy, since although a sound may seem absent, small glides and other mouth movements may persist. As an example in English, many Englishmen do not seem to pronounce the *<r>* (/ɹ/) of *father*; however, there still remains a vowel glide at the end of the *<e>* that the *<r>* indicates.

As mentioned above, modern spelling changes have begun to remove hiatus markers for the sake of simplicity and brevity. This can have an impact on the current study if modern spelling is applied to Fenian lays. Using the example given above, if the Scottish Gaelic word for “day” (*là*) is considered, it appears to be composed of one syllable, Prior to the orthography adjustments, it would be spelled *latha* with the *<th>* marking hiatus. However, at an earlier date, the *<th>* would be pronounced as an unvoiced full-dental fricative (/θ/); vowels on each side might count when counting syllables.

It is also important to know that although the Irish Gaels speak word contractions, they do not spell such contractions while the Scottish Gaels do; for example, *the girl* is in Irish Gaelic is spelled *an chaillín*, but it is pronounced as though written *a’ chaillín*; the word for “growing” is spelled *ag fás*, but is pronounced *a’ fás*.

Concerning Scottish Gaelic orthography, Scottish Gaelic has always been printed in Roman type. However, the Scottish system at one time utilised two vowel accent marks to signify vowel quality: *grave* and *acute*. The accent *grave* was used to indicate an open mouth position (*<à>, <è>, <ì>, <ò>, <ù]*) and the accent *acute* to indicate a close mouth position (*<á>, <é>, <í>, <ó>, <ú*>). Scottish Gaelic language reform ("Gaelic Orthographic Conventions," 2005) removed all *acute* accents from Scottish Gaelic. This causes confusion, as in one language the *acute* accent marks length (Irish), while in the other, the *grave* accent marks length (Scottish).

Nova Scotians were not satisfied with the Scottish Gaelic reform and chose to keep both *accent grave* and *accent acute* markings as well as contraction markers, following Ronald Black’s (1997) guidelines for the most part ("Litreachadh Gàidhlig na h-Albann Ùire," 2008). Whilst this might make spelling more complicated, it is of benefit to learners who are often confused as to how to pronounce words. Using qualifying markings improves accuracy and clarity. Therefore, Nova Scotians continue to write *glé, mór, féinne* (noticeable in the Fenian lay
"Teanndachd mhór na Fèinne"), etc. This can also be seen in older Scottish Gaelic texts as well.

Additionally, the Scottish Gaelic system, unlike the Irish Gaelic system mentioned above, was sensitive to word contractions and would spell words as they were pronounced using apostrophes to mark where letters used to be; for example, in English one writes "I don’t know", not, "I dont know". The Scottish Gaelic reform removed most of these contraction markers, making comprehension less facile. For example, writing don for do ’n.

Preferences of one orthography system over another can become virulent. For example, a recent book was published in Nova Scotia, As a Bhràighe, which was a compilation made by Effie Rankin (2004), also known as Oighrig Bean Mhic Raing, of the poems of Allan “The Ridge” MacDonald. MacDonald was a native poet from Nova Scotia. The book was sold in Nova Scotia and Scotland; it was strongly criticised for using the acute accent even though that was the spelling system in Nova Scotia in which MacDonald wrote. In a subsequent edition, the new Scottish Gaelic spelling system used in Scotland was followed.

The present author has no desire to prefer one system to another. The written Gaelic in this present work is presented as it is in the texts and annotated as originally printed or hand-written. However, when discussing Scottish Gaelic pronunciation, the most accurate system will be used. This system is that of Ronald Black and that generally agreed upon by organisations in Nova Scotia including Celticists, university Celtic Studies departments, the Gaelic Council (Comhairle na Gàidhlig), and the Office of Gaelic Affairs in Nova Scotia Canada. This is necessary for a more precise understanding of pronunciation and hence a better understanding of the poetry.

2.4. Phonemic Characteristics of Gaelic Poetry

The purpose of the above description of vowel and consonant sounds was to define the elements of Gaelic language pronunciation. These are used in the building blocks of Gaelic rhyme. This rhyming scheme is different than what most native English speakers would consider poetry, since the phonetic and phonemic elements of Gaelic are different than that of English. As Gioia (2008) states, “The traditional prosody of a language always selects phonetic features immediately audible to native speakers—such as pitch, quantity, syllable counts, accent, assonance, alliteration—and arranges one or more of them in expressive patterns”.

Therefore, with the linguistic elements defined above, the poetic ornaments utilised in Gaelic poetry and by extension, Fenian lays, may be discerned.

2.4.1 Perfect and Imperfect Rhyme

Eleanor Knott (1994, pp. 5-6) has defined Gaelic\(^{50}\) rhyming classes as: b [voiced plosives], c [unvoiced plosives], ch [unvoiced plosives made into fricatives], bh [voiced plosives made into fricatives and soft liquids], ll [nasals and strong liquids], and s [unique unto itself].


\(^{50}\) Knott did this for dán díreach poetry. However, this linguistic synergy extends to all Gaelic poetry.
Setting aside for the present the consonant groups containing <s>, each rhyming class can be seen to incorporate elements of Table 2.1 and Table 2.2 as one slides back and forth from column to column within the same row. Groups can be arranged into four divisions. A group belonging to one of these divisions can only rhyme with another in the same division: Group 1: (consonants from class b and class bh), Group 2[a] (consonants from class c, accompanied by consonants from class ch or class bh, or from both), Group 2[b] (consonants from class b followed by one of class c or class ch), Group 3: (consonants from class ch, class bh, or class ll, or both), Group 4: (consonants from class bh or class ll, or both).

Native Gaelic speakers are often unaware that the liquids spelled <l>, <n>, <r> were all pronounced with the tongue in relatively the same place; for example, Gaelic speakers now use the English reflexive <r> /ɻ/ and do not realise that the blade of the tongue was once placed for a rolled <r> in the same area as /l/ and /n/ are located, as is /ɾ/ which is a single flap, or /ɾ/ which consists of multiple flaps. Also, voiced and unvoiced bi-labial fricatives (both palatal and non-palatal) are now being pronounced as the English dental labial /f/ and /v/.

Therefore, the possibility that Gaelic poetic rhyme may have been a stylised physical pattern and not simply a defined set of rather arbitrary classes or groups of sounds has apparently been overlooked by even fluent, native speakers. Traditionally, rhyme has been viewed by academics as an act of sound-resonance and not physical-convergence. Since the creation of an incantation requires repetitive physical movement, much like pushing a child on a swing (with each slight, repetitive push increasing the resultant effect), poetry may be a result of a physical vocal act and not that of witnessed sounds. That is, the genesis of poetry may lie in the creation of sound and not the reception of it. This is certainly a dichotomy of approach relevant to linguists as well as ethnomusicologists.

The above consonantal organisation might seem complex, but is simply a way of defining waypoints of physical movement in order to see an over-arching pattern. Some may believe that it is fruitless to attempt to explain Gaelic poetry by using English examples:

[I]t would be difficult to give in English the effect of the alliterations of the original [Gaelic poetry], and of the high-sounding adjectives deliberately chosen by the author to suit public recitation of the story before a gathering in some Irish sub-king’s hall in the late twelfth century.
(Gerald Murphy, 1968, p. 124)

However, such an effort might at least show the subtlety of poetic ornament. Consider the following deceptively complex fragment of a poem:

Oats, peas, beans, and barley grow.53

This example includes quite a number of poetic ornaments that may be invisible to the native English speaker, but analysis of the poemics may surprise the average reader as to the

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51 This is a rough, kakisynopsis of Knott’s (1994, pp. 6–7) work.
52 Group 2 was divided into Group 2a and Group 2b by the present author to avoid confusion; they are of the same group nonetheless.
53 The following analysis was done without regard to Watkins’s evaluation; however, the present author is indebted to him to identifying such alliterative lip-candy; see Watkins (1995, p. 47).
complexity of the ornament. To begin the analysis, the first element in this phrase initiates *dúnadh*.

### 2.4.2 Dúnadh

The term *dúnadh* (in Irish Gaelic, or *dùnadh* in Scottish Gaelic; for conventional continuity hereafter referred to as *dúnadh*) is an IE convention where the beginning element (the first word or phrase) is the last element (the last word or phrase) of the poem:

Examples of ring-composition could be multiplied from many early Indo-European traditions. In Ireland it became a fixed requirement of many types of versification to end a poem with its first word, phrase, or syllable. The choice of word is indifferent; only the echo matters, and that echo can even be of a meaningless first syllable [...] Compare from well-known Old Irish poems [here, the famous poem written in a 9th century scribe’s notebook as he composed a poem about his cat, Pangur bán; it was found at the Benedictine Convent of St. Paul in Carinthia. Words from various sources, translation here is by David Stifter (2006, p. 27)]:

<table>
<thead>
<tr>
<th>Portuguese (1)</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messe</td>
<td>Myself and white Pangur,</td>
</tr>
<tr>
<td>oceus</td>
<td>each of us at his own art</td>
</tr>
<tr>
<td>Pangur</td>
<td>His mind is always turning to hunting,</td>
</tr>
<tr>
<td>bán,</td>
<td>my own mind to my special trade.</td>
</tr>
<tr>
<td>ceased</td>
<td></td>
</tr>
<tr>
<td>each</td>
<td></td>
</tr>
<tr>
<td>us</td>
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</tr>
<tr>
<td>at</td>
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<tr>
<td>own</td>
<td></td>
</tr>
<tr>
<td>art</td>
<td></td>
</tr>
</tbody>
</table>

8. Hé fesin as choimhíd dúu

in | of the job he does each single day.

muid | |

du-n-gni | But to bring dark to light,

cach | in my own way, that’s what I do.

čenláu; | |

do | |

thabaír | |

doraíd | |

du | |

glé | |

for | |

mumud | |

céin | |

am | |

messe. | |

As Watkins mentions, “The Irish technical term is *dúnadh*, literally ‘closing’, and the image is that of closing a ring-fort, a circular stone structure of the Iron Age, Irish *dún*. The metaphor could have been created millennia ago” (1995, p. 37).

In the preceding poetic line (Oats, peas, beans, and barley grow), the beginning and ending sounds are similar ([ou] of “oats”) and [ou] of “grow”) and might be considered a type of *dúnadh*, in order to create a sense of a cycle where the beginning is a part of the ending. This is also a requirement of *dán direach* poetry where the first and last words must be the same. The internal words of the phrase alliterate with one another. The internal names of “peas” and “beans” begin with bi-labial palatal plosives and then shift to a non-palatal plosive of “grow” to match the ending vowel quality of “oats”. So the complexity of the consonants increases from a non-palatal vowel (“oats”), to an unvoiced plosive, palatal (“peas” class c), to a voiced plosive, palatal (“beans” class b), to a voiced plosive, non-palatal (“barley”, class b), to a voiced plosive non-palatal (“grow” class b). All of the words “peas”, “beans”, and “barley” begin with bi-labial plosives that increase in force in that the pattern is unvoiced to voiced, palatal to non-palatal. The line of initial vowels shifts from non-palatal to palatal to non-palatal, which creates a cyclic pattern; this imitates a chewing process indicative of magic spells. Additionally, with bi-labials (plosives and fricatives), the following vowel often determines the degree of lip roundness of the consonant. So particularly in Irish Gaelic, palatal labials are spoken with flat lips; non-palatal labials are spoken with rounded lips. This is one reason why the <bh> digraph is so important; although now spoken as a dental-labial fricative, it should not be simplified to <v> when conducting poetic analysis. For example, in *mo bhó* (my cow) the lips are strongly pursed for <bh> because the following vowel is non-palatal. In *mo bheó* (my life), if pronounced as a bi-labial fricative as is still often done in some dialects, the lips are flatter because the following short vowel is palatal. Perhaps this is why there are variations of the
spellings of words such as the Latin qui being represented by quí. The <u> represents rounded lips and the <v> a bi-labial with flat lips; spelling variations match dialectical differences.

Therefore, in the English poem, “Oats, peas, beans, and barley grow” the lips begin as pursed (<ou> of [ou̯ts]) and then flatten for the first plosive of “peas” and “beans” and then become more pursed for the non-palatal [b] of “barley” and even more so at the end with the diphthong in “grow” [g̻əû]. In summary, there is dúnadh, a cycle of non-palatal to palatal to non-palatal, alliteration, and increasing intensity (vowel, class c, class b) with the initial consonants that match the cycle of the vowels.

So the apparently innocuous rhyme of “Oats, peas, beans, and barley grow” is actually quite complex and intense. Speaking this sequence is a facile accomplishment; noticing the complexity is more difficult; creating it requires quite an understanding not merely of sounds, but of physical patterns and movements. This type of scrutiny will be applied to the Fenian lays analysed in this dissertation.

2.4.3 Assonantal Rhyme

Assonance is important in Gaelic verse since perfect end-rhymes are difficult to form. Although there are clear rules for this type of rhyme in dán díreach poetry, in its simplest form, the vowel of a word at the end of a line match the vowel of a word at the end of the following line. In essence, it is rhyme that disregards the ending consonants. Since it is less constraining, it is easier to create. It is especially popular in Country and Western songs in the United States; for example, “I love you/This I’ll prove” has assonantal rhyme since the <ou> of “you” matches the <o> of “prove”.

2.4.4 Internal Rhyme

Internal rhyme occurs when a word in the interior of one line rhymes with a word in the interior of the following line. This most often occurs between lines c and d. There can also be double internal rhyme. This type of rhyme is sometimes hidden to the reader because the surrounding consonants need not be the same, but must be of the same group, as described above. Therefore, ri and chli rhyme. The simplest way of finding this is to search for similar vowels and then speak the phrase. The physical similar movements will indicate the rhyme.

2.4.5 Alliteration

Alliteration occurs when the beginning consonants of words within a line match. There are some restrictions on this. Firstly, the syllables must be stressed. So if two stressed words are separated by an unstressed word or syllable, they alliterate if the consonants are the same; aspiration does not affect this type of rhyme, so mo bhàta and bochd alliterate. However, if there is an intervening stressed syllable between the two, it does not destroy the alliteration as it does in Germanic traditions (Watkins, 1995, p. 120). Poets occasionally try to bend this constraint a bit. They do this with assonantal and perfect rhyme as well, slightly altering one vowel to make it almost match another and pretending that it is a perfect rhyme. As Watkins also notes, “Irish is unusual in that alliteration is by underlying morphophonemes, not by surface phonemes” (1995, p. 120). Also, words beginning with any vowel are considered to alliterate; the vowels need not be the same.
Since it is doubtful that illiterate people understand word boundaries, it is more likely that alliteration is a function of stress. The speaker is likely to place like consonants or vowels wherever the speaker feels a linguistic emphasis or pulse.

2.4.6 Chain Alliteration

Chain alliteration (fidrad freccomail) or concatenating alliteration may be described as the process of linking the last word of one line to the first element of the next line. There is a great deal of latitude with this type of rhyme. Consonantal shifts between voiced and unvoiced, plosive and aspirated, and within the liquid group, etc., are all allowed. As well, the consonant of the second element of a word may be used in this type of rhyme, normally when it is a stressed syllable of a compound word (generally, Gaelic is based on trochees; that is, strong-weak patterning). Watkins uses an example from the poet Bécán mac Luigdech from perhaps the 7th century:

Using G. Murphy’s (1961, p. vi) notational conventions of boldface italic or roman for end-rhyme and italic for chain alliteration, plus bold face italic for bridging alliteration, | for caesura, and capitals for dúnaíd [sic] or closure (“ring composition”), the first quatrain is:

Using G. Murphy’s (1961, p. vi) notational conventions of boldface italic or roman for end-rhyme and italic for chain alliteration, plus bold face italic for bridging alliteration, | for caesura, and capitals for dúnaíd [sic] or closure (“ring composition”), the first quatrain is:

FO Réir Cholumb | céin ad-fías  
find for nimh | snăídium secht  
séth frí húathu | táir ro-fías  
ní cen toisech | tăthun nert

Obedient to Columb, as long as I speak,  
may the fair one in the seven heavens protect me;  
when I walk the path to terrors,  
It is not without a leader, I have strength.

Rígdae bráthair | brúadach ríg  
rathmar fiado | feib on-ein  
gétait goiste | ndemnæ dim  
 dúbart a bard | bés don-FOIR

May the royal victorious kinsman of kings,  
the gracious lord protect us with goodness.  
I will remove (?) the snare of demons from me;  
the supplication of his poets may perhaps help us.

The initial syllable is repeated for a perfect dúnaíd by the last syllable of verse 24:

Here the stressed FOIR /for'/ repeats the pretonic first syllable of the poem FO R /fo r'/, 24 verses, 96 lines, and 671 syllables later. (1995, p. 122)

Although chain alliteration does not appear in Fenian lays, they may be reflected in aicill rhyme which is strongly present.

2.4.7 Aicill Rhyme

Variously spelled, aiccall, aiccaill, aicail, or aicaill, this type of rhyme is important to Fenian lays since it is used quite often. It is similar to chain alliteration, but occurs with vowels instead of consonants. However, the rhyme need not just link the last word of one line to the first word of the next line. The word ending one line may have an assonantal match in the middle of the next line as well. Watkins (1963a) states that aicill rhyme is development of chain concatenating) alliteration, “Aicill-rhyme likewise only repeats and recovers in function the earlier Bindung or concatenating alliteration” (p. 247).

2.4.8 Cadence

Cadence is a type of ornament in early Gaelic poetry where the last three-syllable word of a line follows a caesura and is stressed on the first syllable. With dán direach poetry, this is altered where syllable-count of the last word of concurrent lines are metrically structured. Often, the second line ends in a word with a syllable count one syllable more than the preceding line’s last word as in the deibhidhe metre of dán direach. For example, one might write “My old boss was dom-i-nant / And hated dom-i-nant-ly”. In order poetry, the first
syllable of the last word of a line has alliteration with the previously stressed syllable. There are seven syllables per line; the last word of the first line has three syllables and the last word of the next line has four syllables. The syllabic structure here would be written $7^3 \times 7^4$. Most often, the secondary line has one more syllable in the last word of the line than the last word of the preceding line. The accented syllables of each word may rhyme with one another. The poetic ornament of cadence was not expected in Fenian lays, but did appear in them.

There will be more information on cadence in Chapter 5. In dán díreach poetry, cadence generally exists within a word but sometimes is allowed between two words, such as in lines C and D of séadna. That is, the stressed, rhymed syllable may have been followed by syllables of cadence that were not a part of that word. This implies that the performers who created the lays\textsuperscript{54} did not think in terms of words, but of phrases. This may indicate illiteracy.

2.5. Phonetic Characteristics of Gaelic Poetry

With the linguistic elements defined above, the poetic ornaments composed for Gaelic and by extension, Fenian lays, may be investigated. One trait that might be gleaned from the material presented above is that it seems very possible that the originators of Gaelic poetry were not attempting to make sounds pleasing to hear, but were rather attempting to create a pattern of physical movement.\textsuperscript{55} That is, as mentioned above, each rhyming class can be seen to incorporate elements of Table 2.1 and Table 2.2 as one slides back and forth from column to column within the same row. So there is only minute physical difference in mouth-organ placement within any class. A group then arranges each class into a pattern. If seen from this perspective, poetry is choreographed movement that when the voice is added, creates patterned sound. When resonance (discussed in Chapter 4) is added to this, particularly in an area where there is some capacity to have reflection or echo, one voice may then push against nature and attract otherworldly attention. It should be noted that the term “otherworld” will be used in this dissertation as it is a common practice to differentiate IE religious practices from the “underworld” of Roman culture.

When seen from this perspective, if the poetic arrangement of the poemic ornament in Fenian lays matches that of documented IE religious practices, Fenian lays may be seen not to derive from the caste of the professional poets, the filidh (discussed below in section 2.5.2), but have a much older IE base.

\textsuperscript{54} It is doubtful that the lays were deliberately composed. It is more likely that they slowly morphed into what we now know as Fenian lays through oral composition. Oral composition is not deliberate but is an unconscious process whereby poetry, especially poetry of a great many verses, is slowly formed through oral transmission. Definitive work was done by Albert Lord and Milman Parry on this subject concerning Greek and Serbian epic poetry. Key to the theory of this “Oral-Formulaic Composition” was the existence of small blocks of words that are regularly used to express a certain idea that possesses a common metric. These are termed formulae. See The Singer of Tales (Lord, 2003).

\textsuperscript{55} Often, modern scholars pronounce Old Irish and Modern Classical Gaelic as though it were Modern Irish Gaelic or Modern Scottish Gaelic. This disguises the synergy of the consonantal groups.
2.5.1 Indo-European Poetry and Religion

The legend of Fionn mac Cumhaill as a mythological figure might be seen as a shaman travelling back and forth from this world to the otherworld, buffeted by supernatural forces. A great deal has been written on this matter including Chadwick's “Imbas Forosnai” (1934) and Joseph F. Nagy’s (1981) “Shamanic Aspects of the ‘Bruidhean’ Tale”. The latter work is an excellent introduction and summation where the author shows that, “Finn is a ‘shamanic’ figure, and that some Fenian narratives reflect an archaic Irish form of ‘shamanism’” (Nagy, 1981, p. 302). This would imply that Fionn mac Cumhaill was seen not merely as a physical protector as a leader of the fianna outside of a village, but as a protector from malevolent spiritual forces. It follows that when one speaks to Fionn mac Cumhaill or recounts his exploits, the speaker is not merely relating a fantastic tale to an appreciative audience. That person is a supplicant asking Fionn for divine intervention; the language used to speak to Fionn would include all of the elements used when speaking to a supernatural being. Although Fionn was probably created from an actual person, others suggest that, “[R]esearch by Gerald Murphy and by O’Rahilly has shown that Finn, the central figure of the Fenian cycle, is identical in origin with the great god of the Celts, Lug of the Long Arm” (Dillon, 1967, p. 253).

The supernatural aspect of Fionn as protector of Ireland is well known:

People who would never deny the truth of the Scriptures believed equally strongly in the Gaelic messianic tradition that puts Fionn, lying in Tom na h-Iubhraich, near Inverness, in the role of the Sleeping Warrior who will one day reappear to restore the Gaels of Scotland to their former greatness. (MacInnes, 1987, p. 187)

An important poetic connection between pre-Christian European religions has been established through the work of Calvert Watkins, How to Kill a Dragon: Aspects of Indo-European Poetics (1995), amongst others (1963a), (1963b). In this work, Watkins (1995) closely links the story of slaying a dragon with the Irish Fergus mac Léti (p. 444) who slays a muirdris (water monster), to Beowulf, then to the slaying of the Gorgon, Pindar’s version in Pyth by Perseus (p. 447), and then the Grettissaga (p. 414) of Old Norse. He states that the Norse sagas and Beowulf are “[...] very close to each other, almost identical, in theme and message [...]” although separated by almost 600 years (1995, p. 415). Watkins (1995) also links these themes to the Old Norse Poetic Edda (p. 420) and the Prose Edda as well (p. 422).

Concerning the breadth of poetry and its use in Ireland:

Despite enormous differences in tone and cultural outlook the system, the structural position of the poet in each society, is remarkably similar in India and Ireland, and the Irish system remained basically static over the 1000 years from the beginning of our documentation to the collapse of the Gaelic world. (Watkins, 1995, p. 75)

In this quotation, Watkins is referring to the poet in Irish society who belonged to a hereditary caste of the filidh (sing. file) who created complex poetry termed dán direach. Therefore, a question is raised as to whether Fenian lays were created under the same circumstances and from the same source as dán direach poetry. There is a corollary as well: is the poetry displayed in Fenian lays a linguistic form that is a vestige of a common Indo-European religious practice? If dán direach does display IE religious poetic traits, why would such traits in Fenian lays not suggest the same origin? It seems likely, if not probable, that the syllabic poetry of Fenian lays have Indo-European roots and were performed, not only by bards reciting poems
of the filidh, but also by common people, druids, poets, and brehons performing religious rituals from an previous era.

Since the common practice of singing Fenian lays was not known to be a part of any of the above-mentioned castes’ tradition and were not captured through the technology of writing, the suggestion that Fenian lays represent an old, IE tradition is generally dismissed:

When the innovators of the twelfth century wished therefore to introduce the new genre of [sung] balladry into Ireland they introduced it into the Finn cycle where no age-old literary custom imposed a fixed form on men of letters. (Gerald Murphy, 1968, p. 122)

Scholars believe it impossible that a common person could simultaneously understand both syllable-timing and stress-timing, much as they seem to believe that high register speech is impossible in the vernacular. Yet, there is reason to believe that an average person would deliberately cultivate an unusual manner of communication if the topic was supernatural:

The Indo-European poet is the ‘professional of the word’ (Campanile 1977:32), and like any professional he must guard the secrets of his trade. In Indo-European poetry, that is to say in the poetry of many early Indo-European-speaking societies—and naturally many other language families one could name—there existed a conscious tradition of obscurantism, of secrecy, which serves like a cipher to protect the poetic message. (Watkins, 1995, p. 181)

Whilst Watkins here is writing about a professional poet, a special dialect of mysticism may account for many of the poetic characteristics of Fenian lays. Succinctly, Fenian lays may be a parallel development of an older religious practice and were not a novel introduction or stem from courtly dán direach origins.

2.5.2 Poetic Structure of Fenian Lays

Traditionally, Fenian lays have been associated with a caste of professional poets in Ireland and later, Scotland, named the filidh who produced remarkably complex poetry which was termed dán direach poetry. I believe that this supposition has been based on two main criteria: Fenian lays are syllabic and that they are in a high “register” or style of language. This relationship seems doubtful; yet, scholarly conjecture seems rather uniform. For example, “The majority of laoieth which have survived either in manuscripts or in oral tradition are in some form of dán. Most are in the classical language or a close approximation to it” (McCaughey, 1984, p. 40). Also, Blankenhorn states:

The fenian lay (laoidh fiantnuiochta) uses a metrical form derived from the rannaiocht metres of classical poetry. The poetry is composed in four-line stanzas of the 2(A+B) type, with three or four accented words per line. Each half-stanza is ornamented with aical [rhyme between one line’s end word and another’s middle word], and the final foot of the ‘B’ lines contains an assonating vowel. (2003, p. 9)

It should also be noted that dán direach poetry was similar to Fenian lays in that both forms were sung:

[W]e follow Dr Breatnach who in his paper [Ceol IV (4), p. 106] goes on to guess that the style of performance of laoieth by Scottish singers ‘most likely resembles closely the manner in which dán direach was performed in the older period’. (McCaughey, 1984, p. 43)

The structure of a Fenian lay is rather regimented, “The Fenian lay was usually set in stanzas or four-line verses, each line generally having seven syllables” (Breathnach, 1996, p. 24). This might seem rather simplistic, but is actually rather remarkable. It is somewhat restrictive to have only seven syllables per line; such confinement greatly restricts the freedom enjoyed in
Serbo-Croatian lays as reported by Lord (2003) and Parry and even in Shakespearian plays. Whilst there were occasional variations, this basic syllabic structure seems to have been closely maintained in Fenian lays. Within this macro-syllabic structure, the organisation of phonetic elements may be combined in order to produce additional characteristics that solidify the assertion that Fenian lays are poems. These combinations of phonetic components are often difficult for non-native speakers to comprehend since Gaelic does not function as English does. Ending consonants are more varied than in English making end rhyme in Gaelic difficult and unusual; ending consonants are often grouped in classes, and consonants within groups are considered equivalent. Therefore, end-rhyme in Gaelic can seem a bit confusing, especially in an unfamiliar spelling system.

2.5.3 Register Usage

Fenian lays are composed in a high, or formal register. Since dán direach poetry was also composed in a high register, it has always been assumed that Fenian lays were composed by the filidh (MacInnes & Crossley-Holland, 1980, p. 149). The present author believes that this is untrue. A file was respected and paid because of the over-wrought ornamental structure of his encomiastic poems, not because he composed loosely knitted narrative tales. Speech register, or “speech style”, is a term applied to explain the manner by which speakers alter their utterances according to social circumstance. For example, if someone speaks to a child, the grammar and vocabulary shift. The tone of voice also changes; noticeably in males, the pitch rises. As mentioned by Jusczyk, “[C]hanges in speech register to produce infant-directed speech or whispered speech will affect the acoustic characteristics of particular words. Once again, this kind of variability presents no undue hardship for experienced normal listeners of a particular language” (2000, p. 8).

It has been suggested that high registers are developed through the act of writing (MacInnes, 2006b, p. 109). This could not be more inaccurate. Writing is a technology that developed to preserve speech. Only in relatively modern times has writing become a part of the compositional process. McInnes’s viewpoint is reaffirmed by another quite excellent Celticist, J.F. Nagy:

> While we are continually made aware of the key role played by the oral Fenian tradition throughout the history of the cycle, we cannot ignore the literary characteristics of medieval Fenian literature, which, we can be sure, certainly did not come into existence as a simple transcription of a contemporary oral tradition. (1985, p. 4)

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56 There are many fine resources for this including Greene, Kelly, Bergin, & Binchy (1970), Knott (1994), Murphy (1940), and Ross (1959).

57 Discrete linguistic characteristics of high register speech can be seen to be somewhat uniform in the IE languages. Whilst high register speech seems to be distained in Gaelic society, high register markers still exist; they are merely not noticed. For example, the use of a deliberately incorrect voice to show respect is a part of Scottish Gaelic usage although it never was a part of Irish Gaelic usage. This is true of at least English, Scottish Gaelic, and French, which all use the second person plural when speaking to one person to show respect. English speakers are generally not aware that “you” is plural and not singular. English society became so formal that the singular forms of “thee”, “thou”, “thy”, “thine”, etc., fell out of use since the formal “you” was used exclusively. The second person plural form is not mandatory to designate formality as, for example, German uses the third person plural. In Scottish Gaelic it is still customary to use the plural/polite form in, for example, the greeting Ciamar a tha thu? (how art thou/how is thee?) is often answered with Ciamar a tha sibh fhéin? (how are (all of) you?).

58 The interplay between oral and scribal transmission of Gaelic texts is worth an entire Ph.D. dissertation in itself. This was done admirably by Slotkin in Evidence for Oral Composition in Early Irish Saga (1977).
Indeed, it most likely did come into existence as a simple transcription of a contemporary oral tradition. An oral genesis is simply refuted because Fenian lays demonstrate elements of high register speech. Celticists have erroneously assumed that the common Gael did not speak in a high register in their own dialect, whether that dialect was Classical Modern Gaelic or today’s vernacular Gaelic. This is synonymous with Latin and Italian language developments. Noting a similarity in high register elements of Latin and Italian does not mean that Italians learned high register Italian because they read Latin texts. What probably occurred in Gaeldom is that high and low register usage always existed in vernacular Gaelic (in every time-period); it simply changed with the dialect. Since modern Gaelic is a progression from Old Irish (then Classical Modern Gaelic), there are certain to be similar characteristics just as there are similar characteristics between high registers of Latin and Italian.

Modern Celticists are beginning to question the belief that high register Gaelic usage proceeded from a literary tradition; consistency in wording seems to be linked to how formal a speaker considers the story and audience. The more formal the story, the greater the consistency of the words:

"It may also be the case that verbal consistency was associated with perceived formality, both thematic and situational. For instance, the stories’ content is often tied up with the nobility of an older age and marked, high-register speech occasionally appears. Additionally, the traditional Scottish Gaelic storytelling event itself, such as described by Campbell, can be considered formal on a number of grounds. Register theory could certainly be used to help explain the differences observed between the romances and other oral narrative genres, but it is compelling to entertain the possibility that a type of literate aesthetic came down in oral tradition bundled up with these particular tales. (Lamb, pp. 172-173)"

This may well be linked to how Fenian lays were remembered in vernacular society and how language usage was preserved from the Middle Ages into the middle of the last century. Lamb also takes a more etic approach to hero-tale register analysis, “Oral language of a formal or ritualistic nature has been found to resemble written prose in certain ways, for instance in tendencies towards fossilisation of language and formulaic expression” (2013, p. 171). This implication is in sharp contrast to previous scholarly approaches and is a rather bold departure from the received opinion that formal language was written and was the provenance of the filidh at court. Simply put, formal registers exist in vernacular Gaelic.

One of the media for maintaining a higher register can be seen in religious texts, as has been noted by a great number of scholars with the consensus that the Bible was altered through translation into Gaelic by the intelligentsia, “The 1767 translation [of the Gaelic Bible] actually strikes an interesting balance between Classical Gaelic and the vulgar tongue” (MacInnes, 2006b, p. 107). However, this is a limited, emic, literary position. Such a position implies

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59 The Italian language is actually a literary, synthetic language that was developed to unify the people of what is now Italy into one country; it is a standard business language in Italy. Italians do not speak this business dialect of Italian while at home. They speak their own regional dialect.

60 This is an academic approach focusing on the prevalence of literacy, which exists in the present day. From an etic perspective, literature was not available for study and transmission as it is today; that is, the Guttenberg press had no impact on register usage of the common Gael. Yet, MacInnes believes, “There are poems, or instance, poised linguistically and metrically between Classical and vernacular Gaelic, but part of a process that is ever bringing them nearer common speech, which can hardly be anything other than the work of literate poets modifying the older literary tradition” (2006b, p. 103). This reasoning is perhaps due to MacInnes’s literate upbringing where poetry was read from books. This is refuted by the fact that Serbian singers must be illiterate in order to develop the technique of memorising long syllabic poems of over 15,000 lines per song. This will be discussed below.
that it is normal to write poetry instead of creating it orally, and that writers are aware of the register of their writing; yet, this later point is not true. Grammar, as a part of language learning, is a conditioned process. As Labov (1972) stated, “We are increasingly aware that most rules of grammar are quite remote from conscious awareness” (p. 272).

A broader, etic investigation concerning language shifts has not been applied to the investigation of the poetry of Fenian lays or language shifts in general. This can be seen in the approach to language shifts from Old Irish to Modern Irish and Scottish Gaelic. Classical Modern Irish (Gaelic) must have been a development of Old Irish in both Ireland and Scotland since it was spoken there: “A knowledge of Classical Gaelic must have been more widely diffused than some scholars allow. There is a received opinion that that it was unintelligible to the common people” (MacInnes, 2006b, p. 111). This widely-held opinion is difficult to believe, since at one time, everyone probably spoke the same Modern Gaelic language, with register variations within it as there are with every language. Upper register usage was more cultivated at court. It does not follow that the common Gael could not speak in upper register Modern Gaelic (making it “Classical”). Whilst Classical Modern Gaelic was artificially maintained at Gaelic courts, it was once widespread before becoming fixed as a courtly and literary language. What is unfortunate in these discussions is that great emphasis is placed upon the ossification of Classical Modern Gaelic to the detriment of investigating language shifts. A parallel might be made so as to understand the lack of intellectual rigour applied to this condition.

There has been a good deal of investigation in the United States on register usage. Studies have been conducted by Mary Bucholtz, Judith Irvine, and Penny Eckert (and others), but the work of William Labov is seminal. His investigation of inner city youth in Harlem, New York City is particularly relevant. This is a synopsis of Labov’s work in The Social Stratification of English in New York City (2006):

Speakers of minority dialects sometimes display virtuosic ability to slide back and forth along a continuum of styles from informal to “formal standard.” When William Labov was studying the language of Black Harlem youths, he encountered difficulties because the youths (subconsciously) adopted a different style when in the presence of white strangers. It took time and effort to gain their confidence to the point where they would “forget” that their conversations

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61 Most poetry is created without the use of writing material. This was even true with the filidh who would create poems in the dark so that they would not be distracted by visual images; they could then focus on repetitive movements of their vocal organs.

62 With dialectical shifts between geographically separated regions such as North America and Britain, some variations analogous to the development of daughter IE languages from a common PIE language have developed. For example, in North America, it may be a vestige of the past or a development, but formal speech eschews the use of conjunctions at the beginning of utterances (sentences). Yet, this is not a trait of British English at academia where conjunctions are used to begin a written sentence quite often in formal, published papers. So variation in language dialects affects register usage. The question then is raised, did language in North America retain high register usage while it became less formal in Britain, or did high register usage evolve into a dialect with more restrictions than in the original parent language? Perhaps an etic perspective concerning high register usage in a foreign culture might be of use in understanding high register usage in Gaelic society, and by extension, the use of high register language in Fenian lays.

63 See Labov (1972), (1994), and (2006). Also, William Lamb has based a great deal of his work on scholarly work in this area in Gaelic and states, “During the past several decades, a growing body of research (e.g. Ochs (1979); Chafe (1982); Biber (1998), Miller and Weinert (1998)) has set out to delineate and contrast the characteristics of linguistic varieties associated with different parameters of context. Generally, these studies have compared two or more varieties of a language (e.g. formal prose and conversation) with regard to a number of linguistic features such as word length, use of subordination, contractions, construction-type and syntactic complexity” (2008, p. 17).
were being recorded and thus use their less formal register. (Fromkin, Rodman, Hultin, & Logan, 2001, p. 315)

Labov revealed that people who were considered to be not merely average, but of the lowest class in the United States, displayed register shifting. Their behaviour was not the result of reading high register English poetry. Therefore, in a parallel manner, suggesting that only upper class society in Gaeldom spoke in a high register is a non sequitur. The supposition that high register speech in Fenian lays came from the literate intelligentsia is therefore questionable. Furthermore, such a presumption may originate from a culturally antagonistic and partisan position. What is clear is that lower class high register speech is not the same as the high register speech spoken by the upper classes, “[T]he public prestige dialect of the elite in a stratified community differs from the dialects of the non-elite strata” (Kroch, 1978, p. 17).

Yet, each group has a range:

The pattern of social and stylistic stratification [...] shows that all social classes are different in their use of this variable, and this differentiation repeats at each stylistic level. But it shows equally well that all social classes are the same, in following the same pattern of style shifting. There is a consensus that the /in/ variant is most appropriate for casual speech, and least appropriate for formal styles. (Labov, 2006, p. 398)

Indeed, a lack of register variation within a social group is unusual:

In every community, a small number of speakers can be found who show so little style shifting that this range is very narrow; for them, the phonetic realizations of words in deliberate reading are almost indistinguishable from the patterns of casual speech. Since the ordered heterogeneity of styles is a normal and functional aspect of sociolinguistic structure, such speakers have to be considered abnormal, even defective members of a speech community. (Labov, 1994, p. 158)

This would imply that Celtic scholars who believe that high register speech was only spoken by the intelligentsia believe that the common Gael was a “defective members of a speech community”.

However, there are a few points that should be considered in this regard, since the present author has noticed that there are a number of areas where all of these factors coalesce. What has been noticed is that register shifts to a higher register when the speaker is more self-aware. What has not been investigated is why the speaker becomes self-conscious. A tentative hypothesis may be that whenever a speaker becomes afraid, register increases in formality. So whether a common person is being threatened by a spear or a courtier is faced with a social superior questioning his conduct, fear is present and register moves to a more formal position. The level and recurrence of possible damage increases the frequency of usage of the formal register. This implies that the more powerful and constant the threat, the more frequently the formal voice is used and hence the greater its development. This would account for its increased use at court and its survival in writing. This is particularly true since the poetry in a duanaire or any other encomiastic poetry is addressed to a powerful person. It would also explain why high register speech occurs in religious material. If God or gods were addressed, the speaker would normally be a supplicant and would naturally speak in a high register. So whether the language is addressed toward a Christian God-head or a mythological figure such as Fionn mac Cumhaill, fear of reprisal was always present.64 This explains why singers of

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64 The present author has noted that in Nova Scotia, residents use strong language differently than those in the United States. Avoidance of body parts and functions are normal in the United States as in England, making short,
Fenian lays stand up and remove their head-pieces when singing, “An old Highlander considered it becoming to take off his bonnet when reciting such [an Ossianic lay]” Tolmie (1911). The hypothesis that fear causes a shift upward (toward more formal speech) would also explain the disapprobation felt by those not accustomed to constant courtly intrigue. That is, common Gaels would naturally associate high register speech with people or conditions that cause them fear and would wish to disassociate themselves from it.

So, it seems to be rather absurd to suggest that because Fenian lays contain elements of high register speech, that it was composed by a file and that it is a form of dán diretach poetry. It seems much more logical in light of Labov’s work (and others) to suggest that Fenian lays were composed through an oral tradition that included high register elements. This would support the contention that Fenian lays are older than the courtly poetry created after 1,200 C.E. although altered by dialectical change. Indeed, this high register speech coupled with the syllabic nature of Fenian lays would tend to indicate that calling forth to a god or nature in such a manner links the singing of Fenian lays to a PIE genesis.

2.5.4 Formulae in Fenian Lays

Although it was suggested by Sir William Jones 1786 that Celtic was an IE language (Clackson, 2007, p. 2), it was quite the challenge for linguistics to prove it due to the Celtic languages’ confusing initial mutations (Fortson, 2010, p. 309). The more challenging field of IE metrics (as opposed to IE linguistics) did not solidify until 1923 with Les origines indo-européennes des mètres grecs (Meillet). However, it was not until 1963 that the seminal work Indo-European Metrics and Archaic Irish Verse was published (Watkins), which was a reflection of his doctoral dissertation Indo-European Origins of the Celtic Verb I. The Sigmatic Aorist (1962). Until then, at least Greek, Vedic, and Slavic IE metrics had been investigated, the latter through the work of Parry and Lord (2003). Watkins believed:

For the Celtic languages, most clearly Old Irish, represent an extraordinarily archaic and conservative linguistic tradition within the Indo-European tradition […] The classical Old Irish nominal and verbal system of the eighth century of the Christian era is a far truer reflection of the state of affairs of Indo-European than is the Latin system of more than a thousand years before. (1963a, p. 212)

Watkins then proceeded to suggest that the syllable-timed nature of Gaelic (specifically Classical and Old Irish) poetics stemmed not from Latin, but from IE poetics. This is not universally accepted or known. As Bruford states:

Germanic words such as “puke”, “snout”, “piss”, etc. taboo (replaced by Latinate words such as “vomit”, “flem”, “urine”, etc.). However, curse words such as Christ, God, etc., have become routine. In Nova Scotia, body parts and functions are not taboo, but speaking a religious name is. The underlying belief is that if one speaks God’s or a god’s name, they may arrive. Even if a supernatural being does what is asked, it will never be in the manner that is expected. Invoking the supernatural is always a poor decision. Therefore, Nova Scotians avoid invoking God/gods by shifting the expression after it’s said; for example, “Jesus!” becomes, “Jesus…Mary and Joseph”; “Jesus Christ” becomes “Jesus Christ…suffered on the cross”. In Gaelic, “Iosa!” (or Ios’, meaning “Jesus”) becomes “Io…sg (iaisg) agus feoil” (fish and meat). It should also be noted that the use of Latinate words in English is also a marker for high register speech.

The work of Parry and Lord dealt with transmission of heroic poetry through the medium of song. However, the accompaniment to the song was on the gusle, a stringed instrument which is sounded by a bow. This instrument is not restricted to any immutable scale system and can even produce chromatics. Fenian lays appear to have a more restricted scale, and therefore, may be older. This will be discussed in the next chapter.
They [the filidh] seized on the syllabic quatrains of Latin hymns, which may also have been the source of rhyme, combined them as Carney [Carney, Ériu 22 (1971) 55-6: 58] shows with elements of native stress-metres, and developed a new type of song to sing to their patrons, which, if it lacked the element of divinely inspired prophecy, was more sonorous and intricately beautiful than the old verse, as well as having the novelty of an import and the authority of a Christian model. The process may indeed have begun with Christian evangelists composing vernacular hymns for their converts to sing, and its development has not been fully charted, and perhaps cannot be. (1990, p. 73)

This is echoed by Dillon:

This combination of end-rhyme, internal rhyme and alliteration [...] constitutes the ‘new form’ (nuachrotha), recognized by the Irish metrical tracts. It was doubtless the invention of monks who were heirs to the old metrical tradition, and acquired the new ornament of rhyme with their Latin learning. (1967, p. 231)

Blankenhorn cautions that for syllable-timed poetics to have been imported into Ireland from Latin, as much intellectual rigour should be directed toward Latin as has been directed toward dán direach:

The derivation of these metres (the so-called nuachrotha) from Latin hymn-metres has been argued by Gerard Murphy (1961), P. A. Breatnach [...] and others; but even if such a derivation could be proven beyond a doubt, there has yet to be adequate notice taken of the rhythmical realities of such Latin verse – a factor which must be given consideration equal to that of syllable-count if we are sensibly to assess its possible adoption as a model by Irish court poets. (2010, p. 140, fn 16)

However, Watkins (1963a, pp. 218-249) proved that the seven-syllable line derived directly from IE poetics and is a significant part of the work. He concluded that:

It is thus evident that these archaic [IE] meters could have existed as such in Proto-Goidelic and in Common Celtic times, long before the development of a stress accent [explained in Chapter 4]. It is the incorrect view that the constituent features of these metres are stress rhythm and alliteration, one of which is predictable and the other optional, which has prevented scholars from envisaging an Indo-European origin heretofore. (1963a, p. 247)

The Gaelic poetry that Watkins used to support his work included Old Irish law tracts and the poetry of the filidh. Watkins (1963a) linked the Gaelic term fili to “seer, wise man” (p. 213) and that canid (ec., cinecanit) “is applied to poetry, to charms and magical formulas, and to legal pronouncements and maxims as well” (p. 214). He also mentions that there is an “ancient interdependence of poetry, prophesy, and magic” (p. 216). In essence, Watkins connected the encomiastic poetry of the filidh to written law and proved an IE base to Gaelic, and by extension Celtic, metrics. As Cameron states:

In order to understand the laws of the Senchus Mór and the Book of Aicill, it is necessary to have a modicum of understanding of the culture that produced them. There were three castes which were concerned with law in Ireland: Druids, Bards, and Vates (in Latin, Fàith in Irish). Vates were divided into Brehons (Juris Consults) and Filid (Literature, Scholarship). (1937, p. 8)

Watkins did this by developing requirements on proving that the provenance of Gaelic metrics came from IE metrics (as was previously done with Greek, Vedic, and Slavic) by stipulating such poetry had:

(1) a tendency toward isosyllabism, with the number of syllables fixed at seven or eight; (2) a free initial, with no observable pattern of stresses, together with a fixed pattern of stresses in the cadence; (3) a fixed or slightly variable break or caesura; (4) a final anceps, i.e. either a stressed or an unstressed syllable. (1963a, p. 218)

Since Fenian lays display all of these characteristics, it is surprising that Watkins did not consider Fenian lays in his analysis. The main cause for this omission was probably that
Fenian lays may have been seen as too corrupted or considered a subset of the poetry of the *filidh*, and he was already analysing that poetry. Yet, since Fenian lays were sung much like Slavic poetry which was analysed by Lord and Parry and traced to IE poetics, it would make sense to add Fenian lay analysis to the work of Watkins using a parallel with the work of Lord and Parry. That would bypass all argument on whether Fenian lays were a subset of *dán direach* poetry. They would simply be a parallel development. That is, since Fenian lays display the four requirements as stated by Watkins above, as will be discussed in Chapters 5, 6, and 7, and if formulae can be found in Fenian lays as Lord and Parry found formulae in Slavic sung poetry, then Fenian lays may be traced directly to IE metrics. The behaviour of the *fianna* has already been traced to IE culture through the work of Binchy, Dillon, McConne, and Nagy (Wyatt, 2009, pp. 68-69). The pitch sequencing will be traced to IE pastoral practices as well in Chapter 3. All that remains is to find formulae as stated by Lord and Parry.

However, after a great deal of research, Slotkin did not believe that formulae could be found in Gaelic poetry due to the few syllables (seven) contained in a poetic line as opposed to the eleven found in Slavic verse:

> However, there is considerable difference between an eleven or twelve syllable line and a seven syllable line. I would suggest that while eleven syllables to a line makes a convenient vehicle for narration, seven syllables [4/3] is not quite long enough or flexible enough to narrate very much easily [...] I would suggest that Serbo-Croatian meters have immensely greater flexibility than the Irish cadenced heptasyllabics. (1977, p. 267)

Slotkin and Watkins both lacked a key component to their arguments: they did not look at narratively sung poetry transferred from one generation to the next by oral means, but by written means. That is, they used secondary and not primary sources. What Lord and Parry had done was to examine a living tradition in Serbo-Croatia and then discern that tradition in the written material of Greek heroic poetry. Slotkin and Watkins had only considered the written tradition. In summary, Fenian lays are to Slavic sung poetry as Old Irish law tracts are to the works of Homer.

The advantage of investigating a living sung tradition is that it may possess many elements that can be traced to IE traditional behaviour. To establish this link, the singing tradition must display the characteristics of “formulae”. As Fortson (2010) states, “IE poetic tradition belongs to the type of poetry known as oral-formulaic poetry. Fundamental to this is the use of formulaic language, fixed words of groups of words that often had the function of filling out a verse-line” (p. 33). In order to search for formulae in Fenian lays, the question then presents itself: exactly what is a formula? According to Windelberg (1980), a formula is:

> “[A] group of words which is regularly employed under the same metrical conditions to express a given essential idea.” The definition, however, has proved to be inadequate and, in spite of further study during the last fifty years, the formula has resisted definition. Even Parry recognized that his definition excluded many phrases which he felt to be formulaic in nature. Thus he accepted as formulas those sets of phrases which differed only in a minor aspect (e.g.,

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66 This is debatable. A recording may not be considered a primary source since it is a type of recording, which is by its nature, secondary if not collected by the researcher conducting the analysis. So if recordings are considered secondary, would transcriptions of those be thought tertiary? Since the present author would have recorded informants if they existed and then analysed those audio recordings, and during analysis considered audio recordings primary, then the audio recordings used in this dissertation, even though collected by other researchers, are considered primary.
differences in the person and number of a verb), provided that the phrases still occupied a specific metrical slot. (p. 30)

The present author has noticed formulae in Fenian lays; they seem to be indicated by alliteration. Here is an excerpt from the tale of the “Knight of the Red Shield” (this is not a Fenian lay, but performed in a similar manner) with rhythmic marks beginning at the inception of the alliteration and the alliteration made bold by the present author (J. Ross, 1959, p. 11):

a sgiath bhucaideach bhacaideach bharra-chaol air a laimh chlé   ^ - ^ - ^ - ^
a cheanna-bheart, clogada cru[-]aidh-chòmhraig   ^ - ^ - ^ - ^
a' coimhead a chinn 'sa cheanna-mhullaich   ^ - ^ - ^ - ^

Another example of strong alliterative elements may be seen in an example from Chapter 6 “Duan na Muiligheartach-1946”, below:

Bhraoille⁶⁷ chràille chróm   ^ - ^ - ^
An fhíne na fásach na fonn   - ^ - ^ - ^

Notice that both lines produce a final anceps that Watkins stipulated, above.

Formulae similar to this are evident in the Fenian lay poetry shown in Chapter 5, 6, and 7. Unfortunately, there is insufficient space in this dissertation to discuss every formula as it appears; however, now that they are discovered, it is a simple matter to identify them. For example, consider a few lines from the lay “Duan na Ceàrdach” which appears in Chapter 6:

Bu bhuidheann dhiubh sin an gobha,   One band of these was [with] the smith,
Bu bhuidheann eile dhiubh Daorghlas,   Another band of these was [with] Daorghlas
Bu bhuidheann dhiubh Dearg mac Breitheamh   One band of these was Dearg, the Judge’s son.

The formula bu bhuidheann dhiubh is altered slightly through repetition and indicates oral-formulaic construction, much like the Armenian oral epic song recorded in the 5th century by Movses Khorenatsi concerning the birth of the deity Vahagn (Woodard, 2012, pp. 149-150):

erknēr erkin, erknēr erkin,   In labor was heaven, in labor was earth,
erknēr ew covan cirani [...]   and in labor was the purple sea.

And ełgan p’ol cuwx elanēr,   Along the stalk of the reed, smoke arose,
And ełgan p’ol boc’ elanēr,   Along the stalk of the reed, flame arose,

There is another important indicator of formulae, as Ross states:

Formulic passages of considerable length, sometimes known as “runs” and corresponding in general type to the longer passages in the songs, occur in some of the tales at certain clearly defined points in the narrative. The preparation and sailing of the hero’s ship, his dressing or arming for battle, his reunion with friends, and his actual combat with his enemies are the most prominent points in the plots at which one can expect to find sustained formulaic treatment.

⁶⁷ In this line, if <bh> is a bi-labial, this is a perfect alliteration since the physical movement is the same. The three words are extremely similar and use the same body motions to pronounce. This is a true formula. Also notice the chewing, incantation-esque nature of the first line. Compare Bhraoille chróm to “Barley grow” (chr—gr / ow—om).

⁶⁸ For example, The Singer of Tales (Lord, 2003) was an entire book that was a simplified version of more complicated works by both Lord and Parry.
These “runs” fall into rhythmic phrases characterized by marked alliteration and internal assonances, and much of the vocabulary is archaic. (1959, p. 10)

Formulae indicated by “runs” may be seen in Chapter 6 with the theme of “arose” (dh’ éirich). They occur in the lays of the muileartach which is quite a popular Fenian lay and is represented in a number of examples in the present dissertation (in Chapters 6 and 7). This feature also appears in the Sage Collection in Reliquiae Celticae, Vol. I (Alexander Cameron, 1892, pp. 384-385) as:

| Dh’ éirich | Fionn flath na Feinne | Dh’ éirich | Mac an Leithe na dhamhair |
| Dh’ éirich | Oisein flath nam fear | Dh’ éirich | Glaisean le tabhachd |
| Dh’ éirich | Oscar, dh’ éirich lulain | Dh’ éirich | agus ard Aurag |
| Dh’ éirich | mac righ chiar-dhubh dhuine | Dh’ éirich | Caolt, dh’ éirich Conan |
| Dh’ éirich | sud agus Luin na buighin | Dh’ éirich | Diarmaid o Duibhn |
| Dh’ éirich | an dthis, bu bhriagh dreach | Dh’ éirich | sin agus Treamhar |
| Dh’ éirich | Raoine is Mac Luthach. | Dh’ éirich | an Eeul nach tim |

Note the first line in this example: Dh’ éirich Fionn flath na Féinne (arose Fionn, king/peer/leader of the Fenians). The first element (dh’ éirich) indicates a formula since it is a run; however, the second element, flath na Féinne is another example of a concatenating formula that typifies oral-formulaic construction. Although probably coincidental, the alliteration it displays may be a common IE poetic characteristic as was mentioned in How to Kill a Dragon with “fleet of foot” (Watkins, 1995, pp. 176-178) with the fl/f combination being identical. The term flath in Scottish Gaelic means: hero, champion god, king, princely, brave, heroic, etc. and is linked to something god-like (Dwelly, 1994, p. 441). In Irish Gaelic, it (flaith) means: ruler, prince, chief ("Fraith,,” 1986, p. 287). This is a formula that is prevalent in Fenian lays and expresses itself as flath na Finneadh or flath na fear. These two consecutive formulae (the “arise” formula of dh’ éirich and the formula of flath na Féinne) are combined one after the other as written above and also sung by Peanaidh “Bheag” Mhoireasdan, as will be described in Chapter 6, thusly:

Dh’èirich Fionn, flath na Finneadh
S dh’èirich Oisean, flath na fear

So, not only are the two formulae combined in a single line, but the lines are repeated. It may also be significant that the second formula, the concept of “prince of men” or “hero of the Fenians” may also reflect the God | Men IE dichotomy as noted by Watkins (1995) who referenced the rather extensive work of Toporov (p. 183).

2.6. Summary

The poetic constructions of Fenian lays suggest an Indo-European origin with regard to thematic material of the fianna (described in more detail in Chapter 5), other-worldly or shamanistic aspects, and high register language usage which is used by supplicant to a superior. It does not suggest that the origin of Fenian lays rests within the provenance of the filidh, as the social position of a file was based upon the composition of complex dán direach poetry; its creation would be beneath that of the file. Furthermore, formulae were present in the lays, especially “runs” of length. The filidh did not compose formulaic runs.
The physical patterning of Fenian lay, *dán direach*, and law tract metrics display a design based upon physical movement synergies and not that of sound confluence. For example, the English “toll”, “own”, “oar” would be considered perfect rhyme in Gaelic (using Gaelic consonants) because, even if not sounding the same, the mouth is moving in almost the exact same manner for each vowel and following consonant. This implies a common IE religious intent. That is, Fenian lays, legal law tracts, and *dán direach* poetry all show parallel constructions and “daughter” vestiges of a “parent” IE religious behaviour.

Showing a parallel of Fenian lays to the work of Watkins (1963a) bypasses unproductive debates as to the origin of Fenian lays resting with the *filidh* and instead strengthens the contention of Watkins that comparative metrics firmly places the Celtic language branch as a component of IE culture. This connection to IE poetry was shown not only through identifying several formulae, but by identifying alliteration as a significant component of Fenian lays and construction building-blocks. Although Watkins (1963a) believed alliteration could not be a consistent poetic device prior to the 5th century (p. 219) because of the initial mutations that took place in the Gaelic languages, alliteration has often been a key component of IE poetics:

Many IE poetic forms seem to combine fundamental features of the strophic style (such as alliterating word-pairs and the freedom in the number of syllables) with some structural rigidity [...] Repetition of sounds (including alliteration, assonance, and, less frequently, end-rhyme) is characteristic of IE poetry even outside the strophic style. (Fortson, 2010, pp. 36-37)

Other components as described by Watkins trace Fenian lays to IE poetic practices, including syllabic structuring of the verse. He also suggested that in IE poetics there is a free initial followed by a caesura break with a subsequent metrical pattern. If this is morphed into a rhythmic formula evident in Fenian lays surrounded by non-rhythmic variation, then that would tend to support his position. Furthermore, there seems to be elements of cadence in some of the lays. Some Fenian lay lines end in formulae where anceps is clearly present.

With Fenian lay performance, the supernatural was being accessed to praise the exploits of Fionn mac Cumhaill. This is not merely true due to poetic constructions. As Besson commented of Nadel, “Ethnomusicological research has illustrated the social function of music by showing that music is invested of natural and supra-natural powers in all human societies (Nadel, 1930)” (2011, p. 2). The next component to this investigation, that of pitch-structuring, will reveal if the music of Fenian lays incorporate musical elements linked to IE poetry (structuring of poemic elements) which was used to access the otherworld. As Fortson (2010) said of the IE poets:

> Composing hymns in praise of the gods ensured that the gods would in turn bestow wealth and beneficence on the community, and singing kings’ or warriors’ praises ensured that the kings would live on in the memory of later generations. (p. 32)

As Chapter 4 will discuss, when one is attempting to access the supernatural, poetic (physical synergy of micro-elements or phonemes) and poetic (macro-structures of syllabic quantisations of verse structure and language register) will be combined with spoken volume to increase access to the supernatural. If one also organises pitches into emic (micro) and etic (macro) structures, it then may be possible to increase accessibility to the supernatural. Each element contributing toward supernatural access can be seen as an ornament. Increase of ornamental synergy can be seen as increased access to the supernatural. The next additive step
in supernatural access after poemics and poetics, but before volume and resonance (Chapter 4), may be seen to be the frequency-delineation of human speech, commonly known as music. So, like the ornament of poemics and the organisation of those elements into overarching patterns using poetics to create incantations in IE culture, there might also be a parallel with music. Therefore, the ornament of pitch may be separated into both musemics, which might be seen as the organisation of sound into discrete pitches (diatonic scale, natural scale, bagpipe scale, discussed in Chapter 3) and musetics, which is the overarching organising system of musemic constituents (breathing patterns and language accent, discussed in Chapter 4). Both musemics and musetics may be seen as a way to structure and then enhance human sound so as to access the supernatural.
CHAPTER THREE

The Ornament of Pitch

3.1. Introduction

The previous chapter dealt with how phonemes are organized so as to produce repetitive blocks of physical movements. The next chapter will deal with rhythmic repetitions. This chapter addresses pitch patterning which seems to be a feature, much like high register speech to be seen in the following chapter, that increases the importance of utterances by organising and quantising frequency patterns. The difficulty in this is that previous investigation by musicologists has been done through the lens of modern art music and has presupposed that current practices were the norm in the past. It might be wiser to consider all of the possible systems of pitch patterning that occurred in Indo-European society and then match that patterning against existing Fenian lays. Therefore, every possible pitch system that has existed in Western Europe should be examined, and a template of each system defined. Known systems include the natural scale, the willow flute scale, the diatonic scale (both the hexatonic system of Guido of Arezzo in the 11th century and the heptatonic system as described by Giovanni Battista Doni in the 17th century), and the apparently hybrid (natural and diatonic scales) of the bagpipe. Such analysis will require patience on the part of the reader as foreshadowing or reflexivity is considered prejudicial in such an endeavour. The tools of observation as specified below must be pure and cohesive before being applied to the pitch-patterning of Fenian lays beginning in Chapter 5. Then, each system described in this chapter will be matched against the pitch-patterning of each Fenian lay in order to see which system is most applicable to each lay. What is unique and of primary research is that the pitch systems used in Indo-European pastoral society will be defined and quantified as such for the first time. By the end of this dissertation, it should be clear to the reader that the pitch-patterning of Fenian lays (and older folk music as well) are most closely affiliated to pitches produced by instruments used in pastoral society rather than those used in urban or the early Christian Church and are therefore more indicative of Indo-European society.

Fenian lays from Ireland, Scotland, and Nova Scotia appear to be sung to a specific gamut of musical pitches. This is not unusual as this is true of most songs in any particular culture. However, the fixed organisation of pitches of Fenian lays apparently matches what is commonly known as the Western European “folk music scale”. Some observations in the past have been that the scale is: gapped; tuned in a different manner than Pythagorean tuning or
equal temperament; either tritonic, tetratonic, pentatonic, or hexatonic; 69 uncomplicated; pastoral; rude; simple; etc. For example, as Mason wrote, “Irish tunes have come down to us composed entirely of whole tones, and the ancestral proneness to skip over the semitones manifests itself even to the present day [...] The gamut of five tones is the primitive Celtic scale, the soul of Irish music” (1910, p. 59). In actuality, this organisational structure can be traced to pitch structures that have been in continual use from at least the Neolithic Age.

Several hypotheses have been advanced to explain the origin of the folk music scale and might be applied to an investigation of pitches utilised in the performance of Fenian lays. Unfortunately, all have significant flaws, 70 mainly deriving from the use of the Western European diatonic (art music) scale and associated notation:

The most persistent efforts to place folksong study within the frame-work of formal music theory are found in the attempts at describing and classifying the scales found in folksong. This is most obvious in the widespread use of [ecclesiastical] modal theory and terminology in the study of British and Anglo-American folksong. (Foss, 1967, p. 103)

The ecclesiastical modal system seems to be a singularly odd musical structure to apply to music stemming from a segment of society whose behaviour was so clearly a target of the early Christian Church. As Norman Cazden candidly states:

Today that [ecclesiastical] mode scheme mystifies rather than clarifies both the technical data presented in traditional song and the cultural history which its study ought rather to document [...] That is why I judge that mode scheme to constitute today a dogmatic barrier that directly impedes the desired internal analysis of the musical forms which it purports to promote, and that diverts the student from the further relevancies and generalizations that such analysis might indicate, all the while encouraging lip-service as a substitute for thought [...] It is time we recognize that the familiar mode classifications and categories are historically a travesty and systematically both inept and unproductive. (1971, pp. 46-47)

Although previous approaches to the quantisation of folk music have prevented the actualization of folk music classification in a simple, lucid manner, the effort to do so did result in the recording of musical observations in a systematic manner; that is, many researchers made the effort to transcribe the music as accurately as they could, and a good number of tunes were notated on the diatonic musical staff following an ecclesiastical formula. Moreover, many of these observations were made when there was quite a difference between art music and folk music; the distinction is much less sharp today. Folk music has become so altered through the pervasive influence of mass media that it bears little semblance to recordings in archives. Therefore, earlier observations are valuable because they describe, albeit imperfectly, music that is no longer extant. For example, “Gaelic vocal music clings more or less to its ancient gapped scale, and retains a characteristic avoidance of certain notes, whereas Lowland Scottish music now approximates in its seven-note modal construction to the folk music of England” (Gilchrist, 1911, p. 150). Gilchrist also noted that many scholars have stated that they

69 Significantly, when tritonic, tetratonic or pentatonic, the tune is also missing half steps. This is not a requirement of being labelled as tetratonic or pentatonic but is an additional stipulation.

70 Those attempting to categorise folk music include Cecil Sharp (1932), Kennedy-Fraser (1909), Gilchrist (1911), William H. Grattan Flood (1905), Donald MacDonald (c.1900), Bertrand H. Bronson (1946) and (1972), Francis Collinson (1966), James Culwick (1897), Bradley and Breathnach (1980), Ó Boyle (1977), Finlay Dauney (1838), etc., etc.
believe that Scottish folk music is pentatonic with missing 4th and 7th degrees; that is, C4 to C5 with missing F4 and B4. However, Gilchrist believed that most Scottish tunes (the “primitive pentatonic scale”) was of C to C with the 3rd and 7th degrees omitted (1911, p. 150). This correlates to G4 to G5 with missing B4 and F5.

Although the ecclesiastical modes do not seem appropriate to describe music that displays traits of the folk music scale, scholars such as Bronson believe that using the imperfect ecclesiastical modal system is preferable than to have no system at all:

I for one much prefer to employ the familiar terms, in so far as they cover the case before us. They can be qualified, extended, divided, annotated at need, to suit the immediate scope and purpose, surely without our abandoning the modal system – which, so long as it adumbrates musical facts, is likely in the event to survive somehow, whether we slice it thick or thin. (1972, p. 28)

The challenge to understanding Western European folk music seems to be one of perspective. Cazden believes that the approach to folk music analysis should not be through the use of the ecclesiastical modes or conventional music theory which derived from it; however, he did not suggest an alternative. The problem, and its solution, seems to relate to a conflict of perspective. The tenets of Western European art music, created by or for the early Christian Church, should apply to music generated under its auspices. One would then assume that the patterns of folk music would stem from the common, rural folk and the musical instruments that they employ. It follows that the challenge to understanding Fenian lay pitch structure, and by extension folk music in general, is to investigate folk music and understand the emic conditions that created the music. The current etic ideal is actually another culture’s musical mores in disguise.

The approach taken in the present study was to research the musical scales produced by rural or folk instruments and any inherent vocal structure known to exist in the Early Middle Ages which is a remnant of Indo-European pastoralism. The structure of art music was reduced to its genesis and juxtaposed to these folk patterns. With these scalar patterns acting as a spectral substratum, Fenian lay melodies were then overlaid upon each pattern to see which one, if any, matched. Although transcriptions and other secondary sources were important, primary sources, in this case audio recordings, were the most valuable:

Examples of the most reliable kind [sources of folk melody] are sound recordings, transcriptions of which are always subject to referential proof. Next in dependability come the meticulous records of musically trained collectors of recent years, like Ralph Vaughan Williams, Percy Grainger, Cecil Sharp, Julien Tiersot, and Béla Bartók. Even here, however, individual interpretation is discernible, and the notational preferences of a particular era or group of co-workers, as well as the general incompleteness of the evidence, must be kept in mind. (Bronson, 1950, p. 121)

The validity and provenance of recordings obtained for this present dissertation were exceptional. If the following musical underpinnings are accurate, then applying them to these recordings should prove significant. This was done in Chapters 5, 6, and 7.

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71 For one example, see Ancient Scotish [sic] Melodies (Dauney & Dun, 1838, p. 175); it should also be noted that Sharp (1932, p. xvi) adopted Gilchrist’s perspective.

72 Since the ecclesiastical modes require two half steps per octave (and a heptatonic scale) and folk music is gapped, then terms such as tetratonic, pentatonic, and hexatonic cannot be used simultaneously with the ecclesiastical modes.
3.2. Natural Scale

The advent of the technology of farming is the marker for the commencement of the Neolithic Age. This technology allowed for human sustenance through providing plant material (carbohydrate in the form of processed bread) and animal material (protein in the form of processed cheese, milk, or blood). More specifically, the genetic marker of lactose persistence linked to the Indo-European people gave them a significant evolutionary advantage (Itan, Powell, Beaumont, Burger, and Thomas (2009), Cochran and Harpending (2009), and others) over those who could not process dairy products efficiently. It should also be noted that this food was not direct but indirect; that is, it was a part of the Secondary Products Revolution as advocated by Sherratt (1981). Both of these theories have livestock management as a core tenet.

A type of musical instrument was integral to the management of livestock in this system. Such instruments were wooden trumpets\(^{73}\) (often shaped like animal horns) that mimicked the sounds of animals and had a soothing effect upon them.\(^{74}\) Trumpets were used to gather livestock prior to daily or seasonal transhumance; they were also used to frighten predators away or alert livestock of danger.\(^{75}\) Trumpets are still used in present-day marginalized societies where there are shepherds working in relative isolation in the Carpathians (Russia/Ukraine), Poland, the Balkans, Estonia, Romania, Sweden, and Norway, etc. Their use was sustained in rural, insular Britain until modern advances in agricultural processes made them obsolete; their demise in Gaeldom corresponds to the cessation of Fenian lay singing.

Here is an example of a wooden trumpets being played by shepherds in Romania (see below, Figure 3.1) as photographed by Martin Kleibl (2013):\(^{76}\)

![Romanian Shepherds and Trumpets, 2013 (Photograph: Martin Kleibl)](image)

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\(^{73}\) This topic was explored previously by the present author and may be found in “The Devolution of the Shepherd Trumpet and Its Seminal Importance in Music History” (Hirt, 2015b).

\(^{74}\) Although replaced by herding dogs when European forests were cleared, wooden trumpets are still used today in more mountainous regions where animals need to be moved from one pasture to the next through forests.

\(^{75}\) As people are animals, this technique was also used to alert a human populace of danger through having tower watchmen carry trumpets; for example, the watchman of Krakow killed by a Tatar arrow as he sounded the alarm. In effect, trumpets herded people.

\(^{76}\) Photograph by Martin Kleibl is used by permission through personal correspondence.
The present author also constructed a wooden shepherd trumpet. It was a simple process, but there were some significant lessons learned in its construction; the most important was that in order to create a standing wave, the bore had to be smooth and uniform; if not, there would be too much diffusion of the sound waves and the instrument would sound like a magnified mouthpiece played by itself.

These instruments were also well-attested in Gaelic society: “A straight metal trumpet without a bell, obviously a degenerated Roman tuba [shepherd trumpets have the same shape as metal tubae], is depicted as early as the eighth century in Irish miniatures” (Sachs, 1940, p. 280). This may be seen on a sculptured stone (number three, rear face) at Aberlemno, Scotland as well that dates from the middle of the 9th century. There are extant instruments such as the Lough Erne Horn (8th century C.E.) and the Mayophone (also known as the Beken horn found in Beken, Co. Mayo) from the 8th century C.E. as well. Additionally, there were many types of horns and trumpets attested in Ireland and Scotland such as the bennbuabhal and corn (horns), guthbuinne (horn), stoc and sturgan (trumpets) (Grattan-Flood, 1905, p. 22). A “trump” was the name often given to juice harps (or Jews’ harps, jaws harps); these instruments also created the harmonic series. Instruments of transhumance have been lost to the collective minds of scholars in Scotland to such an extent that the this word “trump” is thought to be applicable only to juice harps even when the context suggests signal playing in a military encampment (Newton, 2001). However, transhumance was once widely practiced in Ireland and Scotland:

77 As stated by Ralls-MacLeod, “The Old Irish terms for trumpets include stoc [Electronic Dictionary of the Irish Language, known as the eDIL (Quin, 1998): trumpet, bugle, horn; length of wood from a tree] and sturgan [eDIL: storgán: trumpet, bugle, [...]. This type of trumpet resembled a long cylindrical bore that emitted a loud, shrill blast. Old Irish terms for early trumpets were: corn [eDIL: drinking; horn], buaabal [eDIL: ox; buffalo; horn], adharc [eDIL: horn of an animal], dudag [Dwelly’s (1994): little horn, little bugle, ...]. galldrumpa [Dwelly’s (1994): galt-tromp: trumpet, clarion, cornet; trumpet of the foreigner] and barra-buaid [barra buaid: rod of victory]. The corn, a horn-like instrument, was the longer one, it appears, while the stoc was of the shorter variety. A trumpet player was often called a stocaire [eDIL: trumpeter], while a horn-blower was referred to as a cornaire [eDIL: horn-blower, trumpeter]. We cannot be certain what each type of trumpet or horn looked like; however, we do know that amongst the household of every king and chieftain there was a band of trumpeters” (Ralls-MacLeod, 2000, p. 95). This last statement requires that the natural scale was played at court.

It should also be mentioned that these terms seem to have originated in PIE culture. The word “trumpet” and its cognates have been traced to the PIE language (Pokorny index 204-6) by Tom Markey; see Hirt (2015b, p. fn 4). The words for “bugle” and “horn” also seem to derive from PIE sources. For example, words relating to oxen or ox horns, bucum, buine, biichel, busine, buisine, buicina, buysine, buzine, karjapasun, basaun (which becomes posaune) relates to the English “bugle”. Additionally, ker-, keru- is PIE for an animal horn (Pokorny index 574-77). One can see/hear the Latin cornu from this and the Celtic carnuc as well. The English “pipehorn” was originally a pipe or reed with an animal horn inserted in the end. Variations are alpenhorn, alphorn, vallehorn, midwinterhoorn, hölzenhorn, and hirtenhorn, amongst many others. It should be noted that names for instruments often change over time; words such as cornu, korn, horn, bugle, bucina, buiname, trumpet, trusa, tromba, tuba, etc. could all be used to specify the very same instrument in different cultures during different periods of time. These linguistic connections strengthen the present dissertation by linking the pitches made on such instruments to PIE culture and associated Neolithic food technology.

78 For example, “Bu lionnhor nan campa/Guth gall tromp [voiced/loud foreign trumpets, emphasis added] is pìoba/Fairgne na druma/Cur an curaids am fiacha (In their camps there were many sounds of trumps and bagpipes, the beating of the drums, to assert their courage)” (Newton, 2009, p. 259). Another example describes a battle between the English and Irish in 1584. “Now goe the fox to wracke,/The Karne [Scottish mercenaries hired to fight in Ireland and elsewhere; they made exceptional bodyguards for Irish chieftains] apace do sweate,/And bagg pipe then instead of trompe [emphasis added]/Doe lulle the backe reteave” (Manson, 1901, p. 49). The Complaynt of Scotland believed to have been written in 1548 (Inglis, 1548) also states, “Ther vas viij scheiphyrds, and ilk ane of them hed ane syndry instrument to play to the laif. the fyft hed ane drone bag pipe, the nyxt hed ane pipe maid of ane bleddir and of ane reid, the third playit on ane trump [emphasis added], the feyrd on ane corne pipe, the fyft playit on ane pipe maid of ane gait horne, the sxe playt on ane recordar, the seuint plait on ane fiddil,
In the summer, continuing the ancient practice of transhumance, a considerable portion of the community migrated, with most of their beasts, to the shielings in the sheltered glens among the hills. There the cattle fed on the sweet hill grass herded by the lads and the women and the girls made the milk into the butter and cheese upon which the community would subsist. (Grant, 1961, pp. 73-74)

Improved methods of agriculture allowed for animals to stay closer to the family dwelling: “In the Eastern and Central Highlands, the practice [of transhumance] died out when, under an improved system of agriculture, it became more profitable to keep the animals at home; in my young days the tradition of it still survived” (Grant, 1961, p. 74). The scale produced by these wooden trumpets and other natural instruments is very different from the scale found on the piano keyboard (diatonic scale). Typically, this scale is explained to music students by having them imagine the wavelengths of a vibrating string. This is not entirely correct as sound actually consists of compressional waves. However, such an analogy is beneficial and is used here.

If all possible notes that can be produced by a typical 8’ (2.44 m.) trumpet are plotted against those notes’ frequencies (as described in the Appendix), which are multiples of 70 Hz, the following results (see Figure 3.2, below):

![Figure 3.2: Natural Scale: Notes Available vs. Frequency (Cycles per Second)](image)

Here, the note value (here the partial number, but it is just the integer value of the notes available, in order) is potted equidistantly on the x-axis, and the corresponding frequency value in Hertz is placed on the y-axis. Observe that this musical system is linear and not

and the last plait on ane quhissil (Inglis, 1548, p. 101). The editor of this work in 1801 explained each of these instruments in the preface to the book. His comments show the confusion between “trump” and “trumpet” even by 1801, where he believes that “trump” refers to a juice harp. He is also confused in that on p. 157, he believes that in the expression “With Clarche Pipe and Clarion” there is an instrument termed a “clarche pipe”. The expression probably meant was “With Clarche, Pipe, and Clarion” or clairseach (harp), bagpipe, and trumpet. This ambiguity only strengthens the argument that much more research must be done on the use of the word “trump” in Great Britain.

79 There are accounts of natural instruments of transhumance being used in Nova Scotia as well. Informant Jessica MacLennan of Blues Mills, Cape Breton Island informed me of a story that had been passed down through her family that she did not understand. It concerned a relative who, when his bull became mired in a swamp, summoned the neighbours using a horn. Since the use of such instruments had ceased, MacLennan had no understanding of why a horn was in the story. Yet, because of the oral nature of learning history in her society and its required oral precision and coherence, the relation of the episode was accurate; she simply had no present context to link animals, horns, and summoning neighbours.
exponential. Also, the notes are equidistant to one another with respect to frequency. These two traits are significant as this is not true for the familiar diatonic scale.

Below is the natural scale written in diatonic music notation for a natural instrument approximately 8’ (2.44 m) long (see Figure 3.3). This scale is as a modern trumpeter is presented with the music notation regardless of the actual pitch (C, D, E, F, G) of the instrument. Natural trumpets (mostly placed in D, the “choral key”) are familiar to diatonically-trained musicians in works composed by Bach, Telleman, Torelli, Fasch, Zelenka, etc.

<table>
<thead>
<tr>
<th>Partial:</th>
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<th>C</th>
<th>C</th>
<th>E</th>
<th>G</th>
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<tr>
<td>Pitch:</td>
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<td>B₄</td>
<td>C₅</td>
<td>D₅</td>
<td>E₅</td>
<td>F₅</td>
<td>G₅</td>
<td>A₅</td>
</tr>
</tbody>
</table>

![Figure 3.3: The Natural Scale as it is Often Presented](image)

Some of the notes have been made solid in the above figure. This is to indicate that they are a good deal different than the intonation of notes in the diatonic scale; some of these notes include the 7th, 11th, 13th, and 14th partials. The 7th partial is between A₄ and B₄, the 11th partial is halfway between F₅ and F₆, the 13th partial is between A₅ and A₆, and the 14th partial is between A₅ and B₆. Arrows point in the direction that the natural scale note sounds in comparison to equal temperament.

In the past, if a transcriber listened to a tune played on a natural instrument playing the 7th partial and also heard the tune end in C, the transcriber did not consider the pitch of B₄ for this note since B₄ was not in the key of C major. The choice was between A₄ and B₄. The 7th partial sounded closer to A₄ than B₄, and the transcriber normally wrote A₄ and not B₄. The present author has noted that most transcriptions known to have been of natural instruments display the 7th partial as either A or B₄ and only as B₄ when modern-day ethnomusicologists have flaunted convention in order to be more precise. Also, the 11th partial was written as F₅ in the figure above; it could also be written as F₅ since it is almost exactly halfway between the two notes. Given this choice, a transcriber would write F₅ and not F₅ if the tune ended in C. Additionally, Bradley points out that in the key of G major, the flat leading tone of Irish music is “Called F₅ by traditional players who regard it as a decorative note in the system [...] this note cannot be reproduced on instruments of fixed pitch” (Bradley & Breathnach, 1980).

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80 The pitches (in equal temperament where A=440 Hz) of shepherd trumpets and their actual, as opposed to theoretical lengths are: D=110 cm (3.6 ft/43.3 in), C=120 cm (3.9 ft/47.23 in), B=134 cm (4.4 ft/52.83 in), A=142 cm (4.67 ft/55.9 in), G=160 cm (5.25 ft/63.0 in), F=180 cm (5.9 ft/70.9 in), E=202 cm (6.6 ft/79.5 in), D=214 cm (7.0 ft/84.3 in), C=242 cm (7.9 ft/95.3 in), B=272 cm (8.9 ft/107.1 in).

81 The 7th partial on a C natural trumpet is 69 cents sharper than an equally tempered A₄ and 31 cents flatter than an equally tempered B₄. There are 100 cents in an equally tempered half step interval. On a scale of 100 between A₄ and B₄, the 7th partial would fall on 35; therefore, it is closer to A₄ than B₄.

82 The 11th partial is 51 cents sharper than an equally tempered F₅ and 49 cents flatter than an F₅.

83 The 13th partial is 59 cents flatter than an equally tempered A₅.

84 The 14th partial is 31 cents flatter than an equally tempered B₅.
That is, F♭ is a flat F♯, not a flat F♮. This matches the sequence of increasing pitch F, F♭, F♯ with F♭ correlating to the 11th partial.

If the natural scale’s representation on the diatonic staff is adjusted with these concerns in mind, the playable notes might be represented as seen in Figure 3.4, below:

![Figure 3.4: The Natural Scale as Transcribers Have Used It](image)

Therefore, when analysing Fenian lays, the note sequence displayed on this figure will be used to determine if Fenian lay examples match the natural scale.

It has generally been assumed that the shorter the instrument, the older the culture; that is, short trumpets correlate to the early Neolithic Age and longer ones of the more recent Neolithic Age (Sachs, 1940, pp. 63-64). This is not entirely correct, as the length of the trumpet will increase with the seniority (age) of the shepherd. Shorter trumpets and willow flutes (discussed below) are restricted to the lower end of the natural scale. So there may be a slight correlation between tunes located at the bottom of the natural scale (ditonic, tritonic, tetratonic, and pentatonic scales) and the genesis of the Neolithic tradition.

Although described in Hirt (2015a) and (2015a), it was thought best to briefly show the process by which folk tunes can be transposed to match or be disjunct from the natural scale as it is normally displayed on staff notation. The first step in this process is to transpose a folk tune to C major since that is how the natural scale is most commonly shown. Then, the tune is transposed up a perfect fourth or fifth to see if it matches the natural scale. This rarely adds accidentals since the music is often gapped, and half steps are absent. It should be remembered that IE pastoral tradition was spread over most of Europe. One would expect to see the natural scale surviving in old folk music tunes from many nations. This particular example (“The Farmer in the Dell”, Figure 3.5, below) was chosen because it is probably familiar to the reader and for another reason described below:

![Figure 3.5: “The Farmer in the Dell”, Transposed to C major](image)

Although this example can be played by a competent trumpeter and is in the “rural mode” (described below), closer examination suggests something intriguing. The stressed beats all have pitches that appear in the natural scale an octave lower than is written in the example above. This would mean that a poorly-trained trumpeter or someone playing on a short

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85 The speed of buzzing one’s lips has a limit. If a trumpeter’s lips are placed on a short or long trumpet, the pitch produced will be about the same, however, it will correlate to a different partial on each instrument. Therefore, the ability to play a melodic tune is drastically limited if the trumpet is short.
trumpet could play this tune rather easily. The notes that do not match the natural scale in the lower octave are all passing or neighbouring tones. So if this music is transposed down an octave and non-natural scale notes adjusted (as was the second-to-last note D₄ moved to G₃ just to make things more interesting and cadential), the following Figure 3.6 results (changed notes are circled in red):

![Figure 3.6: “The Farmer in the Dell”, Down an Octave](image)

If played to a listener, this tune would be clearly recognisable as the traditional melody that children are taught as a nursery rhyme. It should be noted that most folk tunes do not dwell so low in the natural scale. Most are higher and must be played on longer trumpets. Still, the same relationships exist between notes regardless of the tube’s length. In the next section, the reader can see how by plugging the end of a tube, two natural scales can be layered, one on top of the other.

### 3.3. Willow Flute Scale

Another musical scale attested in pastoral society is the willow flute (sallow flute or *seljefløyte*). Eivind Groven (1927) published an important work which linked the scale played by these instruments as being “bound to” Norwegian folk music intonation. A willow flute has many names across Europe including: willow flute, *seljefløyte* (sallow flute), *sälgflöjt* or *sälgpipa*, *schwegel*, *pajupilli* or *pitkähuilu*, *koncovka*, Norwegian flute, overtone flute, etc. The willow flute is merely a hollow tube possessing a fipple hole where air passes from inside to outside the tube over a sharp edge, creating a standing wave. Groven was raised surrounded by the sound of folk instruments in his native Norway. When he first heard a European string orchestra, he was astounded by the harmonic texture and odd melodic intonation.

A willow flute is a natural instrument made from the bark of a willow branch which is removed in one piece, making a tube that plays two superimposed natural scales: one scale with the tube open, producing one series of notes; the other with a finger stopping the end, making an additional series of notes. An example of a willow flute may be seen below in Figure 3.7 from an oil painting of Christian Skredsvig in 1889. This image was chosen as an alternative to a

86 This is the only known work known to the present author in which a musicologist began with a native European folk instrument, understood its properties, and related its scales to music in its surrounding folk music tradition. The current dissertation has accomplished the same process with the wooden shepherd trumpet and bagpipe. It is puzzling why such research has not been accomplished previously to this dissertation. One would think that in order to learn about the nature of a culture’s musical tradition, one would begin by analysing all of the instruments and their scales that exist within that culture.

87 This work entitled “Seljefløyten” by Christian Skredsvig is dated 1889 and is provided by permission by the National Gallery of Norway (Skredsvig, 1889).
photograph because it suggests the depth of identity that this instrument holds in the psyche of the Norwegian people.

![Figure 3.7: “Seljefløyten” by Christian Skredsvig, 1889 (National Gallery of Norway)](image)

What is significant about this instrument is that, while the instrument produces the normal, expected natural scale, it produces a secondary set of harmonics once the end of the instrument is sealed with the player’s finger. There are, in effect, two groups of harmonics formed on different starting points. Therefore, two natural scales are formed, one on top of the other:

If the first harmonic is a C, then the next five harmonics are C', G', C'', E'', and G'', where the prime denotes the pitch an octave higher [...] Closing the end has dropped the fundamental an octave and restricted the harmonics to odd multiples of the fundamental frequency. (D. E. Hall, 1980, p. 3)

A detailed explanation of the pitches produced is provided in the Appendix. If these values are graphed and placed so that the pitches are placed apart by an integer value in their ascending order, the following result (see Figure 3.8, below):

![Figure 3.8: Willow Flute Scale: Notes Available vs. Frequency (Cycles per Second)](image)

Note that the total number of available pitches was arbitrarily limited to thirteen; the pattern does not change with additional partials. Although it is not surprising that this scale has aspects of linearity, it is rather surprising that the two separate scales should merge into a
single line with each note spaced equally from the next. The key difference between this scale and the pure natural scale is that this scale has a much steeper slope. If the flute were to be played without stopping the end, the slope would be the same as the natural scale (Figure 3.4).

Here are the actual pitches of the willow flute as they are displayed in music notation (see below, Figure 3.9). It is impractical to express this in notation as sounded, so the notation is lowered by two octaves. Note that there are two scales superimposed: one series as in Figure 3.4, above, with no finger inserted, the other with a finger inserted, closing the end of the tube (the fundamental for the closed tube is omitted since it is almost impossible to play and not used in folk music).

![Figure 3.9: Approximate Location of the Willow Flute's Pitches](image)

This may be a bit difficult to read, so if only flat symbols are used, the following results (below, Figure 3.10):

![Figure 3.10: Willow Flute Scale using Flat Symbols](image)

Here is the same figure using sharp symbols (below, Figure 3.11):

![Figure 3.11: Willow Flute Scale using Sharp Symbols](image)

It should be reaffirmed that the purpose of setting \( C_2 = 70 \) Hz and not \( 65.4 \) Hz (where \( C_3 = 130.81 \) at \( A_4 = 440 \) Hz) is to make the relationships between the notes as clear as possible and not obfuscated by complex numbers and decimal places. One need only adjust the length of the instrument to match the diatonic scale \( (A_4 = 440 \) Hz) or shift the value of concert pitch to match that of the particular instrument.\(^8^8\) Therefore, when analysing Fenian lays, the note sequence displayed in Figure 3.10 and Figure 3.11 will be used to determine if Fenian lay examples match the willow flute scale.

Layering one natural scale on top of another may make identification of such a scale difficult to find in recordings of Fenian lays. The technique is to image what it might be like if each note above the principal pitch become its own principal pitch in its own natural scale, and then see

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\(^8^8\) This is often done by fiddlers who need to match the pitch standard of bagpipes. This must be done for A-drone bagpipes since pitch inflation (the Vienna Affect) took place in the 1960s within competitive pipe and drum bands. Competition bagpipes are now at a sharp B\(^\flat\). Fiddlers will tune their A-strings to the bagpipe drone and chanter of “A” (now sharpened) and leave the room (informants testify that this is important), tune the remaining strings, and return. Then the two will then play together, the bagpiper playing in A (in the piper’s mind) and the fiddler playing in D major (in the fiddler’s mind), but both are actually more than a half-step sharp compared to concert pitch.
if there is a sequence in the lower end of the natural scale that results. This is what occurs in
the overtone and undertone scales as sung by the human voice.

3.4. Scales Produced by the Human Voice

Although rare in Western European folk music, the use of the natural scale by the human voice
is well known in Asian music (in Europe, it is a feature of the Sami people, some Russians, and
Sardinians). Generally known as “throat singing”, this type of singing requires the singer to
sing a fundamental pitch and then emphasise another particular partial. Because various oral
machinations are required to emphasise particular overtones, this interferes with the
production of vowels and their comprehension since vowels are defined by the shape of the
vocal tract; that is, what a listener hears when identifying a particular vowel is a pre-
determined set of overtones. It is therefore difficult to throat sing and be understood. It then
follows that throat singing is generally considered to be a vocalise or a type of mouth music
(puirt à beul, or scat). Melodic throat music (other than the fundamental) is accomplished
using roughly two separate techniques: overtone and undertone singing.

3.4.1 Overtone Singing

In this technique, the singer begins by singing a pitch, the fundamental or second partial ($f_o$
or $f_1$), which is what the listener identifies as the “pitch” of the voice even when other overtones
are being sung concurrently. The singer then feeds energy into another overtone of that series
so that it is clearly heard as well. So just as a plucked string produces many different
frequencies of the harmonic series at once, so too the singer is singing many overtones all at
once. However, in normal singing, the listener only perceives one pitch, normally
the fundamental or second partial (first overtone). In overtone singing, the singer sings $f_o$ or $f_1$
clearly and then places energy on another partial; then the listener begins to hear two pitches
at once. The singer can then emphasise other partials as well with the fundamental, creating a
melody with those secondary partials. The singer can also add additional focused overtones to
the two pitches already being sung, creating additional harmony.

3.4.2 Undertone Singing

With this technique, the singer sings a tone, then emphasises another partial to be heard, and
then changes the root tone while maintaining the other partial. For example, if the singer sings
one pitch, that singer may then force another overtone, perhaps the 4th partial, and then shift
that pitch to be a different partial of another series without cessation in singing that pitch. So
once the 4th partial is sung and maintained, the singer might then shift it to be another partial,
perhaps the 6th partial without changing its actual frequency. This changes all of the lower
partials in that new series. The singer can then ascend or descend, singing an entirely different
harmonic series. In essence, this technique is a complex form of modulation.

Examples of overtone or throat singing may be seen online, especially through demonstrations
as provided by Sygyt, Ltd. which produces the computer application, “Overtone Analyser”;
demonstrations are by Anna-Maria Hefele on www.sygyt.com (Hefele, 2015).

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80 For an analysis, see Lindestad, Södersten, Merker, & Granqvist (2001).
When analysing Fenian lays, the note sequence displayed on Figure 3.3 will be used to determine if Fenian lay examples match overtone or undertone singing. The difference between overtone/undertone singing and the natural scale is that a new series of the natural scale may begin on any note. So there would be groups of notes that match the natural scale shifted or transposed by a step of the scale. In essence, one should look for disjointed melodic lines and then check to see if the apparently non-natural scale section can be transposed back into the natural scale.

3.4.3 Formant Singing

Although this section does not describe a particular scale, it does address the scales produced by the human voice, or more particularly, where energy can be directed in the human voice the creates measurable characteristics that may define the manner by which Fenian lays are sung.

Overtones are extremely important in the creation of both vocal “colour” and loud vocal sound that travels a great distance. The lack of the former is apparent in singers who stretch their necks when singing, producing a “thin” quality of tone, or timbre. This alteration of the vocal tract prevents the full movement of the vocal folds, which in turn decreases the volume of the non-focused partials.

Overtones are also important in the creation of human sound that travels a great distance. It was noticed by Johan Sundberg (who acknowledged Bartholomew and Winckel as pioneers) and described in his “The Acoustics of the Singing Voice” (1977); he noted that very loud singing had a unique feature: a certain band of frequencies became prominent when a person began to “sing”. A band of frequencies is termed a “formant” and is a term that developed while attempting to create phonetic identifiers. “In acoustics, the word ‘formant’ is variously used to describe a broad peak in the spectral envelope, the acoustic resonance in a system that gives rise to it, or a property of a filter used to model the system” (Henrich, Smith, & Wolfe, 2011, p. 1034). Formant boundaries are fluid. “These formant frequencies vary between speech and singing and between various styles of singing (Hamdan et al., 2008, p. 180). Sundberg himself did not approve of the term “formant” being applied to singing, since each partial in singing becomes a formant, while in speech the term “formant” is applied to a spectral band. Yet, he acknowledged that the term is now widely used to apply to singing (2002, p. 1). In the current terminology, lower numbered formants correlate to lower frequencies; for example, $F_{10}$ is designated for low frequencies that are grouped, $F_2$ for the next highest band, etc. This difference may be seen below in Figure 3.12 (Johan Sundberg, 1977, p. 89):

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$^{90}$Although there is variation, generally, capital letters (followed by Roman numerals) are used for formant bands and lower case (followed by subscripted Roman numerals) for a specific frequency. Also, it should be noted that in the above section, the fundamental frequency was termed $f_0$, where $n=1$. Since the discussion is now focused on overtones where the 2nd partial is the 1st overtone (over the fundamental), the analytical field of study has now shifted; the symbology reflects overtones which results in the fundamental frequency being described as $f_0$, and the 2nd partial ($1^{st}$ overtone) now being designated $f_1$. Therefore, when describing the pitch that the listener might hear from a singer, the frequency symbol will be $f_0$ or $f_1$. By manipulating the vocal tract, $f_0$, $f_1$, etc. can all be adjusted. This also alters associated overtones of $f_0$. 

69
Although difficult to see from this graph, a strong singers’ formant creates a convex line when linked to surrounding formants (extremely roughly for an average male, depending upon the vowel, \(F_1\) is ~500 Hz, \(F_2\) is ~1500 Hz, \(F_3\) (singers’ formant) is 2,500 Hz, \(F_4\) is ~3000 Hz, \(F_5\) is ~3500 Hz). If the singer’s formant is not strong, the line becomes concave (see the example below and in Chapters 5, 6, and 7).

In subsequent publications, Sundberg expounded that there was a band at approximately 2,500 Hz. designated \(F_3\), (but also including parts of \(F_4\) and \(F_5\)) that was strongly reinforced by loud operatic singers. This band of frequencies is termed the “singers’ formant”. It occurs when a singer attempts to sing loudly. This is most often a subconscious process where the singer adjusts the shape of the throat so that the wavelength of a particular pitch produced by the vocal chords fits exactly within the tube, and the wave is reflected instead of attenuated when striking the air-throat interface. Therefore, creating the singer’s formant is also termed “resonance tuning” or “resonance matching”. It was particularly noticed in comparison to non-organic sound producers (musical instruments); therefore, it also occurs in other animals. Below is a diagram of intensity versus frequency of the tenor Jussi Bjoerling when placed in context with an accompanying orchestra. Figure 3.13, below, is an image of Sundberg (1977, p. 89). The black line represents the sound of orchestral music; the grey line is ordinary speech, and the coloured line is Björling.

Simply put, increased energy focused near \(F_3\) allowed Bjoerling to “cut through” the orchestra and be heard. Since Sundberg’s work was first published, a great deal of research has been done with results universally supporting his conclusions.

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91 For example, see Sundberg (1994), (1990), and (1993).
It is my belief that this ability is organic. That is, animals have the need to communicate over great distances occasionally, and natural selection has encouraged those with the ability to accomplish this task. This position is rooted in the understanding that Western European vocal pedagogical technique is simply a set of physical motions that has been created from observations of natural human behaviour. What is important is that the model for imitation is not that of a speaker at ease, but of one speaking very loudly. That is, since singers once sang unamplified and to a great number of assembled people, singers developed ways of performing loudly by imitating the physical machinations of speakers who had to speak loudly. Over time, the model was forgotten and only the physical motions, memorized by rote, were retained.\footnote{An understanding that speaking is the model for singing has been remembered to a great extent in the Italian School of singing. This is meant in a specific sense, not a general one. Vocal exercises are made to exactly match the behaviour of loud speakers in this system. This is an anathema in training at conservatories where the focus is on making pleasant sounds. This latter desire invariably changes overtones and alters vibrato.}

The production of the “singers’ formant” is important to this investigation into the performance of Fenian lays since lays were often sung in a loud manner.

It is also my personal experience that this characteristic describes the vocal technique of the nyahh in Irish Gaelic culture. This term may be attributed to matching resonances (R) to overtones (f_n), or resonance tuning. This can only be accomplished when the nasal passages are relaxed (so that they can open) which has the additional result of having a puff of air immediately enter the nasal cavity upon vocal onset.

Because it is a texture or quality of sound, it is often difficult to explain through the medium of writing. My experience comes from speaking to quite a number of Irish-speaking singers and also being taught this technique in the Italian School of singing. As Motherway (2013) states, “[Nasalization or the nyahh] is the recognizable ‘m’ sound’ [sic] which is produced through the direction of airflow to back [sic] of the palate, also described as ‘singing through your nose’. This is emphasised also on similar consonants such as l, n and r” (p. 28). Because of the repetitive emphasis of initialising the singers’ formant by vibrating the nose when
commencing onset, Irish Gaelic singers have developed a slight aberration of this technique where they hum slightly before singing the words. This has become exaggerated and singers now are beginning to believe that they should have this nasal hum between verses or lines, thereby forgetting the purpose of the technique.

This technique it is not merely focused on making as much noise as possible, but in reproducing the early onset of overtones that occurs when people speak. In the Italian system, there are a series of exercises that accomplishes this by first singing “on point” which is done by making a note staccato so that the note is “placed” appropriately, preventing the singer from sliding the frequency up into the note. The staccato note is then elongated or evenly pulsed (mesa di voce). At this point, it appears that the members of the British Music Conservatory system who were imitating the Italian system stopped their studies en masse. However, the Italian system continued by increasing the speed of onset making the beginning of the note pulse quite quickly and for the entire length of the note. The Italians also designed their system to include every vowel in Italian because they believe si canta come si parla (one sings as one speaks). The British system merely copied the Italian system; they did not create a system based upon the phonemes of English. The British system also employs Received British Pronunciation (RBP) which was the dialect of the English gentry and modified those sounds to match the sounds used in Italian School’s vocal exercises. RBP has since changed as all dialects do over time. The result of this is that a British Conservatory-trained singer appears to be an Italian immigrant trying to pronounce a non-existent dialect while performing rudimentary vocal exercises to the Italian-trained singer. This can all be measured. Furthermore, quick onset immediately followed by vibrato, especially on short leading, passing, and neighbouring tones, defines what the Italians term legato. It should be noted that the above characteristics cannot occur unless the singer smoothly exhales and does so without any tension or restriction. The idiom for this in English is, “Legato with the breath, not the voice”.

The only significant difference between the Italian School advocating the early-onset of inflection and the Gaelic nyahh is that Gaelic singers seemed focused on creating inflection while singing quietly while Italian singers mainly sing loudly. This will be measured in this dissertation since it separates traditional Gaelic singers who sing using the singers’ formant and those trained or influenced by the British Conservatory system. The latter singers often sing with great sub-glottal pressure particularly on leading tones. This squelches overtones and stops vibrato. As will be shown later in this chapter, the existence of the leading tone in art music did not become fashionable until the early 17th century. Therefore, lack of nyahh (or the singers’ formant) provides an indication that the singer has been strongly influenced by post-17th century, diatonic practices.

In summary of the three sub-sections above, overtone and undertone singing produce a musical scale matching Figure 3.3 (or Figure 3.4). If a Fenian lay displays elements of the

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93 This is called “inflection” by Italian-trained singers in the United States. Italian singing technique was very influential in the United States because quite a few Italian immigrants moved there and taught voice after the First World War.
natural scale (as seen above in Figure 3.4), it may be a reflection of instruments that surround the singer such as shepherd trumpets; however, if the natural scale is apparent but then shifts within the lay to a different “key” (a new series of notes that will then have to be transposed again to match Figure 3.4), then overtone singing is indicated. Also, although individual vowels can amplify certain formants near $F_3$, a strong $F_3$ indicates intentional reinforcement (singing). The strength of $F_3$ will indicate the desire of the performer to communicate loudly and hence vary syllable lengths; this will be discussed in the following chapter (Chapter 4).

Whilst all of the scales previously discussed might seem varied and complicated, they are actually conjoined by the use of the same overtone pattern. However, the scale that was created by the early Christian Church musicians was completely different. This has come to be termed the diatonic scale.

### 3.5. Diatonic Scale

The diatonic scale is the basis of Western European music today. In simple terms, it can be visualised by imagining the white keys on a piano keyboard. Accidentals (black keys) were added as the need arose to transpose music and after diatonic pitches became fixed:

> It must be stressed that the need for transposition arose only with the development of an exact pitch notation. The use of staffless neumes had presented no problem, and neither, for that matter, did performance. Singers merely reproduced the correct intervals of a chant at any convenient pitch level. It should be clear, therefore, that the notation of the different modes, and their endings on d, e, f, and g, do not represent absolute pitches. In the Middle Ages, as now, well-known melodies were sung at whatever pitch level suited the singers involved. The actual notation of the melody did not matter. (Hoppin, 1978, p. 71)

The seven-note (heptatonic), diatonic scale slowly developed in Europe through many influences, particularly those of the early Christian Church. However, the work of (Anicius Manlius Severinus) Boethius (1989) in the 6th century was highly influential. The diatonic scale is also related to the Pythagorean tuning method. It is not known if the diatonic scale came about from the Pythagorean tuning method or if Pythagorean tuning was at one time simply considered the best of many diatonic tuning methods available. What is known is that the diatonic scale was adopted or developed by the early Church while attempting to reconcile Pythagorean mathematical influences with the belief that Greek music, which was described as having modes, was logical and controllable. It was well known that the differing modes of the Grecian modal system imparted different moods upon the listener according to the mode that was defined by the final (last pitch of the tune).

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94 The pitch notation did matter if there were not two consecutive chants in different modes, hence the impetus for the creation of accidentals. Shifting modes on two consecutive chants would require that singers shift relationships between notes in their heads. In actuality, this does not work. It is extremely difficult to shift modes while maintaining the same frequency of each final. This is the main reason attributed to why all of the ecclesiastical modes were reduced to only two: the singers unconsciously slipped from the mode they were supposed to sing into one they were conditioned to prefer (Vincent, 1951, p. 232). I am suggesting that their preferred mode was what they had in their homes; that is, the natural scale. The major mode (ionian) occurs when the pitch ends on the 3rd, 4th, 6th, 8th, or 12th partial (ending on G might also be thought to be mixolydian); the minor mode (aeolian) occurs when the pitch ends on the 5th, 7th, or 10th partial. The only remaining partial, the 9th, (the 1st and 2nd cannot be played unless on a very short trumpet; the 11th is unstable with surrounding harmony, although it does exist – see Figure 3.31) would be dorian. This clearly demonstrates why the ecclesiastical modes were reduced to two (major and minor): it was the influence of the natural scale.
The early Christian Church scale was hexatonic and not heptatonic; therefore, it was closer to the natural scale that exists today. This has been recorded through the work of one of the most significant musicians at the end of the Dark Ages, Guido (Aretinus or Monaco) of Arezzo (c.991-1050 C.E. Moreover, he was influential in the progenation of the diatonic scale, “Guido established a six-tone, or hexachord, scale using the pattern C, D, E, F, G, A. This was a significant step closer to our modern diatonic scale” (Alberti, 1968, p. 40). Therefore, the diatonic scale was not in use (or created) prior to 1050. His hexatonic scale included pitches named as ut, re, mi, fa, sol, and la. This comes from the hymn “Ut queant laxis” (Hymn to St. John the Baptist) whose words are: Ut queant laxis/resonare fibris./Mira gestorum/famuli tuorum./Solve polluti/labii reatum,/Sancte Iohannes. The last words of Sancte Iohannes (si; the use of ti was initiated by Sarah Glover in the 18th century in Britain so as not to be confused with sol) do not ascend in pitch and do not match the 7th degree of the scale.

It is my belief that this is due to the metal strings being scarce during Guido of Arezzo’s lifetime. With gut strings being predominant at the time, intervals of a perfect fourth could not be created through tuning to remove “beating” as was done later with metal strings. Internal resistance deadens plucked gut strings rather quickly so beating with other strings used to tune a series of strings cannot be heard. With industrial advancement, metal instrumental strings became more readily available, allowing for the faint beating sound of a perfect fourth; eventually, this process was reflected in harp tunings to the natural key and high bass key (see below, Figure 3.16 and Figure 3.18). Prior to this, strings could only be tuned up a perfect fifth (never down a fifth), up a perfect fifth, down an octave, up a perfect fifth, up a perfect fifth, down an octave, etc. This leaves a gap between A and C where today there exists the leading tone (which requires tuning up a fourth that can only be heard on metal strings). So melodically, there only existed in Guido of Arezzo’s time the technology to create a series of pitches related to one another through tuning to octave equivalence and perfect fifths that would omit B in a C major scale. Yet, B was needed in the formation of triads:

The G hexachord was called the hexachordum durum (or cantus durus) because it contained the ‘hard’ or square-shaped B (i.e. B♮) on its third step, ‘b mi’. The F hexachord was called the hexachordum molle (cantus mollis) because its fourth step was the ‘soft’ or rounded B (i.e. B♭), ‘b fa’. The C hexachord, called the hexachordum naturale (cantus naturalis), included neither B♭ nor B♮. (Drabkin, 1980, p. 543)

So the note of B was fictitious. It could not be created by tuning strings or pipes as the other pitches were. It floated in singers’ imaginations as they remembered some chord that existed when they sang a different chord starting on a different note. Why would they do this? Thirds are extremely rough (the Pythagorean comma of 22 cents is sharp for a major third or 22 cents flat for a minor third). One would never think to make a third on a ha.

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95 The value to do this was apparent through the pattern of using instrumental/vocal groups to bend or adjust each note in a chord to be perfectly in tune. Firstly, singers could adjust each pitch in a chord to be in tune. Secondly, cornett (cornetto/zinken) and sackbut bands could do this, and then thirdly, their successors, violin choirs (quartets) could do this. Other, fixed-pitched instruments could not play chords perfectly in-tune because pitches within a chord cannot be subtly altered by fixed-pitched instruments. The suggestion that people of the past had more discretion and intolerance of slightly out-of-tune chords is rather confusing to people of the modern era who erroneously consider their own taste superior to those they might consider savage and unsophisticated.
naturalis), included neither B♭ nor B♮. It also lies in a suggestion made to me by Dr. Peter Greenhill who brought Lithuanian (literally, the land of the *litui* – trumpets) *sutartinės* to my attention. Although apparently unrelated to Fenian lays, they are actually joined to them through a pitch substratum that, in my belief, was spread throughout Europe and was bound to Indo-European culture.

*Sutartinės* are now mainly sung songs that derived from a number (three to ten) of shepherds playing together in polyphonic harmony on wooden trumpets of between 1-1.4 m. long. At least one of the trumpets is shorter than the others by a major second, which creates a revolving pattern of dissonance. Therefore, the music is both polyphonic and polymodal. While Greenhill believes that this has to do with mainly religious situations emphasising fecundity (and I agree), in a rural setting, it probably occurred due to a lack of a pitch standard. I imagined what it would be like where there was a pitch standard (such as at court) and suddenly, I identified a musical substrate probably tied to Indo-European culture. It is identifiable in the *canon perpetuus*, *rondellus*, *rondeau*, *rota*, or round. If one takes the above example of Figure 3.6 and writes it out in round form, a host of details reveal connections to art music (limited to three trumpets and cut to save space; see Figure 3.14, below):

![Figure 3.14: The Farmer in the Dell; in Round Form](image)

Firstly, although hidden by the banal, childish associations to the tune most people might have, simple visual analysis reveals that this structure is the basis for the courtly fanfare motif as often used by Biber, Zelenka, Salieri, Gordigiani, Bach (his Weihnachtsoratorium, among many), etc. Secondly, triads are being created. This can be seen in the fifth complete measure with the C₄-E₄-G₄ triad. These triads are perfectly in tune if the trumpets were originally tuned exactly to the same tonic. Thirdly, this demonstrates the *hexachordum naturale* (cantus naturalis) and the basis for triads that Guido of Arezzo must have been striving to emulate. Fourthly, one may now speculate at the origin of organum as shepherds might get bored of playing in the round and instead have some in the group play twice as slowly; this can be made more interesting when one considers that more senior shepherds often had longer trumpets, which were often twice as long (either playing in an obligato fashion at about the same pitch or playing the same tune down an octave). Simply stated, if Guido if Arezzo heard this type of music being played around him, he may have tried to create this triadic structure in Church music even though B (in a G-B-D triad) could not be created through tuning a string or pipe using the technique to remove harmonic beating.

Rounds like this that can be played at the low (easy) end of the natural scale are plentiful and are represented in many cultures that spring from IE culture. Tunes include “Row, Row, Row
Your Boat”, Frère Jacques”, “A La Rueda de San Miguel”, “Fa Il O agus Ho Ro Eile”, and even “Sumer Is Icumen In”. The latter takes some imagination to realise, but sounds particularly like a sutartinė.

One might now begin to intelligently speculate on how the natural scale and the hexatonic scale of Guido of Arezzo began to combine. This can be seen in particular with the bagpipe chanter scale. I noticed this when discussing such issues with the bagpiper Carlos Núñez Muñoz. If the bagpipe scale was designed to match the natural scale, the one note that the bagpipe lacked (imagine a G bagpipe and the hexatonic scale of Guido of Arezzo adjusted to G major) would be B₄. With this one added note, bagpipers could now play both the notes of the hexatonic and natural scales. This has been hidden perhaps because if the chanter has a new hole placed between the natural A₄ (7th partial) and C₅, the pipers’ fingers will be pinched. It is possible that A₄ was moved lower to G₄ which thereby made it match diatonic scale tuning. In other words, the affinity that the bagpipe chanter has to the natural scale has been hidden because the 7th partial was lowered; the flat leading tone of the 11th partial was not impacted by this melding mechanism because the leading tone did not exist in the diatonic scale at this time. It also suggests that the existence of the leading tone in diatonic music came from the natural scale.

It is also significant that with a missing B₄ on the bagpipe chanter, the bagpiper would then have an extra, unused finger. It is then possible that there could have been an upper A₅ that could have existed on the chanter’s pitch gamut. If so, this creates a powerful synergy with folk tunes described below as the “rural mode”. Presently, the rural mode encompasses the natural scale pitches from G₄ to G₅. If it could be extended from G₄ to A₅, then three distinct groups of natural scale folk tunes coalesce: tunes that are in the lower end of the natural scale (as in the example above); tunes that are of the rural mode (described below); and tunes outside the range of the chanter that use the 4th-13th partials.

As the technology of creating metal strings improved, the availability of metal strings and the possibility of tuning to perfect fourths also improved. This allowed for the leading tone (termed the subsemitonium – even the oddness of its Latin name suggests its late introduction to the diatonic scale) to be incorporated by at least the time of Giovanni Battista Doni in the early 17th century (Palisca (1980)). This can be seen in the method used in tuning the medieval Gaelic low-headed, wire-strung harp.⁹⁶ The manner of tuning this harp was documented by Bunting in the Belfast Harper Festival of 1792, which was published as a collection in 1840 (Bunting, 1969). In his iconic publications, Bunting ignored most of the truth of what he had gathered in order to sell music books to the public; however, he did publish some authentic

⁹⁶ Gaelic harp tuning and standard Pythagorean tuning are slightly different. Pythagorean tuning is F-C-G-D-A-E-B (all perfect fifths). Unfortunately, this requires three and a half octaves and is impractical. The Gaelic method only requires an octave and a half but uses one or two perfect fourths. It is possible that the metal strings of the Gaelic harp allowed the tuner to hear beatings of perfect fourths, which is difficult to hear with gut strings. The difference between Pythagorean tuning and Gaelic tuning methods may account for why the first accidental on mainland Europe was B♭ (tuning began with and centred on F) while it was F♯ in Gaeldom (tuning began with and centred on G). Both systems allowed a tune to be altered by a half octave so that different voice types could be accompanied.
observations, and his unpublished notes still exist. Some of his published information concerns two main “keys” for tuning the harp. The two are the “Natural Key” termed “Leath Gleas” (lit. half note) and the “High Bass Key”. The “Natural Key” is a type of Pythagorean tuning that begins and ends on G. It employs tuning the strings to fifths and octaves with one fourth. This creates the G major scale (with F♯). The second tuning convention also begins and ends on G. It employs tuning the strings to fifths and octaves but with two fourths, which creates the G mixolydian scale (with F♭ creating what looks like C major, but starting and ending on G instead of C). Here is the order in which a harper would tune the harp strings in the “Natural Key” (Figure 3.15, below):

![Figure 3.15: The Natural Key Tuning for Harp](image)

This results in the creation of the following diatonic scale on a harp of thirty strings (Figure 3.16):

![Figure 3.16: The Scale Resulting from Natural Key Tuning](image)

It’s difficult to see from the above figure, but the tuning is roughly centred from G₃ to G₄; the rest of the notes are obtained by tuning to those notes by octaves.

Here is the second tuning termed “High Bass” where the harp is still centred from G₃ to G₄, but the leading tone of F♯ is lowered to F♭ (Figure 3.17, below):

![Figure 3.17: The Scale Resulting from High Bass Tuning](image)

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97 Through a personal meeting with the harper Simon Chadwick in 2010, the present author was able to review some copies of these fascinating notes. These included some of Bunting’s untouched first transcriptions of the harp music.

98 When tuning two strings to one another, one string is tuned to the other through eliminating the frequency pattern between constructive and destructive wave interference (“beats”) of the overtones, not the fundamental frequencies. For chordophones, the beating of two strings slightly mistuned with ratios of 1:1 (octave) and 3:2 (perfect fifth) is clear since lower overtones are less attenuated than higher ones. For example, C₄ has a 3rd partial of G₅; G₄ has a 2nd partial of G₅. So when tuning a string designated to be G₄ to the existing C₄ string, adjusting the G₄ string’s pitch alters its associated G₅ overtone until the beating is eliminated (the pitches must be exact for beatings to occur; in this case, both pitches are G₅). When tuning using the ratio of 4:3 (perfect fourth), beating is extremely faint (the 4th partial of a C₄ string is C₆; the 3rd partial of an F₄ string is C₆; since the partials used are high in number, their strength is weaker than lower partials, and interference patterns are much quieter). Tuning to thirds is impractical, as a 5th partial must be used (the 5th partial of a C₃ string is E₅; the 4th partial of an E₄ string is E₅). So, although it is theoretically possible to create the diatonic scale through tuning to thirds and octaves, it is not practically so. Furthermore, tuning gut strings to perfect fourths is problematic since they are thicker than metal strings and are often roughly made; therefore, their overtones are weaker due to internal friction.

99 This and other images in this section (Figure 3.15 through Figure 3.20) were previously published by the present author (Hirt, 2015a). Bunting (1969) had previously published images similar to Figure 3.15 through Figure 3.18 (p. 23).
This results in the following scale (Figure 3.18, below), which appears to be C major, but is actually G-mixolydian:

The first tuning creates a scale that today one would call G major (Figure 3.16). The second tuning creates a scale that perhaps one would call C major (Figure 3.18). This is not exactly true; the second tuning would be more accurately referred to as G mixolydian since it starts and ends on G.

As Ó Boyle states:

Though their preference in pitch was in G, they nevertheless did not think in keys. Their thinking was modal and the pitch of their modes altered from G Doh to C Doh and D Doh. Bunting, being a man of his time, must be forgiven for not understanding it. (1977, p. 12)

The difference between the two scales listed above is the tead a’ leith ghleas (lit. string of the half note: the F♯/F♮ string(s) which would be string numbers 10, 18, and 25). It should be noted that Bunting also mentions a seldom-used tuning which employs not just the F♯ in the Natural Key but also adds a C#.

As discussed below, this key would allow harps and fiddles to play in ensemble with trumpets and bagpipes playing the “rural mode”. This equates to the “Choral Key”.  

One disadvantage of these harp scales is that when notes other than perfect fifths, fourths, and octaves are played together (such as major and minor thirds and sixths), they are greatly out-of-tune. For example, the major third is 22 cents sharp (termed the Pythagorean comma). This is highly dissonant:

The reason for the Church’s dissonant thirds and sixths is that the guiding authority for all official ecclesiastical theory from the 6th century was Boethius’ De Institutione Musica which based the tuning of scales on skips of pure fifths [...] Boethius [d. 524 C.E.] based his whole theory on the principals of Pythagoras [d. 497 B.C.E.]. (Vincent, 1951, pp. 227, fn 228)

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100 There is a difference here between G major and C major since these tunings are not equally tempered; that is, the G major of the “Natural Key” and the C major of the “High Bass” have a different “colour” and impart a different feeling to the listener which does not occur today with precise equal temperament. This is because the half-step intervals (E-F and B-C) and whole step intervals are not the same in Pythagorean tuning. Making them equal is the purpose of equal temperament. The force behind this is the desire to make triads in tune to match the perfectly in tune triads of natural instrument ensembles. Therefore, there must have been a tremendously strong presence of natural trumpets playing triads in order to create the need for having in-tune thirds in the diatonic scale.

101 This is perhaps why most of Bach’s festive works for vocal choirs use D trumpets and are set in D major. It was a vestige of a procedure of having all instruments play together which is forced by the pitch of the bagpipe, not the trumpet. The interplay between trumpet and bagpipe will be discussed below.
Unfortunately, the Church had accepted the Pythagorean system; they had no choice but to initially ban triadic harmonies because they were dissonant. In Pythagorean tuning, no interval between pitches is equal to another; however, two intervals (termed half-steps) are generally more similar to each other than the remaining five (termed whole steps) that are in turn somewhat similar to each other. So the whole-step distance between C₄-D₄ and the distances between D₄-E₄, E₄-F₄, G₄-A₄, and A₄-B₄ are not the same; the half step intervals of E₄-F₄ and B₄-C₅ are also different. In the chart below, notes are given integer values and plotted against the frequency of the pitches beginning on C₄ where a = 440 Hz (see Figure 3.19):\(^{102}\)

![Figure 3.19: The Diatonic Scale, Notes Number vs. Frequency (Equally Spaced)](image)

Here the x-axis reflects the note value (1=C₄, 2=D₄, 3=E₄, etc.), and the corresponding frequency is placed on the y-axis. If the note numbers were placed at half the distance from each other when thought to be a half step and twice that value when the interval is thought to be a whole step, the pitches would trace a smooth parabolic curve. This can be seen below (see Figure 3.20):

![Figure 3.20: The Diatonic Scale, Notes Number vs. Frequency (Half and Whole Steps)](image)

In the figure above, the line connecting the points is not a linear, straight line as it was for the natural scale in Figure 3.2. Musicologists tend to think of this diatonic scale as linear (as evidenced by the presupposition that folk music is octave-equivalent and therefore tritonic,

\(^{102}\) This image and the following images in this section were also published previously in Hirt (2013) and (2015a).
tetratonic, pentatonic, or hexatonic, as mentioned above). It is not; the slope changes very rapidly as one scans across the figure above from left to right. This is an increase in exponentiation of the frequency. Simply stated, the diatonic scale is exponential; the natural scale is linear. Assuming that the diatonic scale can be used to describe Western European folk music as sung using the natural scale, played by trumpets, willow flutes, or bagpipes is analogous to attempting to fit a square peg in a round hole. It should also be mentioned that our perceptions are logarithmic; the more intense a sensation, the less one’s body notices an increase. This means that the diatonic scale seems to our senses to be linear, making the natural scale seem to be logarithmic. Measurement proves it to be otherwise. It should also be mentioned that scientists will often apply a logarithmic function onto an exponential system so that the reader can then discern how humans react to stimuli – making reactions variations of a straight line instead of on a curve. This makes the label of the $y$-axis logarithmic; upon seeing such analysis of pitches, musicians have made the rather glaring mistake of describing the diatonic scale as logarithmic instead of exponential.

The lyre must be mentioned in this dissertation since its use in accompanying heroic lays is attested throughout Europe. However, there is no evidence that it was used to accompany Fenian lays. I believe that this is due to the introduction of the bow to Europe in the 10th century that was used to then play lyres and the subsequent accompaniment of heroic lays transferring to the harp. The harp then became associated with the Gaelic gentry, particularly when the number of strings increased from about eleven to thirty. It is likely that the eleven or so strings on a frame harp were tuned to the available pitches of natural instruments (the 3rd to 13th partials are easily played on a shepherd trumpet). When the new tuning system of the Pythagorean system appeared, a greater number of strings could be organised in some cohesive manner, hence the number of strings on the harp suddenly increased to more than twenty near the twelfth century. It would seem logical that prior to this time, lyres and frame harps were probably tuned to the natural scale.

There are many names for the European lyre depending upon the language: cruit or crot (Scottish, Irish), crwth,\textsuperscript{103} "rote" and "crowd"\textsuperscript{104} (English), rote (French) and rotte (German). Lyres are normally plucked or strummed. Here is an example of a lyre made by Francis Landry, Willie Melanson (both of Pomquet, Nova Scotia), and the present author (see Figure 3.21, below).

Whilst lyres certainly existed in Gaeldom as is evidenced in Scotland where a lyre bridge was found at the High Pasture Cave and dates from 400 B.C.E. (Foster, 2014, p. 4), no Fenian lay recording was found to exist with accompaniment. The probable cause for this is the transformation of the plucked lyre into a bowed violin.

\textsuperscript{103} The crwth is a hybrid instrument with arrested development between a lyre and a fiddle. As the lyre began to be bowed, a hand rest appeared to give the hand support as it touched the strings from the top of the instrument. Most bowed lyres are touched from behind the instrument as it rests on the player’s thigh or lap.

\textsuperscript{104} Sachs believed the word “chorus” referred to the bagpipe (1940, p. 281). Historically, the pairings of names to instruments has been maddeningly vague. For example, the word in Gaelic for harp once meant the lyre.
Narrative song requires plucked instruments, not bowed ones that would interfere with the singer.\textsuperscript{105} A plucked violin has a short sustain and a timbre that is unsuitable for accompanying a lay.\textsuperscript{106} Lyres were first plucked or strummed, but by the first millennium,\textsuperscript{107} the technique of bowing was introduced into Europe. Lyres became bowed (like the \textit{stråkharpa}, \textit{talharpa}, \textit{jouhikko}, \textit{crwth}, etc. as are still played today), but since the bridges remained flat, strings other than the melodically fingered one sounded as drones. This, coupled with bagpipe droning and long notes sounded by short horns, must have given a unique harmonic texture to medieval courtly music. Over time, a fingerboard was added, and plucking the strings became difficult. Eventually the viol and then the violin (fiddle) replaced the lyre. The \textit{cláriseach} (modern harp) fulfilled the function of vocal accompaniment, replacing the plucked lyre (\textit{cruit/cruìt}), but it was too expensive for a rural person to create or maintain. Yet, Fenian lays were sung at court to harp accompaniment. As McCaughey states:

First, one notes that the \textit{laoithe} were almost certainly chanted to the accompaniment of the harp […] What the role of the harpist actually was must remain obscure, though there are perhaps

\textsuperscript{105} As stated by McCaughey, “What the role of the harpist actually was must remain obscure, though there are perhaps some pointers indicating that a chord, arpeggio or strum accompanied some or all the stressed syllables in the line” (1984, p. 43).

\textsuperscript{106} This is the author’s personal opinion, but it is one formed through a great deal of experience in being accompanied by a great many varied instruments while singing narrative song.

\textsuperscript{107} The bow was introduced into Moorish Spain c. 950 C.E. with the rebec. The new technology was the bow, not the instrument; so the technique of bowing spread, not the presence of the rebec. I have noticed that the bowing technique allows for a sound that more closely approximates the human voice. Without the bow, the plucked lyre has a very short sustain, especially if the strings are gut and not metal. References to the introduction of bowing include Sachs (1940), Parnum (1971), Bressaraboff (1964), Crane (1972), Andersson (1970) and (1973), etc. It is attested in Norwegian folk culture by the 12\textsuperscript{th} century by Gaver (2007, p. 3).
some pointers indicating that a chord, arpeggio or strum accompanied some or all the stressed syllables in dán/dán díreach. (1984, p. 43)

So the entire tradition of heroic lay accompaniment in Gaeldom dating from the PIE language fell out of use with the decline of the Gaelic courts (1650-1750) and probably a century or more before that in common usage. However, when accompanying heroic lays at a Gaelic king or chieftain’s court, a harp would be used as indicated by Bunting. Therefore, when analysing Fenian lays, the note sequence displayed in Figure 3.16 and Figure 3.18 will be used to determine if Fenian lay examples in Chapters 5, 6, and 7 match the diatonic scale.

Both the diatonic scale and the natural scale seem quite different as one is exponential and the other scalar. Yet it is possible that a way was created to bridge the gap between two such dissimilar systems. Indeed, it is my belief that this function was fulfilled through the tuning and use of the bagpipe chanter.

3.6. Bagpipe Scale

The bagpipe and the scale employed on the chanter seem to be a hybrid between the natural scale and the diatonic scale. However, the tuning of the chanter’s pitches seems to have been solidified before the introduction of the leading tone in the 17th century since the intonation of the 7th degree of the scale seems to match that of the 11th partial of the natural scale and not that of the diatonic scale. There is no record of a Fenian lay being accompanied by a bagpipe. The inclusion of a discussion of the bagpipe scale is included in this dissertation because its presence in a pastoral landscape may have influenced the tunes used to sing Fenian lays. Therefore, the bagpipe scale as shown below will be matched against tunes of Fenian lays in Chapters 5, 6, and 7.

There was a range of bagpipe size, but possibly the larger form originally had one drone as its name, piob mhór (or piob mhòr, depending on the orthography system used) implies; that is, the name is literally “big pipe”, not “big pipes”. There is also the rather contentious issue of the existence of the competition pipe and drum band and its origin, which is rooted in Scottish Lowland Victorian Age romanticisation. Regardless of the name and origin, there is a range of bagpipes in Gaeldom from those that are loud (pitched in A with three drones in A, A, and A – although the number and pitches of drones have been variable, and the reservoir bag is compressed by the arm), to those less so (pitched in G, with one, two, or three drones in variously G, G, and/or D, and the reservoir bag is compressed by a bellows).

108 The common use of this instrument across Europe and the similarity in words describing the instrument are indicative of the PIE base of the instrument’s use in the accompaniment of heroic song. For example, “The antiquity of these instruments [Gusli with hand-hole openings], essentially lyres, amongst the Slavic peoples adds to the evidence that the lyre was a universal Indo-European instrument, and therefore older than the development of the branches of the original Indo-European people” (Crane, 1972, p. 9).

109 These are often referred to as A-mixolydian bagpipes. The term “mixolydian” is perhaps inappropriate to use since the bagpipe scale is unique and not a variation of the Pythagorean diatonic scale which is used as a basis for the ecclesiastical modes. Specifically, the “leading tone” or 7th degree of the scale (which is F on a G bagpipe) is quite a bit flatter than a Pythagorean seventh degree. It is the note mentioned above as F, which is closer to the 11th degree of a natural trumpet. Therefore, the term “A-drone bagpipe” might be a more accurate term than “A-mixolydian bagpipe” which is currently in use. Traditionally, bagpipe drones were not restricted to octaves; a G-drone bagpipe might have drones in G, D, and G. Regardless, “drone” is preferable to “mixolydian”.
To create the pitches used by the chanter of a bagpipe, chanter tone-holes are drilled and adjusted so that the nodal points of resulting pitches “lock in” to the nodal points of the drones’ overtones. This process is described in “Addendum to “The Devolution of the Shepherd Trumpet and Its Seminal Importance in Music History”” (Hirt, 2015a) and is also supported by Kemp (2015). The entire pitch gamut has increased in pitch through the so-called Vienna Effect, named for the very high concert pitch of the Vienna Philharmonic, during bagpipe and drum band competitions. Although it is possible that the original pitch of the Highland bagpipe may have been closer to G than A as suggested by iconography, scholarly investigation seems to indicate that it was relatively stable at about A=450 Hz. (Brown, 2009). However, many other types of bagpipes are in G (J. MacDonald, 1927, p. 24). Today, the Great Highland Bagpipe is pitched slightly above B♭. Therefore, the drones are actually in B♭, and when a bagpiper plays its scale, its root pitch is equal to B♭ (or higher). Many pipers now have two chanters: one is pitched high for pipe and drum competitions and another is pitched in concert A so as to play with other concert-pitched instruments.

Such is the latter case with Frank Beaton who recorded one of his chanters (and drones) tuned to concert A. Here is a table of the resulting frequencies (see Table 3.1, below):

<table>
<thead>
<tr>
<th>Pitch Number</th>
<th>Pitch Name</th>
<th>Frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G₄</td>
<td>388.0</td>
</tr>
<tr>
<td>2</td>
<td>A₄</td>
<td>436.0</td>
</tr>
<tr>
<td>3</td>
<td>B₄</td>
<td>490.6</td>
</tr>
<tr>
<td>4</td>
<td>C♯₄</td>
<td>545.2</td>
</tr>
<tr>
<td>5</td>
<td>D₄</td>
<td>588.9</td>
</tr>
<tr>
<td>6</td>
<td>E₅</td>
<td>649.9</td>
</tr>
<tr>
<td>7</td>
<td>F♯₅</td>
<td>721.1</td>
</tr>
<tr>
<td>8</td>
<td>G₅</td>
<td>765.0</td>
</tr>
<tr>
<td>9</td>
<td>A₆</td>
<td>857.7</td>
</tr>
</tbody>
</table>

Table 3.1: Great Highland Bagpipe Frequencies in Concert A

When plotted with notes number versus frequency, the following results (see below, Figure 3.22):

![Figure 3.22: Bagpipe Scale in Concert A, Beaton, Note Number vs. Frequency](image)
With the exception of a rather low G₅, the scale is remarkably linear. The pitch displayed in Figure 3.22 brings to light a point of confusion concerning octave equivalence. The last note (labelled as A₅) is not exactly an octave higher than the second pitch, labelled as A₄ (2 x 436.0 (872.0) Hz ≠ 857.7 Hz); it is 14.3 Hz lower. This is correct.¹¹⁰ If it is raised from 857.7 to a theoretical value of 872.0 Hz, it will not match the frequencies of the drones’ overtones. As the overtone pitches ascend, their relationship to theoretical values will descend, and the theoretical values will not match the actual values. The desire to raise this final pitch is rather strong in pipe and drum bands today as evidenced in “The Pitch and Scale of the Great Highland Bagpipe” (E. Macpherson, 1998) where different chanter frequencies were analysed. If equalised to a similar starting pitch, one piper (MacNeil)¹¹¹ had a sharper G₅ than Beaton but then deliberately sharpened A₅ to double the frequency of A₄. So MacNeil’s pitch spectrum was almost perfectly straight until the last note. This may be seen below in Table 3.2. Whilst all of the scales previously discussed might seem varied and complicated, they are actually conjoined by the use of the same overtone pattern. However, the scale that was created by the early Christian Church musicians was completely different. This has come to be termed the diatonic scale.

<table>
<thead>
<tr>
<th>Pitch Number</th>
<th>Pitch Name</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G₄</td>
<td>414</td>
</tr>
<tr>
<td>2</td>
<td>A₄</td>
<td>466</td>
</tr>
<tr>
<td>3</td>
<td>B₄</td>
<td>524</td>
</tr>
<tr>
<td>4</td>
<td>C₅</td>
<td>583</td>
</tr>
<tr>
<td>5</td>
<td>D₅</td>
<td>629</td>
</tr>
<tr>
<td>6</td>
<td>E₅</td>
<td>699</td>
</tr>
<tr>
<td>7</td>
<td>F♯₅</td>
<td>777</td>
</tr>
<tr>
<td>8</td>
<td>~G₅</td>
<td>839</td>
</tr>
<tr>
<td>9</td>
<td>A₅</td>
<td>932</td>
</tr>
</tbody>
</table>

Table 3.2: Great Highland Bagpipe Frequencies, MacNeil

When plotted with notes number versus frequency, the following results (see below, Figure 3.23).

Here one can see that G₅ is higher than Beaton’s and creates an almost straight line, but the sharpened A₅ deforms the linearity.

¹¹⁰ This is due to the place where the wave is reflected back into the tube to create a standing wave. That place extends outward as the pitch ascends making the apparent length of the instrument increase and pitch descend. The shape of the open (bell) end greatly influences the extent of how far out the point of reflection extends. This is discussed by Hirt (1984). This is consistent with like instruments. A pipe band need not artificially raise this pitch (as was done in the following example) because every pipe chanter is producing the same overtone frequency of the A₅ partial and when played, the same pitch. There are no other instruments with different harmonics playing with the bagpipes, so there is no reason to adjust this pitch to match a phantom standard. If the pitch of A₅ is artificially raised, it will be at dissonance with the drones.

¹¹¹ Information was taken from Piobaireachd and its Interpretation (S. MacNeill & Richardson, 1996).
Historically, the pipe’s notation solidified when they were in concert A (roughly, $A_4=440$ Hz), so the key signature has not moved from this point and has two sharps; this is so well known that the two sharps in the key signature are often omitted, which can cause great confusion to most musicians. This might seem rather odd for the casual observer since the drones are in A, the pipes are said to be in A, the key signature reads D major, and the actual pitch is $B^\flat$. Specifying this in notation might make this differentiation less confusing (Figure 3.24, below):

If the key signature is changed to reflect the pitch gamut in A major, the result might look somewhat odd (Figure 3.25, below):

Therefore, when analysing Fenian lays, the note sequence displayed below (Figure 3.26) will be used to determine if Fenian lay examples match the bagpipe scale:

Although linear, this scale is different from the natural scale, in that $F_4$ is clearly present and the scale does not descend below $F_4$ or ascend above $G_5$.

With all of the possible scales that could have been produced in insular Britain in the last millennium or more now defined, it is now appropriate to examine the possible ways in which they may have combined or influenced one another. In this manner, all of the various scalar influences might be seen in the melodic analysis in Chapters 5, 6, and 7.
3.7. Traits and Interactions of Musical Scales

There are several significant differences between each of the scales as described above. Yet, each scale has its own strengths and weaknesses. Their relationships to one another bear on this dissertation since a relationship may create a unique scale or help to disambiguate the origin of a scale. Additionally, since dates of scalar developments can be approximated, one can then identify such developments and thereby suggest dates of origin (or more particularly, modern scalar influences) of Fenian lay recordings.

3.7.1 Natural Scale Traits

The single most important characteristic of the natural scale is that it is absolutely uniform with respect to frequency. This may be seen in Figure 3.2: Natural Scale: Notes Available vs. Frequency (Cycles per Second). If a person is raised where musical instruments produce this scale, it will seem normal and in tune:

In many parts of Europe, folk music is played on natural wind instruments (such as horns), which can only play the natural notes. On these instruments, melodies can be played only on the fourth octave (from the eighth to the sixteenth partials), which makes the fourth degree of the scale sound very “impure,” because the eleventh partial lies somewhere between F and F♯ and the fourth (C–F) is consequently much too wide. Where such instruments are played, an identical interval is also sung, and people regard it as pure because they are used to it! [...] Thus purity of intonation can only be discussed within the context of a particular system. If I intone purely within system, then my intonation is perfect, even if it sounds impure to ears that have been conditioned to another system. (Harnoncourt, 1995, pp. 60-61)

This statement crystallises the approach needed to understand music in medieval Europe and folk music in particular.

With the natural scale, each note is equidistant to another. Therefore, there is no instability within a melody. With the diatonic scale, half steps within a mode have the effect of making the performer singing a note half a step away from tonic desire to increase tension on that note and then resolve the tension once on the tonic. Therefore, emphasising tension when one is singing a note on a half-step interval away from the tonic by using extreme sub-glottal pressure to squelch overtones and halt vibrato is not a feature of cultures employing the natural scale. A colloquial term for this practice in the Italian School of singing (in English-speaking areas) is “orphaning” the note.

However, even though each note may be the same distance away from every other note, practitioners of the natural scale undoubtedly know that there are different starting and ending points to a song, and each song is unique. Therefore, it might be possible to characterise folk tunes by where pitches begin (authentic, plagal, reverse-plagal) and where they end (mode name being given the name of the partial upon which the tune ends; for example, if a tune ends on E4 it might be given the appellation of “Mode 5”). Such discussions must be reserved for another monograph.

112 Harnoncourt makes a mistake here. Since each note is equidistant to another, melody may start and end on any note. His sense of melody is rooted in the diatonic scale where melody can only exist where the scale becomes heptatonic. Harnoncourt must be forgiven for this since the natural scale had not been investigated as it has been done in this dissertation. His musical mind is remarkably both educated and flexible.
Another significant difference between the natural scale and the diatonic scale is its lack of octave equivalence. Therefore, referring to tunes formed in the natural scale by using octave-equivalent terms such as ditonic, tritonic, tetratonic, pentatonic, and hexatonic is detrimental to understanding such tunes. Also, there are no “keys” in this system, and the most effective way to notate the scale is by placing it in a manner to match Figure 3.4: The Natural Scale as Transcribers Have Used It.

Moreover, this scalar system allows for perfectly in-tune harmonies that any diatonic temperament cannot accomplish. However, this does not mean that every chord possible with the natural scale is the same. Whilst there is perfect equality between notes when sung or played melodically, when placed in a context of harmony, the 7th, 11th, and 13th partials are problematic. They are therefore omitted in folk music in many circumstances in which the music is performed with surrounding harmony. Since Fenian lays are not accompanied, this may seem moot; however, the lays may be sung to tunes originally created with instrumental accompaniment (or sung using overtones) and therefore lack these partials. This will be discussed within Chapters 5, 6, and 7 as needed.

3.7.2 Willow Flute Scale Traits

The willow flute scale is at variance with the natural scale in that the slope of Figure 3.8 is twice as steep as Figure 3.2. Therefore, the scales are not compatible. However, if half of the notes are removed from a willow flute (either all stopped or all unstopped notes are played) the slopes will be equal; the problem then is that the willow flute would only have access to approximately seven notes when playing with a natural trumpet and would sound in harmony two octaves higher.

The willow flute scale is particularly difficult to identify because, whether placed as in Figure 3.10 or Figure 3.11, there are a great many accidentals. It is not that a Fenian lay cannot be identified because of this, but because the singing or transcription will be so imprecise that the notation of such singing will be highly variable.

3.7.3 Voice Scale Traits

The natural scale as created by the human voice using overtones and undertones can be identified by observing a natural scale sequence and then noticing another within the tune in a different key. That is, the tune modulates. Since all Fenian lays (and folk tunes in general) have been annotated using only one key signature, it is doubtful that this could occur in any

113 Although important, harmony is esoteric to the topic of this dissertation since Fenian lays are sung solo, monophonically, and without accompaniment. The reason why the 7th, 11th, and 13th partials are omitted seems to be that there are few places of nodal congruence with surrounding harmonies. Since there are fewer shared nodes, the 7th, 11th, and 13th (prime numbers) partials are less harmonious with surrounding pitches produced on like instruments. They are therefore avoided when there are other instruments playing harmony. A corollary may be that when the 7th, 11th, and 13th partials are missing in a tune, there was surrounding harmony. Nodal congruence defines actual harmony as opposed to historical harmonic developments; that is, the actual hierarchy of most harmonious to least between two notes played simultaneously is: unison, octave, perfect 5th, perfect 4th, major 3rd, minor 3rd, major 6th, minor 6th, etc.

114 The present author has noticed that many melodic tunes sung using throat singing lack the 11th partial.
tune in a key that was not related to it. However, when modulating pentatonic tunes (that lack half steps), transposition between what would be described as tonic, dominant and subdominant occurs without a shift in the key signature. Therefore, if a typical ascending intervallic pattern beginning on the 3rd partial occurs (G₃, C₄, E₄, G₄) and is then followed by the same pattern on a different pitch (C₄, F₄, A₄, C₅), that would not indicate that the tune does not match the natural scale but rather that it is an overtone or undertone modulation.

The present author has yet to see this occur in a Fenian lay or a folk tune from Western Europe; however, it is a possibility and must be considered.

### 3.7.4 Bagpipe Scale and the “Rural Mode”

As Figure 3.22 and Figure 3.23 demonstrate, the bagpipe scale is a linear one. More importantly, it is not like Figure 3.19: The Diatonic Scale, Notes Number vs. Frequency (Equally Spaced) or Figure 3.20: The Diatonic Scale, Notes Number vs. Frequency (Half and Whole Steps). It is therefore in-line with other pastoral instruments such as the shepherd trumpet, willow flute, and vocal scale.

Since the bagpipe scale is linear, one would think that there must be some sort of relationship between the natural scale and the bagpipe scale that is either intrinsic or synthetic. Indeed, the present author has discovered just such a relationship through secondary research. A scalar relationship between harp, pipe, and trumpet can be found in Joseph MacDonald’s *Compeat Theory of the Scots['] Highland Bagpipe (c. 1760)*, where, starting on page 23 and following until page 25, MacDonald states that there are “rural” modes (1927). In all, MacDonald gives seven examples of specific modes for an A-drone bagpipe termed the “rural mode” where the bagpipe avoids concert C♯₅ and includes four modes that also omit both G₄ and C♯₅. If this mode is equalised to determine if it matches the natural scale (Figure 3.4), by transposing it down one whole step to C major, it does correlate to the natural scale; that is, if transposed to C major, one example omits B₄, and four examples omit both F₄ and B₄. This is significant. Not only does this imply that the rural mode is an artificially restricted scale designed to allow bagpipes and trumpets to play together, but by omitting only F₄ and not F♯₅, it indicates that such an omission could only have occurred to match the natural scale and not the diatonic scale. Since the diatonic scale exhibits octave equivalency, the omission of F₄ and not F♯₅ is incongruous to it. Therefore, the rural mode was created to match the natural scale.

That substantiates the present author’s claim that Western European folk music (and in this dissertation, a laoidh) is based in the natural scale and not a variation of the diatonic scale.

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115 The term “relative” is often used to describe the relationship between major and minor keys that use the same key signature. It is also used to describe relationship of modulation between tonic, dominant, and subdominant. These terms are used to describe elements of the diatonic scale and are therefore inappropriate to use to describe behaviours of the natural scale. However, it was thought that this explanation might be useful for the typical reader who is probably trained in the use of keys and chordal relationships.

116 The following images were previously published. However, an image of the scale was not, nor was the graph of both the bagpipe scale and the trumpet scale superimposed; both are significant.

117 This occurred in Figure 3.30 and Figure 3.31. It did not occur in Figure 3.28 or Figure 3.29; the possible cause of which is briefly mentioned above: the absence of F♯₅ often occurs when there is harmonic accompaniment. The drones provide harmony.

118 QED.
displaying octave-equivalent tendencies previously described as being ditonic, tritonic, tetratonic, pentatonic, or hexatonic.

To demonstrate this, below is “Another Key for Rural Pieces & Laments” (J. MacDonald, 1927, p. 24) which shows that the A-drone bagpipe does not play both G₄ and C♯₅ (Figure 3.27):

![Figure 3.27: “Another Key for Rural Pieces & Laments” for A Bagpipe/D Trumpet](image)

If this example is transposed down one step to match a C trumpet versus a D trumpet and to match Figure 3.4: The Natural Scale as Transcribers Have Used It, the affinity of this tune to the natural scale is clear (see below, Figure 3.28):

![Figure 3.28: “Another Key for Rural Pieces & Laments” for G Bagpipe/C Trumpet](image)

In the above example, the tune ends on A₄, which is the 7th partial. It should be noted that if a shepherd trumpeter played this tune with a bagpiper, the lower notes of the trumpet’s 5th, 4th, and 3rd partials would be prohibited as well as the bagpiper’s F₄ and B₄. This pattern of omission continues for the next example, “Another Key or Taste for Laments and Rural Pieces” (J. MacDonald, 1927, p. 24). The ornaments have been removed as they obscure the melodic structure and do not consist of any non-natural scale pitches (Figure 3.29):

![Figure 3.29: “Another Key or Taste for Laments and Rural Pieces” for G Bagpipe/C Trumpet](image)

In the above example, the tune ends on G₄, which is the 6th partial. Here is “Another Style or Taste for Laments” (J. MacDonald, 1927, p. 24), shown below (Figure 3.30):

![Figure 3.30: “Another Style or Taste for Laments” for G Bagpipe/C Trumpet](image)

In the above example, the tune ends on E₅, which is the 10th partial. Omission of notes also occurs in the following example of “G. Sharp, Another Species, A Style or Taste for Rural Pieces” (J. MacDonald, 1927, p. 25). However, the example is given with an understanding that the added embellishments are “grounded” on concert G₄ (F₄ on a G bagpipe, which is outside the range of a C shepherd trumpet). See below (Figure 3.31) for this tune expressed for G bagpipe and C natural trumpet:

![Figure 3.31: “G. Sharp, Another Species, A Style or Taste for Rural Pieces”](image)

In the above example, the tune ends on F₄, which is the 11th partial. In the above examples, the finals are different. It therefore seems as though MacDonald was listing all of the finals of the
rural mode that were possible (on a G bagpipe: G₄ (Figure 3.29), A₄ (Figure 3.28), E₅ (Figure 3.30), F₅ (Figure 3.31), omitting C₅, D₅ and G₅).

If a shepherd trumpet is matched to the rural mode for a G bagpipe, a trumpet pitched in G would not have as many congruous notes as if it is placed in C; additionally, a G trumpet would have the bagpipe’s B₄ (the trumpet’s 10th partial, up one octave), so there would be no reason for its omission in the rural mode; also, the upper partials would be difficult to produce.

So, if a C natural trumpet and G bagpipe attempt to play the same scale, only B₄ is missing for a bagpiper beginning on G₄. One might observe this if the two scales are displayed together; this has been done below in Figure 3.32:

![Natural Trumpet in C and G-Drone Bagpipes](image)

Figure 3.32: Natural Trumpet in C and G-Drone Bagpipes

If these two scales are combined so that there only exists pitches that can be produced by both instruments, the following scale results (Figure 3.33):

![The Rural Mode](image)

Figure 3.33: The Rural Mode

None of the notes are made solid since the frequencies match fairly closely. This can be seen by simply combining a D trumpet’s theoretical partials (fundamental at 74 Hz) with the MacNeil’s chanter (as shown in Figure 3.23, above). If this is plotted with note number versus frequency with the trumpet being a dashed line and the bagpipe as a dotted line, the following results (below, Figure 3.34):

![Rural Scale: Trumpet and Bagpipe (MacNeil), Note/Partial Number vs. Frequency](image)

Figure 3.34: Rural Scale: Trumpet and Bagpipe (MacNeil), Note/Partial Number vs. Frequency

So although there are variations, the trumpet line and the bagpipe line can be seen to be similar, even though the bagpipe had an entire pitch removed (B₄) which makes it non-linear toward the left. Beaton’s bagpipes give similar results. In Beaton’s case, the slope is slightly less since A₅ was not artificially heightened to be double that of A₄.
3.7.5 Diatonic Scale Traits

The rhythmic manner in which Fenian lays were performed is remarkably similar to how syllabic Christian chant was and is performed today and may very well indicate a common ancestor; this may even suggest how Vedic hymns were sung. There were various developments in performance practices of early chant that has obscured this due to a number of reasons. The first is that Christian religious chant adapted to the various individual denominations that developed. Like the IE languages, each denomination’s chant-form retained elements of an “original” practice. So, like a parent or mother-tongue dialect that drifts in time, so too has the chant performance practices of the Roman and other catholic churches. However, if in particular, early Roman Catholic Church practices are investigated with regard to syllabic chant, they will be seen to be extremely similar to how Fenian lays were performed with respect to rhythm:

Within each of the basic styles—recitative and free—there are varying degrees of complexity. Particularly in free composition, these degrees are indicated in a rough sort of way by the terms syllabic, neumatic, and melismatic. Syllabic melodies have a single note for each syllable of text and are therefore the simplest in style. Neumatic (from the neumes of plainchant notation) implies that each syllable will be set to a neum—a group of from two to five or even more notes. Longer passages sung to a single syllable are called melismas, and hence a chant with several such passages is melismatic. Quite obviously, no sharp dividing lines separate the styles designated by these three terms. The difference between one note per syllable and more than one is clear, but the precise point at which neumatic style becomes melismatic can scarcely be determined. Moreover, many chants contain a mixture of two, or even all three, styles. Some chants, chiefly antiphons, are almost completely syllabic, but even they may have several syllables with two or three notes. Predominantly neumatic chants, on the other hand, may have both short syllabic passages and a few longer melismas. Despite this indefiniteness, the terms prove useful in describing the general gradations of melodic style from extreme simplicity to utmost elaboration. (Hoppin, 1978, p. 78)

Once religious chants are assumed to be equalised to a monophonic, syllabic base as are Fenian lays, the pitch patterning of early Christian religious chant’s diatonic scale and its interaction with other scales may be clarified. Folk tunes based on the natural scale may have finals on any one of the ending partials (with the exception of the lowest ones: 1st, 2nd, and 3rd which do not seem to have been used). Therefore, instead of using the mode names as suggested by Gilchrist of Mode I, Mode II, etc., one may simply use the partial names of Mode 4 (ending on C₄) Mode 5 (ending on E₄), etc. Prior to this dissertation, folk tunes were fitted into the ecclesiastical system were there were originally four modes (dorian, ending on D, phrygian, ending on E, lydian, ending on F, and mixolydian, ending on G). These were termed “authentic” with another related set termed “plagal” developing when the range was constrained to a fourth below the final and the fifth above. The ionian (ending on C) and aeolian (ending on A) modes were not used, and ionian was expressly forbidden, being given the pejorative modus lascivus/lascivius meaning the lustful mode. Its relationship with folk music is well known; as Bronson wrote:

119 I have performed as a soloist (cantor/precentor [sic]) in religious services of the Roman Catholic, Anglo Catholic (Anglican, which includes the Episcopal Church of the United States of America), Presbyterian (in Gaelic), etc. churches. They all have common elements but have dwelled on certain aspects and have unique deviations. For example, the use of harmony in the Anglican Church makes the rhythm unduly strict. In the Roman Catholic Church, the rhythm has also become moribund toward equal syllable lengths. Also, translations into English are poor as they have preserved Latin pitch accent in English translations, etc.
The Ionian scale has been taken as the starting-point because it has been from time immemorial designated as the mode of popular song [...] and because, in bulk, it is by far the predominating mode in the extant folksong record—at least in British-American tradition. (1946, p. 43)

If a folk tune ended on the fourth partial (C₄), it would be considered ionian. If the tune ended on the fifth partial (E₄), it would be considered either phrygian or aeolian (relative minor of G with the 11th partial acting as the leading tone, F♯ in G major); if ending on the sixth partial (G₄), it would be considered mixolydian (the 11th partial appearing to be F♯) or ionian (again, the 11th partial appearing to be F♯₃); if ending on the 7th partial (A₄), it would be considered aeolian (relative minor of C); if ending on the 8th partial (C₅), it would be considered ionian; if ending on the 9th partial (D₅), it would be considered dorian, etc. So, if this was summed, the probability of European indigenous music ending on finals from highest probability to lowest would be: ionian (major: C₄, G₄, C₅), aeolian (natural minor: E₄, A₄), mixolydian (on G₄), dorian (on D₅), lydian (on E₄ and E₅), etc. So if the Church was proscribing aboriginal music, and that music was being played on shepherd trumpets, it would be logical to ban the ionian mode and ignore the aeolian mode.

Eventually, the threat of indigenous culture and associated pagan elements faded and the ionian and aeolian modes were subsumed into the ecclesiastical modes. When modern ethnomusicologists attempted to explain folk tunes ending on G or D, they simply used the current manner of classifying religious chant, which included the mixolydian and dorian modes. Although folk tunes may have been notated and described using a system that was not optimal, since the diatonic scale has more notes than the natural or bagpipe scale, folk tunes generally can be described by using the diatonic scale (except for the greatly out-of-tune 7th, 11th, and 13th partials). With accidentals, the diatonic scale also has enough notes to express the willow flute scale and any variation of the vocal scale. Therefore, it is possible to transform any folk music scale that was captured using diatonic notation back into the natural scale.

3.8. Summary

Research into the origins and possible unifying structure of Western European folk music previous to this dissertation has been from the perspective of the diatonic scale that was developed by the early Christian Church in Western Europe. With an understanding that an emic analysis does not exist and is required in order to examine Fenian lays, the present author delineated all possible scalar patterns derived from rural musical instruments. Those musical systems include the natural scale, willow flute scale, overtone-tuned scale, bagpipe scale, and diatonic scale. After placing all of these systems against Gaelic folk songs and comparing...
similarities, it was found that the natural scale had a particular affinity to folk songs. Further analysis of Fenian lays as a sub-set of folk song\textsuperscript{121} has shown that they are also closely aligned with the natural scale as well.

Moreover, the pitch patterning of lays has shown a tendency for some lays to be placed rather low in the natural scale, making the playing of such on shepherd trumpets or even unstopped willow flutes not only possible but effortless. This low placement suggests that the tunes were widespread and could be played by every shepherd trumpeter using short instruments including animal horns or willow flutes. Archaeological evidence seems to suggest that shepherd trumpets developed slowly during the Neolithic Age; that is, short trumpets are associated with the early Neolithic and longer ones are associated with the later Neolithic.\textsuperscript{122} This generally implies that the tunes of Fenian lays can be exceedingly old if they are placed in the lower end of the natural scale spectrum.

Therefore, with the understanding of how scales were altered over time, it should be possible to see the influence of the evolving progression of the diatonic scale on the natural scale used in Fenian lays. Additionally, one might intelligently speculate that any Fenian lay tune that possess only those notes present in the low end of the natural scale to be the oldest and predate the diatonic scale (in any form, including that of Guido of Arezzo). If it matches the bagpipe scale, it would be more recent, and if it included leading notes and could be classified as ecclesiastic, it would be most modern. Therefore, in Chapter 5, 6, and 7, Fenian lay tunes will be compared to the scales presented in this chapter in order to date, roughly, the tunes of the lays or to see how much of an impact the modern diatonic scale has affected them.

With an understanding of the ornament of poetry as discussed in the preceding chapter and the structure of pitches used in the singing of Fenian lays in this chapter, it is now appropriate to discuss components of rhythm in Fenian lays.

\textsuperscript{121} This point is currently in debate. The present author believes that the words of Fenian lays are also the product of a rural community as well as the melodic structure. Scholars such as John MacInnes and Michael Newton believe that the lyrics of Fenian lays were produced by the \textit{filidh}. This will be discussed in the next section, Chapter 4.

\textsuperscript{122} See Sachs (1940) and emerging studies linking music with archaeology.
4.1. Introduction

Fenian lays from Ireland, Scotland, and Nova Scotia are structured in terms of linguistic-musical material not only through their poemic/poetic elements and pitch gamut, but by macro-rhythms (language-timing characteristics), pitch accent, and vocal techniques. Since musical patterning was explored in the previous chapter, it is now appropriate to discuss some elements of both language and musical rhythmical patterning. Once these latter characteristics are examined, they will be applied to specific Fenian lay recordings in Chapters 5, 6, and 7.

Rhythmic patterning exists in the way in which people speak, and that structure varies by language. In all languages, a timing system is required to fit a complete thought within the breadth of an exhalation. A timing system may rely on spacing a certain approximate number of syllables, stressed sounds, or groups of sounds within an exhalation. These are termed syllable-timing, stress-timing, or mora-timing respectively. In most instances, poetry utilises the timing features of each language in order to bring to fruition the genius of that culture. Paradoxically, Gaelic poetry in Fenian lays makes use of patterning apparently alien to its nature; that is, it is syllabic although the language patterning is stress-timed; as previously discussed in Chapter 2, this may be due to oral-formulaic language. Regardless of the type of timing system, stress is not merely a result of added emphasis of volume or length, but of pitch. Timing also varies by volume, which is a reflection of the number of people listening to the speaker. Volume also has an impact on pitch, resonance, and vibrato. None of these conditions may alter the pronunciation, which must be the same as when spoken.\textsuperscript{123} If these traits are measured, it might be possible to link specific performance practices to a non-modern, older method of singing that is in synchronous with Neolithic vestiges in rural communities.

Music is patterned as well; however, such structure is necessarily simple as it is often created for instrumental music or the accompaniment of songs. This requirement for simplicity is due to the instrumentalists’ lack of knowledge of the lyrics and hence the exact duration of spoken words. Therefore, mating language and music often alters more complex linguistic durations. Moreover, in such a synthesis, pitches (as specified in the systems in the previous chapter)

\textsuperscript{123} When a performer sings loudly, resonance tuning impacts clarity of overtones (what the listener identifies as vowels). In Gaelic society, pronunciation is not allowed to be compromised in order to sing with greater volume.
must be defined for the words. The symbiotic relationship between linguistic stress and pitch selection in music has not been addressed in research to date. Such an investigation may help to reveal that Fenian lays and similar performance genre are the genesis of recitative which strongly influenced the development of Western European musical drama.

The vocal connection of speech to song has been explored extensively in past research, but significantly, studies have not been conducted with an understanding of the nature of the different types of spoken dialogue. Is the spoken or sung dialogue poetic? Is it loud and authoritative? Is the circumstance formal or informal? The answers to these questions may be discerned through analysis of Fenian lays. Whilst it may be assumed that Fenian lays were a proto-song genre, a stepping-stone to modern music heard on the radio today, they were actually fully formed and displayed all of the elements of the most powerful means of communication ever developed. Modern music is more rhythmically simplistic and rigid.

The following section explores the three main patterns of speech rhythms. This is done without regard to musical rhythms in modern music. This is intentional. Once language patterns are understood, then musical rhythms can be juxtaposed against them to show that musical rhythms are actually simplified speech rhythms.

4.2. Language Rhythms

The pattern of words and the distinction of emphasis that are displayed in each language are of profound importance in understanding the structure of a culture’s poetry and music. The nature of poetry and music alters depending upon the pitch and rhythmical structure of each society’s language. Whilst frequency \( (f) \) patterns of speech are important, the rhythmical tendencies of poetry and underlying language characteristics as they vary between cultures should be examined in order to discern the extent with which Fenian lays exhibit Gaelic language patterns, artificially imposed non-indigenous language patterns, or unrelated patterns brought about by musical instruments.

Accompanied song requires the rhythm of the music to match the rhythm of words; if this does not occur, the words become unintelligible. Instrumental music does not require musical rhythms to match linguistic rhythms. However, even if instrumental music is separated from speech due to the absence of words in instrumental music, it is quite probable that listeners identify their own speech patterns within instrumental music:

\[ \text{The present results [of this study] indicate that listeners do in fact perceive language-specific rhythms in musical contexts and can use this information to classify purely instrumental sequences (i.e., music without lyrics). They can do this when language-specific differences are exaggerated and when they are subtle. (Hannon, 2009, p. 407)} \]

Whilst this is an interesting result from an intelligently wrought choice of variables and analysis, many other studies are of limited value or are misleading. Often, studies constructed by researchers demonstrate etic and emic confusion. The variable choice is flawed, and the results can be misleading. This is important to the present dissertation since researchers often measure behaviour that has not been sufficiently defined. Simply put: researchers measure the wrong thing. For example, with regard to declamation and the spectrum of behaviours between speech and song, many researchers group “trained actors” into one class when in fact,
“line reading” (read speech) and its foil (free speech) divide actors into two separate and distinct categories (conservatory/pantomime and Stanislavski/acting). This avoidance of onstage, emic considerations also results in the haphazard merging of the behaviours of singers and instrumentalists:

To produce large intervals in the intonation of the voice or on a keyboard requires larger movements than to produce small intervals. There is thus a direct connection between emotion and movement: the more intense the feeling, the larger, and faster the movement. (Besson et al., 2011, p. 1)

In the above quotation, it was forgotten that the placement of pitches on a keyboard is in imitation of the manner by which the human body creates sequential pitches; it is a simple matter to make octave pitches concurrent on a keyboard, especially an electronic one which would destroy the logic of the above quotation. The act of speech is quite different than moving one’s hands rhythmically on a keyboard, just as speech is separate from moving one’s hands rhythmically as a press operator would in a production facility. According to current research including Halwani, Loui, T., and Schlaug (2011), the acts of singing and instrumental playing are quite different and require different areas of the brain. Since this present study is concerned with the speech-to-song transition, and Fenian lays are hypothesised vestigial waypoints on that continuum, it would be prudent to omit discussions of instrumental music and conventions from the present study, as instrumental music has been considered an imitation of vocal music. To that end, it is now appropriate to investigate the rhythmic organisation of language in order to ultimately see that organisation in Fenian lays.

The overarching, macro characteristics of a language are displayed by the organisation of a speaker's utterances. The compression or elongation of sounds, the organisation of such sounds by volume, pitch, duration, etc., all vary by language. One important element, the desire to create emphasis on particular words when speaking and how that is expressed in each language, is vitally important in understanding the resulting music of differing cultures or nationalities.

Language patterning can be primarily categorized as syllable-timed, mora-timed, or stress-timed (Ramus, Dupoux, & Mehler, 2002). As a person is about to exhale and speak while doing so, that person unconsciously is determining how to fit a complete thought within that exhalation time-segment. This is done by either timing the number of syllables within the exhalation (syllable-timing), timing the divisions of long syllables and short syllables within the exhalation (mora-timing), or timing the number of stressed syllables within the exhalation (stress-timing). Gaelic is considered a stress-timed language (Blankenhorn, 2003, p. 364). Here is her summary:

[I]rish, to the same degree as English, is a ‘stressed-timed’ language [...] Kenneth Pike was the first to expound the notion that the languages of the globe may be classified as either ‘syllable-timed’ or ‘stress-timed’. Although today perhaps not everyone would agree that the distinction is as clear-

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124 There are many references to how instrumentalists should imitate singers. A good reference is Baroque Music Today: Music As Speech (Harnoncourt, 1995).

125 The poetry resulting from syllable-timing and stress-timing is termed syllabic poetry or strophic poetry (or accentual poetry) respectively. Mora-timing is a fairly recent concept that has been linked most notably to the Japanese language.
cut as Pike thought, it will suffice for our purposes because Irish is not a language about which there can be any doubt.

The terms ‘stress-timing’ and ‘syllable-timing’ both refer to the periodicity of a language, that feature which its native speakers recognise as giving it breadth and regularity when spoken. This is a perceived periodicity, its regularity existing primarily in the minds of speaker and listener and not satisfactorily confirmable in empirical terms. In order to determine the rhythmical character of a language we must first ask: what element in a given utterance provides that utterance with its periodicity, its apparent rhythmical regularity? (2003, p. 56)

The concept of mora-timing is a more recent theory proposed by James McCawley:

Further investigation brought to the classification of most Romance languages as syllable-timed and of most Germanic and Slavonic languages as stress-timed. Some languages, e.g. Japanese and Tamil, did not fit in either category, but rather seemed to belong to a third rhythmic type based on the mora. (Mairano & Romano, 2007, p. 1149)

A mora is a unit of measure where a short syllable consists of one mora and a long syllable consists of two. So monomoraic syllables have one mora, bimoraic syllables have two morae, and trimoraic syllables have three morae. Both vowels and consonants individually may act as morae. If this definition is true, then a language that has significantly extended sounds must have some elements of mora-timing. If this were not the case, an utterance of all long sounds would be timed to match an utterance of all short sounds; that is, it would be impossible to have enough air to speak an extended utterance composed of all monomoraic syllables (imagine a short vowel) if those syllables were all replaced by bimoraic syllables (imagine a long vowel). The subconscious must sum the morae so that there is enough air to speak a complete thought.

Two languages that have the feature of long and short syllables are Italian and Gaelic. Since both Italian and Gaelic music composers often recognise this attribute and exaggerate it in metered music, the present author has decided to treat both Italian and Gaelic as mora-timed languages. It should be emphasised that this is not a classification, rather an approach. Concerning the dichotomy between only syllabic and stressed timing, “[O]ne should not aim at classifying languages as either syllable-timed or as stress timed, rather at determining at which point of the continuum ranging from total stress-timing to total syllable-timing a language finds its natural collocation” (Mairano & Romano, 2007, p. 1152).

Blankenhorn’s determinations are irrefutable with regard to the stress-timing nature of Irish Gaelic poetry; however, if one assigns dimoraes to long syllables in Gaelic, it can be seen to take up equivalent musical space in metered music. As will be seen, this has little relevancy when applied to declaimed verse in any language, but by treating Gaelic as if mora-timed, insightful comparisons may be made to metered music.

There are other elements to poetic metre apart from timing. As Zeps pointed out, “Metre involves counting syllables, word-breaks, rhymes, lengths, tones, stresses, etc. What individual features can be regulated, depends on what is available in the language in question [...]” (1989, p. 247). It follows that poetic forms will tend to be unique to each language, or,

126 That is, the lengths of the vowels are so important that if they are confused, the word meaning shifts. For example, “my father” is m’athair, but “mother” is màthair. The sound is the same except for the lengthening of the /a/ vowel in màthair. If the vowel is not lengthened, the meaning is entirely different. The /a/ in màthair is probably timed to be about twice as long or greater than the /a/ in m’athair.
more to the point, forms that were created for one language will not perfectly suit another, “The traditional prosody of a language always selects phonetic features immediately audible to native speakers—such as pitch, quantity, syllable counts, accent, assonance, alliteration—and arranges one or more of them in expressive patterns” (Gioia, 2008).

A good example of mismatching poetic forms between languages can be seen in the importation of the sonnet form from Italy into England. Comparatively speaking, it is much more difficult to compose a sonnet in English than it is in Italian. The sonnet form requires a particular number of syllables per line, but as English is a stressed-timed language with an indiscriminate number of syllables per exhalation (or written line), it is very difficult to compose English poetry in this form. As the linguist Edward Sapir noted, “The attempt to cast English verse into Latin and Greek molds has never been successful” (1921, p. 244).

Whilst it is tempting to make a polar moratorium on language definitions, most languages have some elements of syllable-timing, mora-timing, and stress-timing parameters. It is appropriate to consider all three since Fenian lays have a set number of syllables per line (which developed in cultures where the language is syllable-timed), have long syllables (which may imply mora-timing), and use the Gaelic language which is generally considered to be stress-timed.

4.2.1 Syllable-Timing

The Italic branch of languages (French, Spanish, and others) share the characteristic of having a metre based upon evenly spaced syllables. This can be seen most clearly in French:

> Every syllable in French has a medium stress, and the final syllable of a group usually has a somewhat longer stress [...] In French the length of time required to pronounce a sentence is determined by the total number of syllables. Two sentences containing an equal number of syllables are therefore of equal duration. (Woods, 2005, p. 2)

Here is a pictographic resetting of Wood’s *Le cours d’anglais est vraiment excitant*, below in Figure 4.1:

![Figure 4.1: A Visual Pictograph of an Example of Timing in a French Sentence](image)

If one speaks this sentence, there is a slight stress on the syllable *glais* of *anglais*, but for the most part, the syllables are all spoken in a rapid-fire, machinegun-esque manner. Each syllable is pronounced at about the same length, yet French is hardly a dull language. What defines emphasis in French will be discussed below in section 4.2.5.
Since a French speaker will have a certain amount of air to expel in an utterance,\textsuperscript{127} and since syllables are roughly of the same length, the speaker will subconsciously place roughly the same number of syllables in each exhalation. This conditioned behaviour is termed syllable-timing.

### 4.2.2 Mora-Timing

If some of the components in a syllable-timed language such as French are elongated, the long element will have a disquieting effect on the timing of the utterance. So if every sound is made twice as long as a short sound, the utterance will be twice as long, thus destroying the timing of the utterance: there will not be enough air to complete the sentence. Therefore, the length of the longer sounds must be taken into account when timing a sentence.

Italian is considered to be a syllable-timed language (Ramus et al., 2002, p. 2), yet the language has both long and short sounds, consisting of both vowels and consonants. As mentioned, a mora-timed language is defined as one in which “morae” or multiple sound-length elements are combined and used to subconsciously count utterance length. As such, “Bimoricity (and restricted occurrences of trimoricity) are the result of (i) weight-by-position (the projection of moras by coda consonants) or (ii) stress-to-weight (a bimoricity requirement on stressed syllables)” (Gussenhoven, 2003, p. 182); one of these two conditions is required to establish if a language is mora-timed. Therefore, a description of moraic representations of vowels as part of the lexical phonology of Italian is necessary to understand its patterning and hence musical rhythmic representations.\textsuperscript{128} Italian has been placed in this section for contrast to French and to pair it with Gaelic, a stress-timed language that also displays elements of long and short syllables, which indicates moraic structure in some vowels. This creates a bridge between syllable-timed and stress-timed languages though the feature of mora-timing.

For an example of possible mora-elements in Italian, consider the two words petto and peto;\textsuperscript{129} both are pronounced for the same temporal length. Therefore, the internal timing is important. The word petto may be broken into morae. The initial consonant is generally dismissed in such analyses, and in this case, both initial consonants are of the same length. The e of petto is one mora long while the tt sound is two morae long. For the word peto, the e is two morae long while the t sound is one mora long. The general rule taught to singers is that a double consonant in Italian makes the preceding vowel short. This is somewhat true in the

\textsuperscript{127} The force of air and volume will depend upon the speaker’s mood; however, mood normally stays fairly consistent over the course of several linked sentences. Therefore, the volume of air will be the same, exhalation after exhalation. The air used in communication is subservient to the requirements of the respiratory cycle. This is the underlying principal of timing. Since the volume of air is roughly the same for all exhalations, and the speed of speech (syllable or mora units) is the same throughout extended speech, each utterance must be timed so that there are no syllables or morae remaining to be spoken after the air is expelled, or extra air remaining after the words in a thought are spoken. How the speaker organises syllables or morae of specific length into an exhalation varies by language. It also varies within each language by register (which changes the grammar) and by the size of the number of people listening (which changes the syllable or morae length).

\textsuperscript{128} Gussenhoven believed that Dutch word prosodic structure was impossible if the moraic structure is left unspecified; see Gussenhoven (2003, p. 182). The above section mirrors this to some degree, but is present to demonstrate the importance of length in the Italian and Gaelic languages and how vowel lengthening affects performance.

\textsuperscript{129} This rather rude example is used since a mistake in pronunciation would cause embarrassment. A distinction between the two must be made.
Germanic languages (including English) as well,\(^{130}\) but the difference is that in Italian the double consonant is pronounced twice as long; that does not occur in the Germanic languages. Generally, in a short word in Italian, a vowel that is not followed by a double (dimoraic) consonant is elongated and therefore stressed. Poetically, the combinations of long (dimoraic or trimoraic) and short (monomoraic) syllables are grouped. The groups (here termed neums) are then timed. To see this, consider a pictographic example of Italian mora-timing created by the present author from a song in the vocal *Metodo pratico di canto* of Nicola Vaccai (1999, p. xv), “Senza l’amabile”. Here (below, Figure 4.2) the bimoraic syllables are highlighted in bold:

![Figure 4.2: Syllable-Timing in Italian](image)

Here, one can see that long and short syllables alternate somewhat regularly. Although in this case, the poetry is designed so that there are two short syllables following a stressed syllable; this patterning of long and short syllables grouped together is inherent in the language. Note also that long syllables are roughly twice the length of short syllables. Also note that the feature of stress is a function of length, not volume. This poses a problem for native speakers of English when attempting to sing in Italian. They invariably sing unstressed syllables more quietly than their Italian counterparts.\(^{131}\)

Gaelic seems to share many features with Italian:

\[
\text{Sen – za l’a – ma - bil - e, Dio di Ci - ter - a.}
\]

[neum 1] [neum 2] [neum 3] [neum 4]

\[\text{Figure 4.2: Syllable-Timing in Italian}\]

Here, one can see that long and short syllables alternate somewhat regularly. Although in this case, the poetry is designed so that there are two short syllables following a stressed syllable; this patterning of long and short syllables grouped together is inherent in the language. Note also that long syllables are roughly twice the length of short syllables. Also note that the feature of stress is a function of length, not volume. This poses a problem for native speakers of English when attempting to sing in Italian. They invariably sing unstressed syllables more quietly than their Italian counterparts.\(^{131}\)

Gaelic seems to share many features with Italian:

Within the Indo-European family of languages, Celtic is most closely akin to Italic, and, as we might expect from the geographical position of the Celts when they first appear, there are details of grammar and vocabulary connecting the Celtic and Germanic. (Dillon, 1967, p. 210)

Although Italian is syllable-timed and Gaelic stress-timed, they do share vowel lengthening and may be considered to exhibit some of the traits of mora-timed languages. For example, consider the words to the poem by Alexander MacLean Sinclair for the Antigonish Highland Society entitled “Cumaibh suas a’ Ghàidhlig”\(^{132}\) where the first verse begins with the words *Deoch slàint’ nan daoine furanach/Na Gàidheil rioghall uramach*. Here, the lengthening is

\(^{130}\) Double consonants may make the previous vowel short; one consonant may make the vowel long; consider “shipping” and “shiping”. The additional <p> is affixed so that the infinitive ending will not force the previous <i> to be long.

\(^{131}\) As will be seen below, stress is a function of pitch as well as volume in many languages.

\(^{132}\) *The words are: 1. Deoch slàint’ nan daoine furanach / Na Gàidheil rioghall uramach / Tha cruinn a nochd mar bhuineadh dhaibh, / De dhuinealas gur lán iad. 2. Na daoine calma, cruadalach / A leag a’ choille ghruamach dhuinn / Bu churaidhean’s daoin’ uasal iad / Nan gluasad is nan nàdar.*
hidden somewhat. The word *daoine* (men) is different from *duine* (man) in that the *aoi* of *daoine* is a lengthening of the sound of *ui* in *duine*. Therefore, when spoken, the first line might be represented as a pictograph created by the present author below in Figure 4.3:

![Figure 4.3: Cumaibh suas a’ Ghàidhlig](image)

When this is sung, the secondary stress on *ach* of *furanach* is placed on a stressed musical beat. This results in Figure 4.4, below:

![Figure 4.4: Adjusted for the Music](image)

This pattern is repeated with the next line of *Na Gàidheil rioghaile urramach* with the secondary stress of *ach* on *urramach* shifting to the stressed musical beat.

In the neums above (represented by the largest circles), the neumatic pattern happens to be long-short for the first two neums. As mentioned, the pronunciation of the word *furanach* is altered when sung from the manner in which it is spoken. This is not to be confused with “flattening out” where an unstressed syllable (as opposed to secondary stress) is placed on a musically stressed beat.

Furthermore, the next verse may have a short-long grouping (an iamb) with the accent remaining on the first syllable which is a reverse of the neums shown above. This requires that the length of the note that was long in the previous bar becomes short. This condition was remarked upon by Marianne Jewell, the musical notation transcriber for Effie Rankin’s *As a’ Bhràighe* who warns in Rankin’s work that:

[I]t’s important to understand that the rhythms shown in the transcriptions will not be the same for each of the other verses. This is because in Gaelic song the rhythm of the air is dictated by the lyrics. Each syllable has its own note, long vowels are stressed and held longer than short vowels and accented vowels are longer still. Thus, the rhythm of the air changes in each verse to match the rhythm of the changing words. Although words may be written for an already existing air, words are not made to fit an existing rhythm of the air, or the pronunciation would be faulty.

(2004, p. 189)
The number of morae within the Gaelic neum, at least in poetic speech, seems to be three. Perhaps this is why MacFarlane (1915, p. 79) and Blankenhorn (2003, p. 70) have suggested that the poetry, and hence the language, is in a triple metre, “The results of our survey indicate that Irish poets have, over the centuries, largely preferred triple rhythmic patterns to duple ones” (Blankenhorn, 2003, p. 70). This may also explain why the language is best expressed in some form of compound time (Whyte, 1885, p. viii). It also suggests why compound time has been eschewed by conservative musical social forces in preference to duple metre, which is more indicative of English and the apparent mora-timing of Italian neums containing four morae.

4.2.3 Stress-Timing

As stated above, most Northern European languages are classified as stress-timed; however, the function of unstressed syllables change depending upon whether the unstressed syllables are in quiet narrative song or declaimed song. Therefore, a further analysis of stress-timing is provided. The English language will be used to describe stress-timing, as most readers of the present dissertation are most likely English speakers.

English typically has a predetermined rhythm, and the syllables seem to shift in length to accommodate this beat. The rhythm requires a major stressed syllable roughly every 0.6 seconds. See Figure 4.5, below, for an example of this:

![Figure 4.5: Three Consecutive Stressed Syllables](image)

Additionally, there are normally one or two unstressed syllables near each major stressed syllable. In English, the stress occurs on nouns, strong verbs, adjectives, and adverbs; non-stressed words are often conjunctions, articles (both indefinite and definite), pronouns, and modal verbs. If the number of syllables is increased, the temporal positions of the stressed vowels do not change. Stressed syllables are shortened in length in order to accommodate the inserted syllables. Below is an example of this (Figure 4.6):

---

133 G.F. Händel originally composed “Rejoice Greatly” from his (named by others) Messiah in 12/8 metre. He was persuaded to change it to 4/4 metre because compound time was considered inappropriately pastoral (rural) for a serious religious work. Händel was primarily an entertainer and probably made this change against his better musical judgement.

134 This, and the basis for the following figures in English come from Woods’ Rhythm and Unstress 4, except for Figure 4.8 which is purely the present author’s observations. Woods uses “Cows eat grass” and “Some cows are eating the grass” as examples.
As more unstressed syllables are added, the placement of the stressed syllables does not move. See Figure 4.7, below to see how additional syllables affect timing. Note that the length of the stressed syllable is reduced to accommodate the added space required by the added unstressed syllable.

When one declaims in English, the less stressed syllables increase in volume. This in turn has the effect of pushing the stressed syllables apart like the bellows of an accordion. The overall result of this is to elongate the entire phrase. Here is an example (Figure 4.8, below):

The unstressed syllable in quiet narrative song is shorter than when declaimed. Therefore, since there are fewer syllables that can be spoken in an exhalation of declaimed speech as opposed to conversational speech, the grammar must change in order to express a complete thought within an exhalation.\footnote{There are also other techniques to accomplish this such as inhaling where one would normally pause. This requires a shift in timing as the speaker then considers a partial phrase to be a complete thought. Repetition also}
The differences between Germanic stress-timing and Italian syllable-timing may be reflected in the differences in musical beat-accentuations as demonstrated in the Altenburg method of 1795 (Trompeter Und Pauker-Kunst 1974) and that of Bendinelli of 1614 (Tutta L'art Della Trombetta 1975). The hierarchy of beats (described below) for Altenburg is in variation in volume (f-p), while that of Bendinelli is by the strength of the attack.

4.2.4 Stress and Silent Stress

Whilst silent stress might seem like an oxymoron, it is important to understand this feature if one is counting stresses within an assonantal poem. Blankenhorn has the most lucid explanation of this:

To understand the phenomenon of silent stress in verse, it is useful to draw analogy with music: silent stresses operate in Irish verse, as in English, in the same way that rests do in music [...] to preserve the sense of balance and equilibrium between individual sound units, whether these be equal or of different length, without interrupting the rhythmical flow from one such unit to the next. (2003, p. 63)

Blankenhorn continues with a limerick as an example with the symbol ^ marking the silent stress. Forward slashes precede a stressed syllable:

A/ smiling young/ lady of/ Niger/ ^
went/ out for a / ride on a/ tiger:/ ^
They re/ turned from the/ ride
with the/ lady in/ side.
And the/ smile on the/ face of the/ tiger/ ^ (2003, p. 63).

McCaughey seems to have discovered that if one includes silent stress in dán díreach poetry, not only does syllable counting exist, but stress counting as well (1984).

4.2.5 Pitch as a Function of Stress

What has not been investigated in discussions of Gaelic poetry, or poetry in general, is the nature of stress. Ignoring any type of measurement of stress is convenient as it avoids any contradiction of discussions of poetry that have occurred over the centuries. Fortunately, there are some linguists who are interested in measuring stress and determining its measurable qualities. It is generally assumed by those conducting poetic analysis that stress is a function of volume (amplitude). Whilst scientific experimentation has shown this to be true, modern digital technology and computer applications have also revealed that stress is also composed of pitch markers. The availability of pitch-tracking software has allowed this particular field to blossom in recent years. Volume and pitch are related; increased intensity (amplitude) is dependent upon an increase of subglottal pressure, which in turn is connected to increased airflow and related pressure. So too, increased airflow generally increases pitch. Although it is becomes a factor in communication as the speaker attempts to speak over the ambient noise. For example, the conversational, “I was walking down the street and saw a dog” might become when declaiming, “I was walking. I was walking, down the street. What did I see? What did I see? I saw a dog”. A long sentence of eleven syllables was pulled apart as in Figure 4.8 and made into shorter comprehensible utterances of roughly four syllables per utterance. The length of the conversational sentence takes the same amount of time to speak as any one of the declaimed sentences.

The most prolific and important linguist in the sub-field of pitch analysis of speech in the English-speaking world is Carlos Gussenhoven; therefore, he is rather extensively referenced in this dissertation.
not required to have both an increase of volume and pitch with increased airflow, they are both related to one another.

[When it was first realized that stress is not correlated with overall intensity, it was on the basis of a demonstration that the most powerful cue for the perception of stress is \( F_0 \). In a classic series of experiments, Fry\(^\text{137}\) demonstrated that the contrast between the members of such English word pairs as \textit{pérmit} (Noun) and \textit{permit} (Verb) is most easily signalled by the location of a pitch fall. (Gussenhoven, 2004, p. 17)\]

To my knowledge, the relationship of pitch to poetry has not been investigated to date. The only element of poetry that seems to have been investigated, and a great deal of analysis has been done and for quite a long while, is the concept of stress as a function of intensity. However, the connection between pitch and poetry as a subset of poetic stress analysis has been unexplored. There are a multitude of reasons for this. One is that pitch analysis has not been possible until the modern technological age: discernment of \( F_0 \) is difficult to measure and grade since human aural error is too great. Another is that in modern society, poetry is not spoken aloud to a great extent, but read silently or read aloud using “line readings” which alter normal speech patterns.\(^\text{138}\)

Linguists have recently conducted research into pitch patterning in speech, unfortunately, not in the Gaelic languages. However, since Gaelic is stress-timed, there is a great deal of commonality with English in the manner in which syllables are stressed with regard to pitch. Where pitch shifts occur in an utterance of spoken Gaelic bears directly on where Fenian lay singers shift pitch while singing a lay. Although such an analysis cannot be contained within the breadth of the present dissertation, a general synopsis might prove beneficial.

There are differences between stressed and accented syllables not generally made in poetic analysis; the words are used interchangeably. This is not true in linguistics. Stress is a part of a poetic “foot” which relates to how syllables are grouped together in an utterance. If a two-syllable word has the first syllable stressed with the second syllable unstressed, it is a “trochee”; if the second is stressed and the first unstressed, it is an “iamb”. Gaelic uses the former. The term “accent” is used in linguistics to indicate that not only is a syllable stressed, but that it has a higher pitch. This becomes important when there are two or more stressed syllables in close proximity. In this case, accent may shift from one stress to another to change meaning.

If one becomes aware that stress is often a function of pitch, there is an unfortunate tendency to assign \( F_0 \) values to all stressed syllables.\(^\text{139}\) This would be incorrect. What is more productive is to observe the pattern of stress within an entire utterance and then assign predictive \( F_0 \)

\(^{137}\) From Fry’s “Experiments in the Perception of Stress” (1958).

\(^{138}\) Line reading is the act of reading written text in a predetermined manner. The expression of “giving a line” to someone of the opposite sex originates from actors on stage reading lines, which sounds artificial; it does not refer to a fishing line. Most line reading is identifiable when the words have a hollow sound. The space in the vocal tract is misaligned to the resonant frequency. This makes the sound vibrate the speaker’s head and seems louder to the speaker, but does not create the singers’ formant (discussed in the previous chapter) or feed energy into any other overtone band.

\(^{139}\) Most of the material in this section ultimately has been derived from Gussenhoven. The reader interested in poetry, song, or musical composition should review and thoroughly understand his \textit{The Phonology of Tone and Intonation} (2004). Such linguistic analysis was not created to investigate the bridge between speech and song, but it is useful nonetheless.
values to particular stressed syllables. “[A] stressed syllable is a syllable that has the potential for being pitch-accented. The presence of the pitch accent depends on the position of the word in the intonational structure and on contextual forces” (Gussenhoven, 2004, p. 17). Therefore, in linguistic terms, “accent” refers to pitch accent that occurs on stressed elements, and “stress” refers to part of a metrical foot, which may or may not include pitch accent. The term “accent” is confusing in this context, because in poetic analysis, “accentual verse” refers to stress-timed verse. Here is a table that demonstrates the divisions between stressed elements in an utterance (Gussenhoven, 2004, p. 20), below (Table 4.1):

<table>
<thead>
<tr>
<th>Degree of Stress</th>
<th>Position in Structure</th>
<th>Phonetic correlates, and example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unstressed</td>
<td>Weak syllable in a foot</td>
<td>Qualitative and durational reduction, steep structural tilt e.g., po-[through to]-to in potato.</td>
</tr>
<tr>
<td>Stressed Unaccented</td>
<td>Strong syllable in a foot</td>
<td>Vowels without qualitative and durational reduction. Less steep spectral tilt e.g., caul- and flow-in cauliflower, in the utterance I LIKE cauliflower.</td>
</tr>
<tr>
<td>Accented</td>
<td>Stressed syllable with an intonational pitch accent</td>
<td>Strong syllable in foot, and so like stressed, but additionally with pitch configuration heard as ‘sentence accent’ e.g., caul- in the utterance I like CAULiflower.</td>
</tr>
</tbody>
</table>

Table 4.1: Relationship Between Unstressed, Stressed, and Pitch Accented Syllables

What makes pitch accent difficult to predict by a simple scansion of poetry is that the distribution of stress determines when and where pitch accent occurs. As mentioned in an above quotation, Gussenhoven gives the example from Fry’s experiment (2004, p. 19) of the word “permit”. If “permit” is used as a noun, it is pronounced *permit*; if it is a verb, it is pronounced *per*mit. In the former case, the stressed first syllable is the accented syllable and has a higher F0 than the following unstressed syllable. In the latter case (*permit*), the stressed second syllable is the accented syllable and has a higher F0 than the preceding unstressed syllable.

When a stressed syllable is placed with other stressed sounds in a phrase or sentence, the placement of accent shifts although the stress remains unchanged; for example, one may say, “work permit” (*work permit*). The proximity of the first stress of “work” overpowers the second stress of the first syllable of “permit”; that is, the pitch accent of “permit” (*permit*) is subsumed by that of “work”. Therefore, one may speculate that in a song, the pitch of the accented syllable of “work” will have a higher F0 than the surrounding syllables (provided that any other surrounding stressed syllable will not subsequently take the accent from “work”); the following syllable per of “work permit” will generally either have the same pitch as “work” or a slightly lower one.

Pitch accent also explains the apparent lack of structure in the French language as seen above in Figure 4.1, above. According this figure, French must be a rather boring, plain, and dull form of communication; this is obviously not the case. With an understanding of pitch accent as opposed to volume or length accent, the density of nuance in French can been explored.

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140] In colloquial speech: all dogs are animals, but not all animals are dogs. That is, all pitch-accented syllables are stressed, but not all stressed syllables are pitch-accented.

141] Indeed, the expressiveness of French can be collated with flexibility and number of pitch accents, “There are more pitch accents in French than in English. Delais (1995) estimates that 40 per cent of all syllables are accented
With French, stress is somewhat fixed and is not as malleable as it is in English, so timing by pitch (accent)-counting would be problematic. English and Gaelic, being stress-timed (or by extension accent-timed), would necessarily have fewer stresses; that is, having as many pitch accents as French would make subconscious counting of stresses unwieldy. Because of this feature, stress in English and Gaelic must be more fluid within and between words. So the greater number of pitch accents in an utterance that French requires would prevent timing by accent or stress. Stress timing in English and Gaelic requires a limited number of stresses per utterance and therefore more need of expression realized through shifting stress. This is important in Fenian lays as stresses shift between verses; for example, stress may appear on the third syllable of the first line of the first verse but may appear on the second syllable of the first line of the second verse.

With the stress-timed languages, the hierarchy of values amongst stresses is realised through \( F_o \), and it is the relationships between the stresses that determine where this pitch accent lies. This also determines where pitch change occurs in Fenian lays. For example, when “Teanndachd mór na Féinne” was sung, the pitch rose in the first line on an unaccented syllable (‘San oidhche chaidh Pàdraig ‘na mhùir’). When the first verse was repeated immediately thereafter (presumably because the singer was trying to remember the tune and what pitch belonged to which syllable), accent was changed, and a higher pitch was placed on the stressed syllable (Pàdraig). Simply put, Fenian lay singers wait until stressed syllables arrived before shifting to higher pitches. The question therefore presents itself: do lay singers wait for the accented syllable to arrive to shift pitch, do they shift pitch on any stressed syllable, or do they shift pitches in a syllabic manner as is done in hymns and when “flattening out” as McCaughey (1984) states?

There is one additional feature of linguistic analysis that bears directly on the present dissertation:

[H]igh vowels like [i, u] are pronounced with the tongue high in the mouth [...] As a result, higher vowels will on average be pronounced with higher vibration rates than lower vowels, like [a] [...] The [pitch height] difference is larger in stressed than in unstressed syllables (Silverman, 1987). (Gussenhoven, 2004, pp. 8-9)

From a singer’s perspective, this statement is undeniably false. The close “high vowels” of [i, u] are much more difficult to sing on high pitches than the “low vowels” of [a, ɑ]. Gussenhoven (personal communication, March 15, 2014) confirmed his statement was written as intended. Yet, any singer can verify that singing [i] on a high pitch is much more difficult than singing on [a]. The following vocal example may be used to show this vowel-pitch relationship for singers (see Figure 4.9, below):

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in read speech, while for the same speech style Post (2000) reports a mean distance between accented syllables of 1.74 syllables, which puts percentage of accented syllables at 36 per cent. My own estimate for English is 27 percent* (Gussenhoven, 2004).
There are at least three distinct purposes to the above vocal exercise: 1) Individually re-“place” each quaver so that a new mouth-organ relationship is formed on each pitch; this is due to the tendency of a singer to merely tighten the vocal folds when ascending in pitch – this causes a hollow sound, distorting the resonance, 2) Place a [y] at the beginning of each new vowel which teaches the singer that the vowels are all in close proximity – the tongue’s movement should be minimised, and 3) Learn to direct the resonant action into the “masque”, or create “cover”, which engages the singers’ formant on higher pitches. So on [a], on high pitches, the singer will pivot to a more nasal sound, as in the French mon, on A₄ to B♭₄ (in the above Figure 4.9) or C₃ to D₃ for a baritone. This activates the singers’ formant. In this exercise, which is repeated at increasing ½-step intervals, vowels move from most difficult to produce at high F₀ to easiest.

The obvious difference between Gussenhoven’s assertion and the understanding of singers is that vowels are sung at a greater volume than when spoken. Furthermore, composers of opera were well aware of the hierarchy of vowels ([i], [e], [a]) when composing for the voice. When they are not, singers must create some manner of singing high vowels in a non-destructive manner. This often includes vowel modification; for [i], one technique is to broaden the back of the tongue against the back of the upper teeth which has the interesting effect of making the blade of the tongue disappear into the body of the tongue (this is not felt, but seen). Most similar techniques are devised to compensate for poor musical composition. In folk music, the poetry is often made with a tune already established; the vowels will match the pitch requirements. Since Fenian lays are written without such extreme F₀ requirements, any tune may be used without causing the singer to experience any strain of this sort.

What is significant is that high vowels ([i, u]) requiring high F₀ may indicate the song was sung quietly. Conversely, the presence of a great number of [a, a] vowels on stressed, accented syllables may indicate that a greater volume was required. This would help in the realisation of dán díreach poetry, as there are currently efforts being made to perform such poetry as authentically as possible; tunes are being sought to match the poetry. The truth of Gussenhoven’s statement (which can be verified by other linguistic studies) and its reverse hierarchy known to singers may simply indicate opposite polar positions separated by a volume gradient shift.¹⁴² This suggests a shift takes place between speech and song that can be measured with sensitivity paid to volume.

¹⁴² I have experimented with this. It is quite easy to speak on high [i] at low volume; however, falsetto seems to be engaged. When volume is increased on a high-pitched, spoken [i], the voice breaks, and pitch falls drastically.
4.3. Musical Rhythms

At one time, music was not as uniformly rhythmic as it is heard today. With the rise of instrumental music in the 16th century (Grout, 1980, p. 222), uniformity in rhythmic structure increased. The increased prevalence of musical instruments may be linked to technological advancements and associated urbanisation. Traditional Fenian lays do not display these tendencies.\footnote{There are developments within the corpus of Fenian lay performance that do show such influence. Those changes are clearly identifiable and therefore may be redacted. Such analysis will be performed in Chapters 5, 6, and 7.} Musical metre is so systemic in modern society, that a peripatetic distancing from such proclivities must be accomplished before delving into the mentality that predated predominantly rhythmic music. To achieve this, a world without metre must be imagined. Such a world is implied by the dearth of metric references in manuscripts. “The majority of the songs – notably the melodies for the texts of the troubadours and trouvères and those of the German Minnesang – have come down to us in sources which offer no indication as to the duration of the notes” (Arlt, 1989, p. 55). The absence of rhythm in manuscripts is either the result of the unimportance of rhythm or because the act of writing music, as it originally was for writing words, was to record something as performed, albeit imperfectly. The lack of rhythm in Fenian lays suggest that performances of lays by troubadours, trouvères, Minnesänger, Meistersänger, scops, skalds, baird, etc., were also unmetered since there is no evidence to the contrary. Suggesting otherwise shows an unwarranted attachment to current practices.

However, at least by the 17th century, music began to coalesce around repetitive metres:

\[\text{Not until the seventeenth century did most music begin to be written down and heard in measures— definite patterns of strong and weak beats. At first these patterns were not regularly reoccurring: the use of a single time signature corresponding to a regular succession of harmonic and accentual patterns, set off by barlines at regular intervals, was common only after 1650. By the late Baroque, it had become customary for a composer to establish a distinctive rhythmic pattern at the beginning of a composition or movement, and to hold predominantly to this basic pattern throughout. (Grout, 1980, p. 300)}\]

As instrumental music and instruments became more common, they acted as a fulcrum to pivot singers into positions requiring metered accompaniment. This was often done without regard to the pattern of the spoken word as was bemoaned by Vincenzo Galilei (c. 1520-91) of the Florentine Camerata. He believed that singers singing polyphony, using differing words, rhythms, accents, stresses, etc.,

\[\text{served only to show off the cleverness of the composer and the ability of the performers in a style of music which, if of any value at all, was suitable only for an ensemble of instruments [...] The correct way to set words, Galilei said, was to use a solo melody which would merely enhance the natural speech inflections of a good orator. (Grout, 1980, p. 307)}\]

This was supported by Jacopo Peri (1561-1633) and Giulio Caccini (1550-1618) who were professional (court/lay) singers and created what we now know as recitative; that is, they took the monody of Galilei and added chordal accompaniment, which is different than the sparse obbligato echo of chordophone accompaniment used in the performance of lays.
Therefore, it is quite possible that the development of recitativo in opera was not conceived by composers’ imaginations, but was an adaptation of a pre-existing form of heroic lay singing which was attested to exist throughout Europe prior to the 16th century. If so, recordings of Fenian lays should, and do, demonstrate the same rhythmical characteristics of *recitativo secco*, varied only by the structural differences between Italian and Gaelic. In Italian, the neum often consists of a long dimoraic vowel followed by one or two short monomoraic vowel(s); this had the result of Italian recitative being written in common, or 4/4, time. French is so different from Italian that recitative had to be notated with shifting time signatures. “In aligning the focal points of the poetic structure with the first beat of the bar, bar lengths might vary, necessitating changes of time-signature – in contrast to Italian *recitativo secco*” (Tunley, 2004, p. 33). This is also discussed in *Dictionnaire dramatique* of 1776:

> You do not beat time in recitative, like song, because the metre which governs song would spoil the declamation; it is purely the emotion that must determine how slowly or quickly the recitative goes. When the composer writes the recitative in a predetermined metre, he is merely giving a general indication of whether you should hurry or linger over the words and syllables, and marking the exact relationship between the bass continuo accompaniment and the vocal line. (de Laporte & Nicolas, p. iii)

Gaelic, although similar to Italian, seems to have a tendency of being more easily expressed using neums of three instead of the four of Italian. This triplet metre implies that Fenian lays, if annotated in staff notation, should be expressed in compound time of 6/8, 9/8, or 12/8 time; for a discussion of this, see Hirt (2012).

Expressing speech through musical notation is awkward. Language patterning does not often resolve itself into neat multiples of whole numbers. An accurate analysis of Fenian lays cannot be done using staff notation. Therefore, Fenian lays were analysed using pitch-tracking software that placed time versus frequency on a graph.

Unfortunately, metered music is omnipresent, and I believe it is influencing the manner with which Fenian lays (and recitative) are being sung. In order to disentangle inappropriate musical rhythms that may be subconsciously influencing the performance of Fenian lays, or at the very least, allow for discernment between Gaelic speech and associated rhythmic song, it is important to understand the metres of Gaelic music. The placement of musical stress within a bar follows simplistic and strict rules termed “the hierarchy of beats”.

### 4.3.1 The Hierarchy of Beats

Accompanied music often utilises poetry since poetry is often created to follow simple rhythmical patterns. Prose does not have a simple rhythm; therefore, recitative (or chant) must be used in the musical realisation of prose. When determining the musical rhythmic pattern for a musical composition, the pattern of stresses in the poetry is followed. This cannot occur with Fenian lays since, while there are a set number of syllables per line, the stress placement per line is not regulated. In the following chapters, performers may occasionally appear to be looking for a type of musical template against which they set the lays. This creates a false pattern that alters the poetry by stressing normally unstressed syllables. The rhythmic

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144 This is flexible, as many poems in Italian have a neumic triplet pattern.
pattern that is forced over the poetry is termed the “hierarchy of beats”. It must be briefly explained so that when it appears in a lay, it may be identified.

As differing as the poetic rhythmic patterning may be, beats in accompanied music must be placed in some pattern that can be grasped by all instrumentalists simultaneously. The grouping must be simple, but there is possible variation in simple numeric patterns or combinations (4/4, 3/4, 5/4, 6/8, 9/8, etc.). This variation is termed the “hierarchy of beats” and delineates where stresses and subsidiary stresses are distributed within the larger grouping specified by bar lines.

The basis of the hierarchy of beats is formed on the pattern of strong and weak; that is, a trochee. In some cases, the difference is indicated by volume; in other cases, it is indicated by attack strength. Both are shown, below in Figure 4.10:

![Figure 4.10: Hierarchy of Beats, 2/4 Time](image)

By extension, if this grouping is doubled, the second element will now be less stressed than the first. This requires a reduction of each part of the first element for the second, so $f$-mp becomes mf-p. This produces the following sequence (Figure 4.11, below):

![Figure 4.11: Hierarchy of Beats, 4/4 Time](image)

Therefore, the stress is on beats one and three, the third beat is less stressed than the first. The secondary elements of beats one and three (two and four, respectively) are less strongly stressed. All upbeats are stressed less strongly than their corresponding downbeats.

In three-quarter time (3/4), the stressed beat is the first beat. Both beats two and three are less stressed than the first beat and are stressed somewhat equally; see Figure 4.12, below:

![Figure 4.12: Hierarchy of Beats, 3/4 Time](image)

This pattern may also be represented by quavers and placed in 3/8 time. If this pattern is doubled, there will be six beats in a bar, and as in Figure 4.10 which when doubled became Figure 4.11, the second element will be stressed less than the first. This creates a pattern based of quavers and is now considered “compound time” (see Figure 4.13 below):
This matches Figure 4.10, but each beat is subdivided into triplets. Also, the second and third quavers of the first group must be less stressed than the next triplet group. Therefore, they are quieter or more gently struck than the first beat of the second triplet group. This is difficult to show in notation. If this pattern is continued, there may be three groups of three (Figure 4.14 with triplet subdivisions) or four groups of three (Figure 4.15 with triplet subdivisions), shown below:

In art music, composers then would choose the musical system that suited the rhythm of the words the closest; they would then write the music to match the rhythm of the poetry. In Gaelic music, the tune in rhythmical form is created first, the poetry is made to fit. In either case, problems can arise when the poetry is not written to match any of the musical forms described above, is not consistent from verse to verse, or when a musical rhythmic form is used with disregard for the rhythm of the poetry. This latter case is prevalent in art music, as composers compress or elongate a word drastically when setting poetry to music. Examples of this mismatching may be seen in G.F. Händel’s compositions. Händel was trained to compose in the Italian style; therefore, his musical patterns match the Italian language. He was also a native speaker of German and did not have a firm grasp of stress patterning of the English language. So when Händel set English words to music, he misplaced the stress on English words and extended stressed syllables longer than is normal in English. Händel’s Messiah displays a plethora of such errors. For example, he used the musical setting of “No, di voi non vo’ fidarmi” for “For unto us a child is born”. The Italian words were expertly matched to the hierarchy of beats; word stress and even F₀ accents were represented accurately. However, the English rendition placed the short, unstressed word of “for” on a long, stressed beat and placed the unstressed “unto” on a stressed beat. Dissimilar syllable and musical stress occurred throughout the work.

There are certainly more types of hierarchies based upon polyrhythms (or hemiola) and upbeat stresses. As long as the words and their stresses are arranged into an acknowledged pattern, there is a synergy and comprehension. When words are not matched to rhythms well, Mondegreens are created in the minds of the listeners. This is accelerated if a false musical pattern is superimposed and “flattening out” occurs; that is, an unstressed syllable might be placed on a musical stress (McCaughey, 1984, p. 50). Modern examples of word and musical mismatching include “I’m not talkin’ ‘bout m’ linen” for “I’m not talkin’ ‘bout movin’ in” from the song “I’d Really Love to See You Tonight” as sung by Dan Seals (Dan, Coley, & McGee) or simply awkwardness when flattening out occurs, such as when Cher sings “I can feel
something inside me say I really don’t think you’re strong enough” from her song “Believe” (Higgins, Barry, & Torch). Fortunately, confusion of stress placement is rare in Fenian lays. However, when a singer does not understand the word, stress may be misplaced. Because melody varies by accent placement, this can change the melodic pattern of a Fenian lay. As McCaughey points out, “The conclusion must however be that singers of the twentieth century show a general tendency to increase tempo in performance and rhythmically to ‘flatten them out’” (1984, p. 54). There is also a tendency for collectors to force Fenian lays into regular metres when transcribing them (Shields, 1993, p. 19).

4.3.2 Gaelic Poetry and Prose and the Musical Beat

Poetry may be viewed as simplified speech made to match a rhythmic structure. Yet, prose has a rhythm as well; it is simply complex. If prose is sung, it is necessarily less constrained by its inherent rhythmical context. Yet, poetry in Gaelic tradition is also less of a slave to an imaginary art music Band-in-a-Box® (Gannon, 1988) drummer incessantly pounding out a rhythm. The sung poetry of Fenian lays is no exception to this. There are numerous references to Fenian lays and other sung music in Gaelic (salm/psalm singing, sean-nós, etc.) being of a flexible nature. This is a deeply rooted behaviour that, although now being overwhelmed by modern rhythmically metered music, can be seen in the grammar and vocabulary of the language. For example:

The study of performance is of course made difficult by the fact that Gaelic used, and generally still uses, no verb ‘to sing’ which is distinct from ‘to tell’, while amhrán, the modern Irish noun that translates ‘song’, in older usage applied specifically only to songs in stressed metre, and so not to lays. (Shields, 1993, p. 15)

Fenian lays span the spectrum from rhythms based entirely on speech patterns to those of fixed metre.147

145 Although there is no room in the present dissertation to explore this, it is my opinion that the existence and subsequent development of poetry is due to the desire of the speaker to create a magic spell or incantation.

146 There are a myriad of sources to support this in the work by Shields (Shields, 1993), Bruford (Bruford, 1990), MacInnes, Ó Riada, et al. including Allan MacDonald of Glenug (1995). Unfortunately, space in the present dissertation prevent inclusion of such supporting material.

147 Bruford supports this, “In brief and without musical technicalities, the [singing performance with regard to rhythm] possibilities can be described as follows: (1) The method some might prefer to believe in involves singing the words virtually in their natural speech rhythm, like recitative, to a fixed series of notes, more like Anglican chant than plainsong. […] (2) In other cases the words were fitted to a tune with a regular beat without losing the natural stress pattern, by exploiting the ability of triple time - usually 6/8, like a slowish double jig, but in at least one case 3/4, like a minuet - to accommodate virtually any normal speech rhythm. (3) The conventions of the metre best known from the waulking songs, which I propose here to call choric metre, might be applied. These exploit the tension between a strong musical beat and a more or less syllabic metre, creating stress patterns which may be quite opposite to those of speech - the so-called ‘wrenched stress’. […] (4) The majority of recent recordings in practice display a hybrid between two or all three of these treatments, most often (2) modified by (3). It is, of course, impossible to prove that any of these is a survival of medieval practice, and quite possible that more than one may have obtained at different dates and places. Nor can we rule out the possibility that there may have been other techniques, for instance a slower and more ornamental use of a rhythmic chant than Scottish technique (1), which might be an ancestor of the so-called sean-nós style in modern Ireland” (1990, p. 63). Bruford is incorrect in stating that it is impossible to prove that the narrative aspect of Fenian lays are “a survival of medieval practice” since they match the free rhythm of syllabic religious chant, which were sung syllabically from the early Dark Ages and developed thereafter into neumic and melismatic chant. Fenian, and other, lays may also be seen to be the basis of recitative; the lays were altered by the 16th century court lay singers Caccini and Peri with the addition of choral progressions into recitativo secco; this implies that Fenian lays pre-date and were the genesis of recitative. As such, they must have been common at least two centuries before recitative was developed. Indeed, lay singing is well attested in the Middle Ages.
It should be noted that the closer the performance pattern is to speech, the greater the communicative affinity with the audience. So, just as there are different phonemes between languages, so too there are different stress-patterning and length accentuations in the poetry and hence the music accompanying the poetry. For example, if a bagpiper not only knows the Gaelic language but also tries to mimic Gaelic speech in piobaireachd, that player will more closely match speech patterning. Listeners will recognize this. If non-Gaelic speaking instrumentalists attempt to replicate spoken patterns, they fail since they impose false rhythms and have inaccurate articulations. For example, here is a paraphrase of an analysis (Kennedy, 2002, p. 203) between the oft-sung and played “Mary’s Wedding”, and the Scottish Gaelic “Mhòrag bheag nighean Mhurchaidh an t-saor” (little Mòrag, daughter of Murdock the carpenter), where the pattern of stressed “^”, secondary stress “~” and unstressed “-”:

Step we gaily on we go...

^ - ^ - ^ - ^

Mhòr-ag bheag nigh-ean Mhur-(ø)chaidh an t-saor...

^ - ^ - - ^ - - - ^

In this example, the pedantic English version is deliberately regular, yet in contrast, the Gaelic version has a great many subtle rhythmic variations; these variations help to drive the music forward even though the player is not attempting to play quickly. That is, the music sounds bright and gay, but the instrumentalist is not attempting to play quickly but with articulatory variations.

Musical analysis of Fenian lays from a modern art music perspective is ineffective since metered music has overwhelmed European art music and lays are not metered. As Shields mentioned, “Though ‘singing’ may seem the only alternative to speech, we have to notice that performance of the Fenian, and other narrative, lays is not commonly referred to in tradition by musical terms” (1993, p. 15). Therefore, the telling question may be: “is it possible to prove that Fenian lays do not display medieval (or earlier) practices”? Since analysis has always been from a metered perspective, the answer to that question is “no”. If one sums the performance practice elements of Fenian lays including the presence of the natural scale, syllabic melody (one note for each syllable), subject matter, register usage, and syllabic poetry, there is no evidence to the contrary except the increase of modern metered practices.\footnote{This was noticed by the present author when re-setting Henry Whyte’s The Celtic Lyre (1885). These were a re-setting of sixty-eight songs using modern notation software (Sibelius® was used since the sol-fa plug-in was required which was absent in Finale®). Almost all displayed the characteristic of the natural scale, but more importantly, the rhythmic treatment was deeply flawed. Since Whyte provided an English translation to the songs, apparently the triplet nature of the songs was changed in many cases to simple duple time (often common, 4/4 time). This was discovered because the English was omitted in the new setting which allowed other Gaelic verses to be set under the music and aligned with the musical note-heads. The syllables of the new Gaelic verses did not fit the rhythmic pattern. A time-consuming search had to be made to find the songs as they were sung in the Gaelic culture; this proved difficult as many of Whyte’s verses were penned by Whyte and not in circulation. However, the tunes were well known. Whyte undoubtedly knew the tunes and wrote the words to fit the tunes. Once the tunes were found and placed in compound triple metre, Whyte’s words fit in with little difficulty. The only exception was the song “Mo nighean donn, bhòidheach”, which was in a simple duple metre. Most lines consisted of six, nine, or twelve syllables with two, three, or four (or more) stresses and subsidiary stresses. There was also neumic grouping.}
Conservatory notational practices are often at odds with the manner of performance of Gaelic song. Since there is vowel-lengthening on certain syllables in Gaelic, note length will shorten or elongate from verse to verse regardless as to how it is indicated in notation. As Marianne Jewell states of the song “Bha mi raoir gu sunndach, sunndach” (“Last Night I Was Merry, Merry”):

It is important to note that in the transcription of this song the rhythm patterns contained in the air correspond to the words of the chorus. As the long and short vowels and their accents in the words produce the rhythms in Gaelic song, each verse will differ rhythmically according to the words used. (MacEachen & Watson, 1998, p. 2)

This is supported by traditional sean-nós (lit. old manner or style) singing customs; as Seán Ó Riada contends:

It is not permissible for a sean-nós singer to sing any two verses of the song in the same way. There must be a variation of the actual notes in each verse, as well as a variation of rhythm. What makes one sean-nós singer better than another, more than anything else, is his ability to do this better. (1982, p. 24)

Once it is established that Fenian lays pre-date metered music and are inherently narrative, albeit often altered by contact with modern metric proclivities, there is then a question of how the lays are altered by volume. That is, how do the musical rhythms change as the singer shifts from conversational volume to declaimed volume? Are there any changes in quality such as overtones and vibrato? Do they show unstressed vowel elongation as described in Figure 4.8? Does this unstressed vowel elongation affect the grammar of the language and act as an indicator of the shift from informal to formal speech? Such questions will be addressed in the following section.

4.4. Spectrums of Pitch, Rhythm, and Volume

There are at least three separate continuous systems that are in progress that explain musical patterns, or lack thereof, in Fenian lays. One system explains why pitches ascend and then descend in an utterance. One delineates the rhythmical progression of language from prose to poetry. One specifies the change in language as the vocalist becomes louder. This is linked to the resulting grammar of fewer syllables per utterance, which is a reflection of the increasing importance of the social situation.

4.4.1 Pitch Spectrum of the “Musical Hill”

There is a pattern of pitch patterning of low-to-high-to-low that is evident in many songs and is certainly present in most religious chant. This pattern seems to trace a bell-shaped curve, a “pitch-hill”, or a “musical hill”. This characteristic is too consistent and repetitious to be detached from an organic activity. It is quite possible that it is directly linked to the uneven manner by which people breathe. The flow of breath in mammals is not consistent, but rather varies over the exhalation period. Due to the Bernoulli Effect (also known as the Bernoulli
Principle), increased airflow results in overall lower pressure at a constriction (vocal folds),\textsuperscript{149} which increases overall frequency. It also has an effect on volume (dB – decibel amplitude) as well. Moreover, the speed which syllables are spoken also varies: mean syllable length will decrease toward the middle of an exhalation and then elongate thereafter; that is, people will increase their speaking speed toward the centre of the exhalation and then slow down for the remainder.

Below is a partial set of diagrams of transglottal airflow for various types of phonation (pressed, normal, high flow), see Figure 4.16, below (Leanderson & Sundberg, 1988, p. 9):

![Airflow vs. Time (litre/sec)](image)

The information to the right in Figure 4.16 is a measurement of subglottal pressure (P), sound pressure level at 0.5 m (SPL), and estimated projected peak glottal area (EPA) for each condition.

Therefore, following the Bernoulli Effect, when a person begins to speak, the pitch generally begins on a low frequency because the airflow begins at a low velocity, albeit with generally higher subglottal pressure than the ending of a phrase; as the airflow and subglottal pressure increases toward the middle of the exhalation, the pitch will rise. It should be noted that loudness, measured in decibels (dB), is often a measure of subglottal pressure, but both work in synchronous with airflow. One generally cannot produce loud vocalisations without great airflow over the vocal folds. Therefore, loudness (which is linked to airflow) and pitch are related. This can be seen in the following diagram below, Figure 4.17 (Dromey, Carter, & Hopkin, 2003, p. 171), which is from an experiment to measure vibrato:

\textsuperscript{149}The Bernoulli Effect is normally used to explains why vocal folds vibrate; in the present context, the suggestion is that the greater the overall airflow, the faster the rate of vibration. The lesser the pressure and airflow, the lower the frequency. Most studies incorrectly assume that the rate of airflow is consistent throughout the exhalation.
Here one can see that Amplitude Modulation (AM, in dB) is matched to Frequency Modulation (FM, in Hz.). Although this is on a micro-level, the relationship of volume to pitch is also true on a macro-level.

As the speaker nears the end of the utterance, the pitch drops since the airflow velocity (and subglottal pressure) decreases. Gussenhoven believes that when speaking, initial pitch will be higher than at the end, and the ending pitch is most often at a low pitch, “[A]t the beginning of the exhalation phase, subglottal air pressure will be higher than towards its end. A natural consequence of the fall-off in energy is a gradual drop in intensity, and a weak, gradual lowering of the fundamental frequency” (2002, p. 51). This implies that the interplay between airflow and subglottal pressure makes the pitch contour at the beginning of a phrase much more variable than the end. Therefore, it seems more logical to define ecclesiastical chant modes, which imitate speech patterns, by their ending pitches.

The overall pitch sequence of low-to-high-to-low is a deeply rooted behaviour and is reflected in the way that instrumentalists play scales when rehearsing (low-to-high-to-low, not high-to-low-to-high). The Church authentic ecclesiastical modes used in singing chant match this pattern. As mentioned above, the more stressed/accented the syllable, the higher its pitch in relation to adjacent pitches will be. However, this fluctuation of $F_0$ due to stress/accent is in relation to the bell-shaped curve of this general pitch-line. So $F_0$ does not fluctuate according

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150 The reader might be reminded of the difference between AM and FM radio signals and the benefits and disadvantages of both.
to stress/accent along a flat frequency line but along a bell-shaped curve of frequency.\textsuperscript{151} This is supported by the analysis of the Fenian lays, as will be seen in Chapters 5, 6, and 7.

There is also the tendency of melody in ecclesiastical chants, and occasionally Fenian lays, to exaggerate the manner in which people speak phrases through inflections (here, the word “inflection” is meant as a singer means it, with a pulsation/swelling into the nose after onset). This is accomplished by delaying the highest frequency point of the accented syllable. So on a stressed syllable, the pitch may be raised if accented, but if the first note is the first element of a neum or a melisma, the following note will be on a still higher frequency. This obviously cannot occur with syllabic music. Since Fenian lays are normally musically syllabic, but occasionally include musical neums, it might be appropriate to define the terms. Hoppin does this succinctly:

Particularly in free composition, these degrees are indicated in a rough sort of way by the terms syllabic, neumatic, and melismatic. Syllabic melodies have a single note for each syllable of text and are therefore the simplest in style. Neumatic (from the neumes of plainchant notation) implies that each syllable will be set to a neum—a group of from two to five or even more notes. Longer passages sung to a single syllable are called melismas, and hence a chant with several such passages is melismatic. Quite obviously, no sharp dividing lines separate the styles designated by these three terms. The difference between one note per syllable and more than one is clear, but the precise point at which neumatic style becomes melismatic can scarcely be determined. Moreover, many chants contain a mixture of two, or even all three, styles. Some chants, chiefly antiphons, are almost completely syllabic, but even they may have several syllables with two or three notes. Predominantly neumatic chants, on the other hand, may have both short syllabic passages and a few longer melismas. Despite this indefiniteness, the terms prove useful in describing the general gradations of melodic style from extreme simplicity to utmost elaboration. (1978, p. 78)

I define a neum as a syllable that consists of two or three notes. It occurs in folk music when a transcriber will interpolate a note of the diatonic scale into the notation when the singer slides from one note to the next singing a tune in the natural scale.\textsuperscript{152} For example, if the singer sings G\textsubscript{4}-E\textsubscript{4} syllabically, the transcriber will write G\textsubscript{4}-F\textsubscript{4}-E\textsubscript{4}, with the syllable sung on G\textsubscript{4} becoming a neum of G\textsubscript{4}-F\textsubscript{4}. This happens consistently.

Creating a neum with the following pitch higher than the initial pitch gives the impression that the inflection of a stressed syllable is broadened and exaggerated. This is true in speech as well:

A higher pitch peak will take longer to reach than a lower one, if rate of change is the same. Therefore, higher peaks will tend to be later than lower peaks, as suggested by [Figure 4.18]. Speakers and listeners have tacit knowledge of this mechanical connection, providing them an opportunity to bring it under control. Peak delay can therefore be used as an enhancement of, or even a substitute for, pitch raising. (Gussenhoven, 2002, p. 52)

For example of this, see below, Figure 4.18 (Gussenhoven, 2002, p. 52):

\textsuperscript{151} Not to belabour this point, but it is confusing because there are two variables that are changing simultaneously. As an example, consider exhaling and pronounce the gibberish, “It was a work permit that worked the work permit” (roughly saying “work permit” three times). The stress/accent will be “It was a work permit that worked the work permit.” Because of the bell-shaped curve of airflow/frequency, work\textsubscript{2} will often be of a higher pitch than either work\textsubscript{1} or work\textsubscript{3}.

\textsuperscript{152} For a full discussion of this, see Hirt (2012).
This delay in $F_0$ peak may have a corollary in plainchant. Perhaps a pitch of a neum, once defined, if then raised, may indicate that its syllable is longer than surrounding syllables or that it is the primary accented syllable in an utterance. This has a parallel in speech, “[L]ate peaks sound more prominent than early peaks. Strictly speaking, this is a two-step inference on the part of the listener: (1) high peaks can indicate wide pitch span, and (2) late peaks can indicate high peaks” (Gussenhoven, 2002, p. 50). There are copious examples of this behaviour in plainchant. For example, Figure 4.19 (“Laus Deo Patri,” 1961, p. 914), below, shows how the pitch is increased on syllables after they have been sung; it is for the fourth antiphon for Trinity Sunday of the Liber Usualis (“Laus Deo Patri,” 1961, pp. 914-915). The neum draws out the inflection. This condition in the figure has been indicated with red lines.

Note that in this fragment, each neum is only two notes long in the phrase and there are six of them (four circled because they ascended in pitch; two descended in pitch). The addition of neums may also have a mathematical analogy. In mathematical terms, there is a procedure used to estimate the area under a curve; rectangles are placed under it since it is simple to multiply the width by length of each rectangle and then add the area of each rectangle to approximate the area under a curve. However, what if the rectangles are made too wide? The result will not be as accurate as possible; however, if the rectangles are made thinner, the approximation is closer to the true value. This process may be made analogous with musical chant; an intervening note can be added between two notes separated by a great distance on the “musical hill” in order to minimise a large frequency span. However, the number of syllables in the phrase is fixed. Therefore, gapping the large pitch span between two notes on

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153 This research was facilitated by the Single Interface for Music Score Searching and Analysis (SIMSSA) project (https://simssa.ca/), which digitises music notation and makes electronic Optical Music Recognition (OMR) possible. This is similar to Optical Character Recognition (OCR) which is used in internet search engines. Using OMR allows researchers to search pitch sequences from notational sources that span centuries.

154 Calculus solved the conundrum of a horizontal edge never exactly titling to match a curving function. Unfortunately, finding the formula for a curve and its differential equation can be extremely difficult. Modern computer applications, being integral with digital processes, simply make the rectangles exceedingly narrow.
two syllables requires that one note and an added, intervening note be sung to the same syllable as the first. In a like manner, if a singer comes to a great pitch-shift in the “musical hill”, the singer can simply carve a step in the hill, creating a new ledge (pitch) between the low and high extremes. This occasionally occurs in Fenian lays

At the end of a phrase, the airflow diminishes and therefore the pitch must decline as well. This correlates to “declination” in normal speech frequency patterning. “Declination” is an element of the “Frequency Code” as proposed by Ohala (1983) where it was found that there was a consistent pattern across languages where questions were indicated by consistently high or increasing frequency, or decreasing (declination) or low frequencies for statements. Therefore, most statements end on low pitches and can be defined by the ending pitch-element. Therefore, chants, and Fenian lays by extension, may be primarily defined by the ending pitch or final. “[M]odes are octave species characterized by different arrangements of whole and half steps around dominant and final notes. To identify the mode of a written melody, the final, dominant, and range are the important determining factors, in that order” (Hoppin, 1978, p. 67).

If the singer begins on a pitch roughly equal to the ending pitch (final), the pitch will often rise about a fifth (as one does when speaking) termed the dominant or reciting tone; the chants then descend to the ending pitch. This pattern correlates to an “authentic” mode. If the singer starts below the final (approximately a fourth) and ends on the final, it is a “plagal” mode and is identified by the “hypo” prefix. The final is the same whether authentic or plagal, as is the dominant. Only the beginnings change. There are certainly variations on this basic pattern where the beginning and ending pitches may be higher than the body of the syllables in an utterance, but that seems to occur mainly in excited speech. This may be due to higher subglottal pressure (which in this case results in higher frequency) at the beginnings of phrases, especially when the speaker is exited. This system is the same for Fenian lays. The only significant difference is that the finals are generally only those of the natural scale. Since the natural scale is not octave-equivalent, each note of the natural scale is its own final. D₅≠D₄ (D₄ does not exist), F₅≠F₄ (F₄ does not exist), C₅≠C₄, E₅≠E₄, G₅≠G₄, etc.

The terms “chant” and “hymn” are generally used in a religious context. The primary difference between chant and hymn is in the structuring of the words. This then causes musical melodic variation in the chant melody. With chant, the words are narrative with stress and accent placed at various locations in the utterance. This requires flexibility in placing the higher pitches on accented syllables which may vary from verse to verse. If the embellishment of pitches is used with poetry as displayed in hymns, it is possible to create melody (a tune), which is not possible with chant. This is because the pitches of chant must repeatedly change since the stress, and hence the ultimate F₀ will change from line to line and from verse to verse. With hymns, repetitious melody can be established because stress has been regulated in the poetry. This, then, is what differentiates religious chant from sung religious poetry. It therefore makes sense for Church officials to dissuade the use of hymns and carols if the words, displayed through prosaic grammar, are considered pre-eminent.
A few questions then arise: are Fenian lays secular chant or secular hymns? Are Fenian lays religious? Did the early Christian Church deliberately create musical forms in order to be different from a competing pagan ethic or did they adopt them?

4.4.2 Rhythmical Spectrum of Prose to Poetry

In order to investigate the narrative nature of Fenian lays, it might be appropriate to consider the difference between poetry and prose in sacred and secular contexts. As prose is progressed into poetry, the natural pattern of speech is forced into a trochee or iambic pattern that places the stress at regular intervals. This requires that the grammar and vocabulary of the language change. By examining the religious music of the early Christian Church in Europe, one can then compare it to secular music. Thus, confusing terminology applied to Fenian lays may be clarified.

If one attempts to set prose to music, that is, raise the register of the prose through the ornament of delineated pitches in music, one simply needs to speak a phrase, identify the pitches on those spoken syllables, and speak that pitch for the entire length of the syllable, instead of sliding up or down to the pitch of the next syllable. Making discrete pitches from a slur of sounds made when speaking is what defines “singing”. It is somewhat analogous to finding the area under a curve by imagining rectangles under the curved line, or setting a sampling rate when digitally recording music. In essence, music is quantised or digitised speech by frequency (Hz.) and length. In order to understand this, the nature of pitch sequencing in the spoken language must be explored. Then, the fluid line must be carved up into manageable lengths, much like cutting steps into a hill. This is how Fenian lays are sung. The difference between modern song and Fenian lays is that with modern song, the “run” is an equal distance apart and “rise” at an exponential rate. Each “tread” of a Fenian lay carved into a “hill” occurs at a different place, the “runs” are of different lengths, and the “hills” of each verse are all shaped differently; also, the “rise” are multiples of the same number (not exponential).

Both Christian chant and hymns have secular counterparts. Where secular forms are placed in this context is somewhat confusing, but only so due to common misconceptions. A lay, Fenian or otherwise, is a poem. It is therefore the counterpart to the Christian hymn. What makes Fenian lays unique is that, even though they are lays and therefore poetic like religious hymns, they are not sung with rigidity of rhythm or pitch. They sound as though they have the flexibility of chant. This is in part due to the fact that even though syllabic, the stress (and accent) varies in placement by line. For example, the second line of verse one may have a stress on the third syllable. The second line of verse two may have a stress on the fourth syllable and an unstressed syllable on the third syllable. Therefore, the third syllable in each verse will either be loud or soft, long or short, high or low (in pitch). The faithfulness of maintaining these distinctions with disregard to exaggerating the repetitive rhythm is what makes Fenian lays sound like chant. Moreover, lays are hymns that have maintained the original tradition of speaking poetry without exaggeration. That is, the words are more important than any

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155 “Rise” and “run” are terms for the placement of treads on a staircase. “Rise” is the height of each tread (top surface of a step of a stair) and “run” is the length of the tread.
ancillary structure. This has perhaps been maintained due to a lack of musical accompaniment. This feature therefore is an indication of how all lays were sung by troubadours, trovères, Minnesänger, Meistersänger, skalds, scops, baird, etc., before more modern rhythmical forces overwhelmed speech rhythms, won the conflict, and wrote musical history.

One counterpart to Christian chant in secular form that survives today is in the form of recitativo secco, or “dry recitative”. This style of accompanied solo singing imitates the rhythms and tones of speech. Whilst it was thought to originate in an attempt to imitate the music of Greek theatre, it probably made use of the narrative aspect of lays sung at court. Indeed, the first operas were written as recitative in their entirety. The first operas known to exist by name are Dafne by Jacopo Peri in 1598 and Euridice in 1600. Both are lost. They consisted of lightly accompanied vocal melody closely imitating speech. Claudio Monteverdi, composed Orfeo, in 1607; it had orchestral accompaniment.

Fenian lays are often investigated by trained musicians who unfortunately do not see the connection between Fenian lays and recitativo secco. This is uniformly due to the lack of knowledge of how to sing a recitative. The written form is only a template, a reflection of how the recitative was spoken loudly (declaimed). Since Italian is syllable-timed but with many features of mora-timing, the prose of the language used in early opera was somewhat as in Figure 4.2; that is, it was grouped in a neumic pattern. Therefore, when composers eventually committed the recitative to notation, it was placed between common time (4/4) bars. Stressed syllables were placed on beats one and three, or if there were two strong beats consecutively, they might be placed on beats one of one measure and beat one of the next measure. Intervening notes were made half the length of the stressed syllables’ notes and placed between the two stressed notes. If there were not enough notes to fill up the space between the two stressed notes, rests were added.

The danger of attempting to re-create a performance practice by reading extant works is that in a literate society, it is generally assumed that the composer created the performance entirely by imagination and then specified it through written notation. Nothing could be more

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156 It is often the case that directors and conductors insist that the written notation of the recitative be followed exactly. This is particularly true in the Commonwealth nations where with the demise of such narrative lay performances as Old English “Beowulf”, “Widsith”, and the “Cædmon”, musically declaimed text was no longer present in society. It had to be re-introduced through the medium of Italian opera. Since there was no narrative musical form remaining in British society, there was nothing to which musicians could compare recitative. This includes Anglican chant which is often narrative but is sung by choirs and most often in harmony. This disguises its free-flowing nature and constrains the singer’s expression. Therefore, if one compares spoken, declaimed liturgical text with that same text as sung in a recitative, perhaps Händel’s Messiah, one would see that during the recitativi secci sections, the singer does not pronounce the sung syllables at the same length as when declaiming the syllables. That is, the values of the written notes influenced the singer’s delivery. This is not appropriate, as the written notation is only a rough guide to the rhythmic pattern of the words.

The ultimate failure of historically correct performance practice of recitative lies with the social hierarchical system of instrumentalists’ authority deriving from the composer. The highest-ranking instrumentalist attempts to meet the artistic expression of the composer. This person is often not a singer or linguist and has no language training. When the composer’s intellectualisms fail, the singer (having intellectual authority but not social authority) is not allowed to correct the music to express the meaning of the words. Furthermore, preconception of linguistic patterns results in poor communication; that is, it creates line readings. If the singer is not allowed rhythmic flexibility with accompanying musical shifting to meet the varying rhythmic variances of the singer at every performance, the message becomes one of pleasing sounds instead of linguistic communication.
incorrect. The performance milieu of recitative was already in existence, but it was simply described using a different name; both Peri and Caccini were adept in singing heroic lays. They simply adapted the narrative manner of delivery by adding, eventually, figured bass and ornamentation. As *The Great Soviet Encyclopedia* (2010) defines as “recitative”, “The recitative is an outgrowth of the style of performing epic musical poetic works in folk singing. The emergence of the recitative in professional music was associated with the development of opera in the late 16th and early 17th centuries”.

Secular hymns are often described as being songs. This would make sense, as songs today are poetic. Were they always so? Perhaps not. It might be possible that the term “song” was once used to describe not lays or secular hymns, but secular chant, much like recitative but without accompaniment. This has an opposite parallel in Gaelic music. *Amhrán* are sung poems with repetitive stress, like religious hymns; the term *amhrán* is rather old, as it appeared as *abhrán* in poem XXVII (attributed to Gilla na Naem O hUiging .cc.) in the encomiastic *duanaire Leabhar Méig Shamhradháin (Book of Magauran)* c.1362.

Fenian lays are without the feature of regularly occurring stress, yet are syllabic. They are therefore quite similar to *dán díreach* poetry, and it is assumed that audio recordings exhibit many qualities as to how *dán díreach* was performed. As sung English prose became more poetic, songs took on the regularly occurring stressed and syllabic nature of hymns; the word “lay” probably fell into disuse as sung poetry began to display the ornament of end-rhyme more often. If one investigates the development of how recitative began to be alternated with arias in opera, the growth of arias (and in the modern sense, songs) can be seen. In essence, Fenian lays are not hymns since they do not have regularly occurring stresses, and they cannot be set to a simple tune without the deleterious effects of “flattening out”. Yet, because they are poetic, they are not recitatives either. What they do display is a flexibility in melody as each verse shifts, due to the number of stresses and their placement, within the same line of different verses.

To create a modern song, the poetry must be finely crafted so that stresses appear in the same position from verse to verse. This is difficult. It is especially difficult if there is a great number of words that must be said in order to tell a story. Therefore, early art music composers and lyricists created an ingenious symbiosis. They would take the most important thought in a paragraph of speech and create a poem with that thought. This requires a great deal of effort. Then they would create a tune that would fit each line, often in four or eight bar units. Because it is arduous, there might be only a few lines set in this manner, but to extend the music, the music would repeat the same words with melodic and harmonic variation. Although disregarded by many listeners inured to it, this repetition can be quite incessant. For example, if one were to write out the words to an aria without the music, the repetition becomes apparent.\(^{157}\)

\(^{157}\) For example, consider the aria to “The Trumpet Shall Sound” from Händel’s *Messiah* is, “The trumpet shall sound and the dead shall be raised, and the dead shall be raised incorruptible. The trumpet shall sound and the dead shall be raised, be raised incorruptible, be raised incorruptible, and we shall be changed and we shall be changed. The trumpet shall sound, the trumpet shall sound, and the dead shall be raised, be raised incorruptible, be raised incorruptible, and we shall be changed, and we shall be changed, and we shall be changed, we
One of the techniques used to extend the music without seeming to be repetitious is to vary the volume of the words when repeated. For example, the first eight bars might be sung *forte*, while the repetition of the same words with the same music might be sung *piano*. This extends the music without causing the composer to create new notes and harmonies. That is, the music can be made to fill up more time without the composer spending precious time in creating new music. This *forte-piano* repetition is not present in folk music; however, dynamic shifts are most assuredly a component of Gaelic song.\(^{158}\)

Composers would then juxtapose such an aria, duet, or chorus to a recitative. In time, the sharp delineation between the free rhythm of a recitative and the exact metricated aria was found to be too abrupt. Therefore, a dry recitative might be migrated to *recitativo accompagnato*; that is, a part of a recitative might be made rhythmic so as to blossom into a louder section or an aria or chorus. Eventually, composers such as Puccini decided to revert to the origin of opera being completely monodic, that is, one long recitative but with complex musical accompaniment.

There seems to be a symbiotic relationship today between sung poetry and instruments that was relatively rare in the past. Given the extreme poles of recitative/chant to aria/song, Fenian lays seem situated toward the recitative/chant extreme, yet have no counterpart in modern music today. The closest form might be in the solo singing of psalms (of David) by cantors in the Judeo-Christian tradition, but the poetry of Fenian lays is syllabic. However, both forms address a supernatural being, in a high register, and with a great deal of volume. Therefore, it is possible that Fenian lays can trace their origins to a pre-Christian, Proto-Indo-European base.

### 4.4.3 Volume Spectrum of Speech to Declamation to Song

The spectrum of speech from prose to poetry as stipulated above is an important factor in the analysis of vocal music. However, there is another spectrum that occurs in performance due to volume shifts. The peoples of the First World are accustomed to the luxury of electronically amplified speech. It is not common today for speakers to raise their voices to be heard by a multitude of listeners in a large, unamplified space. Therefore, the shift between speaking and singing appears to be rather abrupt since the quality of the spoken and sung word seems clearly dissimilar. This behaviour has now migrated to the unamplified main stage:

When listening to musicals or opera it is trivial for listeners to determine when a singer suddenly switches from speaking to singing. However, the acoustical differences between song and speech are subtle. Both consist of connected words produced with a relatively smooth fundamental frequency contour. Both are divided up into phrases that often correspond to a breath group. The ends of phrases in both speech and song are marked by final lengthening [...] and final lowering [...] Some of the few acoustic differences between song and speech are the more isochronous rhythm and greater fundamental frequency stability within each syllable in song (Gerhard (2003); Lindblom and Sundberg (1976)). (Tierney, Dick, Deutsch, & Sereno, 2013, p. 1)

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\(^{158}\) This section is included because there is a misconception that Gaelic music is without dynamics. This is untrue; it is without forced, *f-p* shifts.
This was not always so. An intermediary transition was often employed: loud speech; therefore, loud speech on stage was often required and cultivated. The observation in the above quotation, “[I]t is trivial for listeners to determine when a singer suddenly switches from speaking to singing”, occurred because the performer did not increase the excitation of speech so as to transition into song. Volume was not increased, formants were not engaged, and elongation of unstressed syllables did not occur. This is a common condition in singers today as the presence of electronic methods of amplifying speech does not allow them the opportunity to practice loud, formally declaimed speech. Tierney measured that the actual difference between speech and song is imperceptible at times:

This network overlaps a number of areas previously associated with pitch extraction and song production, confirming that phrases originally intended to be heard as speech can, under certain circumstances, be heard as song. Our results suggest that song processing compared with speech processing makes increased demands on pitch processing and auditory–motor integration. (2013, p. 1)

In the study whence comes this quotation, phrases with strong rhythms and clearly defined pitches were spoken and observers asked if the phrase was song or speech. Aligning this survey with the information provided in this chapter, the conductors of the survey used words with strong rhythm (poetry) with strong accents (pitch). Therefore, it appeared to be song since the words were metered and the pitches defined. This might be a working definition of the difference between speech and song. If the words are not metered in speech but are forced to be so in order to match the rhythm of the associated accompanied music, the syllable length of the words will change. This is a cue to the listener that the speaker is now a singer. Yet, off the main stage, the differences may be slight, “[M]any human utterances are not strictly classifiable as talking or singing. Utterances like poetry, chant and rap music fall somewhere between speaking and singing, with characteristics of each (D. B. Gerhard, 2003, pp. 25-26).

One of the most respected authorities in the field of vocal instruction, the late Richard Miller, believed that the difference between speech and song lies in the speed with which they are uttered and the resultant difference in the length of vowels, especially in the second part of diphthongs in the Germanic languages:

A major difference between speech and song lies in the temporal difference between them. Spoken language is made up of rapidly produced phonemes that fuse into each other through connecting transition sounds. In spoken language, especially in English and in German, the heavy preponderance of diphthongization negates the phonetician’s “pure” vowel. (1996, p. 52)

Here, Miller does not discuss declaimed speech but conversational speech. He makes no mention of any transitory mechanism between speech and song. Yet, the recitative was not conceived from conversational speech, but from declaimed speech. When declaiming in the Germanic languages, it is customary for the speaker to elongate the first part of the diphthong and then continue on to the second part, pronouncing that as well. Whilst it might be surprising that one of the most respected authors in the field of voice did not see a transition between speech and song in spoken declamation, Miller was still a child of modern media and probably was not exposed to declaimed speech often in his life-time. His experiences of speech probably only included what most people of the First World experience: radio, television, personal conversation, and electronically amplified speech of lecturers in large spaces. It is doubtful that he often was exposed to religious leaders speaking in a field, or politicians
speaking to an assembled crowd impromptu, without amplification. The vocal characteristics of such orators show a transitional phase between speech and song.

For a random example, consider Martin Luther King Junior’s, “I have a Dream” speech.\textsuperscript{159} It is included in this dissertation as 4.4.3A_King-IHaveADream.wav and was given on August 28, 1963 (Martin Luther King, 1963).\textsuperscript{160} Consider the word “trials” at time index 9:49.5 (see Figure 4.20, below) where the /a/ extends for 0.38 seconds of the entire length of the word, which is 0.83 seconds long:

The following is the present author speaking the same word at a moderate speed (included in this dissertation as 4.4.3B_Hirt-Trials.wav), which resulted in the entire length of the word lasting .63 seconds (below, Figure 4.21):

Here, the /a/ vowel is pronounced for only 0.10 seconds before it clearly migrates to the second element of the diphthong. All of the sounds are approximately the same as when spoken conversationally with the exception of the first element of the vowel. This analysis was performed using Praat\textsuperscript{®}. The reader is encouraged to obtain this free software and experiment

\textsuperscript{159} This and the following speech are available online through a myriad of sources, including www.YouTube.com.

\textsuperscript{160} This audio file was made by Ben Franske February 28, 1963 and is maintained at the University of California, Berkeley: Library. It is in the public domain.
by speaking the word “trials” in order to experience the length of the word required and also the excitation needed to naturally produce this sound for as long as Martin Luther King Jr. pronounced it.

It is significant that King elongated only the first part of the diphthong. Therefore, in English (and by extension, German), the length of the second part of the diphthong is treated like a consonant, having that length. If a syllable must be extended due to the elongation required by accompanying music, the primary vowel is extended in classical music while the last phonated sound is extended in folk music. In the Italian language, this is not necessarily so. Most often, the diphthongs are divided in half, with each element accorded equal length; for example, io. So, in this example, the means by which a syllable may be elongated in song is displayed. More importantly, it indicates the reverse, that song with its temporal extensions, imitates declaimed speech.

Although the recording devices in the 1960s were not on a level of sophistication as are present today, the singers’ formant can be seen even in this recording from 1963 where the peaks of the formants are not distinctly concave (see Figure 4.22, below):

![Figure 4.22: Singers' Formant on “Trials”](image1)

Here, a small frequency “bulge” at approximately 3,000-5,000 Hz can be seen, but the overall line connecting the formants is somewhat concave. In conversational speech, the formants are rather markedly so.

A better example is here (Figure 4.23) on the word “satisfied” on the syllable –fide at time index 9:04.5:

![Figure 4.23: Resonance Tuning on -fide of “Satisfied” at time index 9:04.5](image2)
The singers’ formant pushes out an imaginary line connecting the formants, making it slightly convex.

Miller should not be faulted for not seeing this connection between declamation and song performance. Indeed, his educated perspective typifies the consensus of trained art singers and reflects deep, illuminating, concerted study. Unfortunately, his study has little to do with the act of declamation. A summary of Miller’s beliefs between speech and song is as follows:

Clearly, then, because (1) breath management must be of a higher order in singing than in speaking, (2) the duration of the vowel is dissimilar in speaking and singing, (3) the compass of the singing voice exceeds that of speech inflection, (4) sung sound requires adjustments of breath energy to meet the shifting demands of pitch and intensity, and (5) the aesthetics of artistic singing require “resonance balancing” beyond the needs of the speaking voice (even speech usage in the professional theater), only in a limited sense—largely phonetic—does one sing “*come si parla*” [one sings as one speaks]. (1996, p. 112).

All of these statements are inaccurate if one considers the speech to be declaimed verse (Fenian lays or *dán díreach*) in a large area with many assembled listeners. Since the vowels are extended in declamation (shown above in Figure 4.20 and below in Figure 4.25) and are spoken loudly, breath management is of great importance. Also, the “covering” aspect of singing, particularly at high pitches, is an imitation of human speech at high frequencies. It is simply rare for individuals to speak on exceeding low or high pitches; yet they do speak them. Furthermore, persons declaiming are striving to be heard, and the activation of resonance matching, which then produces the singers’ formant, naturally occurs.

In the example above, Dr. Martin Luther King Jr. had training in speaking loudly. He was exposed to declaimed speech in religious meetings. This training was not ingrained at a music or acting conservatory, but through experience at such religious meetings, which were often held at outdoor camps or in large churches. In contrast, the younger generation typified by the recent president of the United States of America, Barak Obama, does not know how to speak loudly. The singers’ formant is not noticeable in his speech. Additionally, his vowel lengths indicate that he is speaking conversationally and is not declaiming. This is not an issue of race or any other cultural factor, but is an ingrained human response to external circumstances. Many previous U.S. presidents declaimed when giving speeches. Perhaps in their minds, they were not speaking into a microphone but speaking to assembled people; they happened to have a microphone placed in front of them which was not there to amplify their speech, but to capture it for a radio audience. Therefore, the characteristics of declamation are engaged when, in the mind of the speaker, a requirement to speak loudly over a distance is keenly perceived.

Therefore, continuing the above comparison, during news conferences, Barak Obama speaks at a level that he believes sufficient to be heard in the room, knowing that he was being electronically amplified. He may also be cognisant of the fact that he was being recorded and

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161 McCaughey (1984, pp. 55-56) quotes informant Calum Ruadh Nicholson responding to interviewer Thorkild Knudsen when asked if bards would change their performance between singing quietly and singing for an audience, “Well, I knew one, MacPherson — Neil MacPherson, he could sing his songs, very, ver- on a very low pitch, in his home, but when he went out, and he was — say at a céilidh in a room, where there was a lot of people in, he raised his voice that you couldn’t think it was the same song at all you heard. I’ve had that experience myself” (Nicholson, 2010).
wished to project a conversational manner for a home listening audience. This also can be heard in recorded broadcasts of such persons as Winston Churchill (declamed) and Calvin Coolidge (conversational). Speaking personally in a conversational manner would explain why Obama did not speak in a high register or engage in “code switching”, jumping between extremes of register to make a point.\textsuperscript{162} If he suddenly started to sing, it would be a shock. However, if Martin Luther King Jr. began to sing after the word “trials” above, it would be a much smoother transition. It should also be mentioned that elements of vibrato also can be observed throughout King’s speech.

For another example of someone trained to speak loudly, consider Franklin D. Roosevelt during his inaugural address given on March 4, 1933 (Roosevelt, 1933).\textsuperscript{163} It is included in this dissertation as 4.4.3C_Roosevelt-FearItself.wav. In the example below (Figure 4.24), Roosevelt speaks the phrase “This is a day of national consecration” (see, Figure 4.24, below). In order to see more detail of the phrase, both a pitch contour and an intensity contour have been displayed, so that it is now similar to Figure 4.20, above, but enhanced (see Figure 4.24, below):

![Figure 4.24: Roosevelt Phrase at Time Index 0.11](image)

Note the word “day” is spoken in a rather extended manner at time index 0.11.60 for approximately .58 seconds (see Figure 4.25):

![Figure 4.25: Roosevelt "Day" Detail](image)

\textsuperscript{162} Code switching involves quickly jumping from one language register to another to make a dramatic point. An example of code switching may be, “My esteemed colleague might be reputed to exhibit the intellectual effervescence of a cherub if he wasn’t a fool”. For more detail, see Fromkin (2001, p. 316).

\textsuperscript{163} This is the famous speech where he states, “The only thing we have to fear is fear itself”. The MP3 audio file is maintained by the U.S. National Archives, but is in the public domain. It is readily available at such sources at the Miller Center at the University of Virginia: http://millercenter.org/president/fdroosevelt/speeches/speech-3280.
The following is the present author speaking the same word for .26 seconds (included in this dissertation as 4.4.3D_Hirt-Day.wav), which was spoken at a moderate speed. This is similar to Figure 4.21, above, but enhanced. Both Figure 4.25 and the present author’s example were superimposed upon the other and may be seen below (Figure 4.25):

![Figure 4.26: “Day” Spoken by Roosevelt and the Present Author](image)

The presence of the singers’ formant is generally less present in Roosevelt's speech than in King’s speech. However, there are still some traces of it. Here is the frequency spectrum of Roosevelt on the word “day” (Figure 4.27):

![Figure 4.27: Singers’ Formant on “Day”](image)

Frequencies are slightly emphasised at about 3,500-5,000 Hz., which display the singers' formant; however, it is only slightly raised from the spoken norm. Yet, the graph clearly shows a concave and not a convex function between 2,500 and 6,500 Hz.

### 4.4.4 The Singer’s Formant

As was mentioned immediately above and in Chapters 2 and 3, another important of speech is the “singers' formant”. It is important to recognise this characteristic in the present context because it is a feature that separates singing (and declaimed speech) from conversational speech. The term “formant” is often eschewed since it is used in different academic fields.

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(much like the term “inflection”) to describe different phenomena. The expression “resonance tuning” is often used with the variable $R_{0,1,2,\text{etc}}$ (resonant frequency, also written as $R_0$, $R_1$, $R_2$, etc.) being related to an overtone of the singer’s fundamental frequency $F_0$ (or $f_0$), “Each resonance, with frequency $R_1$, $R_2$, etc., usually produces a maximum in the envelope of the spectrum of the voice [singers’ formant]. In speech, these spectral maxima have roles in characterizing vowels and some consonants” (Henrich et al., 2011, p. 1024).

In the desire to increase volume in a large space, singers arrange their mouth organs to create a space that matches the wavelengths of overtones of the fundamental frequency produced by the vocal folds. This manipulation is not strenuous. “Resonance tuning, i.e., the adjustment of the frequency of a resonance to match that of a harmonic of the voice, thus offers singers a technique that is believed to increase loudness with little extra vocal effort” (Henrich et al., 2011, p. 1024). It should be emphasised that the singers’ formant is not a development of some type of artistic training but is a natural behaviour; as a study showed of the difference between trained and untrained singers, “[N]o vibrato or singers’ formant differences were detected as a function of training” (Mendes, Rothman, Sapienza, & Brown, 2003, p. 529). That is, loud singing which triggers the singers’ formant is not a trained behaviour but a natural phenomenon. It is not the purview of operatic singers, but of loud speakers in general. Due to the proliferation of electronically amplified sound, most young people today are not required and have not developed the ability to speak loudly. When they hear the singers’ formant, they invariably believe that it is specifically related to operatic singing and is not a normal behaviour. This is contradicted by the observance of the singers’ formant in speakers who are not operatically trained but nevertheless must speak loudly without amplification.

Below is an example of how a speaker can alter the vocal tract to create various shapes that result in the singers’ formant at different pitches, courtesy of the National (United States) Center for Voice and Speech, www.ncvs.org ("National (United States) Center for Voice and Speech," 2015), Figure 4.28.

The singers’ formant is also important because it has an effect on pronunciation, and it is often a failing amongst singers to place undue importance in developing resonance, which unfortunately may obscure phonemes from comprehension. This connection may be seen in how vowels are differentiated when speaking normally. The differences between vowel sounds are made by the speaker emphasising different overtones; this is done by moving the tongue to adjust vocal tract shape, which alters which overtones are emphasised. So, while throat singing and creating the singers’ formant may appear to be odd behaviours, they are extensions of the same behaviour that creates the differences between the vowels. So there is an interplay between altering the vocal tract to produce the correct vowel and altering the vocal tract to produce resonant frequencies (which creates the singers’ formant).

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164 Resonant tuning might be explained by imagining an enclosed space with reflective walls such as a public restroom. If the reader were to enter such a space and hum a tune, there would be a pitch that would resonate much louder than any other pitch. In analogy, in order to emphasise the singers’ formant, the singer makes the bathroom larger and smaller so that the resonant frequency of the space matches the hummed frequency.
Therefore, the development of the singers' formant is often made at the expense of the comprehensibility of the speaker. This is particularly evident at music conservatories where singers are taught that it is acceptable to “colour” or migrate a vowel to be “pure”. Unfortunately, replacing one phoneme with another reduces comprehension. It might be wiser to learn to create resonance on each voiced phoneme, including voiced consonants, on every pitch within that singer’s range instead of learning to resonate on a few vowels and migrating all other vowels to this place. It may surprise the present reader, but the goal of many music schools is not to develop singers who are comprehensible, but singers who have good resonance. The latter goal produces singers who cannot be understood. The former goal produces singers who are comprehensible in a large space and obliquely, have good voice quality.165 This is reinforced by the apparent paradox that voice training does not seem to improve a singer’s voice: “[R]esearchers have consistently reported that there appears to be no direct relationship between singing training and its influence on various physiologic and acoustic parameters measured from the speaking utterances of professional singers” (Mendes et al., 2004, p. 83). He continues, more succinctly when he states, “[T]here appears to be very little that distinguishes the professional singer’s speaking voice from that of a nonsinger” (2004, p. 84).

These references reinforce the current hypothesis: the only difference between speech and declamation is the development of resonance matching. The difference between declamation and singing is in defining a discrete pitch. A song is a rhythmic development of singing. Therefore, there is a continuum between speech and song. This was noted by art music composers who through design, structured this span and utilised it for their own benefit. In effect, they took a form of speech that was designed to communicate to a large group of people (declamation) and appended the next higher-level characteristic of defined pitches. In

165 What is “good” and “bad” is subjective. There have been a number of studies that try to define what this is. See Diaz (2003), Landy (2000), Hunter (2006; 2005; 2004), and Sundberg (1990) for more information.
essence, loud spoken poetry becomes a lay with the slur of pitches is made discrete; lay singing was transformed into *amhrán* by forcing the poetry to show regular accent from verse to verse and then defining syllable lengths exactly. Art music development was different since the span between prose and metered poetry had already been connected through harmonic patterns. So *recitativo secco* became *recitativo accompagnato* which became poetic and then became a metered aria. The significant difference is that lays precede harmonic progressions. The metered music could then increase in complexity with supplementary singers, instrumentalists, or a choir.

Although modern popular music today consists almost entirely of accompanied music positioned at one end of a harmonic, rhythmic song spectrum, the other end is still evidenced in Gaelic society and avoids such metric and harmonic complexities: “Although few in Cape Breton still sing the eight line, heavy songs, it is true that most of them prefer to sing their songs unaccompanied. Some say musical accompaniment breaks up the natural rhythm or ‘swing’ of a song” (MacEachen & Watson, 1994, p. 14).

Therefore, as a singer attempts to communicate to greater and greater numbers of listeners without electronic amplification, not only does volume increase, syllable length increases (Figure 4.8), and the singers’ formant is initiated. Furthermore, this is true with Fenian lays. They are on the interface between declamation and song.

**4.4.5 Vibrato Measurement**

Vibrato exists in declaimed speech as well. For example, here is King at time index 9:04.5 on *fied* of “satisfied” (Figure 4.29):

![Figure 4.29: Satisfied Vibrato](image)

Therefore, vibrato occurs in loud spoken dialogue as well. This is an important issue for musicians that has been obscured over the centuries. Vibrato is a normal and natural characteristic of the human voice. If a singer moves from the spoken end of the continuum to the song end and interferes with how vibrato is performed, listeners notice that something is amiss. To an instrumentalist, vibrato is something that must be added through a physical action that is not linked to speech; it is something that is affectatious and unnecessary. To a singer, unnatural subglottal pressure must be added in order to stop vibrato.\(^{166}\) Therefore,
halting and releasing vibrato is an embellishment to a singer, which is the reverse of how an instrumentalist views vibrato.

It is generally assumed that dynamics and other vocal techniques such as vibrato are seldom used in sean-nós singing (see Bodley (1973, pp. 46-47), Ó Riada (1982, p. 23), Ó Canainn (1993, pp. 74-75) for an explanation). However, an analysis of recordings found at archives proves that vibrato is a normal element of folk singing. It is just done at a low-to-medium volume and is not obvious. Modern singers from the “folk music revival” of the 1950s were actually trained, perhaps subconsciously, as art singers. One simply needs to inspect the vibrato of a singer in pitch-tracking software to see that vibrato with such singers was forced to stop over dissonant chords. This is an affectation of art singing.

Much like the bell-shaped curve discussed above for airflow, vibrato is a function of airflow and subglottal pressure (which is linked to the bell-shaped curve of exhalation volume/pressure). Also, volume is a function of both airflow and subglottal pressure. Justification of the latter is provided by Sundberg, “[T]he higher the subglottal pressure, the louder the sound. Thus, loudness variation is generated by varying subglottal pressure” (1990, p. 107). The former aspect, that of airflow of the respiratory system, appears to be contested by Cleveland, “At this time, however, it appears that giving credit to the respiratory muscles for vibrato is no longer defensible” (1994, p. 19). This is supported by Mendes:

[I]ts production is not well understood and has been reported as being produced by laryngeal, respiratory, or supralaryngeal muscles as well as by changes in subglottal pressure, or resonance-harmonic interaction. Recent literature suggests a physiological tremor in the criocothyroid and thyroarytenoid muscles. (2003, p. 530)

However, this refers to the micro inflections of pitch; that is, Mendes, Cleveland, and others such as Shipp believe that the pitch of each peak of vibrato is not a function of an expirational push, or, “rhythmic pulsations in subglottal air pressure produced by contractions of the abdominal muscles to modulate the fundamental frequency” (1990, p. 303). These conclusions do not describe the overall set of conditions that must exist for vibrato to occur. Lack of vibrato occurs only when there is excessive airflow or excessive subglottal pressure:

[L]aryngeally mediated vibrato appears only when a balance of adductory and abductory force is applied to the vocal folds to position them at or near the midline. If, for example, excessive adductory forces are promulgated, the resultant nonvibrato vocal quality will range from artistically produced straight tone to “tight,” pressed phonation depending on the magnitude of adduction. Vibrato is also inhibited if abductory movement positions the folds sufficiently lateral to the midline position to allow an audible “breathy” type of phonation. (Shipp et al., 1990, p. 303)

For a study of nine singers, vibrato Frequency Modulation (FM) rates had a mean average of 5.0 Hz. (chest register), 5.1 Hz. (mixed register), and 5.3 Hz. (head register) (Dromey et al., 2003, p. 173). Furthermore, “Good” vibrato is defined as what is most periodic; that is, whatever is most consistent and even (not speeding up or slowing down, but staying steady at, perhaps, 5.1 Hz) (Diaz & Rothman, 2003, pp. 179, 184). This is further supported by Dromey who stated that, “Periodicity is considered to best reflect the skill of the singer; the smoother [more periodic] the vibrato, the more beautiful the singer’s voice is perceived to be” (Dromey et al., 2003, p. 169). This was witnessed during investigations into Fenian lay recordings where vibrato was not obvious while listening, but could be clearly seen in the pitch-tracking
software. The confusion seemed to correlate to uneven periodicity. Vibrato seemed more noticeable the more periodic it was.

Furthermore, if one considers both male and female singers in Tables 6 and 7 of “The Effects of Crescendo on Vocal Vibrato” (Michel & Myers, 1991, pp. 297-298), using a different approach than the original researchers, some additional features are revealed. Firstly, the two tables originally had the singers crescendo from soft to loud and then decrescendo from that point to soft. Since there is an apparent affectation in trained singers to deliberately begin without vibrato and then relax and have a “normal” vibrato, the beginning and ending “soft” results were omitted. Secondly, since thinking in terms of half steps is an affectation of the diatonic scale and octave equivalence, the difference between the upper and lower limits of the vibrato range is shown in cycles per second; only the upper and lower limits were provided in the original tables. Thirdly, the male and female subjects were grouped together; subjects 1-5 were female, and subjects 6-9 were male. This actually makes a difference since the male larynx is almost twice the length of the female larynx. Thus the pitches are lower as are the formants, indicating a larger, more dangerous animal (Ohala, 1984). Here is the table in this format (below, Table 4.2):

<table>
<thead>
<tr>
<th>Subject</th>
<th>Range–Low Frequency, Loud</th>
<th>Range–Mid Frequency, Loud</th>
<th>Range–High Frequency, Loud</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hz.</td>
<td># Semi Tones</td>
<td>Hz.</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>21/4.7%</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>29/6.7%</td>
</tr>
<tr>
<td>3</td>
<td>15/5.3%</td>
<td>0.92</td>
<td>28/6.2%</td>
</tr>
<tr>
<td>4</td>
<td>10/3.5%</td>
<td>0.60</td>
<td>24/5.0%</td>
</tr>
<tr>
<td>5</td>
<td>14/6.6%</td>
<td>1.14</td>
<td>20/5.1%</td>
</tr>
<tr>
<td>6</td>
<td>12/7.8%</td>
<td>1.35</td>
<td>22/9.4%</td>
</tr>
<tr>
<td>7</td>
<td>11/8.7%</td>
<td>1.91</td>
<td>20/9.5%</td>
</tr>
<tr>
<td>8</td>
<td>9/8.1%</td>
<td>1.40</td>
<td>12/6.3%</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
<td>9/3.8%</td>
</tr>
</tbody>
</table>

Table 4.2: Range of Vibrato in Hz. and Semi Tones When Loudly Singing

In this table, although observing a trend with regard to range in terms of half step intervals may be difficult, there is a clear pattern in regard to vibrato range relating to frequency and the fundamental (F₀). The initial study made a correlation between vibrato range and pitch in terms of half steps, not in relation to a percentage of the sung frequency. If the range of the vibrato is placed in proportion to the base frequency (here, extrapolating it by finding the mean average of the upper and lower limit of the vibrato), the vibrato can be seen to be rather steady at roughly 6% of the mean frequency. Scanning across the table by singer shows that each singer’s vibrato is fairly consistent throughout that singer’s pitch-compass; that is, a singer with a small vibrato in range at low frequencies will have a small one at higher frequencies (singer 4); a singer with large vibrato in range at low frequencies will have a large one at higher frequencies (singer 6). That is, vibrato range is roughly consistent throughout the singer’s range.

This relates to the present dissertation since there is a widespread belief that vibrato is an embellishment, and folk singers do not use it. In fact, a perusal of audio recordings at archives
clearly demonstrates that the most reliable folk singers (older singers recorded as early as possible) sing with vibrato. It is simply not obvious since they are singing fairly quietly. Computer application analysis shows that it is present. This is supported by audio recordings of Fenian lays, which will be demonstrated in Chapters 5, 6, and 7. What may account for the listener’s belief of the absence of vibrato in folk music is that the rate of vibrato is faster and with a lesser amplitude in popular singing (de Almeida Bezerra, Cukier-Blaj, Duprat, Camargo, & Granato, 2009, p. 668). Additionally, instrumental playing of folk music often omits vibrato. Perhaps this is because instrumentalists do not take the added effort to try to emulate singers' behaviours. This is particularly true with Gaelic fiddle players playing slow airs.

4.5. Recording Analysis Concerns

Prior to analysing the recordings of Fenian lays, some parameters and concerns should be noted. Firstly, there are problems with all software applications. Then there are interpretation prejudices stemming from art music conventions that should be addressed. Space prohibits a full discussion on any one of these points; however, a brief synopsis is presented.

4.5.1 Pitch-tracking Software Errors

There are several elements of pitch-tracking that should be addressed since there are phonetic elements that affect pitch and may give a false reading or incorrect interpretation. These elements must be kept in mind while examining the frequency plotting of Fenian lays in the graphic images. This information is taken from Gussenhoven, *The Phonology of Tone and Intonation* (2004, pp. 7-10, 73):

- A voiceless plosive is longer than a voiced one; therefore, the preceding vowel is shorter; plosive intensity is higher
- Vowels following voiceless stops are at a higher pitch than voiced stops
- [i,u] are higher in measured pitch than perceived
- Voiced consonants (plosives) are at a lower frequency than surrounding vowels
- There may be vowel falls at the end of utterances preceding ending consonants

Intonation is subjective. Since it is an important element for instrumentalists to play the same pitch together, it is important for instrumentalists. It does not follow that it is important for singers. Variation in pitch, whether on the same note or when progressing throughout a tune, is not important for a singer or to the listener of a tune. It is important to listeners and singers trained as instrumentalists. Whilst this makes it difficult to notate the tune of a song, that is the problem with the software or transcriber, not the singer. Linking the quality of singing to steadiness of pitch is a tenet of instrumentalists, not singers.

Furthermore, it is natural to have shifts in pitch while speaking which reflect the emotion of the singer:

[M]any linguists have observed that there seems to be something pervasively non-arbitrary about intonation. When we are excited, our pitch goes up, and when are depressed we tend to have low pitch with few excursions. When we wish to emphasise a word, we may raise our pitch, in addition to raising our voice in the sense of speaking more loudly. When we want to signal – for real, or more probably in jest – that we need the speaker's protection or deserve his mercy, we instinctively raise our pitch, to create a 'small' voice. Intonational features that are more closely
integrated with linguistic structure, too, may somehow seem natural, such as when a non-final phrase ends with a high pitch and a final phrase with a low pitch, or when a rising intonation is used to signal a question and a falling intonation a statement, as is the case in many languages. (Gussenhoven, 2004, p. 51)

Singers in the “Italian school” of singing are not taught to sing, but rather “speak on pitch” (si canta come si parla – one sings as one speaks). In order to sing a high pitch, the singer is exhorted to remember when a high pitch is spoken, as in when speaking to a child, and then recreate that behaviour. Yet, there are obstacles in the mind of the singer when attempting to perform this action.

4.5.2 Fear and Pronunciation

Gaelic singers who pronounce their words as they do when speaking are considered better than those who do not; as Peter MacLean from the rear of Christmas Island, Cape Breton was quoted as saying, “Pronunciation, I think, is the main thing [...] Good singers are clear and distinct so that you can understand every word (MacEachen & Watson, 1994, p. 14). One might conclude that this may be a cultural differentiation or a form of artistic development. It might be more revealing to consider a song’s purpose, who sang a particular song, and for what reason the song was sung. Simply put, singing was a part of cultural behaviour that accompanied work and communal activity. The divide between urban and rural lifestyles seems to be ignored when analysing songs or training singers to perform art music. Yet, the genesis of song lies in rural culture, which developed long before there were large towns or cities. People would sing to spin thread, waulk wool, row boats, chop wood, milk cows, feed chickens, walk, weave nets, etc. These were, and are, rural occupations. People would also sing about a lost love, praise of land or possessions, history, mythology, etc. These were leisure songs. Both were done in a community setting, often to pass the time while mundane chores were being accomplished. As people congregated in towns and eventually cities, activities changed. The need for singing diminished since people generally do not milk cows, waulk wool, and row boats in cities today. Singing became an art. Since the purpose of singing shifted, so did the performance milieu. Singing was no longer a community activity where singers were encouraged and forgiven by a non-critical family group. Singing became a manufactured activity in an urban environment where there was little if any community support. In essence, the movement from rural to urban areas disassociated singers from the original purpose of singing. This may seem as though the change was a small one, but in fact, such a change altered the purpose of singing. Since the motivation for singing changed, so too did the emphasis on clear pronunciation.

The primary reason for shifts in pronunciation rests in the great difficulty in singing when one must produce pitches as structured by a musical composer that are different from those that

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167 London had a population of 18,000 by the 12th century (Newman, retrieved December 2015).
168 This still occurs in smaller cities and towns across Europe. The present author noticed cattle being housed within the small city of Garmisch-Partenkirchen in Germany in 2002.
169 As stated by Mòrag NicLeòid, “Whereas, they used to even sing in boats. I mean, I remember when fishing was strong in Scalpay, they would have ceilidhs between the boats! They used to sing to each other. These situations, where people are together and with nothing to do, in a way, and talk for long periods, these were important to the tradition. I remember my father having a shieling bothy, and the men would always sing and compose ex tempore” (MacEachen & Watson, 1996, p. 20).
one would normally choose when speaking. This difficulty is compounded by the fact that when singing, one is often under emotional pressure; the pitches that one would speak when nervous or afraid are different than the pitches chosen when comfortable. Also since singing is no longer in a rural and familial setting, the singer is then faced with performing to a great number of possibly hostile listeners. This induces fear in the singer that results in pronunciation differences between speech and song. A full discussion of this may be seen at Hirt (2011c) and (2011b).

Most of the singers of Fenian lays as captured through recording pronounced the words as they would normally speak them. However, since many of the singers were older, they invariably added tension to their voices (particularly their tongues), which changed the pronunciation. Some of the singers were not fluent in Gaelic and also mispronounced occasional words.

4.5.3 Conservatory Characteristics

There are a number of prejudices often brought by musicologists to the analysis of folk song. The primary cause of this is the nature of the diatonic scale and its uneven, octave-equivalent nature. As previously mentioned, this was done to a greater or lesser extent by every folk music collector or musicologist. These include such well-known figures as: Cecil Sharp (1932), Kennedy-Fraser (1909), Gilchrist (1911), William H. Grattan Flood (1905), Donald MacDonald (c.1900), Bertrand H. Bronson (1946) and (1972), Francis Collinson (1966), James Culwick (1897), Bradley and Breathnach (1980), Ó Boyle (1977), and Finlay Dauney (1838). Instead of the uneven distance between notes being considered a detriment, it has been cloaked and displayed as an advantage. In particular, this makes the researcher undiscerning with regard to features of singing that are recognised and expected in rural cultures.

Consider Ó Ríada's concept of the general development of the diatonic scale and how its uneven construction effects composition:

Take the European notion of ‘development’: a development which moves in a crescendo of tension ending in a crisis the resolution of which produces catharsis. In any Beethoven symphony, a movement will start off with two contrasting musical ideas. These are developed...given new significance by being led through a series of different keys. This creates a gradually mounting tension until a climax is reached. At the climax the tension is resolved, producing a feeling of release, or catharsis...it is quite foreign to traditional Irish art. (1982, p. 21)

He then juxtaposes this with his understanding of the Gaelic cultural perspective of life:

The simplest picture of traditional Irish art is the ancient symbol of the serpent with its tail in its mouth: ‘In my end is my beginning’. It is essentially a cyclic form. You might represent it by drawing a curve, beginning at point A, widening out to form a series of almost-circles which overlap each other, and which themselves follow a circular path, so that the end of the last curve returns to the starting point of A...Everyday the sun rises, every day it sets. Every day possesses the same basic characteristics...while at the same time each day differs from the last in its ornamentation of events. (1982, p. 22)

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170 There are many others who have noted this, including Ó Boyle who stated, “The fondness for cadences with a leading tone had become the universal and from this small beginning came the whole system of our modern tonality. The fascination of this new progression gradually undermined the practice of the modes and drove composers—empirically and blindly no doubt, but none the less surely—in the direction of the keys. By the end of the eighteenth century modal music was no longer practiced [in Europe]. The major and minor keys had been discovered and established and the full flood tide of modern music had begun (1977, p. 11).
This strongly influences how performers sing. Composers often place dissonant chords on pitches that then resolve by half steps. Prior to the resolution by half-step, the singer is singing the melody during a dissonant chord. To increase, or to identify to the listener that there is a dissonance, the singer will often sing the note “sitting” on a dissonant chord to make it as painful to hear as possible, so that it will resolve in catharsis. This is done through abdominal squeezing (which triggers the fight or flight response) and placing as much subglottal pressure on the voice as is possible. This extirpates vibrato and overtones.

Vocal “squeeze-and-release” normally does not happen in rural music if the melody is based upon the natural scale. This is due to the absence of half steps and instrumental accompaniment; in these circumstances, there is a subsequent dearth of dissonant chords and the tendency of the singer to “squeeze-and-release”. However, if the singer was raised listening to the radio upon which music based upon the diatonic scale is played, that singer will subconsciously create harmonic progressions in the music even if it does not exist. This “phantom dissonance” may be identified in many young singers singing Gaelic music today since it is identifiable by a lack of vibrato and overtones; it is often performed on short notes, although not foreign on longer ones, and when half steps are introduced in a traditional Gaelic tune in order to modernise it. This is easily identifiable using digital pitch-trackers and overtone analysers. “Phantom consonance” occurs when there is a perceived consonant chord at the end of a phrase. In such places, the ending sound is elongated and is sung with vibrato, often developing slowly from its absence.

Occasionally, “squeeze-and-release” may seem to exist on short notes when sung by a rural singer. This is almost uniformly done during strongly rhythmic music. In this situation, the quick onset of vibrato on the following note is often an indicator of a singer trained in a folk idiom. Also, “squeeze-and-release” is uniform in accompanied diatonic music and crosses musical boundaries such as: gospel, jazz, blues, pop, folk revival, early music, rock, musical theatre (theater), Baroque, Classical, opera of all epochs, etc.

It should also be acknowledged that until a few decades ago, the Italian school of voice deliberately taught “spin” (the antithesis of “squeeze-and-release”) on such notes as occurred during harmonic dissonance. This created legato. However, it should be stressed that there are a number of factors that are engaged during squeeze-and-release to stop vibrato and enhance dissonance. It is not simply abdominal tension but often linked to vocal tract affectation. Therefore, the Italian School pairs legato, not to vocal tract behaviour, but to a relaxed and fluid act of expiration. It should be emphasised that “squeeze-and-release” is a conditioned, unconscious behaviour. It is also easily measured by computer software applications.

There is also a myth that traditional Gaelic singers do not vary dynamics; this is not true as affirmed by Ó Ríada, “In sean-nós singing, also, the singer does not display emotion in the European style; that is to say, he does not use dynamics, he does not sing loudly and again softly for emotional or dramatic effect” (1982, p. 23). That is, in Baroque music especially, the

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171 It is often considered an ornament to sing a long note without vibrato and then slowly introduce it.
composer will artificially extend the music by repeating a segment of music at a different dynamic level. Since artificial elongation is not a part of Gaelic song, this is not done. However, Gaelic song does display a wide range of dynamics; the change is gradual.

4.6. Summary

In order to investigate the recordings of Fenian lays that were collected, a number of variables need to be identified and subsequently measured. The software applications Praat®, Audacity®, and Tartini® will be used to measure vibrato and resonance tuning (the singers’ formant). By doing so, non-PIE elements of the diatonic scale and associated “phantom dissonance” can easily identifiable by observing the lack of vibrato and associated overtone squelching (squeeze-and-release). The pitch tracking will not be precise as there are a number of differences between measured pitch and how it is perceived.

The relationship between poetry (as discussed in Chapter 2) and metre will be investigated. This will be done by plotting the frequency (pitch) shifts against time to observe metre if it occurs. The pitch tracking should also show the “musical-hill” with pitch accent of the poetry possibly matching peak frequencies in the pitch contour. As well, variation of accent from verse to verse by line should also coincide with increased pitch. That is, if there is varying accent between verses, the placement of the high pitches of the melodic line should vary as well.

Although copiously stated in previous secondary sources, syllable-timing should be observed. Additionally, according to what was discussed in this chapter, the extended vowel-lengths of Gaelic, which is similar to Italian, should show elements of mora-timing and perhaps a musical corollary in either rhythm or pitch. That, in conjunction with pitch-accent placement, show a connection of all three types of language timing known to exist (stress-timing, mora-timing, and syllable-timing). As well, register usage and the presence of formulae may all indicate that Fenian lays traits stem from a PIE cultural base.

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172 This is not a pejorative term but one that is used in radio electronics to explain the suppression of the output of a radio receiver.
CHAPTER FIVE

Fenian Lays in Ireland

5.1. Introduction

As stated previously, the purpose of this study was to investigate through archival and musicological analysis the audio recordings of the lays of Fionn mac Cumhaill made in the last century. Earlier chapters defined criteria for analysing these lays. If these standards are applied against Fenian lays recorded in Ireland, elements of Indo-European cultural practices including thematic material, poetic usage, language register, syllable-timing characteristics, pitch structuring, rhythm, pitch accent, and vocal techniques are revealed.

As briefly mentioned in Chapter 1, Introduction, there are three great narrative cycles in Irish and Scottish Gaelic lore. The oldest tales are of the Ulster Cycle; more modern are those of the Arthurian Cycle. However, dating between these two are the most prolific: the Fenian Cycle. These tales concern the heroic warrior Fionn mac Cumhaill (also Finn, Fin, Mac Cool, Mac Cumal, Mac Cumhaill, mac Cumhail, mac Umaill, McCoul, etc.) who was the leader of a famous band of hunter-warriors, the fianna (also Fenians, fiantaiche; plural, fiantaichean) (MacInnes, 1987, p. 103) who protected Ireland from mythological beasts and invaders. Mac Cumhaill had a number of sons who were also members of the fianna. One, Oisín (Anglicised as “Ossian”), was the name given to a collection of poems published by James Macpherson entitled The Poems of Ossian in 1773 and is currently available in modern editions (1996). The popularity of this work drew a great deal of attention to Fenian lays, some of it destructive.

However, a positive result that followed the publication of The Poems of Ossian was that a great deal of research was conducted into the performance of Fenian lays in Gaelic society. These tales are poetic and are sung; the subject matter can be dated to well over a thousand years.

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173 Elements of the beginning of this chapter were previously published in Hirt (2011a) and (2008).

174 As Meyer (1993) states, “It is often tacitly assumed by modern writers that the term fianna wherever it occurs in Irish literature refers to the war-band headed by Finn úa Báisci, or Finn mac Cumaill, as he came to be called later [...]” (p. xiv).

175 The moralist Samuel Johnson refuted the existence of Fenian lays. His public ridicule of Macpherson and the Gaelic people in general might seem bigoted and racist by today’s standards but were considered normal at the time.

176 The Macpherson scandal will be discussed in Chapter 6. The most important positive result of these series of events is that a great deal of effort was expended to collect Fenian lays as informants sang them. This created a corpus of scholarly work that documented a narrative tradition that would not have been done without the interest that Macpherson’s work generated.
years ago.¹⁷⁷ Historians such as Wyatt (p. 68) believe that the behaviour of the fianna not only represent an IE cultural norms, but actually survived in Ireland into the Middle Ages (p. 68). That is, while some writers such as Binchy and Dillon suggest that Fenian lays offer a window into the mind of an Iron-Age man, Wyatt (2009) believes that the fianna actually still existed and conducted diberg (brigandage) well into the 9th century (p. 70).

The history and PIE base of the poetry has been examined in Chapter 2, and specific poetic examples will be presented in this and following chapters that support this argument. Musical elements of metre, or the absence of metre, and the ornament of pitch will also be presented in this and following chapters; these elements support the argument that the pitch structure of the lays is based upon musical instruments developed in the early to late Neolithic Age which were perpetuated in Gaelic agrarian society. The poetry is also quite old and will be examined as well. Poetic and musical analysis of extant recordings of Fenian lays that were transmitted through an oral tradition will be displayed in this chapter following a brief introduction concerning the social context of the fianna.

5.2. A Brief History of Fenian Lays

As with most legends, the lays of Fionn mac Cumhaill have a basis in fact. The social situation in insular Britain prior to the arrival of Roman culture was quite different than the structure of society today. As stated by Jackson:

> We know that the latest archaeological expression of the pre-Roman European Iron Age, the so-called La Tène culture, lasted in a vestigial form in Ireland, where there was no Roman occupation to swamp it, until at least [...] the fifth century [...] the background of the Irish epic tales appears to be older [...] the stories provide us with a picture—very dim and fragmentary, no doubt, but still a picture—of Ireland in the Early Iron Age. (1964, p. 5)

Therefore, while the mythological coalescence of Fenian lays did not occur until the 12th century, the origin of the legends can be dated to a much earlier era. Meyer dates the first instance of the name, Fíangalach mac Colmán of the Eoganacht Húa Cathboth to approximately 589 C.E.; place names can be dated to earlier times (Meyer, 1993, p. vii). Pre-Roman Ireland and Scotland did not contain many of the social customs that are often assumed to have been in existence from a modern perspective. Indeed, there were many customs that were supplanted by Roman or Christian customs that are now extinct. One of these customs concerned the rite of passage for males and occasionally females. The interface between settled adulthood and immature youth was not breached by simple ritual, but was actualised by a unique, independent social group. Thus, a male could be defined not only as either a boy or a man (member of the túath), but also as a boy-man (òen-chinitud, sole-kin) (McCone, 1990, p. 205). So in this position, a male may have been an adult, but held no property. Males without the need or ability to provide for their own family have a tendency to form groups, or gangs, and dwell outside of family units. In effect, in pre-Roman Gaeldom, if a young man joined a gang, he was a fían. As McCone (1990) states: “It appears, then, that the early fían catered for propertiless males of free birth who had left fosterage but had not yet inherited the property needed to settle down as full landowning members of the túath [...]” (p. 177)

¹⁷⁷ Meyer (1993) dates the first instance of the name, Fiangalach mac Colmán of the Eoganacht Húa Cathboth to approximately 589. Place names are much earlier (p. vii).

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This segregation was not required, but minimised the potentially disruptive effects of the wildness of a *fían* upon settled society as a whole (McCone, 1990, p. 210). Although there is no way to date the genesis of these legends to before the 10th century, it is possible to speculate that they were actually composed from tales that were quite a bit older than this. The tales themselves relate the exploits of Fionn mac Cumhaill and his band of warriors, which supposedly took place during the 3rd century C.E. Therefore, the nature of these lays indicates an entirely non-Christian perspective, “[T]hese stories [Irish heroic poetry] are strikingly like the epic of other early literatures, as has often been pointed out; not only Homer but also Beowulf, the early German heroic poetry, and the rest” (Jackson, 1964, p. 3).

The fact that these sung poems survived into the modern era is truly remarkable. Whilst there are certainly modern language and musical alterations, ancient practices have been maintained, albeit in an oblique manner. It is the purpose of the following sections to investigate recordings of these lays and attempt to uncover hidden behaviours that suggest not merely linguistic elements, but musical traits that may date as far back as the early Neolithic Age or a PIE cultural base.

### 5.3. Lay Analysis

As was discussed in the Methods section in Chapter 1, each lay will be analysed in the order of the information presented in Chapters 2 through 4. Therefore, the order is: recording history, narrative plot summary, language (including poetic analysis and register usage with additional notes on literary sources, recordings available, and sheet music sources if appropriate), graphical analysis, pitch summary, rhythmic analysis, pitch accent, resonance tuning analysis, indications of vibrato, volume, and summary. The order of analysis, computer applications used and why has been discussed previously in section 1.5 Methods of Analysis of Primary Material.

Although the genesis of the language used in Gaelic Scotland (q-Celtic) originated in Ireland as did many imported cultural elements, records of lay singing in Ireland from living informants is not as extensive as in Scotland, or by extension, Nova Scotia. However, the similarities between the performance practices of the lays across the diaspora are clear. It should also be noted that written records of lay singer performance from the eighteenth and

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205). This is a common practice. Native American Indians (also known as First Nations) developed a game called *bagataway* which means “Little Brother to War,” now known as the game of lacrosse. In bagataway, all of the young men of a village were pitted against all of the young men of another village on a large field. Trees at each end were designated as targets. Each youth had a netted stick; one ball was in play and passed between teammates, and eventually one side’s player was able to throw and strike the ball against the opponent’s tree or place it in a hollow area (practicing this by striking the ball with a stick in the Gaelic game of hockey, shinty, shinty, *iomain*, or hurling may be the origin of the sport of golf). It was not uncommon for participants to be slain during the game. It had the advantage of removing violence from the village; it was thought that it was better for a few young men die than a multitude of older men, women, and children in inter-tribal warfare. The heroic figure of Cú Chulainn was introduced through a tale where he was playing shinty on a field with three times fifty boys.

While I searched for and found what I believe to be the best computer applications for analysing lays, I am indebted to Robert Burns of the University of Otago for suggesting an appropriate way of displaying the pitches and sounds of lays using pitch-tracking software. I am also indebted to Henry Johnson for teaching me how to integrate staff notation and Praat-exported EPS files in Adobe Illustrator.

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nineteenth centuries can be matched to almost all (the exception being *Laoi na Mná Nóire*) lay recording that appears in this dissertation. Furthermore, these written records of lay singers match a much older tradition captured through writing and appearing in quite old manuscripts. “It is significant in this regard that many texts of Fenian prose tales collected orally from illiterate storytellers in recent times are strikingly close in style and content to texts of the same stories that have survived in manuscripts” (Nagy, 1985, p. 6). Simply stated, there is a continuum of ancient Fenian lay singing from the Early Dark Ages that was captured in writing in the Middle Ages and preserved in manuscript that matches the captured performances of living Gaels through published material in the 1800s that also matches the recordings of lays presented in this dissertation.

Although there are many secondary sources from the eighteenth to nineteenth centuries available for this comparison, the most valuable sources are in the Irish Gaelic *Duanaire Finn II* (Gerald Murphy, 1933), the Scottish Gaelic *Leabhar na Féinne* (J. F. Campbell, 1872), and *Reliquiae Celticae*, Vol. I (Alexander Cameron, 1892). The reader is directed to those sources for the vast majority of secondary research materials concerning the transcribed performance of Fenian lays from living informants.

5.3.1 *Laoi Dhiarmaid*

**Recording History**

This recording was located at the University College Dublin (UCD) Library. The informant was Mícheál Ó hIghne (b. 1875) from Gleann Cholm Chille – Dún na nGall (Donnegal). There were two recordings of this informant singing this lay. One was from 1946 (November 11th, CT0264, original tape number NCF 0150a) and one from 1949 (CT0104, original tape number NCF Mo462b). The collector was Caoimhín Ó Danachair (Kevin Danaher). The recording was digitised by Anna Bale and Criostóir Mac Carthaigh and provided to the present author. The recording is under copyright, but attainable through correspondence with UCD. The recording from 1946 is included in this dissertation as 5.3.1A_LaoiDhiarmuid-1946.wav. The recording from 1949 is included in this dissertation as 5.3.1B_LaoiDhiarmuid-1949.wav. The recording from 1946 is the one primarily used for this dissertation. The collectors originally referred to this recording as a Fenian lay (*Laoi na bhFiann*) and not by its title.

**Narrative**

This tale is a keystone of Fenian lore. Recordings of it were found in Ireland, Scotland, and possibly Nova Scotia. Written examples certainly exist, although an understanding of the diaspora of Gaelic lore regarding this lay seems limited; “This poem [the scene of the boar-hunt and Diarmaid’s death], which is not found in Ireland, we are probably safe in regarding as not only purely Scottish, but of Perthshire origin” (N. Ross, 1939, pp. 221-222). However, as Meek states:

Stories about Diarmaid, and especially about his elopement with Gráinne, the one betrothed or, in the earliest text, married to Fionn, are deeply embedded within the Finn Cycle. Indeed, the traditional rivalry of Fionn and Diarmaid may well suggest that Diarmaid once occupied a place

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180 This was mentioned by MacInnes (1987, p. 119).
“Laoidh Dhiamhuid” (nom. sing. Diarmud (Irish Gaelic), Diarmad (Scottish Gaelic), Darmad, Darmot, Dermut, etc.) relates the story of Graithne, daughter of the King of Coig Ullainn (the five counties of Ireland), and Diarmud who was one of the fianna. Although the story certainly varies, the general outline is that Grainne (or Graithne) was the wife of Fionn. Whenever the Fenians went out hunting, one fian had to stay to protect the family at home. On one of these occasions, it was Diarmud’s responsibility to stay behind. Diarmud had a special gift in that he had the sugh seirc (lit. love juice) mark on his face, that when seen by any woman, would make her fall madly in love with him. Diarmud knew this and showed the mark to Grainne with the result that she fell in love with him, and the two ran away together. After many exploits, Fionn and Diarmud found some sort of reconciliation. Eventually, Fionn tasked Diarmud with killing a mighty boar that had poisonous bristles. Diarmud killed the beast, but Fionn wanted him to measure its length. In the process of doing so, Diarmud was stung by one of the bristles and became very ill. He called to Fionn to help him since Fionn possessed the magical ability of curing anyone who drank water from Fionn’s hands. Thrice Fionn fetched water in his hands, but each time before he was to give it to Diarmud, he let the water spill out onto the ground, and Diarmud perished due to Fionn’s jealousy and malice.

There are certainly many literary references to this story; however, it is a well-known lay and has been recorded in writing from quite a number of living sources, including Duanaire Finn: The Book of the Lays of Finn, Part II (Gerald Murphy, 1933), Leabhar na Féinne (J. F. Campbell, 1872), and can be found in the medieval collection of The Book of the Dean of Lismore (McLauchlan, 1862) which dates from 1512-1542.

Language

A transcription of this lay was made by the noted scholar Seán Ó h-Eochaidh. It was located by Criostóir Mac Carthaigh of University College Dublin and kindly scanned and forwarded (personal communication, June 10, 2015). The transcription was made in cló Gaelach script. Although this was discussed in Chapter 2, it might be worthwhile to see a sample of this orthography. Below is a portion of the transcription made by Ó h-Eochaidh (Figure 5.1):
Figure 5.1: Sample of Transcription by Seán Ó h-Eochaidh

The present author is indebted to Dr. Ranke de Vries who made a critical analysis of this transcription and provided normalised spelling. Unfortunately, space prohibits de Vries’s detailed analysis. Her work was altered slightly for this dissertation and appears below (Table 5.1). The translation is by Kevin McLaughlin.

<table>
<thead>
<tr>
<th>Laoi Dhiarmuid</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lá dá rábh Oisín agus Fionn, Oscar Fuiiteach, D[h]iarmaid Donn. Conán [Ô h-Eoɔhaidh wrote Conáig[184] Mao[i]’ s mé fhéin Clogad an Aonín</td>
<td>Once upon a time when Oisin and Fionn, Oscar Bloodthirsty, Diarmaid Strong, Conag Bald, and myself The Helmeted One</td>
</tr>
<tr>
<td>2. Gur ghluais muid ’un sealg maidín céo Go Gleann Mhic Smóil sa ghruid go daif[?] [Lamper (?) luaidh fhéin nan seo caile caol] [Ná bhfuil luaidh fhéin nan seo calcal (caireal?) – v2, 1949]</td>
<td>As we set off the hunt a foggy morning To Gleann Mc Smol on the ridge of oaks With my own men driving here boars</td>
</tr>
<tr>
<td>[at this place, in 1949, informant begins to sing 6C: A gélleadh Éire atá a réalise that he made a mistake and then shifts to Scaoilidh. In 1946, he begins with O aill, which may be parallel with Scottish Gaelic O uill (Oh, well)]</td>
<td></td>
</tr>
<tr>
<td>3. [O aill] Scaoilidh Fionn Bran amach Agus pillidh sí agus scead go binn. A rádh na bhfoicil [bhfocla] arsa Fionn, “Tá ár gceann i gconntabhairt chruaidh</td>
<td>Finn released Bran And she returned yelping shrill Saying the words says Finn Our heads are in extreme danger</td>
</tr>
<tr>
<td>4. A rádh na bhfoicil tháinig sí láthair. An bhean ba bréaghte samhailt cruibh. Bhi follam óir bhuidhe [le go fal ’s i] a folach [sounds like le go fal ’s i folach in both 1946/1949] A sáil [a] síos go druíucht [a was not capitalised]</td>
<td>Saying the words she came forth The most beautiful woman (a hooved apparition) There was golden hair hiding her</td>
</tr>
<tr>
<td>5. Ag gélleadh Éireann atá mé Nó freis bheim ina tímcheall A gélleadh Éire [Éirinn] atá tú [is a Fhionn] ní minic A fuair a t-aon bhean [6C/D in 1949 were: A gélleadh Éirinn atá tú is a Fhionn nuidh tú / La cas goar coir na...]</td>
<td>Tis yielding [lit. submission] Ireland I am Or with a blow in their midst Yielding Ireland you are says Fionn not often That I got the chief woman Yielding Ireland to you and woe to Finn and you/ with a right bent leg...</td>
</tr>
<tr>
<td>7. Scaoilidh Fionn an Fhéinn amach [Aguus go deile s’éilishe thá s a bhlois; Ô h-Éoɔhaidh ommitted] ’S [so, seo?] mharbhuih sí na sléighte</td>
<td>Fionn released the Fian And she clapped her hands And she slew the host</td>
</tr>
</tbody>
</table>

183 Minor changes were made, such as substituting agus, is, or ’s for the shorthand 7 symbol that Ó h-Eochaidh used (see the first and third line in the example above); which word that was substituted depended upon what the informant sang. Some punctuation was added. The verse order was also changed to match the order by which they were sung. Also, de Vries did not adjust Ó h-Eochaidh’s work to show the structure of the lay; however, the present author did add carriage returns to emphasis the lay’s syllabic structure. This is normally not done in dán díreach poetry; lines are not written one on top of the other so as to clarify the poetic ornament, but are written left to right until the width of the document (minus the margins) is filled.

184 In the recording, the informant seems to be saying Conán, not Conáig. Conan (or Connan) was a Fenian as well, the brother of Goll who was the more redoubtable of the two.
"Coinnigh síos do lámh frin," arsa Fionn
'S na marbh féin an fhear níos mó.

The singing ends here in 1946. Ó h-Eochaidh continues to
scribe from the end of the 1949 recording:
Mur bhfághaidh mise
Rí nó cheannport sloigh.

The third verse of the 1949 version is written as the fifth
verse in this transcription:

5. "A bhfuil sibh ann a shlóighte Finn
Ná bhfuil sibh uilig go léir cruinn?
Má tá sibh ceangailte fá mur gcom
Rachad-sa fhéin ar thoiseach sloigh.

Table 5.1: “Laoi Dhiarmuid” Transcription and Translation

It should be noted that Ó h-Eochaidh did exceptionally well with this transcription,
particularly considering that he could not foresee his work being analysed through computer
enhancement (applications like Audacity® allow for minute selection of an audio file to be
isolated and repeated ad nauseam until the phoneme combination is made comprehensible.
Praat® isolates and displays overtone formants which define vowels).

In comparing the transcription to the audio file, a number of variations were noted. When a
difference was observed, changes by de Vries or the present author were indicated by enclosing
suggestions within brackets. The present author made such notations due to sounds and not
for grammatical reasons. Therefore, intrusive vowels between words were indicated.185 Also,
Ó h-Eochaidh omitted indecipherable lines or phrases including 2C and 7B. In such cases,
placeholders were inserted using the Irish Gaelic spelling system. Perhaps future scholarship
might discern these words. Fictitious words were used so as to identify alliteration and
preserve syllable count. Additionally, the verse order as written did not follow the sung
delivery. Verse five in the transcription of the 1946 recording actually came from verse two of
the 1949 recording and was interposed by Ó h-Eochaidh to make the story more compete. It
has been appended to the bottom of the transcription so as not to confuse the listener when
both reading the text and listening to the recording.

The introductory verse often defines a Fenian lay’s topic. The lay of Diarmud begins with
naming a few Fenians (which often includes Diarmud) and that they were hunting at a
particular location, traditionally on Beann Ghulbainn (Gulban’s Mountain). Here, they are in
Mac Smól’s Glenn.

The poetry has been greatly altered with time, but its elements can be glimpsed. Syllable count
is identified at the end of each line with parentheses. Verses are labelled by Roman numerals;
lines within each verse are identified by Roman letters: A, B, C, etc. Here are the first six lines,
which seem to be connected through melody:

1. Lá dá rábh Oisín agus Fionn, (8)
   Oscar Fuilteach, Diarmuid Donn. (7, 8 if Di-ar-muid)
   Conáig Mao[i]’s mé fhéin (5)

185 This is often not done but is necessary here. For example, if a transcription is made for an informant singing, “I
love you”, but is actually delivered “I love a you”, the former is often written; in this dissertation, the latter will be
annotated. Correcting the singer is not the role or function of the transcriber. There may be grammatical or poetic
constructions that such well-meant corrections may hide from future analysis.
Clogad an Aoín (4)

2. Gur ghluais muid ’un sealg maidin ceó (8)
Go Gleann Mhic Smóil sa gruaid go dair (8)

Bold font indicates perfect rhyme or assonance. Italicised letters indicate alliteration. Syllable counts are in parenthesis. Line 1D flows into 2A when sung and appears to be corrupted, destroying the syllable count and the definition between lines. Notwithstanding this, the poetry is syllabic. There seems to be a pattern of having perfect end rhyme between two consecutive lines; this occurs in 1A/1B, 3B/3C, and 5A/5B; also, aicill rhyme (sometimes not exact) occurs between lines 1C/D, 2A/B, 3C/3D, 4B/4C, and 6A/6B. Alliteration (not necessarily consecutively stressed syllables) occurs quite often. Strong examples include (1B) D[h]iarmuid Donn, (3D) gcceann i gcconntabhairt, (4B) bhean ba bréaghaichte, and (4D) sáil [a] síos.

There are also short formulae; for example, (7A) Scaoilidh Fionn an Fhéinn amach, and the above-mentioned examples of alliteration.

**Graphical Analysis**

The graphical analysis shows some interesting rhythmic patterns and end-of-line extensions. These will be discussed in following sections. Below is the graphical analysis (Figure 5.2) of the recording from 1946 with the mean of A (Lá) =160 Hz.:

![Graphical Analysis](image)

There did not seem to be ornaments and the music was syllabic (one pitch per syllable). Some of the endings of words such as Donn, Conán Maoil ’s mé fhéin. Clogad an Aoín were on lower pitches. This did not seem to indicate that these words had musical neums, but rather that the ending voiced consonants were given specific pitches. This indicates that there might be some form of mora-timing with regard to the performance of lays. Also, the word dá (line 1A) did not seem to have been sung.

The general rhythmical pattern validates previous descriptions of lays being sung in a manner like chant. There is no metre; the short syllables are pronounced as specific to their spoken length and were not made uniform. Long syllables (vowels) were sung longer as they are when spoken; they were not a whole number multiple of the shorter syllables. This patterning has often been described using the term parlando (see Figure 5.10, below, where Shields writes rubato parlando), but using Italian musical terms to describe Gaelic music might be seen as ingratiation. A more accurate term might be “narrative”.

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**Pitches**

The pitch structuring is interesting in that the informant sings with many notes slightly at variance with the diatonic scale. If normalised to the natural scale, the tune is as follows (below, Figure 5.3):

![Figure 5.3: “Laó Dhiarmuid” Pitch Summary, Natural Scale](image)

Whilst the use of F♯ might seem appropriately placed to match one of these notes, it may be rather high. That is, there is no particular reason why the pitches would be composed for a natural instrument at such a high range although it is possible. At this pitch height, the pitch sequence does match the diatonic scale. However, it is also possible that the tune might be playable on a bagpipe; unfortunately in this form, the upper limit of a bagpipe is exceeded. If the music is transposed down a perfect fourth, the following results (Figure 5.4, below):

![Figure 5.4: “Laó Dhiarmuid” Pitch Summary, Bagpipe Scale](image)

Whilst either scale is possible, the difficulty in playing Figure 5.3 is greater than Figure 5.4. Therefore, the most probable origin for this tune would be that from the bagpipe tradition. It also might be mentioned that in an earlier time, a transcriber of this tune would have been considered mandatory to add F♯ to the key signature in Figure 5.4 even if that note never appeared in the tune.

**Rhythm**

As mentioned above, the informant seemed to treat the voiced sounds in a mora-timed manner. That is, voiced consonants were given value, as are vowels, when delineating pitch. So as the singer descended in pitch while singing the sequence vowel-consonant-vowel-consonant, each segment was given a different, discrete pitch. Furthermore, the informant treated the first element (normally a vowel) as shorter than the second (a voiced consonant). This mimicked the “Scots’ snap” since the second element would be an obstruent and is always at a lower volume (and pitch) than a sound that is not obstructed. The first element was also short which exaggerated this hard/quick – short/long pattern. This might be seen in 1C with Conán maoir’s mé fhéin, where musical neums occur on the ending voiced consonants of the ending <n> of Conán and the ending <l> of maoil.

There is no extension of any unstressed word or syllable to any significant extent. Also, the accented or stressed syllables in ultimate or penultimate positions were not elongated. As will be shown later, this is in contrast to how more modern singers sing lays; in these latter cases, it appears as though the singer finds it necessary to emphasise the ends of phrases that would

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186 This is not entirely true, as playing exclusively on the 7th partial and above is evidenced by Norwegian shepherds playing short wooden trumpets (Hirt, 2015b, p. 14).
normally coincide with consonant chords with accompanying instruments. Such extensions at the ends of phrases (which did not occur with Ó hIghne except in a very limited manner in the first verse) may also coincide with a more literate approach or training. That is, since poetry is presented in verse form to literate learners with each seven-syllable or eight-syllable line one below the other, literate learners of written poetry think in those discrete terms. They subconsciously “inhale” at the end of each line, pausing or elongating there. This did not occur with Ó hIghne. His approach might be made analogous to someone walking along a path. Every few paces there might be a few bushes that come along with the same coloured flowers (alliteration). Spaced farther apart might be a few of the same kind of tree (end or aicill rhyme). The path (pitch) goes up and down; there are no particularly steep or flat areas (short or long notes). Once the traveller gets to the bottom of a valley, he may rest a bit (inhale). As the traveller looks down the path, a myriad of bushes, flowers, and trees can all be seen situated in the distance on the way down to the destination. This conceptualization does not occur to a literate person. To such persons, words are memorized by groups. Groups are memorised by poetic line. The beginnings of each line are memorised through pneumonic devices.\textsuperscript{187}

Therefore, Ó hIghne’s does not pause at ends of lines or phantom harmonic consonances (discussed in section 4.6.4. Conservatory Characteristics) but continues to sing until he comes to the end of a thought and then inhales. This defines his “musical hill” which has a number of accents, stresses, and slight pauses along the way.

**Pitch Accent**

To describe how the poetry is performed with regard to stress and pitch accent, capital letters were written for stressed syllables; bold font indicates the highest pitched syllable in a line. If two stressed syllables share the same pitch, they are both made bold. The pitch accent of the first verse as identified in the pitch-tracking software is as follows:

\textsuperscript{187} One significant advantage that Stanislavski actors possess is that they are trained to avoid this. They do not learn verse through “line reading” but deliberately learn words by speaking in monotone with each syllable given equal stress and length. Great attention is paid to punctuation so as to defeat it; for example, two words on each side of a punctuation mark are repeated over and over (perhaps thirty times) so that there is no pause between the two. This is also done between the last few words of a verse and the beginning of the following verse. This allows Stanislavski actors freedom of expression, volume, accent, and speed since they are never at a loss for the following word. Line reading traps the actor or singer into a rigid and pre-conceived, conditioned behaviour. In particular, it forces the literate actor or singer to “freeze” at the ends of lines and verses, as the next word is frantically sought. It is quite facile to identify such terrifying moments experienced by actors once trained to see it; for example, in early movies, Sir Lawrence Oliver would often forget his words and artfully extend his physical movements as he mentally searched for the next words of the dialogue. Freezing at the ends of motions is a common problem that is often addressed in athletics.

LÁ DÁ RÁBH OÍSSín agus FIONNN, OScar FUILteach, DIARmuid DONN, CONÁN MAOIL ‘s MÉ fhéin CLOgad an AOIN

In the first line, the dominant (reciting) pitch occurs on rábh although it may sound as though the shift in pitch begins on Oísín. In 1C, mé is stressed more than fhéin, which may not occur when speaking; however, it often occurs when a speaker declaims mé fhéin, placing additional stress on fhéin, but it is not so in this recording. Also, no syllable of 1C was accented by pitch.
The interplay between intensity and frequency may be seen in the following figure where the first verse is plotted with both pitch (dashed line) and intensity (solid line) contours (see Figure 5.5, below):

![Figure 5.5: “Laoi Dhiarmuid” Intensity and Pitch Contours V. 1](image)

The first three poetic lines were delivered in one breath. The higher pitched, accented syllables (Fionn, Donn) therefore fell in the centre of the exhalation, which matches that of speech. Even so, having stress or accent at the end of a line is reminiscent of a limerick and is not unusual; however, the singer did not perform it that way here. Line 1C descended in pitch as is normal in speech. It must also be noted that in the 1949 version, the informant does not pitch accent Fionn (1A) or Donn (1B).

A review of where pitch accent fell in the entire poem showed that pitch accent shifted markedly from line to line and verse to verse. It was therefore annotated in the text of the poetry (above, in the Language section) so that the reader might see such marked variation. Perhaps accent variation explains why the delivery of Fenian lays is so widely misunderstood. That is, the above accent analysis may explain many of the heretofore unsolved problems encountered while attempting to understand the performance practices of heroic lay singing, perhaps throughout all of Europe. In summary, it is perhaps not the narrative rhythm that confuses listeners of Fenian lays and makes lays bewildering, but the shifting pitches that move from line to line and verse to verse.

The informant seemed to sing knowing that the ending of the utterance would descend to a low pitch. All strongly stressed (accented) syllables before descending to that low pitch were given higher pitches.\(^{188}\) If there were additional words at the end of a verse after all of the pitches in the melody had been sung, Ó hIghne either repeated a melodic portion for those last remaining words or chanted them monotone. Then he inhaled again and started the next verse with roughly the same melody.

**Resonance Tuning**

Resonance tuning appeared fleetingly and was variously present and varied throughout the lay; it was mainly absent as can be heard.\(^{189}\) This may be due to the age of the informant.

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\(^{188}\) One unique characteristic specific to this particular lay is that a higher pitch was occasionally given to an unstressed monosyllable (a preposition) that preceded an accented syllable. This can be seen in line 4C with *le go fidh*.

\(^{189}\) The present reader may find this challenging at first if not trained to hear the *nyahh*, but is certainly achievable with some practice.
(seventy-one), the poor sensitivity of the microphone used to record the lay, or the forced nasality of ending consonants, which seemed to throttle the *nyahh* instead of activating it as is customary. The nasality might be seen below (Figure 5.6), sung on the voiced consonant <nn> of the word *donn* in the version of 1949 which is of higher recording quality:

The bulge near the 3.5 kHz. region can be seen, but it is more prominent due to a lessoning of surrounding frequencies than a strengthening of the area near 3.5 kHz. This is shown by the concave profile, which is normal while investigating relationships between formants.

Resonance tuning cannot be observed in the 1946 recording; as mentioned, this is perhaps due to the recording equipment. Here is the same sound from the 1946 recording (Figure 5.7, below):

The recording of 1949 showed much more of the presence of resonance tuning (the *nyahh*) than the 1946 recording which might be considered unusual since resonance tuning often diminishes with the age of the singer. It did not happen here, as the slope is slightly convex between formants. Also, as singers will complain, activating resonance is often difficult, particularly at a low volume.

Here is an example of slight resonance tuning in the 1949 recording on the word *Smóil* that is in the second verse (below, Figure 5.8):
The peak at 3.5 kHz. can be seen to rise above the surrounding frequencies. This is in addition to the overtone peaks that occur that define vowels.

**Vibrato**

Vibrato was present, but appeared only occasionally. This was due to the short duration of the syllables as sung; that is, the informant was not declaiming and unstressed syllables were short. Since pitch fluctuation must be periodic to be observable by listening or through the use of a computer application, time must elapse on a syllable where vibrato would naturally occur. If vibrato does not develop within a sufficient time frame, it is often an indicator of European art music influences, as was discussed in Chapter 4 and will be mentioned in this chapter in section 5.3.5, Laoi na Mná Móire-2008. That is not the case here, where vibrato occurred whenever there was any type of elongation to a syllable (particularly a vowel, although vibrato may occur on a voiced consonant). Here (below, Figure 5.9), one can see vibrato on the word Fionn of the first verse where the <nn> is elongated and sung with vibrato:

As seen above, vibrato was not strongly periodic. This may account for its difficulty in being heard by the casual listener.

**Volume:**

The delivery of this lay was done at a moderate volume. Therefore, there was no evidence of elongation of unstressed syllables or the need to inhale more often than when speaking at a normal volume.
Summary:
This lay is particularly important as its existence had been known, but not the transcription by Ó h-Eochaidh, and its digital version had not been created. Also, there were two recordings of this discovered where there had only been one generally thought to exist previously.\(^\text{190}\) The singing style was important in that it was done narratively, at a moderate volume, which perhaps limited the resonance tuning. Vibrato existed, but since there were few syllables pronounced long enough to allow for the periodicity of vibrato to occur, it was not significant. However, vibrato was never suppressed.

5.3.2 Laoi na Mná Móire

Recording History
This recording was included in Shield’s *Scéalamhráin Cheilteacha* (1985a, pp. 23-25) as was the transcription; the translation was difficult to find as it was printed in a supplement. The original recording is located at the University College Dublin (UCD) Library. The recording is under copyright, but attainable through correspondence with UCD, through purchase of the book *Scéalamhráin Cheilteacha* (Shields, 1985a),\(^\text{191}\) at a library, or through inter-library loan, etc. The informant was Séamus Ó hIghne who announced that he is in Gleann Cholm Chille (area of Dún na nGall – Donnegal). Séamus was related to Micheál, but they were not brothers. It was recorded in 1945 by Caoimhín Ó Danachair and Séamus Ennis (NFC: 0106[b]-0107) and is listed as CT0260. It is included in this dissertation as 5.3.2_LaoiMnaMoire.wav.

While recording the informant, the collector stopped the recording device and then restarted it. This division marks a change in the melody. This separation between tunes has been marked by the present author by the insertion of two seconds of a tone at A=440 Hz into the sound file.

Narrative
The informant announced the name of the lay before singing it, so there is little doubt about the accuracy of the collector in naming the lay correctly. This poses a problem since there is no known written record of this lay in reference material; however, there are certainly parallels to thematic material in other lays. The lay of the female (normally female, but occasionally male) sea hag, the *muileartach*, and her fight with the Fenians is well known and will be discussed in Chapter 6, sections 6.3.7-9, and Chapter 7, sections 7.3.2-5. There are also a number of encounters with formidable females who meet their deaths after terrible encounters, such as in the lay “Fionn’s Ransom”:

> Shortly after this fight was over, the Old Woman, whose size was large and great, appeared. As she came close to him, her breath was weakening him; he endeavoured as much as he could to

\(^{190}\) Again, it should be noted that the credit of the research of finding the two recordings belong to Anna Bale and Criostóir Mac Carthaigh. Mac Carthaigh also found the transcription and scanned the images. Spelling normalisation was by Ranke de Vries.

\(^{191}\) This resource provides excellent sampling of narrative singing in the Celtic languages across Western Europe. It includes transcriptions of many songs and a cassette recording. Unfortunately, the translated text is sold separately with the title that is the same as the main text but by a different publisher. The translations are under the auspices of European Ethnic Oral Traditions, Trinity College Dublin (Shields, 1985b).
The daughter of Diarmuid, Eachtach, also was seen as a fierce warrior, engaging and killing many *fianna* in combat to avenge her father’s death (E. MacNeill, 1908, pp. 149-151). There are also lays concerning Essroy (“Eass Ruaidh”, “Duan na h-Inghin”, “An Ionmhuinn”, “The fall of Roya”, “Cath – Righ Sorcha”, “Maighre Borb”, “Essroy”, “Eass Ruaidh”, “Maire Borb”, “The Lay of the Maiden”, etc.), but these lays involve a beautiful woman. There is also the lay of the old woman, “A Chailleach” (old woman) (J. F. Campbell, 1872, pp. 60-61), but unfortunately, beside the name, there is little else that these lays have in common with “Laoi na Mná Móire”.

**Language**

The transcription and translation of the lay are as follows; see Shields (1985a) for the Gaelic text and (1985b) for the English translation. Both may be seen below in Table 5.2:

<table>
<thead>
<tr>
<th><strong>Laoi na Mná Móire</strong></th>
<th><strong>Translation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. An lá bhí Oisín agus Fionn</td>
<td>The day that Oisin and Fionn</td>
</tr>
<tr>
<td>I (Shields has “O”) nGleann Mhic Smóil an ghlóir [i] ghrinn</td>
<td>Were in Gleann Mhic Smoil of the penetrating voice (?)</td>
</tr>
<tr>
<td>I d’i d’f’alambh Mhic an Laighnigh na sleamhnán cruinn,</td>
<td>In the land of Mac an Laighnigh of the round slides (?)</td>
</tr>
<tr>
<td>Scaoil siad an dá ghadhar déag amach.</td>
<td>They unleashed the twelve hounds -</td>
</tr>
<tr>
<td>5. Ba bhinnse ná téad a nglóin</td>
<td>Sweeter than a harp string was their bark</td>
</tr>
<tr>
<td>A d’fhág a n-ambharc amach.</td>
<td>As they left their sight (?)</td>
</tr>
<tr>
<td>Chuir Fionn a ordóg ina bhéal</td>
<td>Fionn put his thumb into his mouth</td>
</tr>
<tr>
<td>Is chogain sé i go dti an smior;</td>
<td>And chewed it to the marrow.</td>
</tr>
<tr>
<td>Sin an uair a labhairreas an Conán M[h]ao[i].</td>
<td>That is the time when Conán Maol speaks,</td>
</tr>
<tr>
<td>10. “Dar mo láimh sin ort, a Chónáin Mhaoil,</td>
<td>‘By my hand, Conán Maol,</td>
</tr>
<tr>
<td>Cé gur mhór an bhrí ár geonairt gharr</td>
<td>Though our fierce pack of hounds has great strength</td>
</tr>
<tr>
<td>Tá siad marbh uilig gan bhrí</td>
<td>They are all dead without strength</td>
</tr>
<tr>
<td>Ach an Bran ariamh a thug an bua[i] ag sealg.”</td>
<td>Save Bran who was the best at hunting.’</td>
</tr>
<tr>
<td>Ó, tháinig an Bran agus a fiuch salach,</td>
<td>Oh, Bran came dirty and wet</td>
</tr>
<tr>
<td>15. Scream go cruas agus ghol go binn:</td>
<td>And she; screamed hard and wept sweetly,</td>
</tr>
<tr>
<td>“A Chónáin a rún, tá do cheann i gcontúirt chrua[idh}</td>
<td>‘Conán dear, your head is in great danger.</td>
</tr>
<tr>
<td>Ó, leag muid togha agus rogha gach bia,</td>
<td>We felled (?) the choicest of food,</td>
</tr>
<tr>
<td>Choise muid aír n-oears ar fheoil agus ár dtart ar fhión,</td>
<td>We sated our hunger with meat and our thirst with wine;</td>
</tr>
<tr>
<td>ACH is é no mhian nach dteacht go bhia chuain go foill.”</td>
<td>But it is my desire that my food may not have gone to rest yet.</td>
</tr>
<tr>
<td>20. Ár ráit na bhfocla, tháinig si i láthair:</td>
<td>When these words had been spoken, she came to them,</td>
</tr>
<tr>
<td>“Go mbeanna daoibh, a ghrá sibh a Fhinn,</td>
<td>‘Bless you, ...(?) Fionn,</td>
</tr>
<tr>
<td>Tá sibh uilig ann in éineacht ‘S gur leat,</td>
<td>You are all here together And to-you,</td>
</tr>
<tr>
<td>a Fhinn Mhic Cumhaill, Atá lán mo chuid barc.”</td>
<td>Fionn Mac Cumhail, Belong all my barques.’</td>
</tr>
<tr>
<td>25. Bhí troighthe dá teanga taobh amuigh dá béal</td>
<td>There was a foot of her tongue outside the mouth</td>
</tr>
<tr>
<td>Ag an pheist mhór nár bhán an cru[i]th,</td>
<td>Of the monster whose appearance was not white.</td>
</tr>
<tr>
<td>Bhí brat uirthi go barr na sál,</td>
<td>She had a cloak on her down to her feet.</td>
</tr>
<tr>
<td>Bhí taobh dubh is an taobh eile bán</td>
<td>One side was black and the other was white</td>
</tr>
<tr>
<td>Is ní bhfaighfeá ar na sluaite bean ba ghráice. [ghrá?]</td>
<td>And in the hosts you would not find an uglier woman.</td>
</tr>
<tr>
<td>30. Ó, is iomaí long amuigh ar lear,</td>
<td>Oh there are many ships at sea,</td>
</tr>
<tr>
<td>Is iomaí cabán geal i dtír.</td>
<td>Many bright cabins on land.</td>
</tr>
<tr>
<td>Sin an uair a labhairreas an Conán Maol:</td>
<td>That is the time when Conán Maol speaks,</td>
</tr>
<tr>
<td>“Dar mo láimh sin ort, a iníon an rí,</td>
<td>‘By my hand, king’s daughter,</td>
</tr>
<tr>
<td>Ní ghabhfaidh mé leat mar mhnaoi</td>
<td>I will not go with you as spouse</td>
</tr>
<tr>
<td>35. Is go n-aithním ar do ród sróil</td>
<td>And I recognise from your...(? of satin</td>
</tr>
<tr>
<td>GUR tú tháinig romhan sa tseig inniu.”</td>
<td>That it was you who came before me in the hunt today.’</td>
</tr>
<tr>
<td>Ó, sin an uair a ghlac sí an lann faobhrach gheár</td>
<td>Oh that is the time when she took the sharp-edged blade</td>
</tr>
</tbody>
</table>
| Na n-iomata fiach ina láimh deis; | Of the many hunts in her right hand.

| 157 |
20. Is nár mhór an díth do rinne an bhean.

[Tape stops and is restarted]

Mo bheannach duit, an inín an rí, Ná cuir den tsaoil aon fhleamh nó, Ós go ngabhadhfinn leat mar mhnaoi Ach múr’s bé Goll Caoch na n-aoilechobh.

45. Is é a chuirsigh sé mé as mo ghaol "Á ndéanfainn athrú ar mo bhraon báis.

An bhean a ghabhfaidh mé léithe i dtús mo shaoil, Is leis an fhearr choach a bhíodh a páirt.”

Ó, ghlaés sí uirthi an cabbhla chléicheal

50 Is thóg sé siocht go hard le gaoith.
Bhain sí talamh amach i bBinn Éadain na slóit’
Ísan áit a raibh Goll Mór na n-gníomh.
Scannraigh sé ó mhullach go lár
Agus (3)”d’fhiafraigh sé c’éabhaird fios d’fhéar an t-sloigh.

55. "Mise’, arsan Caoilte ‘is chuir muid an fear crua chun siúl.”
Bhi sé istigh i dtír roimh an mhnaoi mhóir
Is nior mhuir sin dó,
Scannraigh sé ó mhullach go lár
Agus (3)”d’fhiafraigh sé cén talamh ná ’n tráigh.

60. Ná cárb as an mhnaoi bhréar
"Mise inión Ri Gréag
Agus bhíseáfainn comhraic do dheich gcéad laoch
Mura dtoghsa dohmsa mé bheith i mo chéile gan bhreig
Ag Fionn an Aigh ar feadh naoi n-oiche agus naoi lá

65 Gan chodladh go mór go gníomh.
Is d’aír Oscar cead comhráic a fhasail
Agus chuirsé sleagh fríd chorp na mná móire amach.
"Ó, bí mé lá is sí brá tu mo scéal
Is gurb é dairiochta m’athara féin

70 d’fhág ins na cianta fionn gheasa mé.
Draoi a bhi á dhearbhú dó
Dá bhfaighinnse ri ná ceannfort slóigh,
Go mbheadh again Mac an Domhain dó
Is go gcaillead fhéad sé a cheann is a choróin.”

She took the head from a warrior’s helmet,
And wasn’t it great damage that the woman did!

[Tape stops and is restarted]

‘My blessing on you, king’s daughter,
Do not put any more men from this life,
Oh, and I would go with you as spouse
If it wasn’t for Blind Goll of the fair hands;
It is he who would put me from my kin (2)?
If I were to make a change on my drop of death (?).
The woman I will go with for long ages entranced.
It is for the blind man that her affection was.’
Oh, she prepared the bright fleet
And she lifted high her sails to the wind.
She came to land at Howth of the hosts
In the place where Big Goll of the deeds was.
He took fright in his whole body
And asked who would carry word to the man...of the host.

‘T’s says Conan [sic]. ‘And we sent off the hard man (?)’
He landed before the giantess
And it was of no good to him.
He took fright in his whole body
And asked which land or shore
Or where was the fine woman from.
The woman I will go with at the beginning of my life,
If I were to make a change on my drop of death (?).
Without sleep, without rest, without one bite of food.’
Oscar asked to be granted combat,
And he put a spear out through the body of the giantess.
‘Oh, there was once I was and my story was pitiful
And it was my own father’s magic
That left me for long ages entranced.
A druid declared to him
That if I were to get a king or leader of a host
I would have the Son of the World to him
And he would lose his head and his crown.’

Because the rhyme is varied, there is no consistent verse structure to the lay. This has perhaps caused Shields to write line numbers by groups of five. Unfortunately, this tends to make the reader believe that the poetry is designed in a base-ten system when that is actually not the case.194 Consider the first four lines of the lay and their structure:

1. An lá bhí Oisín agus Fionn (8)
I nGleann Mhic Smóil an ghlóir [i] ghrinn (8)

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192 The story of how Caoilte got his name will be discussed in the next chapter in “Duan na Ceardaich”. It is unknown why Shields replaced the name “Caoilte” with “Conan”. Perhaps it was to correct a mistake by the informant. Conán was Goll’s bother. It could be that the shifting use of voice (“I, said Caoilte” – first pers. sing. and “We sent off the hard man” first pers. pl.) confused the transcribers. The singers of Fenian lays often incorporate themselves into the story. For example, in the previous lay “Laoi Dhiairmuid” the singer begins with listing the Fenians present, Lá dá rábh Oisín agus Fionn, Oscar Fualteach, Dhiairmuid Domh / Conán Moch ‘s m’é féin Conán / Cluaidh an Aoin (lit. One day there was Ossian, Fionn, Oscar, brown-haired Diarmaid, bald Conán and me, myself) who were on Gleann Mhic Smóil. The present lay (“Laoi na Mná Móire”) is also situated in the same place.

193 In the mind of a Gael in the Middle Ages, Greece was an unknown land in Central Europe.

194 In Scottish Gaelic, French (minus the Channel Islands, and others), Welsh, Breton, etc., counting is in a base-twenty (or vigesimal) system; in English, this pattern was used as in counting by “score”. For example, in Scottish Gaelic, forty is expressed by the equivalent of “two (times) twenty”, dà fhichead.
I dTalamh Mhic an Laighnigh na sleamh[i]nán cruinn, (11; 12 with vowel bracketed by the present author, which is clearly discernable)

Scaoil siad an dá ghadhar déag amach. (9)
5. Ba bhinne ná téad a ngloim (7)
A d’fhág a n-amharc amach. (7)

The poetic ornament might be difficult to discern to the average reader due to one aspect of the orthography system that can be confusing. As previously mentioned in Chapter 2, often a palatal or non-palatal vowel is inserted in the spelling to indicate the palatal/non-palatal nature of a consonant even though the inserted letter’s pronunciation may be minimal. That is often the case here where words rhyme, but the orthography visually camouflages it. In 1A, 1B, and 1C, the ending words are Fionn, ghrinn, and cruinn. In each case, the <i> (the [I] sound) is dominant and the words all have perfect rhyme. This is visually hidden by the orthography. However, the informant was not reading the words on a page, but singing the words from memory. If the lay is heard, the rhyme becomes apparent.

Also, Watkins stated of old Gaelic legal texts that had no Latin loanwords yet were heptasyllabic. “The structure is strictly [4 | 3], with the number and position of stresses in the initial completely free, and the cadence (after the caesura) invariably a trisyllabic word” (Watkins, 1963a, p. 220). Yet, if word definition was less defined, there might be seen a poetic feature termed cadence that appears on the rhyme on the last stressed syllable in lines four and five (9³ x 7⁵) where there is rhyme on the stressed syllable:

Scaoil siad an dá ghadhar déag amach.
Ba bhinne ná téad a ngloim

This also occurs in lines twelve and thirteen (7¹ x 10²) with anacrusis (the second line having more syllables) occurring if word definition is blurred:

Tá siad marbh uilig gan bhri
Ach an Bran ariamh a thug an bua ag sealg.” [heard, not written as thug go bi-i sealg]

This is repeated throughout the lay. In this type of ornament, the unstressed syllables following a final stressed syllable of lines are regulated. What is unusual is that cadence in dán díreach poetry must be encapsulated within a word. Here, the ornament involves several words. This implies that the rhyme was created without the conceptualisation that the ending elements were separate words; for example, téad a ngloim was considered to be one word. This may be a mark of illiteracy, yet the filidh were not illiterate. This is discussed in the next section, 5.3.3. “Laoi Tóiteán Tithe Fhinn” in the subsection on language.

As in the previous lay, there may be elements of mora-timing with regard to the length and observance of voiced consonants; that is, voiced consonants may be a part of the timing since they are placed on specific pitches that are unique from those of surrounding sounds. This observation seems in parallel to work done by Hugh Shields (1973) examined intrusive vowels in English songs by Irish folk singers; he seemed to believe that voiced consonants had unique pitches. This characteristic is eschewed by classical singers who are considered at fault for placing the pitch of a voiced consonant, not with its syllabic group, but with the previous syllabic group. That is, they are criticised by “scooping” when ascending a melodic line. In art music, the pitch of a central consonant in a word or group of words often belongs to the second
syllable and not the first, yet art singers may be delayed in shifting pitch; this is considered a fault. For example, singers will often sing “Lord God” written with “God” on a higher pitch than “Lord”; the [g] will often be (incorrectly) on the lower pitch. This is not the case with the analysis of folk songs by Shields. The singers are deliberately placing voiced consonants on separate and distinct pitches. Shields extended his work on “Supplementary Syllables in Anglo-Irish Folk Singing” from 1973 into his work in Scéalamhráin Cheilteacha (1985a, p. 23) where he annotated this present lay. A portion of his transcription of “Laoi na Mná Móire” is shown below (Figure 5.10):

![Figure 5.10: “Laoi na Mná Móire” from Scéalamhráin Cheilteacha](image)

In the first line, the <ghl> of ghlóir is given a separate note from the following vowel; the second line designates separate pitches to the consonantal group <cr> of cruinn and in the third line the <ngl> of ngloim. So he treats them as individual syllables as they may have differing pitches. This may be significant. Irish singers will often extend the last voiced sound of a word, not the last vowel of a word; this is often a voiced consonant. Such behaviour may not be merely a difference between conservatory singing and “folk” singing, but may influence the construction of the poetry as well. Generally in Irish traditional song, the poetry is composed to an existing melody, not the melody constructed to conform to existing poetry, “Gaelic poets usually wrote their poems to fit an existing tune. This is the reverse of the European procedure, where the words come first and are then set to music” (Ó Riada, 1982, p. 26).

**Graphical Analysis**

As a reference, here is the notation as published by Shields (1993, p. 20) in Figure 5.11, below:

![Figure 5.11: Published Notation of “Laoi na Mná Móire”](image)

Although the print quality is unfortunately poor, yet one can see that Shields attempted to write the notation to match the rendition of the informant as closely as possible and not alter it to match art music conventions by observing the graphical analysis below (Figure 5.12).
Here, the mean of D (on là) = 215.5 Hz. The first fifteen seconds of the informant speaking an introduction to the lay have been removed from the analysis.

An orthographical change was made with an ghlóir. When pronounced, the <n> is dropped in Irish Gaelic. This is true also with the verbal noun indicator <ag> where it is spelled in Irish Gaelic but contracted in Scottish Gaelic. So “going” (lit. at going) is spelled ag dol in Irish Gaelic and a’ dol in Scottish Gaelic, but it is pronounced [a doL] in both languages. In the above instance, the expression was spelled a’ ghlóir due to space limitations. This will occur throughout the dissertation without further comment.

There seems to be a slight ornament on ghlóir (line 2), but it is faint. Here are the next three lines (Figure 5.13):

There may also be a slight embellishment on n-amháirc (line 6), but as with ghlóir above, it is slight. Here are the next three lines which now complete the melodic structure (Figure 5.14):
The arrangement of the pitch onset markings show that the lay is sung non-metrically. Also, there are some extensions of stressed syllables that do not indicate metre; that is, the singer did not extend the syllable so as to have its length be a multiple of a metric unit.

The tune changes at line 41. This tune is as follows (below, Figure 5.15) with the mean of $D$ (rl) $= 199$ Hz. The $x$-axis was reset to zero at time index 170.5 seconds.

Here one can see that the tune is completely different. There is a neum on -ión (of ioión), which is on the vowel. The second half of the verse is as below (Figure 5.16):

One can see that throughout the performance, the informant sang without regard to any core metric temporal unit. There are musical neums on Goll and n-aolchrobh and an embellishment on ngabhfainn. This embellishment is an extension of the neum and will be discussed presently.

**Pitches**

The summation of pitches matches the diatonic scale with elements of the natural scale where the scale is gapped (arpeggiation). It appears as below (Figure 5.17):

Most notes of $B_4$ were sung in passing although one is stressed. However, with the exception of one $A_5$ that is sung in passing, this tune matches the bagpipe scale as shown in Figure 3.16.
The first part of the recording is quite lyric as opposed to the second half. As Shields (1999) commented:

The same song ["Laoi na Mná Móire"] sung by Séamus O hIhlge has the tunefulness of lyric song, and 'Laoi an Amadáin Mhóir' (The Lay of the Great Fool) is sung to a dance tune at a slow pace by Seán Bán Mac Grianna. Like the last of these, a number of the Northern tunes use a five-tone scale. (p. 211)

Unfortunately, this last song, “Laoi an Amadáin Mhóir” could not be located by the present author. Although Shields referenced it, he did not leave a record of where it was to be found (1993). He also makes note that it was sung to a popular tune in a pentatonic mode. As mentioned in Chapter 3, this most likely indicates that the tune was created to match the natural scale. In order to fill in the space that the absence of “Laoi an Amadáin Mhóir” creates, the next section will examine the structure of “Laoi Tóiteán Tithe Fhinn” (the lay “Burning of Finn’s House”) which is tritonic (three notes per octave) and sung to the popular Christmas poem “Dia do bheatha a naoidhe naoimh” (Ó Laoire, personal communication, May 13, 2015).

The second section of the lay is sung to a tune that seems rather modal in nature. It matches the bagpipe scale (Figure 3.16) as can be seen below (Figure 5.18):

Due to the strong presence of B₄ and absence of C₅, this is probably not the best representation of this tune. Lowering the staff notation so that the missing note is on B₄ would show F₄ quite often. However, transposing the missing note to F₄ results in the following (below, Figure 5.19):

With the exception of a few pitches of D₄ in passing situations and in one stressed position, this is the natural scale as shown in Figure 3.4. It is situated at the low end of it as well.

It should also be noted that there are pitch ornaments in this lay that are indicated by a type of mordent, which is common in popular Irish song. Mordents in Irish music (hereafter referred to as Irish mordents) are a particular type of embellishment; the embellishment occurs when a stressed syllable on a stressed beat (which is often on a high pitch) is followed by another stressed syllable on a stressed beat (which is often on a lower pitch than the stressed syllable). The embellishment occurs when two additional notes are inserted between the original two, the first one of which is on a higher pitch than the first stressed pitch; the second inserted embellishment’s pitch is between the first inserted embellishment and the final stressed syllable. Variation occurs with the placement of an unstressed syllable that is placed between the two stressed syllables. The embellishment (the two notes) is always inserted before the unstressed syllable. If the two stressed syllables are more than a major second apart, the unstressed syllable’s pitch is generally between the two stressed syllables (the embellishments are on a higher pitch). If the two stressed syllables are a major second
apart (again, the first stressed syllable is on a higher pitch than the second stressed syllable),
the unstressed syllable’s pitch is placed below the final stressed syllable, which creates a
mordent. This can be seen in Figure 5.12 on the words ghlóir grinn. The unstressed syllable is [i],
which may be an intrusive vowel or another word, and was written as a separated
digraph: ghló-ir. This last inserted embellished note is occasionally trilled.

This embellishment may be an extension of the musical neum demonstrated in Figure 5.15 on
(41) ioíon a rí, (42) tsaoil, níos, and in Figure 5.16 on (44) Caoch (sounds like críoch) and n-
aolchrobh. This neum is analogous to the ecclesiastical technique of extending inflection
where the pitch of a stressed syllable rises to a higher second pitch (as is described in Chapter
4, Figure 4.19) while maintaining the vowel. In a like manner, an Irish mordent may be a
further development where the higher inflection is made quickly as in Figure 5.16 on the word
(43) ngabhfainn. It may be telling that the first tune described as a more modern one using
the bagpipe scale had embellishments and no neums, whereas the second tune described as
being an older tune using the natural scale had neums and only one slow mordent. This same
song was recorded by a modern singer who used a multitude of embellishments; this can be
seen below in section 5.3.5.

Rhythm

The rhythm of the lay was not sung to a metre; that is, it was sung narratively. There were
extensions on some syllables that were not elongated when spoken; for example, scaoil in line
4 was sung longer than as spoken. The informant also did not pause at the ends of quatrains,
indicating that either the lay was not designed for this, or more likely, that the lay has become
corrupted.195

Pitch Accent

The rhythm of the beginning words of the lay seem forced somewhat into the tune. The overall
structure of the tune seems at odds with grouping the lines into quatrains. However, the
overall phrasing does seem to work well with the tune (and seems similar to “If you will come
over the mountain” by Seosamh Ó hÉanaí (hÉanaí, 1996)). Therefore, forcing the verse
structure into quatrains may not reflect the manner with which the lays were performed.
Assuming that the tune matches an idealised poetic tetra-structure is an assumption brought
about by literacy and visually observing the poetry in lines of four. This regimentation may not
be actualised in the performance. Below is an example of the poetry; as before, pitch accent is
indicated by capitalisation and bold font indicates the highest pitch within each line
as indicated by the computer software. Two syllables of different words made bold indicate that
both syllables were on the same pitch:

1. An LÁ bhí Oísin agus FIONN
   I nGLEANN Mhic SMÓIL an GHLÓIR [i] GHRINN
   I dTALamh Mhic an LAlghnigh na SLEAmhán cruinn,
   **SCAOIL SIAD an DÁ ghaDHAR DÈAG amACH.**
   5. Ba BHInne ná TÉAD a ngLIOM

195 The term corrupted is not meant in a pejorative manner. It is often used to indicate a change in the poetry that
confuses the meaning, as often happens with Mondegreens.
A d' FHÁG a n-aMHARC amach.

Chuir FIONN a ORdóg ina BHÉAL
Is CHOgain SÉ i go DTI an SMIOR;
SIN an uair a LABHaireas an CONán MAOL.

The tune seems to have been created in a type of triplet stanzaic manner with poetic demarcations placed every three lines. In this lay, a breath was taken at the end of each line. Ideally, the highest pitch (accent) would be in the middle of each exhalation; however, line four begins on a high pitch. Beginning a phrase on a high pitch when speaking does occur in conversational speech, but is not routine.196

At the midpoint of the delivery, the lay was halted and restarted; the tune changed, and the manner by which the accent occurred also changed. Here is the accent and stress starting on the verse that begins with the new tune:

41. Mo BHEAnach duit, a INion an RÍ,
Ná CUIR den TSAOL aon FHEAR níos MÓ
ÓŠ go NGABHfainn LEAT mar MHNAOI
Ach mur's bé GOLL CAOCH na n-AOLchrobh.

Here, the higher pitches are enclosed by the lower-pitched beginning and ending syllables. This matches regularised human speech closely.

Resonance Tuning

Resonance tuning did not seem prevalent in this recording. This is perhaps due to the sensitivity of the microphone. One can see it slightly present in the following example (below, Figure 5.20) on the word ghrinn on the second line:

Resonance tuning can almost be heard throughout the recording, but just as it should happen, the recording distorts. Yet, the slope of the line between formants is convex, indicating the singers' formant.

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196 This often occurs when the person begins to speak when excited or interrupting another person. There are specialised vocal techniques to mimic this; for example, in the aria “Avant de quitter” from Faust (Margarite in German-speaking countries), by Gonoud, the baritone must begin the last instance of “O Roi de cieux” on a very high pitch. The technique is to lower the glottis, raise the back of the tongue (which stops the air), and then create backpressure prior to beginning the syllable O. It is commonly forgotten that this is in imitation of how people speak when they are excited (si canta come si parla).
**Vibrato**

Vibrato does occur, but it is not clearly periodic; therefore, it is not readily apparent. Yet, it does exist. Here is an example of the word *Oisin* where it is extended on the syllable *<Oi>* (below, Figure 5.21):

*Figure 5.21: “Laoi na Mná Móire” Vibrato on Oisin*

One can clearly see the vibrato, but periodicity is hard to capture as seen in the “Vibrato speed & width” section in the above figure.

**Volume**

The volume was not captured at optimum microphone and sensitivity levels. However, the unstressed syllables were at a substantial volume in relation to the stressed syllables. From Hugh Shields’s perspective, Ó hÍghne sang this loudly, “Outdoor singing was undoubtedly more common formerly. Séamus Ó hÍghne sounds as if he was recorded out of doors (Shields, 1993, pp. 193, fn 117). Louder and longer unstressed syllables are often features that separate older folk singers from modern singers who are influenced by the diatonic scale and the desire to emphasise phantom dissonance, which often falls on unstressed syllables; in such cases, the unstressed syllables are at a greatly reduced volume in comparison to surrounding stressed syllables. For example, here are the first two lines plotted with frequency and volume against time (Figure 5.22, below):

*Figure 5.22: “Laoi na Mná Móire” Intensity and Pitch Contours Lines 1, 2, and 3*

The dashed line is the pitch contour; the solid line is the intensity contour. Notice that with the beginning half, which is line 1, *<lá bhí Oi-*>, the vowels were all sung at the same volume,
as was the ending section which is <Smóil an ghlóir [i] ghrinn>. This is not the manner in which this lay was performed below, in section 5.3.5. In art music, this is described as *legato*.

**Summary**

The words are somewhat corrupted as can be seen by the varied number of syllables per line. Further examples in this and following chapters will show that the syllable count is rather uniform in lays. Such variation suggests that Mondegreens have crept into the poetry.

As well, the tunes used in this lay may indicate a corruption of musical form. The first tune is diatonic and within the range of a bagpipe, but the following tune seems oriented to the natural scale, which may be seen as an older tradition. However, the overall patterning was one rooted in a narrative delivery that is not a part of the modern cannon of metre.

### 5.3.3 Tóiteán Tithe Fhinn (Laoi Garaid)

**Recording History**

There is no extant audio version of this lay. However, the previous section mentioned that “Laoi an Amadáin Mhóir” was sung to a popular tune by Shields (1999, p. 211). The present author has also noticed that the first section of “Laoi na Mná Móire” was sung lyrically as well. The use of a popular tune may also have occurred with “Laoi Tóiteán Tithe Fhinn” (the lay “Burning of Finn’s House” also known as the lay of Gary, “Laoi Garaid”) that was found in a volume of *Ériu* (Gwynn & Lloyd); the tune is tritonic. A similar tune is used in the popular Christmas poem “Dia do bheatha a naoiđhe naoimh” (Ó Laoire, personal communication, May 13, 2015) by Aodh Mac Aingil (c. 1572-1626). Although this lay is a secondary source, it provides an opportunity to bridge the distance between Irish and Scottish Gaelic cultures since the lay was sung in both cultures. Additionally, the present author saw an opportunity to use this lay using modern recording equipment to demonstrate non-art music elements found in lays as sung by older informants. The lay was recorded at both high and low volumes. These recordings are included in this dissertation as 5.3.3A_LaoiTuiteanTitheFhinn.wav for loud singing in a large area and 5.3.3B_LaoiTuiteanTitheFhinn.wav for quiet singing in a small area. Comparison will show how formants used when singing loudly can be made when singing quietly. The pronunciation was taken from a spoken version of Séamus Mac Floinn; errors are my responsibility.

**Narrative**

The main incident of this ballad is told briefly in the *Acallam na Senorach* (O’Grady, 1892, pp. i, 124). It also often appears in *Leabhar na Féinne* (J. F. Campbell, 1872, pp. 175-179) and

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197 In the art music sphere, there is often a tendency to sing with an instrumentalist’s perspective of *legato*, which requires absolute uniformity of the intensity (amplitude) in a phrase. This is not how people speak, as there are slight intensity diminutions as obstruents are spoken. Conversely, folk singers may be faulted since when they sing syllables elongated by the art of metered music, they fall in intensity at the ends of syllables dramatically. True *legato* occurs when the vowels are extended but the obstruents are sung as when spoken which causes the intensity line to vary slightly. From this perspective, lay singing may be considered the perfect form for singing, since the length of each sung syllable is exactly the length of each declaimed spoken syllable. Therefore, there are no false extensions or contractions that need to be addressed through the use of art.

198 This was noted in Gwynn’s work (p. 131). This reference also names the *Losga Taura* in the Rev. J. Smith’s *Ancient Poems of Ossian*, 1787, as well as a number of other references citing this story.
is described fully in Ériu (Gwynn & Lloyd, 1904); in the latter reference, the author Gwynn collected three Irish versions in manuscripts and an oral version collected by J. H. Lloyd in Glengesh, Co. Donegal (p. 14). Mention of it is made in “The Rowan-tree of Clonfert” (E. MacNeill, 1908) also noticed by Murphy (1953, p. 12).

The story involves one of the Fenians, Garaid (or Scottish Gaelic: Garaidh, Garadh) whose son is Osgar; he is old and is left behind with the women of the house when the Fenians go ranging. One Scottish version mentions the reason for this was to find out why the Fenian women were so fat (J. F. Campbell, 1872). The Irish version related by Gwynn states:

[Garaid mac Morna] has refused to play chess with the women, who thereupon insult him: was not Garaid left behind just to make fire for them and play chess with them, because he had lost his vigour and his power to throw the spear? In return for the taunt Garaid “makes fire” for them with a vengeance. (1904, p. 13)

In the Scottish versions, Garaidh hides under a kettle and falls asleep. The women find him there and weave his hair onto stakes placed in the ground. They then raise a battle cry with the result of Garaidh jumping up and tearing some of his flesh off his body; some accounts have him losing all of his hair as his efforts tore off his scalp as well (J. F. Campbell, 1872, p. 178). He is incensed and burns the house down with the women and children of the Fianna inside, killing them. The returning Fenians then put Garaidh to death.

This lay is described in the Scottish Leabhar na Féinne (J. F. Campbell, 1872, pp. 175-179) in the lays “Losgdadh bruth Farbairn”, “How Garaidh Killed the Women”, “Garadh”, “Losgdadh Farmail”, and the story “Losgdadh tiogh Farala, ’us gun a ’n Fheinn aig a bhaille” where the author states that the poem was recorded in writing, published in 1774, and was commonly heard in the Highlands in the 1860s and 1870s.

Language

The authors mention that this version is a compilation of a number of texts, so the poetry has been made rather exact since it reveals exactly seven syllables per line; in actual performance (as can be seen in all of the recordings), there are never exactly the same number of syllables per line. Gwynn also had reference to a version sung, but “fundamentally the same as the text here printed, but has been greatly corrupted in the process of transmission” (1904, p. 14). Only six verses have been included in the present dissertation due to space limitations.

Here are the first few verses as printed by Gwynn (see Table 5.3, below); he normalised the first two verses for the text of the notated music:

<table>
<thead>
<tr>
<th>Tóiteán Tithe Fhinn</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Truagh annsin a láithreach lis</td>
<td>1. Sad is it here, O ruined keep!</td>
</tr>
<tr>
<td>Mar a ndearnas an aingeis</td>
<td>Where was wrought that destruction:</td>
</tr>
<tr>
<td>Atáid sonna bhar séala</td>
<td>Here remain your traces:</td>
</tr>
<tr>
<td>meabhair liom a ndroich-sgéala.</td>
<td>We remember those tidings of evil.</td>
</tr>
<tr>
<td>Méala liom do bheith mar sin</td>
<td>A grievous sight to me to see thee in this plight,</td>
</tr>
<tr>
<td>A láithreach bhuadailh bharrghlain</td>
<td>O ruin, once glorious, crowned with brightness!</td>
</tr>
<tr>
<td>Clann Morna falig ’s fa lecht</td>
<td>The Clann Morna, who lie under headstones in the grave,</td>
</tr>
<tr>
<td>Tugais comhliomh a láithreach</td>
<td>Thou hast brought to barreness, O ruin!</td>
</tr>
<tr>
<td>Do rádh Ailbhe cuimhin linn</td>
<td>Said Ailbe [Fionn’s wife], we remember:</td>
</tr>
<tr>
<td>Guais an áit a bhfaighnhar sinn</td>
<td>“Perilous the place where we find ourselves:</td>
</tr>
<tr>
<td>Dá tígedh [sic] aoinnech tar ler</td>
<td>If anyone should come over sea,</td>
</tr>
</tbody>
</table>
The structure of the ornament of rhyme is complex for a lay and can be shown below:

```
Truagh annsin a lóthreach fíos (7)
Mar a ndearnas an òingeis (7)
Atáid sonna bhar séala (7)
meabháir liom a ndroich-séala. (7)
```

The poetry is syllabic and has alliteration; throughout the lay, the rhyme scheme is A/B and C/D.

Additionally, this poem displays the unusual feature of cadence. Cadence is present in many forms of dán díreach poetry, but is not as common in Fenian lays. As mentioned previously, it is a metric that counts the unstressed syllables after a stressed syllable in a word. Since most Gaelic words are initially stressed on the first syllable, counting cadence generally involves counting the syllables of a word minus the first stressed syllable. If a word begins with an unstressed syllable, it is simply ignored. The unstressed syllables are then structured. Generally, this is done by adding one unstressed syllable in the next line. For example, in English, if 1A ended in “greeting” (greet-ing), the next line might increase this by one, perhaps resulting in “fleetingly” (fleet-ing-ly). So the rhyme is on the first syllable with following unstressed syllables being organised into a poetic pattern.

Normally, this poetic ornament requires all syllables to be contained within one complete word. However, in some Fenian lays, rhyme seems independent of word-to-word interfacings as was mentioned above in “Laoi na Mná Móire”. Simply put, illiterate people do not think in terms of words, but of sounds and thoughts. The patterning of unstressed syllables at the end of lines that ignore where one word ends and another begins may be a feature that separates illiterate and literate composition. If this would have appeared in Fenian lays consistently, it would be strong evidence by itself that Fenian lays were not composed in a courtly setting.

Cadence is normally described in poetic analysis through a superscript number of the syllable-count; for example, in the first verse above, the structure would be described as 6^1 7^2 7^2 7^3. So the first line has six syllables where the last word is composed of one syllable. The second line has seven syllables where the last word is composed of two syllables; the third line is as the second. The fourth line has seven syllables where the last word has three syllables. The secondary line of each pair of lines in a quatrain must increase the unstressed syllable count by one. This is a feature of deibhidhe metre in dán díreach poetry. The third line often re-sets
the cadential count. An idealised representation of cadence might be \(7^x 7^{x+1} 7^y 7^{y+1}\). Cadence occurs rather frequently throughout the poetry of this lay to the point where it might not be considered coincidence but deliberate.

**Graphical Analysis**

The performance was generated through the notation as presented in Ériú of the article “The Burning of Finn’s House” (Gwynn & Lloyd, pp. 34-35). The present author had the option of performing the lay with a combination of any feature: loud/soft, slowly/quickly, rhythmically/narratively, vibrato/no vibrato, resonant tuning/no resonant tuning, etc. I decided to perform the lay in as traditionally as possible. One version was performed as if the performance was in a large space or outdoors; another version was performed as if in a small, enclosed space. Whilst singing loudly might be considered opposed to traditional singing by modern sensibilities, examples shown previously prove otherwise. Additionally, the delivery was not metric but narrative.

Here is an example of the first line as it appears in the text, below, Figure 5.23 (Gwynn & Lloyd, 1904, p. 34):

![Figure 5.23: “Laoi Tóiteán Tithe Fhinn” Original Notation](image)

Note that the type set is in cló Gaelach\(^{199}\) and solfa notation is displayed above the staff notation. It should be noted that the last note of a phrase or verse (often indicated by the use of a fermata) are not exaggerated as they are in art music. They are performed in a manner similar to which the word scoil is sung in the above section (“Laoi na Mná Móire”) on the fourth line, Scoil siad an dá ghadhar déag amach. It is simply a long vowel on a high pitch.

When sung, the following graphical analysis of the loudly sung lay "5.3.3_LaoiToiteanTitheFhinn-A.wav" may be seen below, (Figure 5.24) with the mean of G (-sin, 1A) = 238 Hz.

![Figure 5.24: Graphical Analysis “Laoi Tóiteán Tithe Fhinn” Loudly, V. 1: A, B](image)

\(^{199}\) The reader may notice that the spelling of Gaelach does not match the rule whereby either palatal or non-palatal vowels must flank the internal consonants (<ela>). This occurs in words that are from an older spelling system; for example, tipán. It also occurs when the word is used often; for example, esan.
Subdivisions of the x-axis were made to allow for temporal comparisons of phonemes to be more easily made between loud and soft singing patterns. The second half of the verse, lines 1C and 1D, are shown below (Figure 5.25):

The rhythm as displayed in the above figures demonstrates that the lay was sung narratively. Elongated unstressed syllables can be seen as well.

The quiet version was done more quickly since it is not declaimed and unaccented syllables are not extended. Here is the first half of the first verse performed quietly (Figure 5.26, below) with the mean of G (-sin, 1A) = 150.5 Hz.:

Here is the second half of the first verse (Figure 5.27):

The two sets of graphs were superimposed on one another in order to see variations. It should be noted when comparing the above figures that the length of lines A and B of the loud verse was 7.6 seconds and the length of lines A and B of the quiet verse was 4.7. The length of lines C and D of the loud verse was 8.3 seconds and the length of lines C and D of the quiet verse was 6.0 seconds.
Pitches

The pitch structuring is tritonic (three notes to the octave) which is a bit unusual as the 7th partial is missing; yet the 8th is present. The musical transcriber was certain of the tune and mentions that:

It [Laoi Tóiteán Tithe Fhinn] is much simpler and more monotonous than any other recorded of the same class. Whether this should tell in favour of a higher antiquity or not, I leave to more competent—to musical—authorities to decide. I have thoroughly satisfied myself that this air is associated with the words of the poem; for Eamonn Óg Mac an Ghloill (Anglice Magill), who sang the poem (fifty-five stanzas) frequently for me, told me that both his father and grandfather had the very same tradition. (Gwynn & Lloyd, pp. 35-36)

Although the notation was written in D major, if placed in C major, the natural scale becomes apparent below, in Figure 5.28:

![Figure 5.28: “Laoi Tóiteán Tithe Fhinn” Pitch Summary](image)

The tune is placed rather low in the natural scale, which makes it easy to play and possible on short natural instruments. This has rough similarities to the beginning of the “Laoi na Mná Mhóire”, above. An approximation of that lay may be seen below (Figure 5.29):

![Figure 5.29: Approximation of “Laoi na Mná Mhóire”](image)

I found the experience in rendering "Laoi Tóiteán Tithe Fhinn" illuminating in understanding the musical bias of trained musicians to folk music in general. The first half of the tune encompasses the range of a perfect fifth (C₄ to G₄) on only three pitches. A trained musician would consider this to be quite gapped and jarring. The delivery of the words would be difficult since the syllables’ pitches are separated by such a great distance. This is an art music perspective. In the mind of a folk singer, this is not true. The distance from C₄ to G₄ is actually the distance from the 4th to 6th partials which is a distance of 2 (6 minus 4), or a natural scale third (counting: 6, 5, 4 = 3). This interval is the same as any other natural scale interval resulting in three, such as the distance from the 10th to the 12th partial (a distance of 2, 12 minus 10, or counting: 12, 11, 10 = 3). Yet in art music, the interval E₅ to G₅ is a much smaller interval of a minor third compared to the interval C₄ to G₄, which is a perfect fifth. Therefore, in the mind of a folk singer, this lay tune is lyrical since the notes are consecutive. The trained art singer would have a tendency to “punch” (also called “barking” where one increases the volume markedly on onset) the syllables of higher notes since they seem gapped in the art singer’s mind.

Rhythm

The rhythm was deliberately performed narratively, like recitativo secco or ecclesiastical syllabic chant. It might be pointed out that it is extremely difficult to learn to do once one is taught metered music. A trained art singer will often stress unstressed syllables and vice versa. This is quite often apparent at the ends of phrases where there is a musical cadence, yet the
words do not allow the singer to pause. The trained singer will unconsciously slow down and elongate the final syllable of a musical line even when it would quickly flow to the next word of the next line when speaking.

**Pitch Accent**

The notation as given by Gwynn and Lloyd (1904) is a generalisation. The present author has concluded from the present research that since accent shifts from line to line, the musical pitch should shift to match the spoken pitch accent. Here is the stress (capital letters) and accent (bold font) as spoken:

TRUAGH annSIN a LÁITHreach LIS  
Mar a nDEARnas an AINgeis  
AtÁID SONNa bhar SÉAla  
MEABHair liom a ndROICH-SGÉAla.

The stress as it appears above does not match the idealised notation. It is probable that a traditional Fenian lay singer would make the musical pitch accent fit the spoken pitch accent. This is a feature that is missing in modern art music, where the pitch follows the syllable count; for example, if the third syllable is on a high pitch for the first verse, the third syllable in every following verse must be on that pitch. In art music, if the poetry is not precisely syllabic, the singer may be able to delay shifting pitch until a stressed syllable appears. Unfortunately, if the tune is syllabic and the pitches vary on every syllable, the singer is trapped into following the musical pitch structuring. This is not true with Fenian lays or Gaelic song in general. The pitch (melody) and musical rhythm are altered to fit the spoken accent. To a trained art singer, this concept is often unfathomable. The art music composer wrote the tune and set the lyrics. The relationship between the two is immutable. This confuses early music re-enactors who are faced with French lais where more than one verse is written to music; the first verse is set to a melody, but on the following verse, the tune abruptly changes. The musical training of re-enactors does not allow them to see a solution as to what caused the melody to change or how to create a formula that can be applied to other verses so as to render an accurate performance. Analysis of Fenian lay performance, such as is presented here, may provide a solution.

Therefore, to follow standard Fenian lay performance practices, the melody must be changed to match the spoken pitch accent. Before this is accomplished, consider the original version as written of the first verse in Figure 5.30 (Gwynn & Lloyd, 1904, p. 34):

![Figure 5.30: “Laoi Tóiteán Tithe Fhinn” As Written](image)

If the pitches are adjusted as normally occurs in Fenian lays, the following results (below, Figure 5.31). The rhythms are not altered with precision but were done to conform to the original (above, Figure 5.30) as much as possible:
The sung version displayed in Figure 5.24 through Figure 5.27 show the actual length of the notes. Examination of these figures show that the rhythm of the language would be better expressed in compound time.\(^{200}\) It may also be seen that the reduction of the first verse into the notation of Figure 5.30 is drastic. Since the art music tradition requires similar rhythmic patterning between verses, it is generally assumed that only one musical notation example is required in order to realise Gaelic music. The examples above show that not to be true. Unfortunately, there is not enough space in the present dissertation to demonstrate pitch shifting in every, or any one, lay. An example of how pitches shift between verses was attempted with the first lay “Laoi Dhiarmuid” where pitch-accented syllables and words were made bold in the lay text.

**Resonance Tuning**

Resonance tuning occurred throughout both recordings. It was more difficult to create resonance tuning in the quiet version since it is not entirely natural to resonance tune in small spaces where volume is not required. There are small “jump starts” that are required to activate the resonance process at low volumes such as deliberately humming and driving the air into the nose while singing <ng>.\(^{201}\) The unstressed syllable ann (of annsin) was selected. Here is an example of this when sung loudly (below, Figure 5.32):

\(^{200}\) This was discussed at length in Whyte (1885). Simple, duple musical meter does not capture the pattern of Gaelic. This is seen when there are a number of verses with different patterns. Even if one verse fits into duple metre, the following verses will not. If all of the verses are aligned, the sections from each verse will temporally fit in the same segment, and all can be expressed by a triplet. So a long, stressed syllable followed by an unstressed syllable which is represented by a dotted crotchet followed by a quaver is too long and too short respectively. Gaelic song is often expressed in simple time although compound is more appropriate for song. The reasons for this have been given in the above reference.

\(^{201}\) This is something akin to [n] but is a type of a nasal stop. By opening and closing the nasal passage, the force of the release initiates the resonance. So, one hums into the nose and then opens the nasal passage. Repeating this process starts nasal resonance.
Resonance tuning is obvious since the performer was deliberately focused on producing it, even though the syllable, above, was unstressed. More interesting is the result when the same line was sung quietly on the same unstressed syllable, *ann*. Here is the result (below, Figure 5.33):

The resonance-tuning bulge can be seen at about 2.5-3.0 kHz. The slope between the peaks is convex, indicating resonance matching.

**Vibrato**

Vibrato exists throughout the recording, particularly on unstressed syllables. It should be emphasised that vibrato was not deliberately created. Placing one’s intellect on the voice to control vibrato squelches overtones and causes tremolo. Rather, the voice was relaxed to allow for the vibrato to occur. This is in contrast to instrumentalists who are required to perform an action to create the vibrato. Here is an example of vibrato in this recording (below, Figure 5.34):
The vibrato is somewhat periodic with a pitch span of approximately a half step. When sung quietly, the ending word of the line *lís*, was sung as follows (Figure 5.35, below):

![Vibrato speed & width](image)

Figure 5.35: “Laoi Tóiteán Tithe Fhinn” Soft Vibrato on *lís*

The vibrato is perhaps wider since it is not constrained by a following syllable or consonant. This results in a more periodic signal with a larger vibrato pitch span. This is congruous with comments made in Chapter 4 where vibrato width was not correlated to volume but pitch.

**Volume**

Volume was deliberately controlled; however, it was not directly controlled. To be loud, I simply imagined performing in a larger space and attempted to communicate to people in the back of the room. For quieter singing, I imagined the audience getting closer and closer. If the volume in increased or decreased by force of will, with no particular desire to communicate over a set distance, the natural tendency to initiate resonance tuning when speaking loudly does not occur. Resonance tuning at low volume (the *nyahh*) requires deliberate effort and training.

**Summary**

The purpose of including this secondary resource was manifold. The language was poetic, syllabic, and displayed some aspects of cadence. The pitch structuring of the tune was that of the lower end of the natural scale, which would allow for its performance by short natural instruments that existed at the beginning of the Neolithic Age. The tune was a popular one and therefore is in synchronous with “Laoi na Mná Móire” and “Laoi an Amadáin Mhóir”. The recording with modern equipment allowed the reader to see how resonance tuning (the
nyahh) can be generated at a low volume on unstressed syllables through the use of nasals, and how loud singing extends the length of unstressed syllables.

5.3.4 Laoi Mic Uisnigh

Recording History

This recording was located at the University College Dublin (UCD) Library with the assistance of Anna Bale and Criostóir Mac Carthaigh. The informant was Máirtín Ó Conaire from Ráth Cairn, na Mí (Co. Meath), who was recorded in 1985 by Jackie Small (NFC JS0039). It was entitled “Laoi Chlainne Uisnigh” (Lay of the Children of Uisneach). It is also known as “Laoi Mic Uisnigh” (Lay of the Sons of Uisneach) or “Deirdre of the Sorrows”. The recording was digitised by Anna Bale and Criostóir Mac Carthaigh, and a digital copy was provided to the present author. The recording is under copyright, but attainable through correspondence with UCD. It is included in this dissertation as 5.3.4_LaoiMicUisnigh.wav. Normally, as is the situation here, lays are introduced by dialogue; the introduction has been removed for ease of reference during analysis.

Narrative

There are three major mythological cycles in Irish lore: the Ulster Cycle, the Fenian Cycle, and the Arthurian Cycle. “Laoi Chlainne Uisnigh” is generally considered to be from the Ulster cycle since it mentions Cú Chulainn; as Campbell states, “In Ireland the Story of Deirdre and the 3 sons of Usnoch has been associated with the Story of Cuchullin the King of Emania [...] ever since 1130 [perhaps the Book of Leinster]” (1872, p. 19). Campbell then mentions that O’Curry dates the story in Ireland to the Yellow Book of Leacan, 1391 C.E. and its publication in Scotland in 1805 (1872, p. 19). Transcribed from living informants, it appeared in Reliquiae Celticae, Vol. I as “Ceud Oran Chlainn Uisneachain : In Lochlann” (Alexander Cameron, 1892, p. 315) and in Leabhar Féinne (J. F. Campbell, 1872, pp. 19, 22, 24, 26, 29).

Nagy (1985, p. 5) believes that the sagas of Cú Chulainn were particular to Ulstermen and not all of Ireland. The stories of Fionn, however, were widespread and did not pertain to a specific Irish tribe. It is therefore likely that the Ulster cycle became incorporated into the Fenian Cycle. As Campbell states:

These [referring to a listing of all of the names that appear in a rare collection of Fenian lays published in 1786] are all Fians of Eirin, and belong to one period [...] Cuthullin [sic] of the red tree appears once in the collection of battle songs. He reappears in the account of the death of his son Conlaoch, with names which do not appear in the 16 Fenian lays [where the name Fionn appears].

Fraoch and the Children of Usnoch belong to the story, but to a different part of it, for they appear alone. (1872, p. xxiv)

Therefore, this lay and the “Lay of Fraoch” (which appears in Chapter 6) are included in this dissertation. It should also be noted that there are few extant lays from Ireland; this lay would have to be included as an example of lay performance practice regardless of thematic continuity.

The story concerns King Connachar from Ireland who desired a young woman named Deirdre. His nephews, Naoise, Ardan, and Airde, ran off with Deirdre to Scotland where they roamed
after leaving Deirdre on an island. Eventually they return, telling Deirdre of their travels in Lochlainn. They decide to return to Ireland, and were eventually killed by their vengeful uncle in a great battle. Deirdre, stricken with grief, either kills herself or simply dies of a broken heart, falling over their dead bodies. Additionally, as Murphy states:

It is equally certain that it is in the telling the tales had their real life. Variations, too, in the manner of telling them were often traditional and common to the whole Gaelic-speaking world: thus a Scottish oral version and certain Irish oral versions of the Fate of the Sons of Usneach agree in adding to the manuscript incidents that trees grew from the bodies of the dead lovers and joined above them. (1953, p. 189)

A famous scene takes place at the beginning of the story. Deirdre is watching a calf being flayed in the winter. Drops of its blood fall on the snow and a raven comes to scavenge it. Deirdre states that she would only marry a man with skin as white as snow, hair as black as raven, and cheeks (often replaced with lips) as red as blood. Naoise is such a man.

Language

The transcription and translation of this lay was accomplished by Hugh Shields with help from Rionach Ui Ógáin and was published as an appendix to his book Narrative Singing in Ireland (1993) and can be seen below (Table 5.4):

<table>
<thead>
<tr>
<th>Laoi Mic Uisnigh</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>'S trim an lá dháhr ghluaisigh muide go hAlbain soir</td>
<td>'Sad the day we ever went East to Scotland!</td>
</tr>
<tr>
<td>'S nárbh aoibhinn dúinn i radharc 's i ngreann.</td>
<td>The sight of it and the pleasant life delighted us,</td>
</tr>
<tr>
<td>Mar bhiodh na Mac Uisnigh ag selg.</td>
<td>The sons of Usne hunting,</td>
</tr>
<tr>
<td>'S nárbh aoibhinn dúinn a bheit ina suí ar luirg na mbeann.</td>
<td>And it delighted us to sit on the mountainsides.</td>
</tr>
<tr>
<td>'S lá dhá rásbhr fir Albain ag ól</td>
<td>The day the men of Scotland were drinking</td>
</tr>
<tr>
<td>'S na Mac Lísnigh cé go mór a geion</td>
<td>And the sons of Usne, however great their affection,</td>
</tr>
<tr>
<td>Thug d’ionar iarla Chuan Mhic an Treoin</td>
<td>To the daughter of the earl of Cuan Mhic an Treoin</td>
</tr>
<tr>
<td>Thug Naois a phó dá rásbhr in gach i ngan fhios.</td>
<td>Naoise gave his kiss [to Deirdre] in secret.</td>
</tr>
<tr>
<td>Chuir sé chuici ’n eilt mhaol</td>
<td>He sent her the hornless doe</td>
</tr>
<tr>
<td>Agus lao alla lena cois,</td>
<td>And its fawn with it</td>
</tr>
<tr>
<td>Agus gheall sé a bheit aici ar a chuairt</td>
<td>And promised that he would visit her</td>
</tr>
<tr>
<td>Ag filliúint ò shluaimt Inbhearnois.</td>
<td>On returning from the assembly at Inverness.</td>
</tr>
<tr>
<td>'S nuair a chuaila mè féin siud</td>
<td>And when I heard that</td>
</tr>
<tr>
<td>Lion mo cheann ar fad é leád;</td>
<td>My mind was filled with jealousy;</td>
</tr>
<tr>
<td>Chuir mé mo chuhrachán ar an tóin</td>
<td>I put my small boat out on the water [wave]</td>
</tr>
<tr>
<td>'S ba chuma liom mo bheo nó m’éag.</td>
<td>Not caring whether I lived or died.</td>
</tr>
<tr>
<td>5. Aill’ is Ardán nár chum bréag</td>
<td>Aille and Ardan who were never deceitful</td>
</tr>
<tr>
<td>Thugadar mè ar ais sa snáth</td>
<td>Brought me back on the deep,</td>
</tr>
<tr>
<td>'S chuig Naois ar an tra romhainn;</td>
<td>To Naoise on the beach before us,</td>
</tr>
<tr>
<td>Agus thug sé féin a mhionna fiar</td>
<td>And he made a solemn oath</td>
</tr>
<tr>
<td>Agamsa nach ghoileadh gruaim</td>
<td>That he would not give me cause for sorrow</td>
</tr>
<tr>
<td>Nó go dtéadh sé féin ar shíu na marbh,</td>
<td>Until he joined the company of the dead.</td>
</tr>
<tr>
<td>O dá mbeadh fhios ag an mnaoi udain anocht</td>
<td>If that woman had known</td>
</tr>
<tr>
<td>Go bhfuil Naois ag gabháil i mbrait sa geré</td>
<td>That Naoise is going tonight into the earth in a shroud</td>
</tr>
<tr>
<td>Ghoilfeadh sí go beach</td>
<td>She would weep bitterly</td>
</tr>
<tr>
<td>Agus ghoillfinnse fá rachtaí léi.</td>
<td>And I would weep with her, deeply sobbing;</td>
</tr>
<tr>
<td>Dha ngoilfeadh sise fá seacht</td>
<td>If she wept seven times</td>
</tr>
<tr>
<td>Ghóilfinn fá hucht ’na dhiadh.</td>
<td>I would weep eight times after.</td>
</tr>
<tr>
<td>Mo mhallacht ortsa féin a mharáideach.</td>
<td>If that woman had known</td>
</tr>
<tr>
<td>Is tú tharraing sinne ar an gCróabh Rua,</td>
<td>That Naoise is going tonight into the earth in a shroud</td>
</tr>
<tr>
<td>'S le do chomhrá binn blasta</td>
<td>She would weep bitterly</td>
</tr>
<tr>
<td>A mheall tú sinne ar aon nos.</td>
<td>And I would weep with her, deeply sobbing;</td>
</tr>
</tbody>
</table>

202 Lochlainn (or Lochlan) is a mythological place often attributed to Norway. Vagueness of placenames is common in medieval poetry.
May you be blind, Cathach druid,
That killed Naoise through a woman;
It was an ugly deed you did,
Three times more than enough of the world for any king.

Conor the king was my first spouse,
I left him for the love of Naoise;
Now that Naoise is in the grave
I shall watch over his rites of lamentation.

I shall stretch out in the tomb
Among the noble men who are laid low;
Ailne [Aille] and Ardan shall be beside me
And Naoise close to my bosom.

My closest garment shall be on Naoise
For he is my spouse and my first love,
My satin cloak on Aille
And my coat on Ardan.

Let each one of you know this:
That I would not remain alive after Naoise;
I will hear the soul (?),
But no one is left to lament me.'

She seized the sharp weapons
And struck into the depths of her heart
And it was a pity then of Ireland,
The lament of Deirdre for the death of Naoise.

Table 5.4: “Laoi Mic Uisnigh” Transcription and Translation

The poem begins rather awkwardly with stress-timing, but settles into syllable-timing by the third verse.

3. Chuir sé chuici ’n eilit mhaoil (7)
Agus láo álina lena cois, (7)
Agus gheall sé a bheith aici ar a chuairt (9)
Ag filliúint ó shluait’ Inbhearnois (8)

The next verse follows the same syllable count per line. There are roughly seven syllables per line; the transcribers were both meticulous and conscientious, keeping the words exactly as sung. Such fastidiousness is often not maintained by transcribers; for example, line 3C (Agus gheall sé a bheith aici ar a chuairt) would often be made to be ’S gheall sé a... with Agus shortened to ’S (not the contraction of is) in order to force the syllable count to be seven. Shakespeare did this quite often where a word appearing in two consecutive lines might be contracted, especially in the past perfect, where the <ed> endings were often pronounced; for example, “looked” may appear in one line and “look’d” in the following; this forced the syllable count to be consistent. It is debateable that the actor speaking the line would have made the distinction.

The rhyme scheme is rather loose with either perfect rhyme or assonantal rhyme on lines B and D. There also seems to be aicill rhyme between the end of lines C and the middle of lines D (3C/D. chuairt : shluait’), although this does not occur consistently and is imperfect.

Alliteration is apparent, but is not uniform. Consonantal repetition seems to indicate formulae such as 4C. Chuir mé mo churachán ar an toinn (I put my little boat on the wave), 7A. Mo mhallacht ortsa féin a mharaitheach (My curse on you (emphatic) yourself, murderer; this is almost a perfect rhyme with liquids <l> and <r> and ending <ch>), 9D. Fairfèad feasta ar cluiche caointe (I shall watch over his rites of lamentation), and 11B. mo chéile é ’s mo chéad (my companion and my first).
Graphical Analysis

As a reference, here is the notation as published by Shields (1993, p. 21) in Figure 5.36, below:

![Graphical Analysis](image1)

Figure 5.36: Published Notation of “Laoi Mic Uisnigh”

One can see that Shields attempted to write the notation to match the rendition of the informant as closely as possible and not alter it to match art music conventions by observing the graphical analysis below (Figure 5.37). Lines A and B begin with the mean of G (maol) = 145.5 Hz.:

![Graphical Analysis](image2)

Figure 5.37: Graphical Analysis “Laoi Mic Uisnigh” V. 3: A, B

The tune varies in an illuminating manner throughout the lay. For example, the third verse (without neums and embellishments) has a pitch gamut of a perfect fifth (C₄-G₄). The fourth verse has a pitch gamut of an octave (C₄-C₅). The difference seems to be attributable to greater syllabic accent in the fourth verse, which translates into greater pitch accent.

Below are the next two lines, C and D in Figure 5.38:

![Graphical Analysis](image3)

Figure 5.38: Graphical Analysis “Laoi Mic Uisnigh” V. 3: C, D

The fourth verse has a greater range (below, Figure 5.39, lines A and B):
Therefore, the singer did not seem to feel constrained by the melody, and perhaps like the Serbo-Croatian singers documented in *The Singer of Tales* (Lord, 2003) who altered words unconsciously, Máirtín Ó Conaire was not conscious that he was altering the melody.

**Pitches**

The tune seems to have a range and was gapped in a manner that is not compatible with the bagpipe scale (Figure 3.16). However, if the fourth verse is transposed to demonstrate the natural scale, the following results (Figure 5.41):

- With the exception of a few passing notes (B₄ in the beginning and one D₄ at the end) this matches the natural scale (Figure 3.4). It is particularly interesting in that it is at the lower end of the natural scale and therefore can be played on a short natural instrument, indicative of the early Neolithic Age or facility on a simple, rudimentary instrument. This also can be seen in “Tóiteán Tithe Fhinn”, the second half of “Laoi na Mná Móire”, and was mention by Shields (1999) to exist in Séan Bán Mac Grianna’s “Laoi an Amadáin Mhóir” (p. 211).

- Musical neums exist throughout the lay; for example, 3B on *lena*, 3C *chuairt*, and 4D *liom*. An Irish mordent can be seen in 3C *chuairt* which is incorporated into a neum.

**Rhythm**

The rhythm is narrative. One tendency that seems significant is that there are extensions on the last stressed syllable at the end of every line.
**Pitch Accent**

The pitch accent of the third verse is as follows. As before, capitalisation indicates stress; bold font indicates the highest pitch in a line; if there are two bold syllables in the same line indicated, both are on the same pitch:

CHUIR SÉ chuic ‘n eilít MHAOL
A Gus LAOI alia LENa COIS,
A GHEALL SÉ a BHEITH aici ar a CHUAIRT (high mordent)
Ag fillIÚINT ó shluait’ INbhearNOIS.

This pitch pattern matches the idealised pitch patterning of the spoken Gaelic and also that of chant in general: the exhalation begins on a low pitch that then rises to a reciting tone, the pitch then rises on the ultimate accented syllable and then descends to the lowest pitch at the end of the utterance. This one example typifies the pitches and structure of a Fenian lay and correlates to ecclesiastical syllabic chant in general. In the mind of a singer, it appears as though the singer recognises an overarching pitch structure of low to reciting tone that eventually rises and then immediately falls to the lowest pitch. This is the essential structure of speech as mentioned in Chapter 4 (Gussenhoven’s comments that human speech generally ends on the lowest pitch of an utterance) and also matches the patterning of ecclesiastical chant with the *final* being the target endpoint of a chanted phrase.

This large pitch pattern (beginning on a low pitch, ascending by a fifth to a reciting tone, moving up an octave from the lowest tone, and then descending to the *final*) is divided into waypoints demarcated by inhalations. Each exhalation is a subset of the larger pattern and reflects the larger pattern’s pitch structure of low-reciting tone-high-*final*, albeit imperfectly.

**Resonance Tuning**

Resonance tuning exists throughout this recording. Here is an example on the word dúinn in 1B (below, Figure 5.42):

![Figure 5.42: “Laoi Mic Uisnigh” Resonance Tuning on Dúinn](image)

The peak near 2.5 kHz shows resonance tuning, but another consistent peak is present, centred at 6.5 kHz and occurs regardless of the particular vowel being produced. It is not known if this is a feature of this particular informant or due to the equipment or equaliser settings.
Vibrato

Vibrato is consistent throughout the lay and is periodic. A good example can be seen on the ending word of 1A, *maol*, (see below, Figure 5.43):

![Vibrato speed & width](image)

Vibrato also develops on short syllables, often as short as .4 seconds (*chuic* 'n). This feature is particularly important as young singers today often squelch their overtones and vibrato on short syllables.

**Volume**

In order for the vibrato to develop on short syllables, the volume must be consistent, or more accurately, vibrato does not develop if singers are squeezing and releasing their voices (pushing with subglottal pressure and then relaxing; that is, vibrato develops through passivity). Since vibrato is present throughout the lay, consistent volume should be present, and indeed that is the case, as shown below in a single exhalation on lines 3C and 3D (Figure 5.44):

![“Laoi Mic Uisnigh” Intensity and Pitch Contours Line 3C and 3D](image)

The dashed line is the pitch contour; the solid line is the intensity contour. Large dips in the intensity contour are due to unvoiced phonemes.

**Summary**

This is an excellent example of pre-art music performance practice. The poetry is syllabic once the informant settles into the corpus of the lay. There is *aicill*, alliteration, and assonantal rhyme; additionally, the words seem to exhibit formulae. However, the poetry has been
corrupted over time compared to the regularisation of syllables per line as displayed in Scottish Gaelic lays (discussion to follow in Chapters 6 and 7).

The performance is narrative with slight extensions on accented syllables and at ends of lines. Pitch accent matches spoken accent as well. Additionally, the lay demonstrates a declaimed performance, which is indicated by loud unaccented syllables and vibrato.

The tune is similar to “Tóiteán Tithe Fhinn”, the second half of “Laoi na Mná Móire”, and perhaps “Laoi an Amadáin Mhóir” in that they can be realised by natural instruments playing in the lower end of the pitch spectrum of the natural scale.

5.3.5 Laoi na Mná Móire-2008

Recording History

This is a modern recording by Muireann Nic Amhlaoiobh. It was taken from the Compact Disc Dual (Nic Amhlaoiobh & Fowlis, 2008); it is the second portion of a compilation entitled “Duan na Muiligheartaich & Laoi na Mna Mora”. This lay is included in this dissertation as 5.3.5_LaoiMnaMoire-Modern.wav.

Narrative

This version is a simplified version as described above in section 5.3.2, Laoi na Mná Móire.

Language

The language used is a simplified version as described above in section 5.3.2, Laoi na Mná Móire. Capitalisation and carriage returns are as printed although confusing; translations for some lines are missing (Nic Amhlaoiobh & Fowlis, 2008) as can be seen below (Table 5.5).

<table>
<thead>
<tr>
<th>Laoi na Mná Móire-2008</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. An lá bhi Oisín agus Fionn</td>
<td>One day as Oisin and Fionn</td>
</tr>
<tr>
<td>I nGleann Mic Smóil an ghloir ghrinn</td>
<td>Were in Glenasmole of the cheerful sounds</td>
</tr>
<tr>
<td>I dTalamh Mic an Laighnigh na sleamhnán cruinn,</td>
<td>In the land of Mac an Laighnigh of the fair slopes</td>
</tr>
<tr>
<td>Scasioi sad an d'ghadháir déag amach</td>
<td>They released their twelve hounds</td>
</tr>
<tr>
<td>[5.] Ba bhinne ná tead a ngloin</td>
<td>Their baying was sweeter than a harp string</td>
</tr>
<tr>
<td>A d'éag na n-achar amach.</td>
<td>as they disappeared from sight.</td>
</tr>
<tr>
<td>Chuir Fionn a ordóg ina bheál</td>
<td>Fionn put his thumb in his mouth</td>
</tr>
<tr>
<td>Is choichead sé i go dti an smior;</td>
<td>and chewed it down to the marrow.</td>
</tr>
<tr>
<td>Séin an uair a labharas an Conán Mael,</td>
<td>That was the moment Conán Maol Spoke.</td>
</tr>
<tr>
<td>’[10.] Dár mo láthair sin ort, a Chonán Mhaoil,</td>
<td>“By my hand, Conán Mael</td>
</tr>
<tr>
<td>Cé gur mhór an bhrí é an gcóaint gharg</td>
<td>Though our pack of hounds has great strength</td>
</tr>
<tr>
<td>Tá siad marbh uilig gan bhrí</td>
<td>They are dead without strength</td>
</tr>
<tr>
<td>Ach an bran ariamh a thig an bha ag sealg.’</td>
<td>Except for Bran, who was always victorious in the hunt.”</td>
</tr>
<tr>
<td>Ó, tháinig an Bran agus i fluch salach,</td>
<td>Bran came, wet and dirty</td>
</tr>
<tr>
<td>[15.] Scread go crua agus ghol go binn:</td>
<td>Screaming hard and crying sweetly:</td>
</tr>
<tr>
<td>’A Chonán a rún, tá do cheann I gcontúirt chrua.</td>
<td>“Dear Conán, you are in great danger of losing your head.</td>
</tr>
<tr>
<td></td>
<td>We captured our share of food</td>
</tr>
<tr>
<td></td>
<td>We sated our hunger with meat and our thirst with wine</td>
</tr>
<tr>
<td></td>
<td>But I fear my food will not rest easy yet.</td>
</tr>
<tr>
<td></td>
<td>At the speaking of those words, she arrived in their presence</td>
</tr>
<tr>
<td></td>
<td>“Blessings to you all, and love to Fionn</td>
</tr>
<tr>
<td></td>
<td>You are all present here</td>
</tr>
<tr>
<td></td>
<td>And for you Fionn Mac Cumhaill</td>
</tr>
<tr>
<td></td>
<td>Are my ships filled.”</td>
</tr>
<tr>
<td></td>
<td>A foot-long tongue was hanging out</td>
</tr>
<tr>
<td></td>
<td>Of the creature's mouth, whose appearance was not fair.</td>
</tr>
<tr>
<td></td>
<td>She wore a cloak from top to toe.</td>
</tr>
</tbody>
</table>

[181x667]”Tóiteán Tithe Fhinn” | |

[473x667]”Laoi na Mná Móire” | |

[491x667]”Laoi an Amadáin Mhóir” | |
One side was black, and the other white
And you would not find one more ugly in all the crowds.

Many are the ships on the ocean
many are the bright cabins on land.

That was the moment Conán Maol spoke:
"By my hand. Daughter of the King
I recognise by your tattered satin
That it was you who came before me in the hunt today"

Then she grabbed the sharp-edged blade [sic]
With the fury of the hunt in her right hand [sic].
She chopped the hero’s head from his helmet
Was it not great destruction the woman caused.

Table 5.5: “Laoi na Mná Móire-2008” Transcription and Translation

The poetic analysis is that as described above in 5.3.2, Laoi na Mná Móire.

Graphical Analysis

Tellingly, for the graphical analysis, the font of the words had to be substantially reduced and the musical staff size as well in order to fit the words to the delivery. The same words and music were used as the Ó hIghne version, so the relative lengths of the lines (1, 2, and 3; 4, 5, and 6; 7, 8, and 9) in the figures between the Ó hIghne and Nic Amhlaoibh should be the same. However, Nic Amhlaoibh made syllables shorter than Ó hIghne, which required the reduction of size of the font and staff for small notes and syllables.

The performance was made with a bagpipe drone accompaniment. This was perhaps done in order to make the rendition more palatable to the sensibilities of a modern audience. In order for Praat® pitch analysis to function, the bagpipe sound profile was selected and redacted as much as possible from the sung version. Here is the graphical analysis (Figure 5.45) with the mean of A (lá) = 348.5 Hz.:

![Figure 5.45: Graphical Analysis “Laoi na Mná Móire-2008” Lines 1, 2, 3](image-url)
The ending section may be seen below (Figure 5.47):

The performer can be seen to have added metrical elements. Furthermore, as will be seen below, unstressed syllables were clipped and enhanced by lowering volume and squelching overtones and vibrato. There was a great deal less resonance tuning as in previous (and following) lay examples.

**Pitches**

This tune was adapted from Séamus Ó hIghne’s version and placed in the dorian ecclesiastical mode by the performers. A summary of pitches may be seen below in Figure 5.48:

Although B₄ was avoided except in one case, transposing this note up to be at F♯₅ (tune ending on A with a key signature of G major) would still make this tune unplayable by a natural instrument or bagpipes (the pitch gamut exceeds the compass of a bagpipe). Therefore, it appears as though the tune was manufactured to be in dorian hexatonic so as to resemble a folk tune, as people currently believe folk tunes are based on the ecclesiastical modes. Such synthetic constructions are common. For example, the poem “Tha mo ghaol air àird a’ chuain” was written by Henry Whyte to be sung to a folk tune entitled “My Love is on the High Seas”.

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Research showed that Bernard Covert composed the melody on the piano in 1847 to resemble a folk tune.

**Rhythm**

This performance is an example of the difficulties encountered by musicians trained consciously or subconsciously in art music when confronting a musical practice not encapsulated by modern musical norms. This is demonstrated by the lack of narrative delivery in this lay. The lay appears to have been divided into multiple sections; that is, broken apart by line. Each section was then forced into a metrical pattern. The first two lines of the first verse were performed in a loose triplet metre; the third line was forced into a duple metre as a dance tune. The next section was performed with slight syncopation. The original lay performance by Ó hÍghne was simply performed to the rhythm of the spoken language.

It is not known whether the performer intended to modernise the performance or simply could not comprehend song without rhythm and was lost without it. The present author is personally aware of the difficulty in removing habitualised musical behaviour in this regard. He is also aware of the distress suffered by art singers when they are deprived of metered musical accompaniment. The difficulty arises when one considers that speech requires personal communicative intent whereas instrumental playing does not. Singers divested of instrumental forms are left with no emotional shield. They are then faced with the challenge of learning the meaning of words, standing in front of an audience, and telling them the intent of those words. Whilst this certainly requires courage, it also requires the singer to unlearn conditioned metrical behaviour.

One can also see that the phrase of 1B, *I nGleann Mhíc Smóil an ghlóir ghrinn*, was different from Ó hÍghne’s in which he sang *a’ ghlóir ghrinn*. Nic Amhlaoibh also sang *an [a] ghlóir* with an intrusive vowel.

**Pitch Accent**

The placement of pitch in relation to the stressed and accented syllables was approximately the same that Ó hÍghne used in the first half of his performance.

**Resonance Tuning**

Resonance tuning was difficult to hear and did not appear when conducting computer analysis. The singer’s voice relaxed for the first time on the word *ghrinn* of 1B, but resonance tuning did not seem present (see Figure 5.49, below):

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203 This need not be through formal study but may be learned subconsciously through exposure to the mass media, which uses art music norms almost exclusively. If a musician has only heard music expressed through the diatonic scale with harmony, that conditioning will permeate that musician’s conceptualisation of music. This is solidified through the adoption of art music norms in Gaelic music. That is, the concept of “traditional” Irish music now includes the diatonic scale, harmonic chordal progressions, and rigid metre. In summary, the “traditional” Irish musician of today uses art music structures without realising it. This may be seen in the graphical analysis.
In this figure, the $x$-axis was extended in order to see the partial effects of the bagpipe, which may be seen to the right of the figure. Normally, resonance tuning is most clearly present at the ends of phrases or long vowels. This did not seem to occur in this lay (see examples from the first verse, Figure 5.50 through Figure 5.53, below):

There was less resonance on unstressed syllables than stressed ones. For example, the first word, An, is sung without any resonance (see Figure 5.54, below):
This is a typical feature of the technique of overtone squelching that occurs in art singing on leading, passing, and neighbouring tones that are followed by a consonant accompanying chord. That is, it occurs on phantom dissonance.

**Vibrato**

Although vibrato occurs throughout the lay, it appears in only certain locations; it specifically may be observed at the ends of phrases where phantom consonance exists. The lack of (or constrained) vibrato was noticed at points of phantom dissonance. Here is where vibrato first was noticed while listening on the word *ghrinn* (Figure 5.55):

![Figure 5.55: “Laoi na Mná Móire-2008” Vibrato on Stressed Syllable *Ghrinn*](image)

Although the vibrato is present, the limited movement on the $y$-axis (pitch) caused the computer application to ignore its width and periodicity. It may still be seen in the lower portion of Figure 5.55.

Unstressed syllables appear much like the following example of the first word *An* (Figure 5.56):

![Figure 5.54: “Laoi na Mná Móire-2008” Resonance Tuning on *An*](image)
The present author noticed that pitch variation still occurred on unstressed syllables throughout the lay; however, pitch variation was slight. For example, the figure above shows a line that varies slightly up and down in pitch. This can be seen in more detail in the next line (1B) on the same word an (see below, Figure 5.57):

This seems to indicate that phantom dissonance is more a function of squelched overtones than of limiting vibrato, although that seems to be a factor as well.

**Volume**

There was a great deal of variation in intensity that matched the variation between stressed and unstressed syllables. For example, if one compares the intensity and pitch contours of Ó híghne’s version of Figure 5.22 “Laoi na Mná Móire” Intensity and Pitch with that of this lay, the variation between stressed and unstressed syllables can be seen to be much greater in the latter case (see Figure 5.58, below):

![Figure 5.56: “Laoi na Mná Móire-2008” Vibrato on Unstressed Syllable An (1A)](image1)

![Figure 5.57: “Laoi na Mná Móire-2008” Vibrato on Unstressed Syllable An (1B)](image2)

![Figure 5.58: “Laoi na Mná Móire-2008” Intensity and Pitch Contours Lines 1, 2, and 3](image3)
The dashed line is the pitch contour; the solid line is the intensity contour. The pitch contour is slightly confused due to the drone of the bagpipe playing in the background, and is occasionally unreliable; however, once corrected for this, the contour is accurate. Notice the pitch contours between both Figure 5.44 and Figure 5.58. The former has pitch variation on every note; the latter is almost rigid, appearing like a pitch “stairway”. This is a characteristic of modern singing norms.

Summary
This lay was included in the present dissertation, not as a criticism of the singing of Muireann Nic Amhlaibh, but rather to demonstrate the manner by which song is sung today. By accomplishing this, a spectrum of performance technique may be seen between older performance mores and current sensibilities. By observing lays in such detail, one may discern where along this spectrum any particular lay falls. Therefore, by understanding such modern influences, one can see where they have impacted the performance of any one lay.

This lay was important in that it showed that control of vibrato, resonance tuning (or lack through squelching), and strict rhythm are modern influences. Furthermore, the impact of the diatonic scale can be seen in the deliberate design of the lay; current thought presupposes that folk music has a gapped, ecclesiastical, modal basis.

5.4. Analysis and Discussion
The lays examined in this chapter show a range of performance techniques that are unusual by today’s standards. Most notable features are a lack of concern for elements of the diatonic scale with regard to harmonic dissonance and consonance patterning (squeeze-and-release). The lays collected from most informants show a consistency of non-rhythmic, narrative singing, and freedom of vocal quality.

The poetry of the language was unfortunately altered through vernacular influences. However, the syllabic basis of the poetry was in evidence. There were still quite ancient techniques revealed, such as formulae, alliteration, perfect and aicill rhyme, and occasionally cadence. The stories themselves displayed all of the extreme limits of the human condition that is evidenced in the supernatural, mythological realm of the fianna, which date to the 4th century in the Modern Era.

Pitch patterning was also shown to be rather old. The lay “Tóiteán Tithe Fhinn” displayed the oldest structure with pitch placement in the low extreme of the natural scale, which makes it suitable for short trumpets, horns, or willow flutes. “Laoi na Mná Móire” as sung by Ó hIghne displayed two distinct types of musical form. The first section was of the bagpipe scale and evidenced in sean-nós song; the second of the natural scale at the lower end of its range. “Laoi Mic Uisnigh” also displayed pitch patterning congruous to the lower end of the natural scale. The modern version of “Laoi na Mná Móire” was deliberately constructed to conform to the ecclesiastical dorian mode but apparently made hexatonic so as to resemble a folk tune.

Therefore, the lays presented here display a synergy of medieval and possibly pre-medieval language and musical forms that are rare in modern society and are truly remarkable survivors.
from an ancient tradition. The following chapters may show other, perhaps older vestiges of a bye-gone era.
6.1. Introduction

Chapters 2, 3, and 4 defined standards for analysing Fenian lays. If these criteria are applied against Fenian lays recorded in Scotland, elements of Indo-European cultural practices including thematic material, poetic usage, language register, syllable-timing characteristics, pitch structuring, rhythm, pitch accent, and vocal techniques can be seen. Whilst northern European cultures shared much in common with regard to sung heroic poetry, the music of the cultures of both Ireland and Scotland share the theme of Fionn mac Cumhaill. There are many similarities between the people now inhabiting these two regions, but it may surprise the reader to learn that while there are many similar traits that one would normally expect to observe between any two nations in such close proximity, a great deal of cultural traits flowed from Ireland into Scotland, especially the language and folklore.

There are a plethora of reasons for this; however, two major expansions into Scotland from Ireland allowed for the spread of Fenian material to migrate across the water separating the two lands. The first movement was the incursion of an Irish tribe, the Dál Riata from Antrim in Ulster, into Argyll beginning approximately 220 C.E. “By the fifth century, Dalriada was an independent kingdom of Gaelic-speaking Scots” (Macleod, 1996, p. 42). The term “Scot” is disconcerting in any context as its meaning has shifted variously from being applied to the tribe of Scotti in Ireland to today’s inclusive use affixed to both Highlanders and Lowlanders in Scotland; Gaelic was at one time spoken in the Highlands and Islands, and English (or derivative such as Scots, Doric, etc.) was spoken in the Lowlands. “Scot” might be seen as a Pictish pejorative term for the “other”, something akin to the New Zealand Māori (Maori) expression Pākehā used today for anyone non-Māori. However, the term is helpful since it differentiates the Gaelic-speaking Dál Riata invaders from the surrounding Picts. This partially accounts for the spread of the Gaelic language in Scotland, “Around AD 500, Fergus king of Dál Riata in Ireland became king of the Scottish Dál Riata, centred on what is now Arra-Ghòideal ‘Argyll’ [...] Gaelic appears to have spread relatively fast, in the end obliterating the language or languages of the Picts” (MacInnes, 2006b, p. 94).

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204 The same condition existed in Scotland where people speaking Gaelic believe themselves to be Gaels and anyone else is termed a foreigner, or Gallasach (gall means foreign such as in MacDougall).
The other main expansion into Scotland was of a religious nature. Columba (in Latin) or Colum Cille (in Gaelic) was a missionary from Ulster to the island of Iona in Scotland in 563 C.E. He was of the powerful family of Ui Neill in Ulster and came to Iona partly as penance for being an instigator of a controversy that ignited an Irish civil war. His diplomatic skill enabled him to reach an understanding with the Pictish king wherein his missionaries could travel with impunity while military conflict was ensuing between the Picts and the Dál Riata (Macleod, 1996, p. 51). By 843 C.E., Cinaed mac Alpín had brought the Picts under his control (MacInnes, 2006b, p. 94).

The uniform language helped to bridge the cultural distance between the two land masses and acted as a conduit for Irish lore into a new territory. Whilst the stories may have been similar, the poetic ornament between Pictish and Gaelic must have been different. It may have been simpler to adopt the singing of lays from Ireland with pre-existing ornament, than to adapt a Pictish tale to the Gaelic language and generate ornament (although that perhaps happened with characters such as Diarmaid and Fraoch). As Moloney (2000) says concerning the connection between Ireland and Scotland, “A number of ‘Ossianic’ airs […] are amongst the more unusual items collected from traditional singers. As the Ossianic tradition was shared with Scotland, it is not surprising that it might be strongest in the north-eastern counties of Ireland, those closest to Scotland” (p. 130).

Fenian lays became quite popular in Scotland and remained so until the last century. Whilst it may seem as though the lays of Fionn mac Cumhaill were more popular in Scotland than in Ireland, that impression is formed largely due of the great quantity of extant material recorded from Scottish informants. Records such as the Leabhar na Féinne (J. F. Campbell, 1872), Reliquiae Celticae Vol. I (Alexander Cameron, 1892) and Vol. II (Alexander Cameron, 1894), Binneas nam Bard (MacPharlain, 1908), etc., dwarf the number of Fenian lays that were recorded from living informants in Ireland (such as the Duanaire Finn Vol. I (E. MacNeill, 1908), Vol. II (Gerald Murphy, 1933), and Vol. III (Gerald Murphy, 1953). The impetus for this was the Macpherson scandal, which began with the publication of The Poems of Ossian. This event was so significant that a brief mention of it must be made. Without it, the knowledge of Fenian lays may have passed from society’s collective memory.

6.2. The Influence of Macpherson’s The Poems of Ossian

No discussion of the Fenian lay would be complete without mentioning the (in)famous The Poems of Ossian (collectively: Fragments in 1760, Fingal in 1961, and Temora in 1763) by James Macpherson (1996) that was so popular that it was allegedly read by Napoleon and partly translated by Goethe. In the late 18th century, James Macpherson supposedly went into the Highlands and Islands of Scotland and collected Fenian lays and translated them into English. The veracity of these works was immediately questioned and the authenticity of his translations is debated to this day. This debate would be irrelevant except for the fact that The Poems of Ossian was (and continues to be) tremendously popular. The Poems of Ossian have been translated into Italian, German, and French; the process continues: a Japanese

\[^{205}\text{It should be noted that the Celtic Christian Church was significantly different from the Roman Catholic Church.}\]
translation appeared in 1971, and supposedly a Russian translation was completed in 1983 (Thomson, 1983, pp. 189-190). As stated by Allen:

One of these took the form of the publication of a book entitled Fingal—An Ancient Epic Poem in Six Books Together with Several Other Poems composed by Ossian, the Son of Fingal, translated from the Gaelic language by James Macpherson. First published in London 1762, this single event evoked a mighty response, producing a tremendous impression, not only in Great Britain but in many parts of Europe, and in the America as well. This book has long been recognized as a major foundation stone of the Romantic movement, which subsequently arose throughout the Western world. (1999, p. 13)

Unfortunately, Macpherson's lays, while containing many elements of actual Fenian lay compositional components, are inundated by non-Gaelic, Greek and Roman epic prose. As Thompson said of Macpherson: “he brought to bear his knowledge of the Classics, of Milton and of the Authorized Version of the Bible to produce his measured style” (Thomson, 1983, p. 190). Macpherson took the raw bones of the deeds of Fionn mac Cumhaill and his fianna, rearranged them, and threw on the flesh of English prose. This, understandably, has caused many Gaelic scholars great angst. “The Fenian cycle ranked as a national epic for both Irish and Scottish Gaels long before James Macpherson tried to construct a fake epic in English prose” (Bruford, 1987, p. 25).

Macpherson had gone into the Highlands of Scotland and had interviewed natives, but he felt no need to be precise. For his literary work, he made up names, altered the metre and rhyme, combined plots, and changed the order within the stories. When challenged to produce the written material whence the lays came, he did not argue that he obtained the lays by transcribing Gaelic speakers; instead, he translated his published English verse into Gaelic and then scribed it onto paper chemically treated to make it appear old. Modern linguistic analysis of this allegedly authentic Fenian lay Gaelic verse has proven it to be false, “The metre of this piece is a lame strophic one, clearly fabricated as a Gaelic version of Macpherson’s prose” (Thomson, 1951, p. 257).

The conflict came about due to the lack of understanding of memory and the traits of literacy. A well-known "moralist" at the time Samuel Johnson read Macpherson's work. The poems were rather long, and in Johnson's mind, that could only mean that the poems came from manuscripts. Johnson then demanded that Macpherson produce the original documents. As McKean noted:

Dr. Samuel Johnson, for one, was obsessed with the absence of manuscript originals for the poems Macpherson used in his translations. In 1775 he comprehensively attacked Macpherson in A Journey to the Western Islands of Scotland [...], and dismissed orally sourced material. Existing physical evidence was completely devalued, as much of it consisted of transcriptions from oral recitation and from manuscripts rather than the 3rd-century "originals" that Johnson required. (2001, p. 452)

What is not normally mentioned is the extreme hostility of Johnson’s comments and the ethnic prejudice against Gaels that is rather obvious in Boswell’s Life of Johnson (Boswell, 1896). Whilst Johnson’s language may seem inappropriate and vulgar by today’s standards, it was considered appropriate behaviour at the time. With this in mind, Macpherson’s subsequent action might not then seem as bewildering. Macpherson proceeded to reverse-translate the poems, creating fake originals. One possible explanation of this behaviour, which has perhaps not been put forth until now, is that this is perfectly in keeping with Gaelic humour. If someone
is acting foolishly, a second person may speak to that person and “string them along”. The response to a foolish act is often a small one, but then subsequent actions add to it, making the end result ludicrous. The humour is in pitting one person’s personal foibles against another and noticing an unexpected result. This is often shown in tales of the *amadan glic* (wise fool). Since Macpherson knew that extended Fenian lays were told from memory in the Highlands and Islands, and he knew that Gaels knew this as well, pretending that the original versions originated from manuscript seems a logical response to mock and humiliate Johnson. Since Johnson was from a different society that did not practice this form of humour extensively, he never got the joke, nor would have most non-Gaels. It should be pointed out that with this type of humour, Macpherson would never explain the joke; that would ruin the punch line.

Regardless of the vitriol between Johnson and Macpherson, I believe the basis of the controversy was caused because an urban, literate person could not understand how a rural, illiterate culture possessed a characteristic beyond that of civilised, literate, and in Johnson’s mind superior people (see Boswell’s diaries recording Johnson’s perspective, *Boswell* (1896)). Fenian lays can be quite long, running into hundreds of verses. How illiterate rural people, living outside centres of learning, could develop syllabic poetry with poetic ornament was beyond the capacity of Johnson to understand. Moreover, that such people could memorise such substantial poetry while Johnson could not was apparently infuriating. This topic of memory is important to this present dissertation. Although beyond its scope, a brief mention must be made concerning the solution to the controversy in the following section.

Although Macpherson’s part in altering the stories and presentation of Fenian lays may seem questionable from a modern perspective, the result was that a tremendous effort was then made in Scotland to record the singing of Fenian lays from living informants. Without such an endeavour, such an anachronism from a bye-gone era would have vanished, closing a window of understanding into Indo-European culture.

### 6.3. The Importance of Memory and the Work of Parry and Lord

While researching the possibility of extensive memory of illiterate informants, the present author noticed a similarity between Fenian lays and the heroic lays of the Serbo-Croatians as described by Albert Lord (2003) in his influential *The Singer of Tales*. Lord, following the research of his mentor Milman Parry and working with him, studied the process of oral transmission of epic poetry in Serbo-Croatia. What Lord and Parry discovered changed the study of this type of poetry significantly; as the editor of the new edition stated, “*The Singer of Tales* has not only become a classic for the general study of oral and written literatures but has also evolved into a standard textbook within folkloristics” (2003, p. xix). These singers routinely memorized more than fifteen thousand lines per song of epic verse.206

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206 In the introduction to the new edition of Lord’s work (2003), Mitchell cites Lord’s typewritten manuscript *Across Montenegro Searching for Gusle Songs* discussing one of these singers, “Avdo’s songs were longer and finer than any we had heard before. He could prolong one for days, and some of them reached fifteen or sixteen thousand lines” (Lord, 2003, p. vii).
Lord noticed that Serbo-Croatian epic poetry was rife with intense rhyming schemes, assonance, alliteration, and a complexity that today is thought to be possible only of literate people. Lord then compared this poetry to that of Homer and proved conclusively that Greek epic poetry (that of the *Iliad* and the *Odyssey*) was composed not by one literate person (Homer), but by many illiterate performers, “Nevertheless, it is now universally accepted that these [Homeric] poems are at least derived from a living, preliterate tradition. This poetic art was one of song” (Franklin, 2004, p. 2). One observation of Lord and Parry was that literate and illiterate minds do not function with regard to memory in the same way. It seemed that literate persons, relying on the aid of writing, did not develop their ability to remember verse as well as illiterate persons; “But it does not follow that the oral poets were literate — literacy seems to kill the oral technique” (Dodds, 1968, p. 15). This is reiterated in the introduction of *The Singer of Tales*. Mitchell states, “For Parry and Lord, empirical evidence showed that the ideology of the printed word destabilized the oral traditions of the various South Slavic cultures that they were analyzing” (Lord, 2003, p. viii).

This is an intriguing point: illiteracy has value. Most literate persons, such as Samuel Johnson, believe that reading and writing have only beneficial results. The scholar is taught to believe that all things of value are put to paper:

> The modern reader may be quick to suppose that written literature tends to length because there can be no such thing as fatigue in letters once set down, whereas oral literature should tend to brevity because every word of it must be remembered by a human brain. Yet quite the opposite is the case; for writing is slower and more arduous than speaking, and reading is a more toilsome accomplishment than reciting. (Carpenter, 1958, p. 15)

Another approach on this point might make things more comprehensible:

> In a community where oral literature flourishes, there must be some special occasion or incentive to justify the otherwise pointless expenditure of energy involved in manuscript notation. The Brothers Grimm wrote down the old wives’ tales in the Germanic-speaking provinces, but the old peasant women themselves would never have done so [...] Likewise in the ancient world it would not have been the rhapsodes themselves, but someone outside their profession with a different interest at stake, who could have inaugurated so tedious a project as that of taking down on papyrus rolls nigh on thirty thousand verses to the slow tempo [...] carefully spelling out each word in dictation. (Carpenter, 1958, p. 14)

Additionally, Lord suggested that literacy was more important in larger towns and cities; therefore, rural people would tend to keep to older poetic forms and maintain a more cohesive cultural continuity than those living in a literate society. “Archaic forms, once esteemed by all classes of an ethnic group, can survive longer in geographical and social spheres less subject to the cultural ferment of court and city” (Franklin, 2004, p. 1). This would explain the tradition of Fenian lay poetry being remembered in Ireland and Scotland where the population has historically been considered more rural.

### 6.4. Lay Analysis

In this chapter, a number lays recorded from Scotland are analysed. They are: “Laoidh Dhiarmaid”, “Duan na Muiligheartaich” from the same informant in 1946, 1956, and 1989, this same lay recorded in 2008 by a different informant, “Laoidh Fhraoich”, “Bàs Osgair”, and “Duan na Ceàrdaich”. The order of analysis and computer applications used (and why) have been discussed previously in section 1.5 Methods of Analysis of Primary Material.
6.4.1 Laoidh Dhiarmaid

Recording History

Whilst presenting a paper at the Òran 2010 Sang conference, the present author was given a Fenian lay by Dr. Dòmhnall Uilleam Stiùbhart. Ostensibly, the lay was sung by Francis Tolmie in c.1907 and had been converted to digital format from a wax cylinder. Stiùbhart was a leading force in the Carmicheal Watson Project (given the Unesco status “Memory of the World Programme”), which digitised a great deal of the work of Alexander Carmicheal and others. This work is currently online at www.carmichaelwatson.lib.ed.ac.uk.

A connection of this recording was made to a recording of “Laoidh Dhiarmaid” as collected by John Lorne Campbell prior to 1946 (the following section, “Duan na Muiligheartaich-1946” will describe another lay recording found with this collection). In this second recording, which is analysed in the following chapter, the notated melody as created by Seámus Ennis did not match the tune as the informant sang it. The present author surmised that Ennis had found a previously printed version of the lay and used it as a template for the lay that he was transcribing. A search was conducted for this original notation, and an example was found that matched Ennis’s melodic template fairly well. It was printed in Francis Tolmie’s “One Hundred and Five Songs of Occupation from the Western Isles of Scotland” which was published in 1911 in the Journal of the Folk-Song Society, Vol. IV, No.16 (1911, p. 245). I noticed that the audio file given to me by Stiùbhart matched the musical transcription almost perfectly. The image of this transcription is provided below in the Graphical Analysis section. The audio file is also included in this dissertation as 6.4.1_LaoidDhiarmaid.wav.

In Tolmie’s notation, the lay was attributed, not to Tolmie, but to Margaret MacLeod (Cottar) in Portree, Island of Skye as being the informant. Perhaps it is this informant who is referred to in Leabhar na Féinne from an extract of a letter as “Margaret Macleod, a poor forlorn woman at Portree, knows these places [concerning placenames mentioned in the lays], and can sing the songs about them” (J. F. Campbell, 1872, p. 164). She is also referenced as “M’Leod, Margaret (“Mairearad Mhór” or “Tall Margaret”), cottar, spinner and knitter, Portree, Skye. Elderly in 1871” (Tolmie, 1911, p. 155).

What is remarkable is that the date of the recording was specified as 1870. That date would make it certainly the oldest known recording of a Fenian lay but must be viewed with suspicion. Various online sources mention that Tolmie had obtained a wax cylinder recording device by 1905. It is also common knowledge that the wax cylinder recording was not made commercially viable until the end of the 1870s. It may possibly be that Tolmie sang the song herself in imitation of MacLeod, or even found another informant who sang the lay in a similar manner. Although the provenance of the recording is unclear, it is an old recording that displays many characteristics of authentic performance. It is therefore worth analysis. There

207 As Campbell (1872) states “This shows that Heroic Ballads are known to the very poorest classes in the Highlands, and that they are localised everywhere. Beinn lanabheig, a peaked hill above the Bay of Portree, was once called Beinn Gualban, where Diarmad, the friend of Fionn, was wounded when measuring the wild boar. At Sgor is the grave of Diarmad; and at Benmore is Tobar-an-Tuire, from which, when dying, he besought Fionn to fetch him a drink” (p. 164). That is, the names were made to be local landmarks in the minds of the people singing the lays. The hill Beann Ghuadann was also in Ireland (Gerald Murphy, 1933, p. xvii).
are certainly other recordings from Scotland of “Laoidh (or Bùs – death) Dhiarmaid” such as SA1953.273.B5 and SA1963.97.B1 held by the National Trust of Scotland.

Whilst the informant’s rights to the recording are past, and it is in the public domain, the digitisation of it is not. Therefore, the reader of this dissertation would be required to obtain a copy of this sound file from the owner in order to listen to the audio file.208

**Narrative**

As mentioned in Chapter 5, this lay concerns the exploits of Graidhne, daughter of the King of Coig Ullainn (the five counties of Ireland) and Diarmad, who was a Fenian. The lay is thought to be as old, if not older, than the lays concerning the Fíanna:

Diarmaid Ua Dubhne is probably the best known and most celebrated of the warriors of the Fian. In both Ireland and Scotland his exploits have been retailed across the centuries in prose and verse, with the result that he has earned an esteem within the tradition of Fiannaigheacht which far surpasses that of Fionn mac Cumhaill or Goll mac Morna. Stories about Diarmid, and especially about his elopement with Gráinne, the one betrothed or, in the earliest text, married to Fionn, are deeply embedded within the Finn Cycle. Indeed, the traditional rivalry of Fionn and Diarmaid may well suggest that Diarmad once occupied a place in the Celtic pantheon which even the growing importance of Fionn could not wholly supersede. (Meek, 1990, p. 335)

In summary, Diarmad elopes with Graidhne who was the wife of Fionn. Eventually, Diarmad and Fionn reconcile, although Fionn is still bitter. Fionn plots to have Diarmad killed by tasking Diarmad to kill a giant boar. Although Diarmad kills the boar, a poisonous bristle pricks him when he measures the boar’s length. Fionn could save Diarmad’s life by bringing him water from his hands, but three times Fionn lets the water fall from them, and Diarmad perishes.

**Language**

The analysis of the poetry is rather straightforward. Here is how it appears in Tolmie’s (1911) version, see Table 6.1, below:

<table>
<thead>
<tr>
<th>Laoi Dhiarmaid</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ‘S ann an raoir bu ghorm an tulach,</td>
<td>Green last night was the knoll,</td>
</tr>
<tr>
<td>Gè dearg an diul [gh] e le ful Diarmaid;</td>
<td>Though it be red today with the blood of Diarmid;</td>
</tr>
<tr>
<td>‘S gur h-ann leis an Fheinn bu duilich,</td>
<td>And grievous were this to the Feinn,</td>
</tr>
<tr>
<td>Mur a bitheadh Fionn ‘ga iarraidh.</td>
<td>Had it not been the desire of Fionn.</td>
</tr>
<tr>
<td>2. “Fhionn, nach toir thu dhomh-sa deoch,</td>
<td>(Díarmaid) “Fionn, wilt thou not give me to drink,</td>
</tr>
<tr>
<td>Dhearbh mhic a righ is mo chobair,</td>
<td>Thou true son of a king, and my succour;</td>
</tr>
<tr>
<td>Tighearn mo bhiadh, agus m’ aodaich?”</td>
<td>Lord over my food and my clothing?”</td>
</tr>
<tr>
<td>“Och-ón-a-ríl’ s m’ nach tabhair”</td>
<td>(Fionn) “Och ón-a-rí! That will not I!</td>
</tr>
<tr>
<td>(Canar gun fhonn): An sín bhásaich Diarmaid air an tom.</td>
<td>I will not give a drink to thee,</td>
</tr>
<tr>
<td>3. Cha toir mise dhuit-sa deoch,</td>
<td>And neither shall I quench thy thirst;</td>
</tr>
<tr>
<td>Ni mò a chiaseas mi t’iodadh,</td>
<td>Help thou didst never offer me;</td>
</tr>
<tr>
<td>‘S beag a rinn thu riamh dha m’leas,</td>
<td>Nor didst render but to my ruin.”</td>
</tr>
<tr>
<td>Is mòr a rinn thu dha m’aimhleas.”</td>
<td>(Spoken not sung): Then died Diarmaid upon the knoll.</td>
</tr>
</tbody>
</table>

Table 6.1: “Laoi Dhiarmaid” Transcription and Translation

208 The Deputy University Archivist for Special Collections at the Centre for Research Collections which is a Division of Library and University Collections at the University of Edinburgh is not aware of any copyright of the digitisation of the material, only that the issue Marjory Kennedy-Fraser might have copyright (G. Butters, personal communication, November 19, 2015). However, out of courtesy to Kennedy-Fraser’s descendants, this material is only reproduced for the examination of this dissertation and must be destroyed within five years of submission.
The poetry is uniformly syllabic:

1. 'S ann an raoir bu ghorm an tuílach, (8)
Gè dearg an duí e le fuil Dhiarmaid; (8)
'S gur h-ann leis an Fheinn bu duirlich, (8)
Mur a bitheadh Fíonn 'gu iarraidh. (8)

It should be noted that the lay may have been made syllabic by Tolmie and sung by her in that manner in order to make the syllable count uniform. There is occasional alliteration but that is probably coincidental. There is aicill rhyme throughout, but is not consistent by line.

**Graphical Analysis**

Here is the notation as published by Tolmie (1911, p. 245) as may be seen in Figure 6.1, below:

![Graphical Analysis: Tolmie's Published Notation of "Laoidh Dhiarmaid"](image)

One can hear that Tolmie attempted to write the notation to match the rendition of the informant as closely as possible and not alter it to match art music conventions by observing the graphical analysis below (Figure 6.2). Here, lines 1A and 1B begin with the mean of D (on 'S ann, 1A) = 271.4 Hz.:  

![Graphical Analysis: "Laoidh Dhiarmaid" V. 1: A, B](image)

Below are the next two lines, 1C and 1D in Figure 6.3:
One may then observe in the above figure that the lay was sung narratively and not to a multiple of a smaller unit of time.

**Pitches**

The pitches as used in the Tolmie recording can be seen to match that of the natural scale as shown in Figure 3.4. It also matches the more restrictive “rural mode” as displayed in Figure 3:30; see Figure 6.4, below:

Purser observed of the notation and melody:

> [It] is marked to be sung ‘rather slow’ and can be performed with a regular pulse. Like Deirde’s Farewell, it makes brief but telling escapes from a basic reciting note: the first half with a dramatic drop of a seventh [on Gé], the second half breaking away from the pentatonic scale by introducing an extra note (A), which adds greatly to the expressive effect. (2007, p. 84)

Purser probably had not listened to the recording. The end of the phrase on a 1/16 note (tul-ach) is actually long when sung. The informant then takes a large breath and begins the next phrase down an octave (Gé). The second verse repeats this pattern. Figure 6.4 also demonstrates that the tune is not pentatonic since an F₅ occurs, but is perfectly in keeping with the natural scale and does not break the form of traditional patterns. This is not a condemnation of Purser, who is an excellent musicologist, but rather highlights the problems encountered when art music notational conventions, subconsciously applied, are brought to bear on folk music.

**Rhythm**

The rhythm is narrative as can be seen in Figure 6.2 and Figure 6.3.

**Pitch Accent**

The first verse is as follows (capital letters on stressed syllables; bold font on accented syllables):

'S ANN an RAOIR bu GHOR[O]m an TULlach,
Gè DEAR[e]l an DIU[gh] e le fuil DHIARmaid;
'S gur h-ANN leis an FHEINN bu DUILlich,
MUR a BITHeadh FIONN 'gu IARRaidh.
Unfortunately, the recording is so poor that the intensity contour is not valuable in analysis.

**Resonance Tuning**

Again, the recording is so poor that resonance tuning is not valuable in analysis.

**Vibrato**

The wax cylinder rotation obstructs the vibrato. However, if noise reduction is employed, vibrato can be seen to occur. The vibrato is also easily heard (see Figure 6.5, below):

![Vibrato speed & width](image)

![Vibrato period view](image)

**Volume**

The recording quality is too poor to gain any meaningful conclusion through analysis.

**Summary**

Although this lay has questionable provenance and may not have been performed by Margaret MacLeod but by Frances Tolmie, it does follow traditional performance practice of Fenian lays with regard to narrative rhythm and pitch selection. The words are in a high register, but there is not a great deal of poetic ornament. It does have the distinction of being the oldest known recording of a Fenian lay.

### 6.4.2 Duan na Muiligheartaich-1946

**Recording History**

During research, I noticed an unremarkable lithograph copy of a small, hand-written sheet music manuscript at St. Francis Xavier University in Antigonish, Nova Scotia. The collection was contributed to the university library by John Lorne Campbell and his wife, Margaret Fay Shaw; the music notation of the tunes of the first verses of songs were annotated by Séamus Ennis. Inquiries into the existence of the audio recordings were made through Dr. John Shaw which eventually led to the National Trust of Scotland. Digital copies of each, including several renditions taken by the collector of the same lay, were provided by the National Trust of Scotland.

The original recordings in the Campbell MS were made on a clockwork Ediphone wax-cylinder tape recorder in 1937 (1990, p. 3) while Campbell and Shaw were collecting recordings in Nova Scotia. The recordings obtained by the present author had been transferred to wire format and then digitised. It should also be noted that on the frontispiece for the lithographic manuscript,
the compiler (S.O. Duilearga) states that the transcriptions were made from both Ediphone (wax) cylinders and Presto Gramophone recordings (wax or vinyl) and that recordings subsequent to Campbell's trip were added to the collection from Scotland. The collection was dated as being collected not later than November of 1946. Therefore, the recordings provided by the National Trust of Scotland were perhaps transferred onto wire tape machines in order to preserve the wax cylinders or wax disks. They would have been then converted to tape. This is common procedure and is often performed at archives so that listeners will not wear out original recordings.

Campbell and Shaw returned to Scotland and asked for assistance from the Irish Folklore Commission and the service of Séamus Ennis to transcribe the material. A great deal of Ennis's unaltered lithograph images from the 1937 MS appeared in Campbell's (1990) Songs Remembered in Exile, first published in 1990. The preface to the book makes reference to problems encountered during the transcription process, as Shields states that “there have been some problems in noting the air” (1993, pp. 192, fn. 110). This became clear as the notations of the lays were investigated and compared to the original recordings.

One lay in the MS was entitled “18. Laoidh Dhiarmaid” (Lay of Diarmad). The singer was identified as Aonghus Ruadh O’Henley (Red-headed Angus) of Lochboisdale, Scotland. Upon reviewing the recording, it became clear that there was something incorrect about the transcription or recording. The audio tune did not fit the transcription. Furthermore, the other lay in the MS (17. “Rann na Muileartaich” – Verse of the Sea Hag) was misidentified. The informant’s name was again given as Aonghus Ruadh O’Henley, yet the recording was that of a woman. The text and rhythm matched, so the audio recording was the one used by Ennis. If this informant was misidentified, then the annotated name of the other informant for “Laoidh Dhiarmaid” is also questionable; this is particularly so since the tune was not annotated correctly.

However, upon listening to the recording, it became apparent that it was sung by Peanaidh “Bheag” Mhoireasdan (Penny Morrison) of South Uist (d. 1991). Whilst the date may be earlier than 1946, there is no way to ascertain this. However, since recordings exists of Peanaidh Mhoireasdan209 singing the same lay during the ensuing decades, and ending with a recording made by Andrew Kyte in the 1990s, an examination of this lay and subsequent recordings will illuminate the process of “oral composition”; that is, how lyrics and tunes change in the mind of a performer over time. The recording of this lay made prior to 1946 and included in this dissertation is entitled 6.4.2_DuanMuiligheartaich-1946.wav.

Narrative

There are various spellings of the title of this lay including “Duan na Muiligheartaich”, “Rann Muiligheartaich”, “Rann Muileartaich”, etc. This lay relates the story of the one-eyed, red-toothed, partially bald, charcoal-coloured face, normally female, but occasionally male, sea hag. The muiligheartach (sea hag) seeks revenge against the fianna for killing her foster-son.

209 She did not call herself Nic Gille Mhoire (daughter of the servant of Mary), and M(h)oireasdan is an adjective and cannot be used alone. “Am Moireasdanach” is awkward, so her full name is used in this dissertation.
She approaches the fianna who, upon noticing her, barricade themselves in their fortress. This does not stop the muileartach as she takes her club and beats the door in, sending the Fenians flying about the room. She then takes the “Cup of Victory” and departs on the ocean back to Norway and gives Manus the cup. The name of Manus is mentioned here because the lay of Manus is not only connected to examples of sung lay recordings from Scotland, but because it correlates to “Teanndachd mór na Féinne” that was recorded in Nova Scotia by Dr. John Shaw in the 1970s and is available online at www.gaelstream.stfx.com.

Campbell describes some interesting points concerning the muiligheartach:

The explanation of the Muileartach is further strengthened by the representation of an enclosure having been made for the great fight, denoting the confining of water within manageable limits, by the Muileartach being called spleò, a spectre, a film, a vapour, or an indistinct appearance, and by her combating the heroes like a flame. (1891, p. 135)

This lay was extremely popular and appears in most collections of Fenian lays.

**Language**

A number of Celtic scholars were approached to transcribe this song; unfortunately, all believed that a transcription was beyond their capacity. Nevertheless, one was attempted from various online sources and also the translation from Julie Fowlis (Nic Amhlaoibh & Fowlis, 2008) as described below in 6.4.5, Duan na Muiligheartaich-Fowlis; the transcription and translation may be seen below, Table 6.2:

<table>
<thead>
<tr>
<th><strong>Rann na Muiligheartaich</strong></th>
<th><strong>Translation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Far dha ‘n Fhinn air Tulaich Òir, A’ comeadh Èirinn far mistrithni</td>
<td>On a day that the Fenians were in Tulach Choir Looking around at the expanse of Ireland</td>
</tr>
<tr>
<td>Chunnacas a’tighinn air bharraibh thonn An earrach chroall chròille chrom.</td>
<td>There was seen coming upon the crests of the waves A crabbed, twisted ogre.</td>
</tr>
<tr>
<td>’S e b’ ainm dhan ni nach bu mhìsge A’ Mhuiliguheartach mhaol fuireadh Chriochan Loch’nach thar sàil Gu Èirinn a’ chomhchà a’ uile Bha claidheamh meirgeach air a’ cios</td>
<td>The name of the fearless one Was the Muiligheartach of the cropped red hair From the bounds of Scandinavia over the ocean To fight against all Ireland.</td>
</tr>
<tr>
<td>Bha dà shleagh eile fhada chaol Air an taobh eile dhan chaillich.</td>
<td>There was a rusty sword on her belt In that time of sudden, fearful anger There were two other long, slender spears On the hag’s other side.</td>
</tr>
<tr>
<td>’S [?] dh’hairich iad calg na béisteadh Dh’éirich Fionn, flath na Finneadh, ’S dh’éirich Oisean, flath na fear, ’S gun d’éirich [sic] sin agus Cearathall.</td>
<td>When they felt the fury of the beast Up rose Fionn, hero of the Fenians, Up rose Ossian, the noblest of men. They did rise, as did Cearathall.</td>
</tr>
<tr>
<td>Dh’éirich Oisean an thall, Dh’éirich sin is Ardan ’S dh’éirich Diarnad mac Righ Lòin ’S gun d’éirich [sic] sin is Fionn is Goilean.</td>
<td>Ossian rose up yonder, He rose up as did Ardan, And rose Diarmad, son of the King of Lòin They arose as did Fionn and Goilean.</td>
</tr>
<tr>
<td>Ceathrar a b’ fhoghnachtse a bha san Fhinn A’ chaiddh a’ chomhnaadh na béisteadh; Bha i ga frìthealadh ma seach Ma ni a’ lann air a’ lasair.</td>
<td>Four of the strongest of the Fenians Went to confront the monster; She dealt with them each in turn As if her sword was in flames.</td>
</tr>
<tr>
<td>“Mo bheud!” arsa Gobha nan Duan, “Ma mharbhadh mo Muiligheartach maol ruadh.” Nach d’haibhig a dhaoine na shìuagh A’ bhìreadhail fuill air a maol ruadh.</td>
<td>“Alas!” said the Smith of the Lays, “If my cropped red-haired Muiligheartach has been slain When none has come of men or hosts That could draw blood on her red pate.</td>
</tr>
<tr>
<td>Mar do shliugh i tulamh toll, Bàthadh a muir sleamhainn lom,</td>
<td>Unless she was swallowed by a chasm Or she was drowned in a smooth, bare sea,</td>
</tr>
</tbody>
</table>
The poetic analysis is as follows:

Latha (Far?) dha 'n Fhinn air Tulaich Òir, (7)
A' comhead Éirinn far mór thim [i] chioll', (9)
Chunnacas a'tighinn air bharnaibh thonn (9) [lenition seems to place <bh> with thonn]
An earr a chraolail chràille chrom. (8)

Aicill rhyme exists between lines 1A and 1B. There is rhyme between most A and B and C and D lines such as in verse 7 (Duan: ruadh, shluagh: ruadh) and 10 (àigh: làimh, sin: Liobhainn). There is also a good deal of alliterative rhyme on the last words of lines such as verse 3 (eriois, cas, chaol, chaillich). As well, there is chain alliteration (1B, 1C in chioll: Chunnacas), although this is probably coincidental. There is perfect rhyme between the ends of lines 1C and 1D.

When counting the syllables in the entire lay, the syllable count is slightly varied, but seems relatively steady at approximately seven syllables per line. If altered for contractions, the result of the first verse is as follows:

Lath' dha'n Fhinn air Tulaich Òir, (7)
A' comhead Éireann mor thim [i] chioll', (8) [stress is on chioll]
Chunnacas 'tigh'n-air bharnaibh thonn (8)
'N earr a chraolail chràille chrom. (7)

Therefore, pattern appears to be (7¹ x 8¹ x 8¹ x 7¹), although it is doubtful that the informant thought of this or was attempting to maintain this patterning.

There may be slight high register usage in the expression chunnacas, although this is questionable. There are formulae in 1D in chraoille chràille chrom, 7B in Ma mhurbhadh mo Mhuilgheartach maol ruadh (which is proved to be a formula, matching, in the same lay Ma mhurbhadh mo Mhuilgheartach an Éirinn (9A)). Also, in 9D, there is An fhíne na fásach na fonn, etc. As will be seen in Chapter 7, the expression (4B) Dh'éirich X (x) (with X acting as a placeholder for a stressed consonant; x for an unstressed consonant) is quite
common in many of the lays. The formula flath na Finneadh (4B) is also quite common as a formula as can be seen in the following (4C) flath na[m] fear. It should also be noted that this is the exact same alliterative pattern in the formula in English as identified by Watkins of “flee of foot” (fl/f). In these two consecutive lines, two different formulae are combined one after the other: Dh’eirich Fionn, flath na Finneadh, /’S dh’eirich Oisean, flath na fear (4B/C). This is the same pattern as sung by the daughter of Mór Bean Nèill (Bean Eairtsidh Raghaill – Mrs. Archie MacDonald, who also sang a Fenian lay (in M. A. MacDonald (1992)) singing a milling song ending with Dh’eirich Conan, labhair Conn./Dhéirich friogh is fraoch air Bran with near-perfect rhyme with Conn and Bran. So the rhythm of Dh’eirich X (x) is combined for the rhythms of ^ _ ^ _ , ^ _ ^ / ^ _ ^ _ , ^ _ ^.

**Graphical Analysis**

The lay appeared in the MS at St. Francis Xavier University in Figure 6.6, below (J. L. Campbell, Shaw, Margaret Faye, 1947, p. 17):

![Figure 6.6: “Rann na Muileartaich” Extract of the 1946 MMS](image)

Although it may appear that the above notation is somewhat exact, it is not. The rapid manner by which the singer sings the lay makes precise annotation difficult. Additionally, the pitch placement is not correct. Ennis must be forgiven for this as it was transcribed without the modern advantage of pitch-tracking software and the ability to repeat a short “loop” of audio material in order to capture the exact nature of the frequency shift. He was also probably working within an extremely short time frame; the notation was perhaps a template that he intended to revise at a future date.

Below is the graphic analysis of rhythm and pitch using pitch-tracking software (Figure 6.7, below). Here, the mean of A (on Fhinn, 1A) = 214.8 Hz.:  

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200 For example, in a recording of my Mór, “Bean Nèill” Chaitríona Chaimbeul (Marion Campbell) of South Uist of “Laoidh a’ chain dhuibh” she sings S dh’eirich Fionn os cionn an t-stuaigh and Dh’eirich Oscar’s dh’eirich Caolitte (lines 11, 7 respectively in McCaughey (1984, p. 48).  
201 Noted by McCaughey (1984, p. 50) on the CD Waulking Songs from Barra (M. A. MacDonald, 1993, pp. track 2 – “Hò rò hùg o hug o”).  
202 The reader may recognise this as the rhythm to the refrain of the popular Christmas carol “We Three Kings of Orient Are” with the words, “Star of wonder, star of night/Star with royal beauty bright”.
Below are the next two lines, C and D in Figure 6.8:

The informant sings the entire verse in one breath; therefore, the interface between couplets is relatively short. There seems to be more of a pause between lines C and D than between A and B or B and C. Also, there are an additional two lines in verse nine. This is performed by repeating the melody as in the last two lines of every verse.

**Pitches**

The melody as notated by Ennis is not correct, but the words and quick rhythm match the lay as sung in the recording as provided by the National Trust of Scotland. The transcription is undoubtedly taken from that recording (Canna tape 0035). Ennis’s transcription is again confusing as the pitches are completely different from the recording. It very well may be that Ennis took a version of “Rann/Laoidh/Duan na Muileartaich” that had been previously transcribed and then attempted to adjust the rhythms to match the recording. Why this occurred is uncertain, but the pitches are so completely dissimilar as to suggest that he believed that either this was what was expected of him or that this notation was simply a working rhythmic version with correct pitches to be added at a later time. Here is the pitch structure in staff notation as performed (Figure 6.9, below):

Notice that the ending pitch is on A₄. If Ennis’s transcription in Figure 6.6, above is transposed to start on the same pitch (D₅), then the ending pitch would be D₇; that is, Ennis’s transcription begins and ends on the same pitch, but that did not occur on any of the verses in the recording. Since the difference in the recording is a perfect fourth, this cannot be viewed as a simple
mistake with regard to transcribing the lay from the audio file. Additionally, Ennis’s version has a range of a major sixth. The example above, Figure 6.6 shows a range of an octave. It may also be that he was modelling the initial pitches to that of “Laoidh Dhiarmad” in the transcription made by Tolmie as noted in the previous section of “Laoidh Dhiarmad” where the singer drops a seventh after the first phrase.

The structure of the melody matches the natural scale (see Figure 3.4). If described diatonically, it would be pentatonic missing the 7\textsuperscript{th} and the 11\textsuperscript{th} degree. Since the tune neither descends below G\textsubscript{4} nor above G\textsubscript{5}, it not only matches the natural scale but the “rural mode” (see Figure 3.30) as well. There is also a neum on choil of the last element of the last phrase of the first verse of chaol na chrom. A mentioned above, the singer adds two additional lines in verse nine. She also does not “resolve” on most verses of the song but only on verses one, seven, and both endings (lines D and F) of verse nine at the end of the verse; for example, at the end of the lay, she sings the ending line of an àrd-rìgh with àrd on C\textsubscript{5} and rìgh on A\textsubscript{4} but the following two notes of the tune are omitted due to a lack of remaining syllables, and is content to end the lay there. That is, there is no “leading tone” of G\textsubscript{4} on any of the verses except one, seven, and nine. In essence, if she ended a line with no remaining pitches left, she would add an additional G\textsubscript{4} to A\textsubscript{4} tag.

Rhythm

The speed with which this lay is sung makes it impractical to use graphical analysis to examine the rhythmic structure; however, it is so clearly in conversational speech that analysis would be redundant. Whilst it might sound as though it is being chanted with note rhythms of equal value, as in Orf’s Carmina Burana chant “Puer cum puella”, it is not so. There are long and short syllables just as in Italian (and Latin) and spoken Gaelic.

Pitch Accent

The singer seemed to shift accent (which corresponds to stresses) on the following syllables (stress in indicated by capital letters; pitch accent noted by bold font):

\begin{verbatim}
LATHA (Far?) dha ’n FHINN air Tulaich ÓIR 
A’ COMHead ÉIRinn far MÓR thím[i]CHIOLL’,
CHUNNacas a’TIGHinn air BHARnaibh THONN
An EAArra CHROIILLe CHRÁILLe CHROM.
\end{verbatim}

The accent patterning is rather consistent throughout the lay; pitches shift whenever the next stressed syllable arrives. This occurred especially on line B of the verses. For example, if the second lines for each verse are stacked with the syllable made bold where the singer shifted to a higher pitch, the following results; see Table 6.3, below.

This is typical behaviour in Fenian lay performances and often perplexes those schooled in art music: the melody shifts depending on where the accent falls in a line.
Table 6.3: Shifting Accent in Lines B of “Duan na Muiligheartaich-1946”

<table>
<thead>
<tr>
<th>Verse and Line Nr.</th>
<th>Text</th>
<th>Syllable Nr. of Accent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1B</td>
<td>A’ comhead Éirinn far mór thimchioll’</td>
<td>7</td>
</tr>
<tr>
<td>2B</td>
<td>A’ Mhuiligheartach mhaol fuireach</td>
<td>6</td>
</tr>
<tr>
<td>3B</td>
<td>An às na feirse clisge cas</td>
<td>6</td>
</tr>
<tr>
<td>4B</td>
<td>Dh’èirich Fiònn, fìatha na Finneadh</td>
<td>3</td>
</tr>
<tr>
<td>5B</td>
<td>Dh’èirich sin is Ardann</td>
<td>5</td>
</tr>
<tr>
<td>6B</td>
<td>A’ chaidh a’ chòmhadh na bèisteadh</td>
<td>4</td>
</tr>
<tr>
<td>7B</td>
<td>Ma mharbhadh mo Mhuiligheartach maol ruadh</td>
<td>8</td>
</tr>
<tr>
<td>8B</td>
<td>Bàthadh a’ muir steambahinn lom</td>
<td>5</td>
</tr>
<tr>
<td>9B</td>
<td>Ma mharbhadh mo Mhuiligheartach an Éirinn</td>
<td>5</td>
</tr>
<tr>
<td>10B</td>
<td>Mhuiligheartach làimh air làimh</td>
<td>4</td>
</tr>
<tr>
<td>11B</td>
<td>Aig Mac Cumbailt an taoibh ghill</td>
<td>3</td>
</tr>
<tr>
<td>12B</td>
<td>Buidheann ma nach buinnigte gill</td>
<td>5</td>
</tr>
</tbody>
</table>

The ends of 1A and 1B do not act as though they are at the ends of exhalations, which would normally end on a lower pitch. That is, since each verse is sung in one exhalation, the entire verse should be seen as one exhalation with rising pitches in the centre and lower pitches at the end, which indeed did occur with mór of the first verse (1B) being the highest pitch of the lay. Therefore, the accent patterning of the sung version matched that of idealised speech.

Also, the structure of the tune would seem to indicate that the first three lines are grouped together with the last line standing on its own.

**Resonance Tuning**

Resonance tuning does exist; therefore, the lay is not being spoken, and overtones surrounding 3 kHz. are being reinforced strongly. This can be seen in Figure 6.10, below (time index 11.1-4 sec.):

![Figure 6.10: “Duan na Muiligheartaich” 1946, Resonance Tuning on Chrom](image)

The *nyahh* is rather pronounced and can be clearly heard. The use of measurement devices is superfluous but does validate their effectiveness and use in other lays where the *nyahh* is less obvious.
**Vibrato**

Vibrato exists although it is not remarkably periodic, which it is perhaps why it is not clearly identifiable. Here is an example of the vibrato on the last word of the first verse, *chrom* (below, Figure 6.11) at time index (0:17 sec.):

![Figure 6.11: “Duan na Muiligheartaich” 1946, Vibrato on Chrom](image)

This is a magnified view of the word that can be seen in Figure 6.8, above with additional analysis on the periodicity of the vibrato and how it would match a perfect sine wave. Vibrato occurs throughout the lay; however, the informant has a good deal of subglottal pressure.

**Volume**

The volume of the lay was moderate and unstressed syllables were at a pace with the surrounding stressed syllables. However, since the lay was not sung loudly, there was no appreciable extension of the unstressed syllables. Also, the unstressed syllables were not clipped (or “orphaned”).

**Summary**

Although sung rather quickly, there are some important characteristics of this lay. It appears as though the informant was thinking in terms of three-line/one-line exhalations. This is suggested by the increase of *F₀* on the syllables of *Fhinn, Óir, mór, thonn / chraoill, chrom*. When viewed in this manner, the accent of *CHOIREin* is placed in the middle of the exhalation instead of the end, which it would be if the informant was thinking in terms of lines being contained within each exhalation. As mentioned by Gussenhoven, et al., ends of utterances are most often pitched toward lower pitches of the exhalation when not being submissive or asking a question.

If the informant was singing in terms of an exhalation encapsulating two lines, that would also account for the high rate of speed of the sung lay. Instead of syllable-timing (sic) nine or ten syllables per exhalation, she would have to fit approximately twenty syllables per exhalation.

Although sung at a moderate volume, resonance tuning or *nyahh* was strongly present. Significantly, the nasalisation did not affect her pronunciation; the difficulty in transcribing the words was mainly due to the speed with which the lay was sung. Therefore, this is an important example of a native speaker singing at a moderate volume with *nyahh* strongly present where the pronunciation is not greatly affected. Some singing of sean-nós songs by
young singers might be seen as an aberration or extensive morphing of this technique since intelligibility is affected. Perhaps this is an example of the nyahh at its greatest extent prior to differentiation by the following generation.

### 6.4.3 Duan na Muileartaich-1956

**Recording History**

This recording was provided by the University of Edinburgh and is listed as SA1956.32.A7 and in this dissertation as 6.4.3_DuanMuiligheartaich-1956.wav. It is again of Peanaidh Mhoireasdan (Penny Morrison), but this recording was made at least ten years after the previous example.

**Narrative**

This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

**Language**

The poetry was the same as discussed above in section 6.5.2 Duan na Muiligheartaich-1946. The discrepancies seem to be that the first word as pronounced as Far in 1946 but, as is normally done, Latha in 1956. This may have been a result of the recording, but the fricative seemed rather clear.

Other changes were surprisingly minute. In verse four, she began with Dh’fhairich and not ’S dh’fhairich; there was aspiration on both of the words flath and also dh’èirich in line D (she had made this a slight plosive in 1946) in the same verse. She did this again in 5D as well with dh’èirich. Also, she added ’S (lit. “and”) to the beginnings of lines 8A and 11C. The verses were the same. The words were the same.

Normally when singing a song repetitively over time, the brain’s connections between groups of words or images becomes extended or weakened. That is, the performer remembers a sentence or phrase, but the connection to the next group of words starting a phrase becomes attenuated. The singer then searches for the beginning of the first word in the next phrase. This causes a pause, which is noticeable in that it does not match the normal rhythm of spoken words or the metre of the music. This did not occur with Peanaidh Mhoireasdan. There was no pause between any group of words or phrases. This can be verified by observing Figure 6.12 and Figure 6.13 (below). It is also apparent simply by listening to the recording. As previously stated, this is often not true in recordings of performances for the stage or for movies. Particularly in older movies, one may observe an actor pausing by smiling or looking in various directions as if distracted, but is in actuality artfully filling time with some sort of action while hoping that the brain will summon the words (as often occurs). When such forgetfulness occurs, the actor’s partner on stage will often “feed lines” (make up words on the spot by speaking a comment using the forgotten words) to the stumbling actor in order to trigger the forgetful actor’s memory. Since the supporting actor is conjuring up a conversation, the audience often attributes the pregnant pause to that actor and not the one at fault.

This did not occur with Peanaidh Mhoireasdan. She knew the words “cold”. This is all the more remarkable since the words were somewhat archaic. It is something similar to someone
singing Hamlet’s soliloquy at a high rate of speed, with no mistakes or pauses, after having a few drinks at a dinner party ten years after performing it last.

Graphical Analysis
Here is the graphical analysis of the first verse, lines A and B of this recording (Figure 6.12); the mean of A (on *Fhinn*, 1A) = 204.8 Hz.:

Below are the next two lines, C and D in Figure 6.13:

The pitches and neumic shifts were the same. There were no pauses during the performance; the rhythm was as performed in 1946 or earlier.

Pitches
This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

Rhythm
This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

Pitch Accent
This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

Resonance Tuning
Resonance tuning could be seen more clearly in this recording due to an improved recording device used. However, the singing was more relaxed with less of the *nyakh* engaged. Here is the word *chrom* of the first verse (Figure 6.14):
This shows less resonance tuning since the height of the peaks form a line.

**Vibrato**

Although the resonance tuning was not marked, the vibrato was. Here is a picture of the waveform of pitch versus time of the word *chrom* of the first verse, last line (below, Figure 6.15):

![Vibrato waveform](image)

This vibrato is extremely periodic and is therefore easily observed while listening.

**Volume**

The volume was moderate. Large deviations in intensity did not occur on syllables falling on phantom dissonances as can be seen in the image below (Figure 6.16):

![Intensity and pitch contours](image)

The pitch contour line is dashed and the intensity contour line is solid. Whilst the overall pitch contour is illuminating and shows the low-high-low sequence in lines A-C and D, the intensity
contour is most revealing of folk singing conventions. Although the contour drops at obstruents (consonants that restrict the flow of air and hence volume), the onset of syllables (minus initial obstruents) is quick. That is, the singer did not slowly “bow in” or pulse the beginning syllables slowly. I have noticed that this trait is often discussed by Italian-trained singers in the United States. We have noticed this “slow-bow” tendency often occurs in conservatory-trained singers and that this technique is modelled after an introductory stage of training used by the Italian school of singing. Unfortunately, slowly increasing the intensity of a syllable is only part of the entire process of the training. The final stage is to then increase the speed of intensity at syllable onset until quick inflection (part of the *nyahh* in Gaelic pedagogy) is affected. One then also repeatedly “re-points” the extended vowel. Singers who practice a slow increase of intensity at onset are displaying an imperfect copy or an initial stage of training used by the Italian school. This behaviour, squeeze-and-release, and the mispronunciation of phonemes are the general traits that Italian-trained singers use to define “art singing”.

**Summary**

The primary purpose for showing analysis of this lay was to see deviation from a recording of the same lay taken more than ten years previously. The delivery was strikingly similar in every respect.

**6.4.4 Duan na Muiligheartaich-1989**

**Recording History**

Andrew Kyte studied Celtic Studies at St. Francis Xavier University and travelled to Scotland in 1989. He was interviewing informants at a rest home and one mentioned that she knew Fenian lays. The informant then sang “Duan na Muiligheartaich” and “Duan na Ceàrdaich” which Kyte recorded. It happened that she was Peanaidh Mhoireasdan. Although the recording is a bit distorted, it is of value as it demonstrates variation in one singer singing one song over the course of almost fifty years. It is included in this dissertation as 6.4.4_DuanMuiligheartaich-1989.wav.

**Narrative**

This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

**Language**

This version was, again, extremely close to the version sung in 1946 or earlier. Since it was performed somewhat slower, individual words were more clearly differentiated. Therefore, aspirations and plosives were more distinct. For example, the first word was clearly *Latha*; verse four begins with what sounds like *Filidh*; line 5D appears to be ‘*S gu d’ dh*’èirich...; and line 9F seems to be something akin to ‘*S Éirinnean chothromach*...”

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213 Peanaidh Mhoireasdan died the following year. The high quality of her voice in regard to periodic vibrato, resonance, intonation, and clarity of pronunciation at such an advanced age is extraordinary. The goal of creating a system of vocal pedagogy (training) is to effect these results. Therefore, Peanaidh Mhoireasdan can be categorised as a model of proper vocal technique in the Italian School of vocal training although, since she pronounces words as she speaks them, may not be considered so according to most conservatory standards.
Graphical Analysis

Here is the graphical analysis (Figure 6.17); the mean of A (on Fhinn, 1A) = 200.1 Hz.

![Graphical Analysis](image)

**Figure 6.17:** Graphical Analysis “Duan na Muiligheartaich” 1989, V. 1: A, B

Below are the next two lines, C and D in Figure 6.18:

![Graphical Analysis](image)

**Figure 6.18:** Graphical Analysis “Duan na Muiligheartaich” 1989, V. 1: C, D

Comparisons of all graphical analysis images across almost five decades show a consistency that is startling. Apart from the slight delay of inflection at onset in this example, undoubtedly caused by age, one might think that the first recording prior to 1946 was done consecutively with that done in 1989 albeit in a different room with different recording equipment. The present author has never heard a person of such advanced age sing with such ease, resonance, and flexibility. It should be noted that one purpose of creating a pedagogical approach to singing is to perform so as not to injure the voice. That is, poor pedagogy results in difficulty in singing, which is often accompanied by a lack of comprehensibility and reduced range. Therefore, it may come as a surprise to trained musicians, but Peanaidh Mhoireasdan sang technically well and is a model for proper vocal pedagogy. It would also be a mistake to assume that this was a fluke of nature. She was probably thoroughly trained to sing by mentors within her own culture.

**Pitches**

The pitches were as performed in 1946 and 1956. The informant did have a musical turn on ãhãsach of line 9D as well as a musical neum on the ending syllable of 12D; however, the ending word may be a disyllable and not a diphthong.\(^{214}\)

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\(^{214}\) The transcription of ãرد-ریغ may not be correct. Mhoireasdan inserts a /u/ on the compound noun, making the word sound as ãرد-ریغ. She also uses this as a musical neum with /ru/ on one pitch and /i/ on another, lower pitch. This may be dialectical, but might also be ãرد-ریغ(e) for high pasture (shieling) or ãرد-ریغ(e), the high area on an elongated base of a mountain.
Rhythm
The rhythm was that of previous versions. There was a light pause on the beginning of line 12B with Buidheann, but that pause also occurred in 1956. Although pausing is normally an indication of forgetfulness, since it happened twice separated by thirty years, it is probably artistic licence. This is not a normal performing practice of Fenian lays. There is also emphasis placed on the word bun of 11C, Bha taobh a guailleadh ri bun for no apparent reason.

Pitch Accent
This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

Resonance Tuning
Resonance tuning did exist and can be heard while listening to the recording. Unfortunately, the recording quality does not allow this to be shown well through graphical analysis and is therefore omitted.

Vibrato
Vibrato was less noticeable in this recording than previous ones, but is present. Here is an example on thonn of 1C (below, Figure 6.19):

![Vibrato Speed & Width](image1)

The vibrato was much less periodic than in 1956 and occurred less often.

Volume
The volume was much as it was in Figure 6.16. A detailed image of intensity and pitch versus time of line 1D may help to show how the singer sang with legato. The unstressed syllables in line 1D are made bold: An earrachraoille chràille chrom. Notice in the figure below (Figure 6.20) that these syllables are only slightly less strong than the stressed syllables.
Most modern singers would make a greater distinction between stressed and unstressed syllables in regard to intensity (volume).

**Summary**

This lay and the previous two show a gamut of performance practice that is remarkably consistent. Every aspect chosen to be measured in this dissertation was maintained over a span of five decades. The only change is that which one would expect: speed, vibrato, and resonance tuning is slightly less in the last performance. However, these discrepancies are minute. With this type of steadfast behaviour, it is no wonder why Fenian lays have been transmitted with minimal oral composition over the centuries and geographic locations.

**6.4.5 Duan na Muiligheartaich-Fowlis**

**Recording History**

This is a modern recording by Julie Fowlis of the same lay as the previous three examples. It was taken from the compact disc *Dual* (Nic Amhlaibh & Fowlis, 2008); it is the first portion of a compilation entitled “Duan na Muiligheartaich & Laoi na Mna Mora” and is included in this dissertation as 6.4.5_“DuanMuiligheartaich-Fowlis.wav.

Fowlis states that she heard this song from Màiri Nic a’ Ghobhainn, but learned it first from the singing of Peanaidh Mhoireasdan: “Chuala Julie an t-òran seo air a sheinn le Màiri Nic a’ Ghobhainn, ach dh’ionnsaich i an tionndadh seo dhen òran bhon t-seinn aig Peanaidh ‘Bheag’ Mhoireasdan [...]” (Nic Amhlaibh & Fowlis, 2008) as stated in the liner notes. So in this recording, one might see the transition between generations of Gaelic singers and how it has been altered, both consciously and unconsciously, in order to transition to modern societal norms.

**Narrative**

This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

**Language**

The language shifted between the singing of Peanaidh Mhoireasdan and Fowlis; that is, there are monodegreens. For example, in 1A, *Tulaich Òir* versus *Tulach Chòir*; 1D, *An earra chraoiille chràille chrom* became *An earra chraiolleach chràileach chrom.*

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215 Perhaps translating into “the tailed, chraoil, tortured, crooked (hunched over) one.
Here are the words as printed in the leaflet with the compact disc (below, Table 6.4):

<table>
<thead>
<tr>
<th>Duan na Muiligheartaich-Fowlis</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Latha dhan Fhinn air Tulach Chór</td>
<td>On a day that the Fenians were in Tulach Choir</td>
</tr>
<tr>
<td>A' coimhead Éirinn far mòr thimeceall</td>
<td>Looking around at the expanse of Ireland</td>
</tr>
<tr>
<td>Chunnacas a' tighinn air bharrabha thonn</td>
<td>There was seen coming upon the crests of the waves</td>
</tr>
<tr>
<td>An erra chraoileach chràileach chrom.</td>
<td>A crabbled, twisted ogre.</td>
</tr>
<tr>
<td>'S e b' a'inn dhan ní nach bu mhìsgh</td>
<td>The name of the fearless one</td>
</tr>
<tr>
<td>A' Mhuiligheartach mhao luadh</td>
<td>Was the Muiligheartach of the cropped red hair</td>
</tr>
<tr>
<td>O chròlochan Loch'nach thar sàil</td>
<td>From the bounds of Scandinavia over the ocean</td>
</tr>
<tr>
<td>Gu Èrinn a' chomhaadhadh uile.</td>
<td>To fight against all Ireland.</td>
</tr>
<tr>
<td>Bha chaidheachd meigeach air a crio</td>
<td>There was a rusty sword on her belt</td>
</tr>
<tr>
<td>An èm na feige cloige cas</td>
<td>In that time of sudden, fearful anger</td>
</tr>
<tr>
<td>Bha dà shleagh eile fhada chaol</td>
<td>There were two other long, slender spears</td>
</tr>
<tr>
<td>Anair an taobh eile dhan chàillich.</td>
<td>On the hag's other side.</td>
</tr>
<tr>
<td>Nuair dh'hairich iad calg na bèisteadh</td>
<td>When they felt the fury of the beast</td>
</tr>
<tr>
<td>Dh'èirich Fionn, flath na Finneadh,</td>
<td>Up rose Fionn, hero of the Fenians,</td>
</tr>
<tr>
<td>'S d'hèirich Oiscon, flath na fear,</td>
<td>Up rose Ossian, the noblest of men.</td>
</tr>
<tr>
<td>'S gun d' h'èirich sin agus Cearathall.</td>
<td>They did rise, as did Cearathall.</td>
</tr>
<tr>
<td>Dh'èirich Oiscon air thuell,</td>
<td>Ossian rose up yonder,</td>
</tr>
<tr>
<td>Dh'èirich sin is Ardann</td>
<td>He rose up as did Ardann,</td>
</tr>
<tr>
<td>'S d'hèirich Diarmad mac Rìgh Löin</td>
<td>And Diarmad, son of the King of Lòin</td>
</tr>
<tr>
<td>'S gun d' h'èirich sin is Fionn is Goilean.</td>
<td>They arose as did Fionn and Goilean.</td>
</tr>
<tr>
<td>Ceathrar a' b'hoghainc de a bha san Fhinn</td>
<td>Four of the strongest of the Fenians</td>
</tr>
<tr>
<td>A' chàidh a' chomhaadhadh na bèisteadh;</td>
<td>Went to confront the monster;</td>
</tr>
<tr>
<td>Bha i 1a fritheadhadh na seach</td>
<td>She dealt with them each in turn</td>
</tr>
<tr>
<td>Ma nì a' lann air a' lasair.</td>
<td>As if her sword was in flames.</td>
</tr>
<tr>
<td>&quot;Mo bheud!&quot; arsa Gobha nan Duan,</td>
<td>&quot;Alas!&quot; said the Smith of the Lays,</td>
</tr>
<tr>
<td>&quot;Ma mharbhadh mo Mhuiligheartach maol ruadh.</td>
<td>&quot;If my cropped red-haired Muiligheartach has been slain</td>
</tr>
<tr>
<td>Nach tàinig a' shluagh na shladh</td>
<td>When none has come of men or hosts</td>
</tr>
<tr>
<td>A' bheireadh full air a maol ruadh.</td>
<td>That could draw blood on her red pate.</td>
</tr>
<tr>
<td>Mar do shluig i talamh toll,</td>
<td>Unless she was swallowed by a chasm</td>
</tr>
<tr>
<td>Bàthadh a' muir sléamhainn lom,</td>
<td>Or she was drowned in a smooth, bare sea,</td>
</tr>
<tr>
<td>&quot;S mòr a' nairre do Flath Fàil</td>
<td>Great is the shame to the prince of Fàil</td>
</tr>
<tr>
<td>Gèill thoirt do luchd aoin</td>
<td>To yield to the inhabitants of one island.</td>
</tr>
<tr>
<td>Bheirinn mo bhrìthanu gu dian.</td>
<td>I would give my oath most fiercely.</td>
</tr>
<tr>
<td>Ma mharbhadh mo Mhuiligheartach an Èirinn</td>
<td>If my Muiligheartach has been slain in Ireland,</td>
</tr>
<tr>
<td>Na fàgainn-fa dach an allt,</td>
<td>There is not a stone in a stream.</td>
</tr>
<tr>
<td>An fhìne na fàsach na fonn</td>
<td>In a meadow, wasteland or arable land,</td>
</tr>
<tr>
<td>Gun togail liom air bhàrr mo long</td>
<td>That I would leave behind, but take aboard my ship.</td>
</tr>
<tr>
<td>'S Èirinn chothromach thoirt leim.</td>
<td>Along with the whole of Ireland.</td>
</tr>
<tr>
<td>Thàrla Mac Cumhaill an a'igh</td>
<td>The valiant MacCuil met the</td>
</tr>
<tr>
<td>'S a Muiligheartach làimh air làimh;</td>
<td>Muligheartach hand to hand;</td>
</tr>
<tr>
<td>Fearna chan fhacas mar sin</td>
<td>Such armour had never been seen</td>
</tr>
<tr>
<td>Bhò cheardach Gobha Chloinn 'ic Liobhainn.</td>
<td>From the craft of the smith of Chloinn 'ic Liobhainn.</td>
</tr>
<tr>
<td>Bha deall air bharrachd a' sleigh</td>
<td>Bedewed (with blood) were the spearpoints</td>
</tr>
<tr>
<td>Aig Mac Cumhaill an taobh ghlil;</td>
<td>Of white flanked MacCuil</td>
</tr>
<tr>
<td>Bha taobh a' guilleadh ri bun</td>
<td>The side 'of her shoulder dropped</td>
</tr>
<tr>
<td>'S bha braon dha full air na fraithan.</td>
<td>And drops of her blood on her mane.</td>
</tr>
<tr>
<td>Cha do mharbh iach an Fhìnn,</td>
<td>None slew her but the Fenians,</td>
</tr>
<tr>
<td>Buidheann mac na bhunntuge ghlil,</td>
<td>A band from whom hostages were never won</td>
</tr>
<tr>
<td>S thug an gobha leis a brìgh</td>
<td>And the smith took away her essence, her being,</td>
</tr>
<tr>
<td>Go Iar Leòmhann an t-àrd-rìgh.</td>
<td>To Iar Leòmhann the high-king,</td>
</tr>
</tbody>
</table>

| Table 6.4: “Duan na Muiligheartaich-Fowlis” Transcription and Translation |

There were slight shifts of spelling to conform to modern usage, such as the last line being *Go Iar Leòmhann an t-àrd-rìgh* instead of *Go Iar Leòmhann an àrd-rìgh* (having “t” lenition). Importantly, Fowlis did not sing this written convention but apparently followed Peanaidh Mhoireasdan’s pronunciation.
Graphical Analysis

Here is the graphical analysis (Figure 6.21); the mean of A (on Fhinn, 1A) = 174.8 Hz.:  

![Figure 6.21: Graphical Analysis “Duan na Muiligheartaich” Fowlis, V. 1: A, B](image)

Below are the next two lines, C and D in Figure 6.22, below:  

![Figure 6.22: Graphical Analysis “Duan na Muiligheartaich” Fowlis, V. 1: C, D](image)

This is very similar to the performances of Peanaidh Mhoireasdan.

Pitches

There were slight changes from Peanaidh Mhoireasdan’s versions. Fowlis stayed on the same notes for Latha dhan Fhinn air where Peanaidh Mhoireasdan shifted up to A₄ on Fhinn air. Fowlis also performed a modern ornament by “scooping” up on the vowel of mór in line 1B. Peanaidh Mhoireasdan did this on the first consonant but reached the target pitch by the time the vowel arrived. Fowlis also clipped unstressed syllables that preceded strongly stressed syllables on a higher pitch such as 1D, An earra where An was squelched by seizing the voiced consonant [n]. This clipped the preceding vowel. This is typical behaviour in modern singers accustomed to the squeeze-and-release cycle of the diatonic scale.

Rhythm

Clipping (bouncing, orphaning, etc.) can be seen when comparing the two performances through graphic images. Below one can see the base line of Peanaidh Mhoireasdan with Fowlis’s version above. The version by Fowlis was expanded or contracted so as to align the first and last stressed syllables per line; Fowlis is displayed on top; Peanaidh Mhoireasdan is displayed underneath (see Figure 6.23, below):
Notice that Fowlis sang far and the intrusive vowel of thimcheal quickly. These might be referred to as a “pickup note” and a Scots’ snap respectively. Fowlis also “scooped” on mór. Below are the next two lines, C and D in Figure 6.24. Fowlis is displayed on top; Peanaidh Mhoireasdan is displayed underneath:

This Scots’ snap tendency can be seen here to have been repeated on the first a of Chunnacas (1C), aibh of bharraibh (1C), and the ending a of earra (1D); “scooping” took place on chraoil of chraoileach (1D). So the shortening of unstressed, leading syllables and “scooping” occurred in the same places between 1A, B and 1C, D. Therefore, shortening (Scots’ snap) and “scooping” might be regarded as a modern tendency and not a traditional embellishment as has been previously assumed.
Pitch Accent
This is as discussed above in section 6.5.2 Duan na Muiligheartaich-1946.

Resonance Tuning
Resonance tuning did not seem present throughout the recording while listening or through analysis. Here is a sample of analysis on the word *chrom* of 1D (below, Figure 6.25):

![Resonance Tuning Analysis](image)

The slope connecting the formants seems to be a straight line. So although the slope is not concave, it is not marked strongly for resonance tuning.

Vibrato
Vibrato existed although with slight pitch variation and periodicity. Here is an example, again on the word *chrom* of 1D (Figure 6.26, below):

![Vibrato Analysis](image)

Volume
As may be seen in the above images (Figure 6.23 and Figure 6.24), there is a greater drop in intensity in Fowlis’s intensity on unstressed syllables than in the recording by Peanaidh Mhoireasdan. Here is a detail of the singing of Fowlis on 1D (below, Figure 6.27):
Notice that the unstressed syllables each of *chraoileach* and *chràileach* drop in intensity.

**Summary**

Whilst it may appear that Fowlis is being criticised for variations from Peanaidh Mhoireasdan’s performance, this is not entirely true. With the exceptions of modern, unconscious tendencies of accentuating unstressed syllables through suppressed resonance, shortening, and reduced volume, Fowlis's performance is quite close to that of Peanaidh Mhoireasdan’s performance. However, there can be seen to be a slight shift in the delivery from one generation to the next, even when the present generation is striving to match earlier performance techniques. A more significant change occurs when a performer attempts to recreate past performance techniques by applying current understandings of historical performance practices. This is a particularly important warning for modern-day re-enactors of *dàn díreach* poetry. These tendencies will be seen in the following section (6.4.6, Laoidh Fhraoich).

**6.4.6 Laoidh Fhraoich**

**Recording History**

Although a number of recordings exist, a recording by William Matheson was used to demonstrate the results of a dispassionate, scholarly approach to the performance of Fenian lays. This recording was made during the International Celtic Conference of 1968. It was digitised by the present author from a reel-to-reel tape recording made by the British Broadcasting Corporation (BBC) found in the archives of St. Francis Xavier University. Permission was obtained from the BBC for its use in this dissertation. It is entitled 6.4.6_LaoidhFhraoich.wav.

**Narrative**

Although thought to be a part of the Ulster Cycle (MacInnes, 1987, p. 121), the lay “Laoidh Fhraoich” (also entitled “Duan Fraoch”, or “Bàs Fhraoich”) may also be a Fenian lay. As Campbell stated, “*Fraoch* and the *Children of Usnoch* belong to the story [A Collection of Ancient and Modern Gaelic Poems and Songs, transmitted from Gentlemen in the Highlands of Scotland to the Editor. Perth: Printed for John Gillies. Bookseller, 1786], but to a different part of it, for they appear alone” (1872, p. xxiv). Invariably, the names of one cycle become mingled in another, so it is not surprising that the figure Fraoch appears in Fenian lays such as “Duan a Garaidh” (lay of Gary: (J. F. Campbell, 1872, p. 3)), “Ossian agus an Cleirich” (J. F.

It is included in the present dissertation because, if it is a Fenian lay, it is perhaps one of the oldest tales that have survived from IE tradition. The characters in the story have an IE base, which was emphasised by Watkins (1995) in his book How to Kill a Dragon: Aspects of Indo-European Poetics and noted more than a century earlier by Campbell:

This story [Laoidh Fhraoich] is part of the Dragon Myth, which is the widest spread of all myths known to me. Elsewhere I have written all that I know about it. The fight between a man, [helped by] a dog, and a water dragon is in the Rig Veda; and I got it in Barra and Uist in 1871, associated with the names of Fionn and Bran. (1872, p. 29)

The story concerns the hero Fraoch who is enticed by Maeve, the daughter of Maighre, to fetch rowan berries from an island inhabited by a dragon. Fraoch swims to the island and retrieves the berries, but Maeve then asks for the plant including its roots. Fraoch complies but is caught and killed by the dragon. In some versions, Maeve’s mother is Fraoch’s lover (as well as as Maeve). The mother is jealous and conspires to kill Fraoch.

**Language**

The words in this recording were taken from an informant by Matheson and placed in Tocher, No. 35 (D. MacDonald, 1981, pp. 292-295). There is another recording of Matheson singing exactly the words published in Tocher No. 35, but this recording shows that he inserted an additional verse from perhaps a published source; for example, Leabhar na Féinne (J. F. Campbell, 1872, p. 31). Here is a transcription and translation of his performance in 1968. He learned the tune from Duncan MacDonald, South Uist; however, he set the words of the lay to the tune by himself, “[T]he text he sings is one from his [Matheson’s] own notebooks, copied probably from the MSS. of the Rev. John Norman MacDonald in the National Library of Scotland” (D. MacDonald, 1981, p. 296). The words sung for Tocher were transcribed by Donald Archie MacDonald; Matheson then sang the same lay (with an additional first verse) for the Celtic Conference (see Table 6.5, below):

<table>
<thead>
<tr>
<th>Laoidh Fhraoich</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. [Gun] Laigh éaslainte throm, throm</td>
<td>Upon the daughter of Maighre of the bounteous goblets:</td>
</tr>
<tr>
<td>Air nìghnean Maighre nan cùrn fial:</td>
<td>That was when she sent for Fraoch,</td>
</tr>
<tr>
<td>Sin ’nuair chir i fios air Fraoch,</td>
<td>And the warrior asked what was her wish.</td>
</tr>
<tr>
<td>’S dh’hiosraich a’ laoch gu de ’mian.</td>
<td>She said that she would never be well</td>
</tr>
<tr>
<td>Thuirt i ris nach biodh i slàin</td>
<td>Unless she got the full of her soft hands</td>
</tr>
<tr>
<td>Mur faighdheach ’s líon a hais maoth</td>
<td>Of rowan berries from the cold pool,</td>
</tr>
<tr>
<td>De chaorruin a’ lochain fhuar</td>
<td>And none must attempt to pluck them but Fraoch.</td>
</tr>
<tr>
<td>’S gun a dhol gam buain ach Fraoch.</td>
<td>Fraoch set out — he was no frightened boy;</td>
</tr>
<tr>
<td>Dh’hiubh Fraoch, ’s cha bu ghille tiom;</td>
<td>He swam the loch with ease:</td>
</tr>
<tr>
<td>Shnàmh e gu grinn air a’ loch;</td>
<td>He found the monster fast asleep</td>
</tr>
<tr>
<td>Fhuair e ’bhéist ’na siorram suain</td>
<td>With its head resting up against the branch.</td>
</tr>
<tr>
<td>’S a ceann a suas ris an dos.</td>
<td>Fraoch son of Fidach of the keen weapons,</td>
</tr>
<tr>
<td>Fraoch mac Fhiúthaich nan arm geur,</td>
<td>He got away from the monster undetected</td>
</tr>
<tr>
<td>Thànaig e o’n bhéist gun fhiós</td>
<td>With an armful of the red berries</td>
</tr>
<tr>
<td>Le uilach de na caorrunn dhearg</td>
<td>To where Maeve was waiting at home.</td>
</tr>
<tr>
<td>Dhan bhall a rothb Maibh ’na taigh.</td>
<td></td>
</tr>
</tbody>
</table>
"Ach ge math na rinneadh leat,"
Thubhairt Maibh, ’s bu gheal a cruth,
"Chan fhoghainn siod, a laoich luain,
Ach slat a buain as a bun."

"Though you have done very well,"
Said Maive, so white and shapely,
"That will not do, oh valiant hero:"
A branch must be torn out by the roots.

"Fraoch set off— it was no hopeful quest—"
He swam the watery pool.
"It was hard for him to know what lay ahead,"
Whether death was to be his portion.


Table 6.5: “Laoidh Fhraoich-Matheson” Transcription and Translation

Below (Table 6.6) is a version found in Tolmie’s (1911, p. 246) work that shows remarkable similarity to the text above (Table 6.5). Tolmie’s translation is narrative.

Laoidh Fhraoich

1. Thàinig easlainte throm, throm
Air nighean [?] [Maighre] nan còrn fial:
’Agus chúir i fios gu Fraoch,
’S dhi fhuidir an laoch cuid é a miann

2. Thubhairt i nach biodh i sìan,
Mur faigh’dh i lán a bhas maith,
De chaorran an lodain fhuaire.
’O’s gun a bhith g’am buain ach Fraoch.

3. “Cnuasach sud nach d’rin m’riamh,”
Arsa Fionn mac Idhaidh nan arm geur,
’S ged nach d’rin m’n cnuasach s’tiarmh.
Théid mise bhuan chaorann do Mhaidhbh.”

4. Dh’fh’albh é. ’s cha b’e turas àigh;
Shnàmh è gu grinn air an loch,
Is fhuanair a bhéist na sior-thruim saon,
’S a cras suas ris an dos.

Table 6.6: “Laoidh Fhraoich-Tolmie” Transcription and Translation

The second verse as sung by Matheson may be seen below:

2. [Gun] Laigh easlainte trom, trom (7)
Air nighean Maighre nan còrn fial: (8, 7 with nighean as one syllable)
Sin ’nuair chúir i fios air Fraoch, (7)
’S dhi fhiosraich a laoch gu dé ’miann. (7)

Excepting the syllabic nature of the poetry, there is very little poetic ornament in the lay. There is assonantal rhyme between some lines of B and D. However, there is aicill rhyme between lines C and D (2C: Fraoch:loch; 3: fhuan: buain; 4: suain: suas; 6: luain: bhuain, etc.). There does not seem to be alliteration.
Graphical Analysis

As a reference, here is the notation as published in Tocher No. 35 (D. MacDonald, 1981, p. 293); see Figure 6.28, below. The recorder was James Ross; notation was made by Alan Bruford:

This is all rather self-serving. Matheson learned only the tune from Duncan MacDonald; he found the words in script and set the words to the tune himself. He did this quite often with many lays, using the tunes as set forth in A Collection of Highland Vocal Airs (P. MacDonald, 2000). One can see that Bruford attempted to write the notation to match the rendition of the Matheson as closely as possible and not alter it to match art music conventions; this may be seen by observing the graphical analysis below (Figure 6.29); the mean of A (on éaslainte, 1A) = 137.3 Hz.

Below are the next two lines, C and D in Figure 6.30:

The music notation by Bruford varied the lengths of notes as Matheson sung them. In his lecture to the conference, Matheson emphasised that the length of notes changes as the spoken syllable length changed. However, as will be seen below, he exaggerated this. He also did not change the pitch to match the spoken accent.
Pitches

The melody that Matheson used was taken from an informant, Duncan MacDonald from Peninerine, South Uist. The summary is as follows (Figure 6.31):

![Figure 6.31: “Laoidh Fhraoich” Pitch Summary of William Matheson](image)

This matches neither the natural scale nor the bagpipe scale. However, a recording exists of Effie Monk (b. 1882) from Gramsdale in Inverness-shire singing the same lay. It was recorded by Dr. Alasdair MacLean, is listed as SA1956.26.B7, and is online at Tobar an Dualchais (http://www.tobarandualchais.co.uk). The words are remarkably similar to those used by Matheson, which would tend to indicate that he not only used the tune as provided by Duncan MacDonald, but the words as well. The melody as sung by Monk is slightly, but significantly, different. It is shown below (Figure 6.32):

![Figure 6.32: “Laoidh Fhraoich” Pitch Summary of Effie Monk, 1956](image)

With the exception of one passing F₄ at the end, this tune matches the natural scale (Figure 3.4). If it is retained, but A₅ omitted, it matches the bagpipe scale (Figure 3.16).

It is quite common for Fenian lays to dwell within this pitch gamut. For example, here is another tune that mentions Fraoch, “Latha dhan Fhinn am Beinn Ionagain” labelled as SA1965.133.A8 as recorded by Donald A. MacDonald and sung by Peggy MacDonald of South Uist (below, Figure 6.33):

![Figure 6.33: Latha dhan Fhinn am Beinn Ionagain](image)

Rhythm

The rhythm that was adopted by Matheson can be seen to be narrative in that there is no repetition of a basic length unit. However, he seemed to be so intent on elongating long vowels and shortening those that are not, that he distorted the lay from the spoken rhythm. This can be seen by comparing the two recordings of Matheson and Monk. Here is the third verse as sung by Matheson juxtaposed with the first verse as sung by Monk (below, Figure 6.34); Monk’s mean of biodh = 218.9 Hz.:
Here is line B with Monk in the top figure and Matheson on the bottom (below, Figure 6.35):

Here is line C (below, Figure 6.36):

Here is line D (below, Figure 6.37):
In each of these figures, the first and last stressed syllables were selected, and the relative placements of vowels were indicated by vertical lines; therefore, the lengths of ending syllables were ignored since positioning of syllables within each line was desired to be displayed.

In viewing each of these figures above, one can observe that Matheson often elongated or shortened syllables so as to show exaggeration of the differences between the two types of vowels; for example, the word *buain* in line D was elongated and the word *biodh* in line A as shortened.

**Pitch Accent**

The second verse is as follows (stressed syllables capitalised and pitch accented syllables made bold):

2. [Gun] LAIGH Éaslainte THROM, *throm*
Air NIGHHean MAIghre nan CORN fial:
SIN ’nuair chuir i FIOS air FRAOCH,
’S dh’FHIOSraich a’ LAOCH gu dé ’MIAANN.

These stresses were determined by plotting intensity versus time. Accent was determined by observing the highest pitch in the line. This may be seen in the figures below (Figure 6.38, below) where lines A and B are plotted with both pitch (dashed line) and intensity (solid line) contours:

Therefore, the accent is not placed properly in the first line. The first *throm* would normally be spoken stronger and have a higher pitch. This is similar to the accent placed on the first of two redundant words used to accentuate the nature of an expression, such as the English “soaking wet”. The pitch accent is placed on the word “soaking”. Effie Monk did not have this
characteristic as the melody maintained the pitch at the end of line A. For example, she sings *Gus 'n do thuit iad bonn ri bonn* to the melody of line A; the first *bonn* is at 73.67 dB, the second *bonn* is at 72.86 dB. Here is the pitch accent as sung by Monk:

Thuirt i ris nach biodh RI[amh] SLÂN
Mur FAIGHheadh i LÂN a BAS an [sic] MAOTH
De CHAOruinn a MHOCH [âbhach/amhach/aobhach] a’ luain,
‘S ga’ AONach ga’ buain ach Fraoch.

With the exception of the first line, the accent is in the middle of each line. This makes sense as the informant inhales at the end of each line.

**Resonance Tuning**

There was not a good deal of resonance tuning in the performance, as Matheson seemed to “croon” the lay. This can be observed in the spectrum analysis (below, Figure 6.39):

![Figure 6.39 “Laoidh Fhraoich” Matheson, Resonance Tuning on 2A, Throm](image)

**Vibrato**

There was consistent vibrato throughout as can be seen in the following analysis on the word of line 2A, *throm* (Figure 6.40):

![Figure 6.40: “Laoidh Fhraoich” Matheson, 2A, Vibrato on Throm](image)

His vibrato can be seen to be periodic and is readily discernible when heard.

**Volume**

In comparing Monk and Matheson’s performances, one can see the bell-shaped nature of Matheson’s performance on syllables whereas Monk connects them. This may be seen in verse
six of Matheson (bottom) and verse two, lines A and B of Monk (top) which are similar (see Figure 6.41, below):

Here are the following two lines, C and D (Figure 6.42):

The diminished intensity is more apparent on unstressed syllables.

Summary

Matheson’s performance highlights some of the issues raised when attempting to re-discover how syllabic poetry was once performed. Although such work is certainly needed, it should be performed with an awareness of the influences of art music and their traits.

6.4.7 Bàs Osgair

Recording History

Whilst investigating the first lay of this chapter, “Laoidh Dhiarmad”, it was noticed that the lay tune shifted and that the words did not match that as published by Tolmie. Further research showed that these subsequent verses matched the tune and lyrics as published under the heading of Tolmie’s “One Hundred and Five Songs of Occupation from the Western Isles of Scotland” which was published in 1911 in the Journal of the Folk-Song Society, Vol. IV, No. 16 (1911, p. 245). The image of this transcription is provided below in the Graphical Analysis section. The audio file is also included in this dissertation as 6.4.7_BasOsgair.wav.
Although this lay may seem to be important, there are many elements of the performance that are incongruous to the traditional manner of performing Fenian lays. This will be addressed in the section on accent.

**Narrative**

In this lay, Fingal travelled to Rome to cure an injury; he is accompanied by most of the Fenians. Fingal leaves Osgar, son of Ossian, grandson of Fionn, in charge of the remaining Fenians. The king of Ireland was Cormac whose son Cairbar saw an opportunity to wrest control from the Fenians. He does this by inviting the Fenians to a feast where they celebrate for seven days. Cairbar has arranged to have his army present, and on the eighth day, asks for Osgar’s “victorious spear” in return for his hospitality. Osgar refuses and flees with his men, pursued by Cairbar’s army. Battle ensues with the result that Caibar is slain by Osgar who is mortally wounded in return. Osgar slaughters Cairbar’s host including Cairbar’s son Arth. Before being killed, Arth raised a cairn to anger Osgar who then throws a boulder at it and destroys it. The bard Fergus hurries to the coast to meet the returning father and grandfather and tells them the tragic news. The Fenians carry Osgar’s body on spears to Fionn’s house at Almhuin (Alvin) in Ireland.

**Language**

The lays recorded of the death of Osgar are rather long and approach one hundred-fifty verses. The language as sung in the Tolmie recording is much reduced and is as follows (below, Table 6.7):

<table>
<thead>
<tr>
<th>Bás Osgair</th>
<th>Translation</th>
</tr>
</thead>
</table>
| 1. (Oisean.) "Sin 'nuair chunna mise Fionn; Air an tulaich [tulach] os mo chionn, Sileadh fala air a rosg; 'S thionndaich Fionn a chùlthaobh rium-sa." | (Ossian) "It was then that I saw Fionn, On the hillock up above, From his eyelids shedding blood; Then on me his back he turned."
| (Fionn.) "Mo Ghaol fhéin thu! Laogh mo laoigh thu; Leanabh mo leinibh ghil chaoinm thu; Mo chríde leum dhuit mar lon; 'S mo chreach léir! Cha 'n éirich Oscar!" | (Fionn) "My own love, thou! Calf of my calf! Child of my fair, gentle child. My heart leaps to thee like an elk. Oscar, alas, will rise no more." |

Table 6.7: “Bás Osgair-Tolmie” Transcription and Translation

The words to the first verse as spoken by Fionn’s son Osgar are:

1. "Sin 'nuair chunna mise Fionn; (7) Air an tulaich os mo chionn (7) Sileadh fala air a rosg; (7) 'S thionndaich Fionn a chùlthaobh rium -sa." (8)

There are seven syllables per line, which makes the poetry syllabic. There is occasional alliteration but that is probably coincidental. There seems to be, perhaps, internal rhyme as in 1D: thionndaich Fionn a chùlthaobh rium, 2A: Mo Ghaol fhéin thu! Laogh mo laoigh thu, 2B: Leanabh mo leinibh ghil chaoinm, 2D: mo chreach léir! Cha 'n éirich all of which may indicate formulae.

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216 As a general note: spears were the main weapons in antiquity, not swords. The technology of adding transportation by horseback turned a spear-wielding foot soldier into a knight.
Graphical Analysis

The lay as it appeared in Tolmie’s work may be seen in Figure 6.43 (Tolmie, 1911, p. 245):

The graphical analysis shows some interesting rhythmic patterns and end-of-line extensions. Here is the graphical analysis (Figure 6.44):

Below are the next two lines, C and D in Figure 6.45:

The pitch-tracking line is quite rough due to the poor nature of the recording.

Pitches

The pitch summary matches that of the natural scale (Figure 3.4) as can be seen below in Figure 6.46:

It is also in the gamut of the bagpipe scale although one A₅ does occur.
Rhythm

The rhythm is narrative as can be seen in the above figures (Figure 6.44 and Figure 6.45).

Pitch Accent

The first verse is as follows with accents as sung, not as exactly as would be spoken:

"Sin 'nuair chunnA MISE FIONN;
Air AN Tunaich [tulach] os MO CHIONN,
Sileadh falA air a ROSG;
'S THIONNdaich FIONN a CHÜLthaobh RIUM-sa".

As can be observed, the bold and capital letter congruence seems lacking. Also, unstressed syllables were made into capital letters because that was how it was sung. In essence, McCaughey's description of how unstressed syllables are placed in musically stressed positions and "flattened out" seemed to have occurred. This is normally done due to the metre of the music. In this case, it seems to have been done due to melodic reasons; that is, unstressed syllables were placed where accent (higher pitch) would have occurred. This occasionally happens when an unstressed syllable is follows by a stressed one, and the unstressed syllable is given a higher pitch but is sung quickly. That did not occur here, as the unstressed syllables were given great length as well. This is as odd in folk music as it is in art music. For example, Gounod's "Avant de quitter" from Faust (or Margarethe in German-speaking countries) has the baritone ascend melodically on ma which is followed by a lower note on sœur (je confie; lit. my sister I entrust) This awkwardness is as apparent in English as well, since the direct translation of "my sister" is often used.\footnote{This is not entirely Gounod's fault. He wrote the opera in French and then travelled to England to perform it. A leading baritone would not do the role unless an aria was included, making it then a supporting (or perhaps a leading) role. Gounod wrote the aria in English. It was then translated into French when the opera returned to France. When performed in English, the entire opera is translated into English including a re-translation of this aria. This highlights the difficulty in translating songs. If the target language does not follow the original language’s accent (as well as the stress) patterning, it sounds strange. This is compounded by the fact that different vowels are easier to sing at higher pitches than others; therefore, the vowels in both languages should match when making a translation of a song.}

Resonance Tuning

The recording is too poor to measure this and produce a meaningful result.

Vibrato

Vibrato existed although not particularly periodic. Here it is on the unstressed syllable e of mise in 1A (Figure 6.47, below):
Even though the recording is poor, one can see that the vibrato is consistent.

**Volume**

Again, the recording is too poor to measure this and produce a meaningful result. Also, since the accent seems incorrect, any conclusion would be misleading.

**Summary**

This performance does not match the manner by which Fenian lays have been sung according to the corpus of existing lay recordings. Therefore, this lay recording is probably Tolmie demonstrating how a Fenian lay would be performed and making key mistakes with regard to the placement of pitch accent. Therefore, the last three lay examples have dealt with re-enactments of Fenian lays. Although Fowlis’s performance did include subconscious squeeze-and-release tendencies, her imitative approach was much more accurate at faithfully reproducing a Fenian lay than the attempts by Matheson or perhaps Tolmie.

**6.4.8 Duan na Ceàrdaich**

**Recording History**

There are many recordings of this lay. This particular one is of Mór, “Bean Nèill” Chaitríona Chaimbeul (Marion Campbell; 1868-1971) of South Uist. It was recorded by Donald Archie MacDonald in 1964 and was originally named SA1964.44.A1. An online version of this recording may be found on Tobar an Dualchais (www.tobarandualchais.co.uk). It is included in this dissertation as 6.4.8_DuanCeardaich.wav.

**Narrative**

This lay encapsulates all that is fantastic and pre-medieval concerning Fenian lays. It is a remarkable story with mythological characteristics of the exaggerated behaviour of human foibles manifested and exaggerated in supernatural beings. These elements show a different perspective, analogous to “Beowulf” (Puhvel, 1979)\(^{218}\). In synopsis, the *fianna* are in Ireland and meet a giant (often Lon [name has been linked to the god Lugh], who is the best blacksmith in Lochlan – commonly thought to be Norway) who challenges them to a race. The

\(^{218}\)Similarities to “Beowulf” include elements of: the monstrous arm, the might of an enemy’s mother, the light-phenomenon in the heroes’ dwelling, the melting of a giant-wrought sword, battle rage, fighting with water monsters, underwater adventures, and slaying a champion with bare hands (Puhvel, 1979, pp. 5-83).
race takes them to a fairy mound (sìth/sithe or sídhe) in Lochlan. They enter and find a smithy where blacksmiths are making weapons. One sword in the making is a magical one. To temper the steel and make it magic, it requires quenching, not only in water, oil, or even human blood, but living human blood. Doing as he is told, Fionn leaves the sìth and brings back an old woman to the smithy to sacrifice. The smith lies in wait for Fionn and hides behind the door anticipating Fionn to come through. He assumes that the arrogant Fionn will naturally come through the door first, but Fionn is polite and opens the door for the old woman. The smith runs her through with the magic sword, thereby killing the smith’s own mother. There is then a terrible fight with the result that the Fenians now possess magical weapons. So in one lay, one can see how the Iron Age mentality of the blacksmith being a purveyor of magical arts is coupled to a magical world of the sìth, supernatural beings, human sacrifice, human error, and tragedy.

Language

Here is a transcription of this work (below, Table 6.8):

<table>
<thead>
<tr>
<th>Duan na Ceàrdach (Mòr Chaimbeul, South Ùist)</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 'S Latha dha’n Fhinn air Luachair Leomhann, Mar cheathair óga ’na bhuidheann Mi fhín ’us Oscar ’us Daorghlas, Fionn fhéin ’s gum b’e Mac Cumhaill. Chunnacas a’ tighinn bhò’n mhunadh Fear fada dubh ’s e aon-chois, Le chochull dubh ciara craicinn ’S aparán dha’n éideadh chianta. Labhair Fionn ’s e a' mhunadh Ris an urra bha dol seachad, &quot;Cò ’n tir a bheil do thurus, Fhir urrag nan cochull craicinn?” &quot;Lann mac Liomhann as ainn baistidh. Na’m biodh agad-sa orm beachd-sgeula, Bha mi greis ag uallach ghobhar Aig Righ Lochlann ann an Geilbhinn. “S thàine Nighean an Duibh ‘ic Asgail, Bu mhath i air thús na clòineadh. Bu liomhrach bean bha ’na màthair Dhomh-s’ agus dha mi bhràthair elle.” Thog ’ad a sin air t-sìubhal ’S air a’ bhuidheann chòigeamh luimreach, Ràinig ’ad tullach gorm na Breitheamh ’S gun deach ’ad ’nan ceithir buidheann. Bu bhuidheann dhiubh sin an gobha, Bu bhuidheann eile dhiubh Daorghlas, Bu bhuidheann dhiubh Dearg mac Breitheamh Fionn air deireadh ’s e ’n aonar. &quot;Fosgail, fosgail”, ars an gobha. &quot;Na druid romham” arsa Daorghlas, “Chan fhàgaimn an dorus mo chèardach D’àithe ghabhaidh ’s tu ’nad aonar.”</td>
<td></td>
</tr>
<tr>
<td>One day when the Fenians were on the plain of rushes Four young men in the band I was there, with Oscar and Daorghlas, And Finn himself, son of Cumhal. We saw, coming from the hillside A tall dark man with one leg, With a hood of dark grey skin And an apron of the same stuff. Finn spoke out on the hillside To this person who was going past &quot;What land do you journey to, One who is dressed in skins ? “ There came the daughter of the Black MacAskill, Who was a good baby-sitter. Happy the woman who was mother To me and to my brother. “ Thereupon they all set out They came to the green mound of the Judge, Then they split into four companies One band was with the smith, Another was with Daorghlas One band was with Dearg, son of the Judge Finn was last and he was alone “Open, open! ” said the Smith &quot;Don’t shut the door before me, ” said Daorghlas “I would not leave you in the door of my smithy Your perilous place, and you alone</td>
<td></td>
</tr>
</tbody>
</table>

---

219 He is assisted by the Fenian Daolghus (modern spelling, Daorghlas). Because Daolghus becomes red in the face upon beating on the anvil, he is described by the adjective caoilte (slender and hot) he becomes known as Caoilte and is so referred in the Fenian lays thereafter (Gerald Murphy, 1933, p. vii).
Ceithir lamhan air gach gobha "
Ord-ladhair 'us teanchair iaruninn,
Uird shidhe a bha 'ga freagaíirt
'S cha bu mhiosa fhreagradh Daorghlas.

"Daorghlas fear gharadh na ceardach
Leis 'm bu ghnàth's a bhith' na sheasamh,
Bu deirge na gual an daraich
A shnuadh a thoradh na h-olbreach.

Labhair fear dha na goibhnean
Gu fuathach agus gu fugaigh,
"Deas lamh air laoch caol gun tioma,
'S e chill orn-sa m' inne crudadhach.

Labhair Fionn 's e a's a' mnadh  (7)
Ris an urra bha dol seachad,  (8)
Cò 'n tir a bheil do thuirus,  (7)
Fhir urrag nan cochull craicinn?  (8)

The poetic ornament is not strong in this lay. However, it is firmly syllabic and clearly has aicill rhyme throughout. This type of rhyme was often called “clink”. Alliteration seems absent as well.

Graphical Analysis

Displayed below is the graphical analysis of the third verse. Although the first verse is instrumental in identifying the lay of the smithy, the third verse is used due to the defined rhyme (Figure 6.48):
Below are the next two lines, C and D in Figure 6.49:

In these two figures, one can see that the rhythm was syllabic and that the entire verse was done with one exhalation as was Peanaidh Mhoireasdan’s “Duan na Muligheartaich”.

**Pitches**

The melody of this lay matches the natural scale (Figure 3.4) as shown below (Figure 6.50):

Here, the pitch rises at the end of the tune, which feeds the pitch into the next phrase. This matches spoken behaviour only at low volumes and when ending a phrase with a question. As may be heard in the recording, Peanaidh Mhoireasdan does not sing loudly or with resonance at the ends of phrases. This allows for an easy delivery of the pitch. If the singer were to sing loudly, shifting up a major sixth (and subsequently an octave) would be contrary to natural
behaviour and hence difficult. It takes a good deal of air to sing at high pitches loudly; one
does not have that much air at the ends of phrases. However, if sung quietly, which requires
less air as discussed in Chapter 4, it is not difficult to sing at higher pitches. Peanaidh
Mhoireasdan reduces her volume at the ends of phrases which allows for this flexibility.

**Rhythm**

The rhythm is narrative as can be seen in the above figures (Figure 6.48 and Figure 6.49).

**Pitch Accent**

The third verse’s accent is as follows with capital letters denoting stress and bold font
indicating Pitch Accent

LABHair FIONN ’s e a’s a’ MHUNNad (all syllable except last are on one pitch)
Ris an URRa bha dol SEAchad,
Cò ’n TIR a bheil do THUrus,
Fhir URRag nan COchull CRAIcinn?

In the first line, the dominant (reciting) pitch occurs immediately on labhair. The pitch and
intensity contour for the verse may be seen below with intensity plotted as a solid line and
pitch as a dashed line (see Figure 6.52, below):

![Image](image1.png)

**Figure 6.52: “Duan na Ceàrdaich” Intensity and Pitch Contours V. 3**

There is only slight variation between stressed and unstressed syllables.

**Resonance Tuning**

Resonance tuning was not heard as the singer was of advanced age and was singing quietly.
Here is an example on 3D with the last syllable of line 3D, craicinn (below, Figure 6.53):

![Image](image2.png)

**Figure 6.53: “Duan na Ceàrdaich” Resonance Tuning on Craicinn**
In this figure, the format peaks trace a straight line and not a convex one. Therefore, resonance tuning is not present.

**Vibrato**

Vibrato was present, but was of varying periodicity throughout the lay. For example, see Figure 6.54, below on the words *Mac Cumhaill* of 1D:

![Vibrato speed & width](image)

*Figure 6.54: “Duan na Ceàrdaich” Vibrato on Mac Cumhaill*

**Volume**

The volume was as shown in Figure 6.52, above.

**Summary**

This is an important lay that needed to be included at least for purposes of continuity. This lay was found in Ireland, and a recording of it exists in Nova Scotia; so it is as widely sung, as was “Laoidh Dhiarmaid”.

### 6.5. Analysis and Discussion

The lays in this chapter provide a sampling of important lays as were sung and occasionally are still sung today by a few performers. These lays provide an excellent perspective into how spoken accent changed the positioning of pitch markers of sung lays. They are also indicative of how unstressed syllables were maintained in volume and were not reduced due to the vicissitudes of harmonies associated with the diatonic scale.

The words used display a VOS tendency and a fragmentary poetic structure, often beginning in mid-sentence. Many of the words are not often used in conversation and display an older vocabulary. The storylines display all of the vacillations of emotionally overwrought personae as is displayed in the pantheon of gods of Greek and Roman mythology. “Duan na Ceàrdaich” is especially intriguing in this regard as it incorporates the magical properties espoused by Iron-Age man to the plying of dead earth into death-wielding weapons. The materials of flesh and earth, life and death, natural and supernatural, are completely interwoven.

The melodies of the lays are uniformly based on the natural scale as shown in Figure 3.4. This shows a connection to pasturage and a continuation of Neolithic culture that permeates Indo-European civilisation. Furthermore, the spoken, narrative method of delivery matches a declamation manner of performance although resonance tuning was not always present. In particular, although long syllables were uniformly sung in an elongated manner, shorter
syllables were routinely truncated by modern singers and re-enactors. Therefore, it is often the unstressed syllables and how they are treated that indicate a non-art music approach to Fenian lays and folk music in general. Unstressed syllables are often sung more quickly than as spoken and done so with squelched vibrato and overtones.
CHAPTER SEVEN

Fenian Lays in Nova Scotia

7.1. Introduction

It might surprise the average reader, but a good deal of Gaelic lore and cultural values have been maintained in Nova Scotia, Canada. It has been particularly sustained on the easternmost region of the province on the island of Cape Breton. Particular circumstances contributed to this, including the forced emigration of Gaels from Ireland and Scotland, the close proximity of Nova Scotia to Scotland and Ireland, and the scant human population on Cape Breton Island at the time of the influx of immigrants. Earlier chapters defined criteria of analysis including thematic material, poetic usage, language register, syllable-timing characteristics, pitch structuring, rhythm, pitch accent, and vocal techniques. If these standards are applied against Fenian lays recorded in Nova Scotia, elements of Indo-European cultural practices can be identified. In order to understand how it is possible that Gaelic cultural artefacts have been retained in Nova Scotia, the following is a brief survey of the history of human settlement there.

Nova Scotia, Canada is situated on the northeast coast of North America. Both the island of Cape Breton and the island of Newfoundland act as choke points for ships travelling through to Montreal. The distance from Sydney, Nova Scotia to the west coast of Scotland is roughly 3,800 km. Whilst there may have been earlier inhabitants, the indigenous people in what is now Nova Scotia were the Mi’kmaq. It has been suggested that Christopher Columbus first discovered North America, but it is probably more likely that he had heard tales of a land to the west that was well stocked with fish and imagined that it was India. This is supported by reports from John Cabot (originally Giovanni Caboto, but Anglicized when commissioned by King Henry VII of England) in 1497, five years after Columbus was to inform Europeans of the existence of North America (R. J. Morgan, 2008, p. 15). It is quite possible that the Portuguese had known of this area for quite some time but kept the location confidential. When word of the vast fishing grounds off Newfoundland reached Northern Europe, exploration and increased fishing were the natural results.

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220 The Innu were farther northeast in Labrador, the Inuit farther north from them. The Mi’kmaq were in Prince Edward Island and share Newfoundland with the now extinct Beothuk to the north of the island (Conrad & Hiller, 2001, p. 26).

221 It was well known that the world was a sphere at the time of Columbus; Columbus believed it to be smaller than academics agreed, placing India closer to Spain and within the possibility of a western trade route.
Here is a map of the region from a map of 1856 although dated as 1855 (Colton, 1856 (dated 1855), p. 4); see Figure 7.1, below:

![Figure 7.1: Colton Map of The Canadian Maritimes]

Because salt was not in as great supply for the French and English as it was for the Portuguese and Spanish, the English and French fishermen were required to come ashore to dry their catch, and they would then add some salt that they brought with them at the end of the process. The Portuguese and Spanish brought great quantities of salt with them, acting as ballast, and processed the fish aboard ship. Therefore, the English and French began to establish drying ports on the island of Cape Breton in order to facilitate the dry curing method. This inevitably resulted in increased contact with the native Mi’kmaq people. The ramification of this for the Mi’kmaq was cultural upheaval, which, along with outbreaks of new European diseases, decimated the population of Mi’kmaq on Cape Breton by the beginning of the 19th century.

By 1800, the French at Cheticamp numbered about one hundred, Mi’kmaq were at 450, and there were only a few hundred English speakers in Sydney. So by 1800, “Altogether the colony held no more than 2,500 people who were mainly poor and illiterate” (R. Morgan, 2000, p. 83), political conflict between the governments on the mainland of Nova Scotia (centred in Halifax) and the island of Cape Breton (centred in Sydney) prevented any development or settlement. The Halifax politicians feared an independent Cape Breton government, and eventually they were able to make Cape Breton a vassal territory. In order to keep the island inhabitants docile, the Nova Scotian government did not allow the land there to be surveyed, divided, and sold. If land was sold, then the landowners could then vote and undermine the mainland power base. This resulted in Cape Breton Island having limited human habitation well into the 19th century.

A significant event occurred near 1802 when the vessel, The Northern Friends, populated by 450 Scottish Gaels, sailed into Sydney. The politicians were so delighted at their arrival that the passengers were given money to stay there and not continue onward (R. Morgan, 2000, pp. 85-86). Vessels then began to arrive from Scotland. Irish emigration did not occur due to a significant political gaffe where the governor of Ireland was required to send all Irish convicts
to New South Wales instead of Nova Scotia. However, the situation in Scotland was different. In the early 18th century, local Highland and Island clan chiefs tallied their wealth by the number of fighting men they could muster. Therefore, people were considered valuable. This was made even more so during the Napoleonic Wars. During this time, the French placed an embargo on Britain. This resulted in a shortage of potash, which is used in the manufacture of gunpowder. Scottish chieftains found that they could employ their subjects to collect kelp from the seaside and burn it, producing potash. This significantly increased the chieftains’ wealth. They therefore did not want their subjects to leave and, seeing that many Gaels were leaving their rather abusive predicament by immigrating to North America, contrived to restrict the movement of their subjects by having the Passenger Vessels Act of 1803 enacted. Ostensibly, this was created for the protection of Scottish Gaels and required that a certain minimum amount of space be allowed for each person; however, this tripled the cost of transport to the New World and placed emigration beyond the means of all but the affluent.

Once the kelp market failed with the end of the Napoleonic wars, the absentee landlords who had moved to England (mainly London) found their source of income eliminated. They had become used to their new-found affluence and wished it to continue. Therefore, they began to evict local inhabitants, and eventually repealed the Passenger Vessels Act in 1826. The people were replaced by sheep, which allowed for at least a steady income whereas the typical Gael was simply subsisting. This period is termed “The Clearances”. Entire human populations from islands and towns were forcibly evicted from their homes; their homes were burned to provide added incentive not to return. They were brought aboard ships that suddenly appeared. The ships, often used to transport timber (the last phase of a ship’s life), then transported the evicted Scottish Gaels to the New World.

With tensions easing between the Cape Breton government and the government on the mainland of Nova Scotia in the early 19th century, these forced exiles were allowed to settle on Cape Breton Island. A trade route triangle then developed between Britain, Cape Breton, and the Caribbean. Timber ships would transport virgin timber to Britain and return with forced emigrants; ships would then continue to the Caribbean and return with sugar and rum. Since the use of ships as timber carriers is at the end-cycle of a ship’s life, there were many instances of emigrant ship populations being lost at sea.

7.2. Musical Isolation, Maintenance and Change

The result of this forced emigration from Scotland is that rural, Gaelic-speaking Highlanders and Islanders were uprooted from their ancestral communities and placed, often intact, on an

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222 A ship carrying Irish "convicts" were travelling past Cape Breton Island on the way to Montreal to deliver prisoners into slavery. The Master of the ship could not be bothered to deliver his charges that far and let the convicts off on the Island. It was winter and the land where he deserted them was barren of people; that is, he left them to die in the freezing surf. Happenstance allowed for one of them to see the smoke from a local homestead and they were saved; however, when the local leadership in Sydney discovered what had happened, they appealed to the homeland government in England. The result was that the governor in Ireland was then forced to ship any future convict, at greater expense, to New South Wales. A similar event occurred in Newfoundland when convicts were put ashore in 1789 at Bay Bulls and Petty harbour (McCarthy, 1999, p. 93). Therefore, there are many fewer Irish immigrants in Cape Breton than Scottish ones, although there are large Irish populations in Halifax (even though founded for English loyalists), St. John (New Brunswick), and Newfoundland.
isolated island in North America that was relatively uninhabited. The Scottish Gaelic speaking population grew to over 50,000. By the 1901 Canadian census, the Gaelic language “had also clearly lost considerable ground, but its 50,000 speakers (probably a conservative estimate), comprising 11 per cent of the [entire Nova Scotian] population, still outnumbered all language groups in the province combined, except for English, which, by this time, had assumed a commanding majority in the province (Kennedy, 2002, p. 63).

The census of 1901 also showed how the isolation of Cape Breton preserved its strongly Gaelic culture. This can be shown by considering the greatly reduced numbers of Gaelic speakers in Pictou, NS even though the residents considered themselves to be of Scottish Gaelic descent (Kennedy, 2002, p. 66). See Table 7.1, below; mainland counties are indicated by italics:

<table>
<thead>
<tr>
<th>County</th>
<th>% Scots</th>
<th>% Gaelic-speakers (Total Population)</th>
<th>% Gaelic-speakers (Scottish Population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victoria</td>
<td>80</td>
<td>73</td>
<td>92</td>
</tr>
<tr>
<td>Inverness</td>
<td>71</td>
<td>58</td>
<td>82</td>
</tr>
<tr>
<td>Richmond</td>
<td>33</td>
<td>24</td>
<td>72</td>
</tr>
<tr>
<td>Antigonish</td>
<td>67</td>
<td>48</td>
<td>71</td>
</tr>
<tr>
<td>Cape Breton</td>
<td>56</td>
<td>31</td>
<td>56</td>
</tr>
<tr>
<td>Pictou</td>
<td>79</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 7.1: 1901 Census of Gaelic Speakers in Nova Scotia

Therefore, a great deal of cultural cohesion and preservation of cultural values, language, and musical forms have been retained in Cape Breton and in parts of mainland Nova Scotia. Some of these exceptional traditional cultural markers that have been preserved include certain dance forms, fiddle music with specific articulation styles, and bagpipe traditions used in dance music. Concerning fiddle music, Wilson (2008) states, “What we can objectively determine, I believe, is that, until recent years, performance styles within Cape Breton have remained remarkably consistent over the span of the twentieth century” (p. 12). Other types of music have been maintained on a par with Scotland, although the Gaelic language, even though experiencing a resurgence in the last few years, has declined drastically. Additionally, the song tradition has almost been extirpated by the influence of mass media, which utilises strict metre. It has even progressed to the point in Nova Scotia where intellectual authorities in Gaelic song are chastising singers who do not keep strict meter.

It should also be noted that there have certainly been non-Gaelic influences on Gaelic traditional music from the indigenous Mi’kmaq, immigrant Irish, and burgeoning French Acadian populations. In addition, the introduction of inexpensive upright pianos\(^\text{223}\) beginning in the 20\(^{\text{th}}\) century began to have strong influences on Gaelic musical styles, especially the

\(^{223}\) This development may seem incongruous to the financial resources of rural fishermen and farmers; however, mass production and strong competition in Ontario and inexpensive rail service resulted in low prices of pianos at the turn of the 20\(^{\text{th}}\) century. Salesmen often sold these pianos on instalment, which allowed for relatively poor people to afford them (Paul MacDonald, personal correspondence, May, 2003).
dance fiddle tradition. Moreover, the creation of the Canso Causeway opened Cape Breton Island to continuous, non-ferry-borne vehicular traffic in 1955. This and the expansion of media in the form of television and radio began to inundate all cultures on the island with European art music’s diatonic scale; this was done in the form of United States popular, top-40 billboard chart music, complete with chordal progressions and dissonant suspensions. Lately, urban music (rap, hip-hop) and modern jazz forms also have begun to have a strong impact on rural Nova Scotians. The latter can be seen in the most significant university in rural Nova Scotia, St. Francis Xavier University, whose music department only allows jazz music at the university.

7.3. Lay Analysis

The relative isolation of Cape Breton Island helped to preserve the nature and character of music and culture to a great extent, perhaps in some ways greater than in isolated peripheral islands adjacent to the mainlands of Scotland and Ireland. Due to the pervasive nature of radio and the forms of art music broadcasts (“classical”, popular) by the British Broadcasting Corporation (BBC), the nature of music surrounding Gaels in Scotland began to change at a greater rate than in Canada. The ruggedness and expansiveness of the terrain in Nova Scotia made radio station towers less numerous and thereby catered to local tastes. Simply put, art music had less of an effect on the intonation system played by instrumentalists in rural Canada than in insular Britain.

The relative isolation of Cape Breton maintained many older musical practices. For example, Scottish fiddle playing has become more legato with less of an attack differential in Scotland than in Nova Scotia. In parallel, it is possible that the vocal music has retained older musical elements than in Britain. Much like the spread of the PIE language that can be reconstructed by examining specific elements in daughter languages, so too can one find older musical elements by examining musical practices in each community of the Gaelic Diaspora. Therefore, it is quite possible that elements of Fenian lays sung in Nova Scotia retain ancient elements of this genre in language, pitch intonation, structure, and rhythmic characteristics.

As in previous sections, the order of analysis, computer applications used and why has been discussed in section 1.5 Methods of Analysis of Primary Material.

7.3.1 Laoidh Dhiarmaid-1946

Recording History

As mentioned in Chapter 6, a lithographic copy of a manuscript was discovered at St. Francis Xavier University from songs collected by John Lorne Campbell and his wife and colleague

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224 For example, the Beaton Institute on Cape Breton Island selected a representative sample of its holdings to be displayed on its web site: www.beatoninstitutemusic.ca. Approximately 27% of those songs have instrumental accompaniment, including the well-known “Òran Do Cheap Breatainn” (which is the only version ever heard by me sung to accompaniment). Yet, traditional Gaelic song in Nova Scotia, Scotland, and Ireland is not accompanied.

225 Legato here is not in the vocal sense, but from an instrumentalist’s perspective. Normally, legato is “with the breath, not the voice” which requires a loose and fluid abdomen but articulation. An instrumentalist will not know this and try to create legato “with the voice”; that is, will have a consistent volume between the end of one note and the beginning of another. Fiddle players in Nova Scotia still “lift” the note preceding a stressed one and have a variety of onset attacks that are missing in Scotland, and to a lesser extend in Ireland today.
Margaret Fay Shaw during a journey to Nova Scotia in 1937. This collection and a few other songs from Scotland were transcribed by Seámus Ennis by November, 1946. There were two Fenian lays annotated in the manuscript. One, “Rann na Muileartaich” (Verse of the Sea Hag) was identified as being sung by Aonghus Ruadh O’Henley (Red-headed Angus) of Lochboisdale, Scotland; however, there is little doubt that this is incorrect, as the recording provided by the National Trust of Scotland was of a woman. The rhythmic patterning and the words of this recording significantly matched the notation of Ennis. Fortunately, an investigation led to the informant being identified as a woman, Peanaidh Mhoireasdan from South Uist. The notation fit the delivery of Peanaidh Mhoireasdan closely although the melody was not accurate; the pitches seemed to be a work-in-progress, and the final manuscript was incomplete.

The other lay in the manuscript, “Laoidh Dhiarmaid” (Lay of Diarmad) was again identified as Aonghus Ruadh O’Henley. As mentioned previously, upon reviewing the recording, it became clear that there was something incorrect about the transcription or recording. The audio tune did not fit the melody of the transcription, but it did match the rhythmic delivery in most respects. However, since “Rann na Muileartaich” was labelled incorrectly, it is possible that “Laoidh Dhiarmaid” was as well.

Campbell and Shaw returned to Nova Scotia in 1953; this seems reasonable if one considers that the pair wanted to produce a book showing the breadth of Scottish Gaelic tradition surviving in Nova Scotia and needed a Fenian lay for inclusion. If they could not match the informants’ names to the transcriptions, and the transcriptions were obviously incorrect, they would need a recording with certain provenance; this is true especially when one considers the detailed descriptions of each of the informants provided in Songs Remembered in Exile, (J. L. Campbell, 1990).

In summary, it is quite possible that “Laoidh Dhiarmaid” mentioned in the manuscript was originally recorded in Nova Scotia in 1937. Even if this lay were not, it is an excellent example of authentically sung Fenian lays and worthy of analysis. It is provided in this dissertation as 7.3.1_LaoidhDhiarmaid.wav.

**Narrative**

As mentioned in Chapter 5 and Chapter 6, the story of the death of Diarmad relates the story of a Fenian who elopes with Graidhne, the wife of Fionn. After many adventures, Fionn and Diarmad reconcile. Subsequently, Fionn tasks Diarmad with killing a huge boar. Diarmad kills the beast, but Fionn, knowing that the boar’s bristles are poisonous, directs Diarmad to measure the length of the boar. A bristle pierces Diarmad, and he falls ill. Although Fionn has the power to save Diarmad, Fionn refuses and Diarmad dies. This lay is extremely old and may pre-date all three of the Irish mythological cycles: Arthurian, Fenian, and the Ulster cycles (Meek, 1990, p. 335).

**Language**

The words and poetry to this lay are interesting and valuable. The transcription and translation of the text were graciously provided by scholar Seonaidh Ailig Mac a’ Phearsain
(John Alick MacPherson) president of the Atlantic Gaelic Academy in Sydney, Nova Scotia, and appear below (Table 7.2):

<table>
<thead>
<tr>
<th>Laoidh Dhiarmaid, 1946</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Èisdibh beag ma’s àill leibh laoidh</td>
<td>Listen a little if you want a lay</td>
</tr>
<tr>
<td>Air a’ mhuinntir a dh’fhalbh uainn;</td>
<td>About people who have left us;</td>
</tr>
<tr>
<td>Air MacChumhail ‘s air an Fhinn, ‘s air mac O’Dubhn’</td>
<td>About MacChumhaill and the Fenians, And about the son of O’Dubhne; there is a sad song.</td>
</tr>
<tr>
<td>‘gam bheil an sgeul truagh.</td>
<td>Going to Beinn Ghulbann to hunt</td>
</tr>
<tr>
<td>2. Dol gu Beinn Ghulbann a shealg</td>
<td>The boar that feeble weapons cannot wound;</td>
</tr>
<tr>
<td>An tuirc nach dearg na h-airm chli;</td>
<td>It was the venomous boar, so fierce,</td>
</tr>
<tr>
<td>‘S e’n tore nimhe, ‘s e ro gharh,</td>
<td>That Grey Eyebrows had with her flock of pigs.</td>
</tr>
<tr>
<td>Bhàig Mala Liath air shealbh nam muc.</td>
<td>“Diarmad, do not release the hounds</td>
</tr>
<tr>
<td>3. ‘A Dhiarmaid na leig na gadhair</td>
<td>And do not believe that they are hunters of guile;</td>
</tr>
<tr>
<td>‘S na creid gur e’n t’aghaid h’bhreig’ iad;</td>
<td>It is hard to challenge MacChumhaill,</td>
</tr>
<tr>
<td>‘S gur deacair cur ri MacChumhail,</td>
<td>Who is lamenting the loss of his wife”.</td>
</tr>
<tr>
<td>Is cumha leis a bhith gun chéile”.</td>
<td>“Gràidhne, won’t you keep quiet,</td>
</tr>
<tr>
<td>4. “A Ghràidhne nach than thuas sàmhach</td>
<td>And don’t earn shame for your first love;</td>
</tr>
<tr>
<td>‘S na coisinn nàire dha d’ cheud-ghaol;</td>
<td>I would not give my share of the hunt</td>
</tr>
<tr>
<td>Cha tugainn–sa mo chuid dhe’n t-sealg</td>
<td>For the wrath of the Fenian men”.</td>
</tr>
<tr>
<td>Airson fearg fir na Fèinne.”</td>
<td>The monster awoke from her sleep</td>
</tr>
<tr>
<td>5. “A mhic O’Dubhne, a fhàithth thèrin,</td>
<td>And went round the glen;</td>
</tr>
<tr>
<td>Nis o rinneadh euchdan leut,</td>
<td>When she heard the noise of the Fenians</td>
</tr>
<tr>
<td>Bòtheam-sa cuimhneach às do làimh;</td>
<td>She raised her head to the east and the west.</td>
</tr>
<tr>
<td>Seo an t-eug o’n teàrnar leat.”</td>
<td>The front shield came in contact with her</td>
</tr>
<tr>
<td>6. Dhuìsgh an uile-bheist às a suain,</td>
<td>And the spear went into the boar’s belly;</td>
</tr>
<tr>
<td>‘S chaidh an t-seann lann o’n truaill</td>
<td>The middle of the shaft broke again</td>
</tr>
<tr>
<td>Leis ‘n do bhuinigeadh buaidh ‘s na blàir;</td>
<td>And the pig had the toughest end.</td>
</tr>
<tr>
<td>Mharbh Diarmad O’ Dubhn’ a’ bhèist,</td>
<td>The old lance was drawn from the sheath</td>
</tr>
<tr>
<td>‘S shàbh’ladh e fhèin ‘na dèidh slàn.</td>
<td>With which victory in the battles had been won;</td>
</tr>
<tr>
<td>7. Chaidh an sìath urlà ‘na dàil</td>
<td>Diarmad O’Dubhne killed the beast,</td>
</tr>
<tr>
<td>‘S chaidh an t-sleagh an t’ar an tuirc;</td>
<td>And he himself was safely spared after her.</td>
</tr>
<tr>
<td>Bhìrst i eadar an crann a-rís</td>
<td>The fairy glen and the glen beside it,</td>
</tr>
<tr>
<td>‘S bha ‘n ceann bu right’ air a’ mhuic.</td>
<td>Where the voices of warriors and swans were heard,</td>
</tr>
<tr>
<td>8. Thàirneadh an t-seann lann o’n truaill</td>
<td>Where the clamour of the Fenians</td>
</tr>
<tr>
<td>Leis ‘n do bhuingeadh bauidh ‘s na blàir;</td>
<td>Was heard as they followed their hounds.</td>
</tr>
<tr>
<td>Mharbh Diarmad O’ Dubhn’ a’ bhèist,</td>
<td>Fionn of the Fenians became melancholy,</td>
</tr>
<tr>
<td>‘S shàbh’ladh e fhèin ‘na dèidh slàn.</td>
<td>And he sat sadly on the mound,</td>
</tr>
<tr>
<td>9. An gleann sìth ‘s an gleann ri’thabh,</td>
<td>Hurt about O’Dubhne of the successful armour</td>
</tr>
<tr>
<td>Far am biodh guth laoich is loin,</td>
<td>That he had escaped safely from the boar.</td>
</tr>
<tr>
<td>Far am biodh farum nam Fiann</td>
<td>Fionn was silent for a long time</td>
</tr>
<tr>
<td>Thog i’n ear ‘s an iar a ceann.</td>
<td>And when he spoke it was a bad thing to say:</td>
</tr>
<tr>
<td>10. Gun d’laigh sprochd air Fionn nam Finn,</td>
<td>“Diarmad, measure the bear,</td>
</tr>
<tr>
<td>‘S shuidh e gu’cian air a’ chnoc,</td>
<td>The number of feet between its snout and its tail”.</td>
</tr>
<tr>
<td>Mu mhac O’Dubhn’ nan arm aigh</td>
<td>The fairy glen and the glen beside it,</td>
</tr>
<tr>
<td>Bu chràiteach leis tighinn slàn o’n torc.</td>
<td>Where the voices of warriors and swans were heard,</td>
</tr>
<tr>
<td>11. Bha Fionn ‘s e fada ‘na thosd,</td>
<td>Where the clamour of the Fenians</td>
</tr>
<tr>
<td>‘S labhair e, ‘s gu’m b’ole ri ràitinn:</td>
<td>Was heard as they followed their hounds.</td>
</tr>
<tr>
<td>“A Dhiarmaid tombhais an torc,</td>
<td>Fionn of the Fenians became melancholy,</td>
</tr>
<tr>
<td>Co nheud troigh o’ sheoc gu’càrr.”</td>
<td>And he sat sadly on the mound,</td>
</tr>
</tbody>
</table>

Table 7.2: “Laoidh Dhiarmaid-1946” Transcription and Translation

The introductory verse is common to the tale. Furthermore, Bàrdachd na Féinne (Matheson, p. 137) has similarities to this which can be seen in the table below where the first column is from this book (here the version published in 1816) and the sung version respectively (below, Table 7.3):
Bàrdachd na Féinne

1. Èisdibh beag, m’ as a’ill leibh laoidh,
   Air a’ chuideachd chaomh so dh’halbh uainn;
   ‘S air mac o Duibhne nan sgeul truagh.

2. An gleann sin sìth, ’s an gleann r’ thaobh,
   Far am bu bhinn guth féidh is loin,
   Is far am minic ’n rohann Ò Fhìann,
   O’ naer s o ’n iar an déidh an con.

3. Dhùisg an uile-bheist às a suain, (8)
   ’S chaidd i mun cuairt air a’ ghleann; (7)
   Nuair dh’halbh iar i furam nam Fìann (8)
   Thog i ’n ear ’s an iar a ceann. (7)

4. Laidh sproch air Fionn fial,
   Is leig e sùr e ris a’ chnoic,
   Mac o Duibhne nan ann aigh,
   A dholl as gu slàn o’ ’n Torc!

5. An seann Torc-nimhe bha garg.

6. An gleann sin sìth, ’s an gleann r’ thaobh,
   Far am biodh guth laoich is loin,
   Far am biodh furam nam Fìann
   Air an t-sliabh an dèis nan con.

7. Laidh sproch air Fionn fial,
   Is leig e sùr e ris a’ chnoic,
   Mu mhac O’Duibhne nan arm aigh
   Bu chràiteach leis tighinn slàn o’n Torc.

As Sung

1. Èisdibh beag ma’s a’ill leibh laoidh
   Air a mhuintir a dh’halbh uainn;
   ‘S air mac O’Duibhnh, ’gam bheil an sgeul truagh.

2.5 ’S e’ n torc nimhe, ’s e ro gharq,
   Bh i aig Mala Liath air shealbh nam muc.

5. “A mhic O’Duibhne, a fhàith thrèin,
   Nis o rinneadh euchdan leat,”

8. Thàirneadh an t-seann lann o’n truaill
   Leis ’n do buinigeadh buaidh ’s na blàir;
   Mharbh Diarmad O’ Duibhn’ a’ bheist,
   ’S shàbh’ladh e fhèin ’na dèidh slàn.

9. An gleann sìth ’s an gleann ri ’thaobh,
   Far am biodh guth laoich is loin,
   Far am biodh furam nam Fìann
   Air an t-sliabh an dèis nan con.

10. Gun d’laigh sprochd air Fionn nam Finn,
    ’S shuidh e gu cian air a’ chnoic
    Mu mhac O’Duibhne nan arm aigh
    Bu chràiteach leis tighinn slàn o’n torc.

Table 7.3: “Laoith Dhiarmaid” Bàrdachd na Féinne, Transcription and Translation

So the variation in these verses is slight and spans over one-hundred twenty years.

The first verse has the following structure:

1. Èisdibh beag ma’s a’ill leibh laoidh (7)
   Air a’ mhuintir a dh’halbh uainn; (7)
   Air MacChumhail ’s air an Fhìnn, (7)
   ’S air mac O’Duibhnh’, ’gam bheil a’ sgeul truagh. (9)

The sixth verse has this structure:

6. Dhùisg an uile-bheist às a suain, (8)
   ’S chaidd i mun cuairt air a’ ghleann; (7)
   Nuair dh’halbh iar i furam nam Fìann (8)
   Thog i ’n ear ’s an iar a ceann. (7)

Again, in Gaelic, alliteration is thought to occur when two words begin with any vowel. The remaining verses follow this same pattern.

There is a great deal of poetic or high register language in this poem. For example, Thog i ’n ear ’s an iar a ceann (6D. She raised her head to the east and the west), which seem formulaic, matching “fleet of foot”. Leis ’n do bhunigeadh buaidh ’s na blàir (8B. With which victory in the battles had been won) seems to have alliteration with vowel sequencing as does “…peas, beans, and barley…”: close to open.

It should also be noted that the introductory line of Èisdibh beag, m’ as a’ill leibh laoidh is perhaps not what the singer sang but rather Eisdibh beag ma’s aireamh laoidh which is a common introductory line; for example, it appears in “Laoith an Truiselaich” (J. F. Campbell, 1872, p. 202) and is reminiscent of the beginning phrases of English tales beginning with, “Once upon a time”.

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Graphical Analysis

This lay was sung between 1937-1946 (Canna Tapes 0048 and 0089A; the latter being used for graphical analysis), and it appears in the Séamus Ennis/Campbell MS below in Figure 7.2 (Tolmie, 1911, p. 18):

![Figure 7.2: “Laoidh Dhiarmaid” Manuscript of 1937 Recording](image1)

It is interesting to note that in the above figure, Séamus Ennis added an F♯ to the key signature even though there is no note of F♯ in the song. By doing this, he makes the tune appear to be in the dorian ecclesiastical mode (however, missing the sixth degree of the diatonic scale), whereas, if he had not added the F♯ to the key signature, it would have appeared to be in the aeolian mode. It is not certain why he did this. Adding an F♯ is often done when a tune ends on a G so as to make a mixolydian tune appear to be ionian.

Below is the graphic analysis of rhythm and pitch using pitch-tracking software (Figure 7.3, below) with the mean of A (beag) =183.3 Hz.:

![Figure 7.3: “Laoidh Dhiarmaid” Graphical Analysis V. 1: A, B](image2)

Here are the next lines A and B (Figure 7.4):

![Figure 7.4: “Laoidh Dhiarmaid” Graphical Analysis V. 1: C, D](image3)
The singer sings each verse in one breath; therefore, the interfaces between the two figures (above) should be seen as being connected.

**Pitches**

The words and their pitches of the musical transcription did seem to be the same as the recording (Canna tape 0035) with the exception of the recording beginning with Ėis dibh beag ma’s àill[...] instead of Ennis’s Eist má’s aill[...]. Additionally, Ennis heard /in/ and believed the singer had sung Fionn fial (note the words in Figure 7.2, above) versus an Fhinn as noticed by Mac a’ Phearsain and myself. It should be noted that the recordings obtained from the National Trust of Scotland were digitally improved by making the speed uniform and removing extraneous noise. Ennis did not have as “clean” a recording as was analysed here.

Moreover, as mentioned previously, the melody as notated by Ennis was not correct. The fourth through seventh bars had been transposed down an octave. The reasons why Seamus Ennis dropped these measures an octave will remain a mystery; however, something may be gleaned by glancing at a previously published work of Francis Tolmie’s *One Hundred and Five Songs of Occupation from the Western Isles of Scotland* which was published in 1911 (1911, p. 245). The song “Laoidh Dhiarmad” seems to match what Ennis wrote to some extent, so it may be that the version in the MS either was what he thought was expected of him or that this notation was simply a working rhythmic version with correct pitches to be added at a later time.

Here is the pitch structure in staff notation as performed (Figure 7.5, below):

![Figure 7.5: “Laoidh Dhiarmad” Pitch Summary](image)

The melody not only matches that of the natural scale (see Figure 3.4) although the fourth-to-last note of B₄ seems clearly sung, but of the bagpipe scale as well playing in the “rural mode” (see Figure 3.30). So, although the tune is constrained to be in the natural scale, it also seems to have the pastoral influence of a bagpipe (full scale possibilities shown in Figure 3.16). It should also be noted that there is a neum (on sgeul) near the end, which seems to act as a type of modern suspension.

**Rhythm**

At first consideration, the lay seems to bear the influence of rhythmic or instrumental instruments since the music can be written in compound time and there seems to be a “Scots; snap” at the end of the second line of the first (and following) verses. To see this, the music is exaggerated by placing it in staff notation so that the reader might compare it to the compound rhythmic examples in Chapter 4 (Figure 4.13-Figure 4.15). See Figure 7.6, below:

![Figure 7.6: “Laoidh Dhiarmad” Rhythmical Exaggeration](image)
The music was placed in 6/8 versus 12/8 (which is more appropriate to the poetry) in order to better exemplify the “Scots’ snap”. However, upon further consideration of Figure 7.6, above, the rhythm is not forced into this pattern; rather, the rhythm of the hierarchy of beats simply matches the linguistic pattern of the words. Also, the origin of the “Scots’ snap” might be seen in this example. That is, it is possible that this musical pattern derives from the Gaelic language and was not an instrumental development. For example, as discussed in Chapter 4, Figure 4.3: “Cumaibh suas a’ Ghàidhlig”, there is a tendency to group syllables in clusters. This occurs above with Air a’ mhuinntir a and with dh’fhalbh uainn. This places primary stress on dh’fhalbh, leaving the following intrusive vowel unaccented, much like the triplet rhythm of feumaidh mi fal(a)bh (I must/will be leaving), and sung on a lower pitch. However, in the audio recording, once activated at the end of the first verse, the “Scots’ snap” becomes omnipresent and the intrusive vowel becomes pitch accent. For example, in the next verse and in the same place, the words h-airm chlì replace dh’fhalbh uainn. The intrusive vowel on air(i)m takes the accent and is sung on a higher pitch, but the stress is on the first syllable. This may have been instigated by a series of snaps at the end of the previous verse. See Figure 7.7, below:

Figure 7.7: “Laoidh Dhiarmaid” Scots’ Snap

Notice the “Scots’ snap” of bheil an, sge-ul (with a neum) and tru-agh. Whilst patterns like these may have been a strong rhythmic influence in this lay, the pattern of the remaining words can be seen to be narrative. This is exemplified in Figure 7.3 and Figure 7.4, above.

**Pitch Accent**

The singer seems to shift accent (which corresponds to stresses) on the following syllables (stress is indicated by capital, bold letters):

ÉISdibh beag ma’s Àill leibh LAOIDh
Air a’ MHIUNntir a dh’FHAL(A)bh uainn;
Air MacCHUMhail ‘s air an FHIINn,
’S air mac O’DUibh’n’, ‘gam bheil an SGEUL TRUagh.

As mentioned, there is an unusual pitch accent in future verses on dh’fhalbh, placed where the unstressed intrusive vowel is located. It happens again on mac O’Duibh’n’ in 1D where the informant raises the pitch on the somewhat unstressed O of O’Duibh’n’ (note that Figure 7.5 has a G₃ in parenthesis approximately 2/3 of the way through). However, the singer makes a concerted effort not to do this again when he repeats this verse (all verses were sung twice) on the last line. This seems to be too much to do at once (sing on pitch, remember words, etc.) and the informant then locates the higher pitch according to syllable order rather than stress. Changing the pitch according to the stress or accent is a key feature of Fenian lay performance and points to probable pitch shifting in heroic lays in other cultures.
Resonance Tuning

Resonance tuning does not exist to any great extent in this recording. It may be that the recording had some of the higher frequencies removed when being transferred from wax to wire to tape to digital. However, it is more likely that the singer did not use resonance tuning. He was also under duress\footnote{The informant was forcing himself to sing. This is quite common in older informants who find that the added energy required to sing (increasing volume, creating resonance tuning, singing on pitch) is more than they can develop or maintain. This is certainly not an indictment against this singer. Indeed, there are few people in the modern age who can sing in their advanced years, not to mention remember syllabic, heroic verse from the Middle Ages or earlier.} as can be noticed by the glottal cough at the ends of phrases, preceded by a loud but truncated final syllable (for example at time index 3:41). This is perhaps why resonance tuning is missing. I could not hear it often while listening, but was able to find it in a few places, but muted. Here is one example at time index 3:53.8 displayed in Figure 7.8, below:

![Resonance Tuning Spectrum Plot](image)

Figure 7.8: “Laoidh Dhiarmaid” Resonance Tuning

Most singing is reflected in the spectrum plots as appeared as Figure 7.9, below, time index 0:44.7:

![Typical Spectrum Plot](image)

Figure 7.9: “Laoidh Dhiarmaid” Typical Spectrum Plot

Vibrato

Vibrato is nicely presented throughout, and a good example occurs at time index 0:10 on \textit{Fhinn} of 1C. Here is an example (below in Figure 7.10). The yellow line represents an idealised periodic sine wave vibrato; the red line is how it is performed:
Vibrato exists and is periodic, making it undemanding to identify while listening to the recording, unlike the following analysis in the next section where the vibrato was not as periodic and hence not apparent to the casual listener.

**Volume**

The volume of the lay is moderate, and unstressed syllables are roughly at the volume of the stressed syllables. Below (Figure 7.11) is a graph showing the pitch tracking of the first line of the first verse (1A. Êis dibh beag ma’s aíll leibh laoidh) placed against the intensity contour:

Here one can see that the intensity contour (solid line) matched to pitches (dashed line), is fairly consistent with the lowest amplitude on the word ma (dropping on the obstruent /v/, <bh> of leibh). Unstressed syllables are at such a good volume that if the singer was not singing with such a pronounced “Scots’ snap”, unstressed syllables might have been elongated. As it is, many of the influences of the diatonic scale in art music are not present in the singing, which would decrease the volume of the unstressed syllables.

**Summary**

This lay is interesting in that it preserves a narrative rhythm even though the rhythmic pattern of the words begin to force a compound metre. It also suggests that the “Scots’ snap” may have its origin in the placement of stress on the first syllable of a Gaelic word that is then followed by an intrusive vowel as its second element which is accented.

Although the singer was advanced in years and found it difficult to sing, he did maintain a consistent amplitude contour and vibrato throughout.
7.3.2 A’ Muileartach Bhuidhe Ruadh

Recording History

Folklorist John William Shaw came to Nova Scotia in the 1970s and began to record stories and songs of the local Gaelic people. After many decades, these recordings were digitized and placed online at www.Gaelstream.stfx.ca. There are over two thousand songs and stories that are currently online and available for access. Amongst the songs that were collected were the Fenian Lays “A’ Muileartach Bhuidhe Ruadh” (fragment), “Dh’ éirich Conan’s dh’ éirich Gol” (fragment), “Duan na Ceardaich”, and a fragment thought to be perhaps a part of the Arthurian sagas – “Am Bròn Binn”. There were also several spoken fragments and stories including “A’ Muileartach Mhaol Ruadh”. Since “Rann na Muileartaich” has already been discussed in a previous section, it would be appropriate to consider “A’ Muileartach Bhuidhe Ruadh” and “A’ Muileartach Mhaol Ruadh” consecutively.

The first lay fragment, “A’ Muileartach Bhuidhe Ruadh” (O Red Gold Muileartach) was recorded from informant Joe Allan MacLean (Eòs Ailean mac Ruairidh Chaluim Ghobha) of Rear Christmas Island, Cape Breton County. According to Dr. John Shaw, MacLean was over ninety years old when he started recording (2007, p. 204).

The recording was originally from the Cape Breton Gaelic Folklore Collection: Tape No: 237, Item: A 02. It was converted to digital format by Paul MacDonald and renumbered it as GF237i02.mp3. The copyright is owned by the Minister of Public Works and Government Services Canada, 2006 who has given permission to reproduce this work for academic analysis. It is attached to this dissertation as 7.3.2_MuileartaichBhuidheRuadh.wav.

Narrative

This is the same story as that described above in Chapter 6, section 6.3.6, and is the story of the muileartaich (or muirgheartaich); it relates the narrative of the one-eyed, red-toothed, and partially red-haired sea hag. This verse begins to extol the hag’s virtues.

Language

The transcription of this lay has been provided by Oighrig Nic Fhraing (Effie Rankin, personal communication, April 4, 2015); below, Table 7.4). Once the recording is compared to the lyrics, it is clear that the transcription is correct, but must have been very difficult to ascertain.

<table>
<thead>
<tr>
<th>A’ Muileartach Bhuidhe Ruadh</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A’ Muileartach bhuidhe ruadh</td>
<td>O red gold Muileartach</td>
</tr>
<tr>
<td>Mur do thuith thu an talamh toll</td>
<td>Unless you fell in a hole in the ground</td>
</tr>
<tr>
<td>Mur deach do bhàthadh air muir sleamhainn lom’</td>
<td>Unless you were drowned on a smooth, bare sea</td>
</tr>
<tr>
<td>Chan eil do dhaoine anns an Fhèinn</td>
<td>There are not enough men among the Fingalians</td>
</tr>
<tr>
<td>Na bheireadh fuil air an ni bhuidhe.</td>
<td>Who could spill the blood of the yellow one.</td>
</tr>
</tbody>
</table>

Table 7.4: “A’ Muileartach Bhuidhe Ruadh” Transcription and Translation

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227 Throughout this dissertation, informants are referenced by their name as they are known in Gaelic society, which are not necessarily the exact English translation. Here, “MacLean” is a contraction of Mac Gille Eoin (son of the servant of [Saint] John) and can be spelled variously as the secondary contraction Mac Il’ Eoin (with <n> becoming non-palatal) shifting to Mac Il’ean or other variations. Eòs Ailean mac Ruairidh Chaluim Ghobha means Joe Allan, son of red-haired Calum, the blacksmith. MacLean was a blacksmith.
The poetry is confused as the informant could only remember this one verse. There are also five lines instead of the typical four.

\[
\begin{align*}
A' \text{ Mhuileartach bhuidhe ruadh (7)} \\
\text{Mur do thuít thu an talamh toll (7)} \\
\text{Mur deach do bhàthadh air muir sleamhainn lom’ (10)} \\
\text{Chan eil do dhaoine anns an Fhéinn (7)} \\
\text{Na bheireadh fuil air an ní bhuidhe. (9)}
\end{align*}
\]

With the exception of the third and last line, there are seven syllables per line. The third line may also be \textit{Na do bhàthadh air muir sleamhainn lom’} which would reduce the syllable count by one. Also, there is alliteration in line 1A if one realises that the lip movements are the same; in an older dialect, they would be bi-labial fricatives versus dental-labial fricatives. The <mh> of Mhuileartach is slightly nasal. Both the pairs \textit{deach do} (1C) and \textit{do dhaoine} (1D) do not alliterate as one word of each pair is unstressed. There may be \textit{aicill} rhyme with ruadh (1A) and thu (1B) and Fhéinn (1D) and bheireadh (1E).

**Graphical Analysis**

MacLean could barely sing, so there is not a recognizable tune; however, the pattern and approach of speaking the words to an undefined rhythm is worth noting. Below is the rough delivery of MacLean, lines A and B (below, Figure 7.12) with the mean of B (ruadh) = 201.9 Hz.:}

![Figure 7.12: “A’ Mhuileartach Bhuidhe Ruadh” Graphical Analysis, Lines A and B](image)

Here are the last lines, C, D, and E (below, Figure 7.13):

![Figure 7.13: “A’ Mhuileartach Bhuidhe Ruadh” Graphical Analysis, Lines C, D, and E](image)

The pitches were so variable as to find exact notational placement difficult.
Pitches

The rough approximation of the pitches may be seen to be misleading if placed on a notational staff, so they have not been included in this section.

This lay was included in the present study because it displays the last moments of a dying tradition. Therefore, the informant is unconsciously retaining the most important elements of the tradition as best he could. The rhyme was almost lost as is any formation of the ornament of song (pitch). The narrative rhythm is also retained and a desire to sing on some type of pitch.

Rhythm

The informant sings this lay narratively without any metre. However, he does show elongation of notes (final stressed syllables) at the ends of lines. This is significant in that it demonstrates that ending notes in instrumental tunes (and the genesis of long finals in orchestral music) stem from an old tradition.

Pitch Accent

The bell-shaped curve of pitch is repeated in this lay. The centre of the exhalation is always raised, even if imperceptibly. The pitch accent is as follows:

A’ MHUILLeartach BHUIDhe RUADH
Mur do THUIRT thu an TALamh TOLL
Na do BHÁTHadh air MUIR SLEAMHainn LOM’
Chan eil do DHAOINE anns an FHEINN
Na bheireadh ful air an ni bhuidhe. [no perceptible accent]

There is a slight increase in pitch on ni (1E) that perhaps can be seen above in Figure 7.13, but it can certainly be heard.

Resonance Tuning

Resonance tuning was not present in the recording. Below is a typical example (at time index 8.0 sec., Figure 7.14):

![Resonance Tuning](image)

It may appear as though there is resonance tuning in the image above; however, the drop in frequencies at the 3 kHz and 8 kHz regions is due to the singer's lack of phonation in that range and not due to a swelling of the following overtones (the peaks trace a parabolic curve). This is in addition to any shifting ratio of the harmonics of differing vowels.
Vibrato

There is vibrato throughout the fragment, for example, at :025 on ruadh. See below (Figure 7.15):

![Figure 7.15: “A’ Mhuileartach Bhuidhe Ruadh” Vibrato 0:25]

The interplay between resonance tuning and vibrato is interesting here. This informant is at such advanced age that it is possible to see what happens to the voice as one becomes older to the point of not being able to speak. His voice is fracturing, cutting out harmonics in certain ranges; he has lost the ability to resonance tune (there are other recordings of his singing with them when younger). However, he has not lost vibrato. This suggests that vibrato is an inherent element of the human voice and not an affectation or ornament; that is, it is not a learned behaviour.

Volume

The informant did increase his volume when singing. This can be seen because he speaks at the beginning of the song after starting to sing and complains that he has forgotten (something – the words are cut off by Shaw). See below, Figure 7.16:

![Figure 7.16: “A’ Mhuileartach Bhuidhe Ruadh” Intensity Contour]

The intensity contour is a solid line; values are on the y-axis to the right. The pitch contour is dashed; values are on the y-axis on the left. So when the informant sings a of M’earta of Mhuileartach (the <m> is pronounced without aspiration, and he seems to omit the <l> altogether) the volume is 84.4 dB. When he speaks Cha, the volume is 71.6 dB. The reader may remember that the decibel scale is logarithmic.
Summary
This is an interesting lay, not due to poetic factors but because of the essence of the performance tradition rooted in narrative singing. The value of the ornament of pitch is fairly low compared to the need to raise the volume and speak the words. There is also a loss of resonance tuning, but there is consistent vibrato. The rhythm of speech pronunciation as opposed to sung rhythmic patterns will be discussed immediately below.

7.3.3 Dh’ éirich Conan ‘s dh’ éirich Goll

Recording History
This recording of “Dh’ éirich Conan ‘s dh’ éirich Goll” (Conan Arose, and Goll Arose) was also made from Joe Allan MacLean who also recorded “A’ Mhuileartach Bhuidhe Ruadh” (section 7.3.2, above), “Am Bròn Binn” (section 7.3.6, below), and “Duan na Cearдаich” (section 7.3.7, below). The recording was originally identified with the Cape Breton Gaelic Folklore Collection: Tape No: 258, Item: A 05. Digitisation was performed by Paul MacDonald and renumbered as GF258io5.mp3. The copyright is owned by the Minister of Public Works and Government Services Canada, 2006 who has given permission to reproduce this work for academic analysis. It is attached to this dissertation as 7.3.3_DheirichConan-DheirichGoll.wav. One second of silence was added to the beginning of the file to help in graphing the pitch.

Narrative
After Fingal, Goll was the best warrior of the fianna (J. F. Campbell, 1872, p. 168). Conan (also spelled “Connan”) was Goll’s brother (J. F. Campbell, 1872, p. xxiv). Goll is a nickname of Iodhlan, meaning one-eyed (J. F. Campbell, 1872, p. 164). As will be described below in the “Language” section, the present author believes that this fragment is from the tale of the muileartaich and is described in other sections of this chapter and above in Chapter 6, section 6.3.6.

Conan and Goll are fully represented in both Irish and Scottish tradition. Their names appear quite often in Leabhar na Féinne (J. F. Campbell, 1872) and Duanaire Finn (E. MacNeill, 1908). The latter describes Conan’s death in “The Abduction of Eargna”.

Language
This fragment is much like the one above in the quality of the delivery. The informant begins by singing:

    Dh’ éirich Con[n]an ‘s dh’ éirich Goll.
    Dh’ éirich Treamhar228 ‘s Fraoch is Bràn.

He then begins again, mentioning Osgar and Connan, and then wanders into a different song and then stops. However, upon consulting Leabhar na Féinne, this sequence seems to occur in a number of lays of the muileartaich. Here, Campbell is referencing Donald Mac Nicol’s collection dated c.1755:

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228 The tape crackles here and the word is undecipherable. It may be the name of Treamhar, one of the fianna.
11. Dherich\textsuperscript{229} Ciar-dhuth Mac bramh, 
\textbf{Dherich Goll mór agus Connan} ; [emphasis added] 
Dherich na Laoich nach bu tioin, 
Laoich Mhic Cubhail nan arm grinn. (1872, p. 69)

The title whence this came is “DUAN A MHUIL\textsuperscript{A}R\textsuperscript{T}IC\textsuperscript{H}” and dates from 1755 (J. F. Campbell, 1872, p. xv). The sequence of exhorting the heroes to rise (\textit{dh’\textsuperscript{e}irich}) combined with the names of Goll and Connan seem to indicate that the fragment in section 7.3.2 – GF237i02.mp3 is part of this section (section 7.3.3 – GF258i05.mp3). Additionally, the name in 11A (above), Mac Bramh, may have been corrupted to Bràn (the name of Fionn’s dog). The name of Fraoch is mentioned in the previous verse 10, which preciously has been discussed in section 6.3.3.

\textbf{Graphical Analysis}

Graphical analysis is below (Figure 7.17) with the mean of B (\textit{Connan}) = 141.8 Hz.:

![Figure 7.17: “Dh’\textsuperscript{e}irich Connan ‘s dh’\textsuperscript{e}irich Goll” Graphical Analysis](image)

The lay is sung rather rhythmically; therefore, the following section is a fairly accurate description of the lay in staff notation.

\textbf{Pitches}

Since the rhythm is so strong in this example, it is being reproduced here in staff notation with metre. It is placed in 6/8 time to only emphasise the clarity of the metre. It would normally be more appropriate to place this in 12/8 time since that encapsulates the exhalation of each line. Here is the reduction to staff notation (below, Figure 7.18):

![Figure 7.18: “Dh’\textsuperscript{e}irich Connan ‘s dh’\textsuperscript{e}irich Goll” Pitch Summary](image)

This matches the natural scale and the “rural mode” (see Figure 3.30). The tune may be seen to match the previous fragment (section 7.3.2 A’ Mhuileartach Bhuidhe Ruadh) somewhat in that the pitch contour is similar as is the range. The informant has the ability to go outside the interval of a major third displayed in this fragment and the previous one as he demonstrates when he wanders away from the lay at time index 0:14. Also, there are neums on the endings

\textsuperscript{229} Orthography standards change. For example, \textit{Dherich} (and mentioned later in this section, \textit{Dh’eirich}) are alternate spellings for \textit{Dh’\textsuperscript{e}irich} or \textit{Dh\textsuperscript{e}irich}. 

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of the lines (Goll and Bràn). Since there are so few pitches, it cannot be stated with certainty
the scale in which this lay fragment is sung.

Rhythm
The informant sings the fragment with a strongly metered rhythm that is quite different from
the previous fragment.

Summary
Little was gained from this audio recording except for an understanding that this element
(GF258i05.mp3) coupled to the previous one (GF237i02.mp3) strengthens the existence
of this lay in Nova Scotia. Also, there seems to be an element of rhythmic regularisation that
occurred with this lay that did not occur in the previous portion sung by the same informant.

7.3.4 A’ Mhuileartach Mhaol Ruadh

Recording History
The second lay fragment, “A’ Mhuileartach Mhaol Ruadh” (lit. O Bald, Red (haired)
Mhuileartach) was recorded from informant Joe Neil MacNeil (Eòs Nìll Bhig) of Middle Cape,
Cape Breton County, whose, “enormous contribution to regional folklore archives was made
possible by a remarkable oral memory, which enabled him to recall some tales that he had not
heard recited since the age of eight or younger” (Shaw, p. 205). This poem is spoken.

The recording fragment was collected by Dr. John William Shaw in the 1970s and identified
as from the Cape Breton Gaelic Folklore Collection: Tape No: 238, Item: A 12. It was converted
to digital format by Paul MacDonald and renumbered GF237i02.mp3. The copyright is owned
by the Minister of Public Works and Government Services Canada, 2006 who has given
permission to reproduce this work for academic analysis. It is attached to this dissertation as
7.3.4A_MhuileartachMhaolRuadh.wav with a truncated version which only gives the poetry
without surrounding dialogue as 7.3.4B_MhuileartachMhaolRuadh.wav.

Narrative
This is the same story as that described above in Chapter 6, section 6.3.6 and previous sections
in this chapter; it relates the narrative of the one-eyed, red-toothed and partially red-haired
sea hag. For analysis, the initial thirty-four seconds have been removed as has inter-line
explanations. The complete recording has also been provided with this dissertation for review.

Language
The poetry of this lay is spoken. The purpose of including this example in this dissertation is
to show the pattern of how syllabic verse was spoken without reference to the ornament of
pitch. The transcriber, Effie Rankin (Oighrig Nic Fhraing) summarizes
the speaker’s introduction to the poetry and gives some background. “Joe Neil states that he never fully
memorized the Lay of the Bald, Red Mhuileartach who came to fight the Fingalians and that he
only remembers fragments. He got this lay from Michael MacLean (Michael son of Malcolm
Óg, son of John, son of Lauchlan Gobha)” (Rankin, 2015). It should be noted that Rankin is
an acknowledged authority and was instrumental in efforts to digitise the entirety of Shaw’s collection and put it online.

Here is a transcription of the poem and its translation by Rankin (below, Table 7.5):\footnote{Note that Rankin uses modern Scottish Gaelic orthography.}

<table>
<thead>
<tr>
<th><strong>A’ Mhuileartach Mhaol Ruadh</strong></th>
<th><strong>Translation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. [Gu robh] aon sùil ghlumach na ceann ’S bu luaith’ i na rionnag a’ghéammhraidh [...]</td>
<td>There was one pool-like (deep?) eye in her head, Swifter than a winter star.</td>
</tr>
<tr>
<td>2. [Gun do] Dh’èirich Fionn flathail nam fear Dh’èirich Oscar agus Oiseann [...]</td>
<td>Princely Fionn of the men rose, As did Oscar and Oiseann.</td>
</tr>
<tr>
<td>3. A’cheathrar bu treise san Fhèinn Chuireadh a chath ris a’bhèist.</td>
<td>The four strongest men of the Fingalians Were sent to fight the monster.</td>
</tr>
<tr>
<td>4. Bha i ga fighe ma seach Mar leagadh sneachda ro lasair.</td>
<td>She wove them one by one, Like snow would melt before a flame.</td>
</tr>
</tbody>
</table>

Table 7.5: “A’ Mhuileartach Mhaol Ruadh” Transcription and Translation

This is clearly poetic language. This may be seen below with assonantal rhyme in bold and alliteration in italics.

1. Gu robh aon sùil ghlumach na ceann ’S bu luaith’ i na rionnag a’ghéammhraidh ...
2. Gun do dh’èirich Fionn flathail nam fear Dh’èirich Oscar agus Oiseann ...
3. A’cheathrar bu treise san Fhèinn Chuireadh a chath ris a’bhèist.
4. Bha i ga fighe ma seach Mar leagadh sneachda ro lasair.

The structure is rather interesting in that it appears to be \((8 \times 8) \times 2\) (except for 3B). There is assonantal rhyme on A and B and aicill rhyme on C and D. There is also some interesting alliteration especially with **Fionn flathail nam fear** as each alliterated consonant falls on consecutive stressed syllables. Alliteration also occurs on **Oscar agus Oiseann** (2B), **Chuireadh a chath** (3B), and **Mar leagadh sneachda ro lasair** (4B); if one is looking for a pattern here, then it might be appropriate to look at 1B and ’S bu luaith’ i na rionnag a’ghéammhraidh for alliteration. If so, being liquids, **luai’th** and **rionnag** might qualify.

The tone is poetic, since there is a great deal of imagery, such as: ’S bu luaith’ i na rionnag a’ghéammhraidh (Swifter than a winter star), Bha i ga fighe ma seach (She wove them one by one), and Mar leagadh sneachda ro lasair (Like snow would melt before a flame).

One of the key elements that sets these words above speech is that the normal word order of Gaelic, VSO (verb, subject, object), is replaced with VOS, which indicates a much older grammar of Gaelic. For example, the first verse begins Gu robh instead of Bha. This is repeated in the second verse, Gun do dh’èirich instead of Dh’èirich. An analogy in English may be beginning a sentence with an imperative verb (“Behold, see the coming...”, “Consider the following...”), or “Go forth and...”), but a closer grammatical analogy would be, “He said that...

\footnote{MacLean says *luaith’i* as one syllable, as luai’i.}
\footnote{Flathail is spoken as one syllable here, with hiatus acting only to elongate the syllable.}
he slept” morphing into “That he slept, he said”. So a more literal translation\(^{233}\) of *Gun do Dhèirich Fionn flathail nam fear / Dhèirich Oscar agus Oiseann* might be “That princely Fionn of the men rose, Osgar and Oiseann rose”. So the order is deliberately reversed. This is a marked indicator of poetic or older language.

The connection to the previous fragments of the *muileartaich* is quite interesting. As mentioned in the above section 7.3.3, Dh’ éirich Conan ’s dh’ éirich Goll, verse 11 mentions how the heroes rose (dh’ éirich). The following verse shows similarities to MacLean’s version:

10. ’N shin nar dherich Fraoch na Beist,
Dherich Fionn Flath na Feinigh
Dherich Oscar Flath nan Fearr,
Dherich Oscar agus Iullin. (J. F. Campbell, 1872, p. 69)

Again, here is the “arising” (dh’èirich) followed by the God | Men (Flath nan Fearr – prince amongst men) formula. If matched to the above poetry, similarities are evident (below, Table 7.6, rearranged and highlighted in bold font):

<table>
<thead>
<tr>
<th>MacLean’s Version</th>
<th>Leabhar na Féinne</th>
</tr>
</thead>
<tbody>
<tr>
<td>2A [Gun do] <em>Dhèirich Fionn flathail nam fear</em></td>
<td>10C. Dherich Oscar <em>Flath nan Fearr</em> /</td>
</tr>
<tr>
<td>2B. <em>Dhèirich Oscar</em> agus Oiseann [...]</td>
<td>10D. Dherich Oscar agus Iullin. [Osgar is mentioned twice]</td>
</tr>
<tr>
<td>3A. A’cheathair bu treise san Fhèinn</td>
<td>10B. Dherich Fionn Flath na Feinigh</td>
</tr>
<tr>
<td>3B. Chuireadh a chath ris a’bhèist.</td>
<td>10A. ’N shin nar dherich Fraoch na Beist,</td>
</tr>
</tbody>
</table>

Note that the name of Fraoch appears in 10A as it also appears in the fragment of MacNeil in section 7.3.3 (Dh’ éirich Conan ’s dh’ éirich Goll. / Dh’ éirich Treamhar ’s Fraoch ’s Bràn). This also supports the inclusion of the lay of Fraoch in the corpus of Fenian lays, although when there is a lay concerning him, it does not include any of the other fianna.

There is another lay that relates to the slaying of the *muileartaich*, “CHAILLEACH ‘THAINIG GU TULAICH FHOIRR” which dates to 1750 (J. F. Campbell, 1872, p. v).

14. Dh’eir’ich Fionn flath na Feinne,
*Nuair chunnaire e colg na beiste* [emphasis added]
Dh’eir’ich Oissain *flath nam fear*
Dh’eir’ich Oscar agus Iulunn (J. F. Campbell, 1872, p. 70).

So all three of these fragments are tied together in the one poem and date to at least 1750 and probably much earlier.

**Graphical Analysis**

As this is spoken, no graphical analysis has been provided.

**Pitches**

Since pitch was not used as an ornament, there is no pitch analysis.

\(^{233}\) A truly literal translation would have the Gaelic grammar with appropriate word order. That would be “That rose Fionn princely of the men; rose Osgar and Oiseann”
**Rhythm**

The rhythm with which this poem was spoken is the primary reason for its inclusion in this dissertation. MacLean is speaking fairly old, syllabic poetry with marked poetic features and imagery; he does so as though he was speaking about an everyday occurrence. There was absolutely no exaggeration of the stress to make the poem seem rhythmical. This is significant. Re-enactors of *dàn direach* poetry should take note that the delivery of this type of poetry was done without any design to force or accentuate the rhythm of the words. That is, poetry sounded like a typical conversation.\(^{234}\) It would then make sense that the sung version of a lay be done conversationally without any accentuation of stresses to create a rhythmic pattern.

**Pitch Accent**

Here are the stresses annotated in capital letters:

1. Gu robh AON SÚIL GHLUmach na **CEANN** 'S bu LUAlth' [i] na RIONnag a' **GHEAMH** raidh
2. Gun do dh'ÉIRich **FIONN** FLATHail nam FEAR Dh'ÉIRich OSCar agus OISeann
3. A'CHEAth[a]rar bu **TREIs**e san FHÉINN **CHUI**readh a **CHATH** ris a’BHÉIST. (both equal at 126 Hz.)
4. BHA i ga **FIGHE** ma SEACH Mar [ga] LEAGHadh **SNEACH**da ro LASair.

The highest pitched syllable per phrase is indicated in bold font. Each phrase was measured as in 1A; this can be seen in Figure 7.19 below:

![Figure 7.19: “A’ Mhuileartach Mhaol Ruadh” First Line Pitch Accents vs. Intensity](image)

The intensity contour is a solid line; values are on the *y*-axis to the right. The pitch contour is a dashed line; values are on the *y*-axis on the left. Here one can see that intensity matches pitch height for the most part. The pitch shifted according to stress and not to syllable placement.

**Resonance Tuning**

Resonance tuning seemed almost present when listening to the recording, but seemed distorted at the stressed/accented syllables. When measured, resonance tuning was not

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\(^{234}\) For example, one might imagine a limerick spoken conversationally as, “There once was, was a lady, from Niger / Who went, um, for a ride on...on a tiger. / They came back from the, um...ride / uh, with the...the lady inside, / and a, a smile on the face of, of the tiger”.

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present in the audio samples. For an example, consider a sample taken at time index 4.95 sec. (see below, Figure 7.20):

![Image of a chart showing frequency response]

**Figure 7.20:** “A’ Mhuileartach Mhaol Ruadh” Resonance Tuning

The slight heightening at the 2 kHz region is not due to increased decibels in that area, but to the lack of high overtones everywhere else. That is, the major formants form a line with a slope that is concave, showing a lack of the singers’ formant. It could be that the microphone setting and sensitivity was not set so as to capture this frequency band with accuracy. Future examples in singing may show this feature, but it is not present here.

**Vibrato**

Since the syllables were spoken at a conversational pace and volume, no syllable was spoken long enough to produce vibrato with the exception of the word *na* in line 1B.

**Volume**

Volume was at a conversational level. The stress-timing was very apparent as the informant made a great difference between stressed and unstressed syllables with respect to volume. This can be seen above in Figure 7.19.

**Summary**

This example was important as it was Fenian lay poetry that had been remembered in the Gaelic tradition in Nova Scotia. Furthermore, the narrative delivery was unusual. It may be that the act of learning verse from written sources forces modern, literate people to think in terms of blocks of text, memorising and speaking them in groups. If the poetry is learned in oral tradition, the learner will not think in terms of ordered, aligned words but in a different manner, perhaps memorising formulae. This would then make sense of the procedure of writing *dán díreach* across the parchment without regard to aligning phrases to see the organisation of the poetic ornament. If the scribes did not write it in an organised manner to show the rhyme, it was probably not recited that way by the *file* emerging from his dark room, nor would it be performed that way.

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235 The *filidh* did not compose by writing but sat in a darkened room devoid of visual stimuli, “The poet shut himself indoors for a whole day, and lay on his bed in the dark, with his head covered with his plaid, while he composed a panegyric. This tradition of oral composition, not written, is very remarkable at this late date” (Jackson, 1964, p. 25).
Therefore, this off-handed way of speaking syllabic poetry in a narrative manner not only helps to understand why Fenian lays are sung without regard to a structured metre, but also suggests a different approach to the performing of syllabic verse, particularly dán direach, in accompanied song.

7.3.5 Teandachd mhór na Féinne

Recording History

Recorded versions of “Teandachd mhór na Féinne” do not exist except for this one. During the return trip in 1953, Campbell and Shaw recorded informant Angus MacIsaac (Aonghus Mac Iosaic) in Antigonish, Antigonish Co. MacIsaac was seventy-eight at the time. Campbell and Shaw found this informant through the help of Major Calum Ian M. MacLeòid (Calum Ian MacLeod; often abbreviated CIN). MacLeod had obtained another recording of this lay from a different informant in Richmond Co. previously and had included it in his book, Bàrdachd á Albainn Nuaidh (1970).

I travelled to the University of Glasgow and made an investigation of MacLeod’s recordings bequeathed to the university; it resulted in finding that the lay possibly might have been on one reel-to-reel recording. Subsequent to this, and with the help of Roibeard O Maolalaigh, the head of the Celtic Studies department, the digitised version of the tape was searched and “Teandachd mhór na Féinne” was not found. This suggests that MacLeod had recorded over the lay that he had, which was a common practice at the time with recording tapes being so expensive. The informant in Richmond Co., Dhonnchadh A. Mac Aoidh (Donald MacKay), perhaps expired before Campbell and Shaw could obtain a recording from him. The recording that was obtained from Angus MacIsaac was from May 25, 1953 in Antigonish.

As mentioned in 7.3.1, Laoidh Dhiarmaid-1946, Campbell and Shaw were apparently in need of an informant in Nova Scotia who could sing a Fenian lay since their research may have become confused; that is, the names of the informants for previously recorded Fenian lays in Nova Scotia may have been incorrect. As mentioned above, a colleague of theirs, Major Calum Ian MacLeod, who was the head of the Celtic Studies Department at St. Francis Xavier University in Antigonish, had previously recorded “Teandachd mhór na Féinne” in Richmond County in 1952 at Albhainn mhór (Big River) from Duncan A. MacKay (Dhonnchadh A. Mac Aoidh); he would publish the poetry in his Bàrdachd a Albainn Nuaidh (1970) in 1970. He had this to say about the recording of MacKay:

Anns a’ bhliadhna 1952, fhuaire mi fuigheall de’n bhàrdachd so o Dhonnchadh A. Mac Aoidh, nach maireann, an Abhainn Mhóir,zionramachd Richmond, an Ceap Breatainn. Chan’eil na rannan so cho fada el ma sheallas sinn air “Reliquiae Celticae,” Vol. 2. (p. 379).

In the year 1952, I got a fragment of poetry from Duncan A. MacKay deceased, from Big River, Richmond County, Cape Breton [Island, Nova Scotia]. The verses are not so terribly awkward if we would look at “Reliquiae Celticae,” Vol. 2. (1970, p. 14)

He then prints his transcription of the text. Afterward, he states:

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236 This lay has a number of different titles including “N Cath is tinn’ a thug an Fhiann”

237 However, there is a recording in the present author’s possession of “Manus” given to him by Dr. John Purser, from the collection of Alan Bruford.
Bha gné na bàrdachd so an siorramachd Antigonish cuideachd oir fluair Fear Chanaidh duan coltach ris an fear so o Aonghus Mac Iosaic, nach maireann, ’s a’ bhiadhna 1953. Bha Aonghus tri fichead bhadhna ’s a h-chd do a uair sin. (1970, pp. 15-16)

This sort of poetry in Antigonish County was also gotten by the Man of Canna [John Lorne Campbell] a poem similar to this one from Angus Mac Isaac, deceased, in the year 1953. Angus was three twenty years and eighteen [78] at that ti

Campbell writes of the lay and of the informant Angus MacIsaac:

So far as Scotland is concerned, the earliest recension of such ballads is contain
ed in the sixteenth-century manuscript The Book of Lismore; a similar Irish Collection can be seen in the Duanaire Finn, ‘Fionn’s poetry book’ written by an early seventeenth-century Irish scribe.

I knew of the existence of this ballad, of course, before I met Angus, but he was the only person I ever met who knew any of it, and who sang it. As he sang every one of the eight quatrains he remembered, twice, in slow tempo, for him to have sung any longer version at his age would have been a considerable strain. He may well have known more verses and forgotten them. As it is, finding this relic of the ancient tradition in Nova Scotia, when no one had been able to sing it to me in Scotland, was a matter of great interest. (1990, p. 219)

Campbell also acknowledges MacLeod’s informant and his book (1990, p. 222). The copyright is owned by the Minister of Public Works and Government Services Canada, 2006 who has given permission to reproduce this work for academic analysis. It is attached to this dissertation as 7.3.5_TeanndachdMhorNaFeinne.wav.

**Narrative**

Although it is difficult to discern from the provided text, there is a rather full story concerning this story of the fianna. Two of the fianna had a dispute and left the Fenians and visited the King of Norway. One had a love mark on his forehead, similar to the one Diarmad had when he enthralled Dierdre. In a similar manner, the queen eloped with them. The two fianna then returned to Fionn, pursued by the king and the Norse. Fionn sends a mediator in the form of a princess who offers tribute and her hand. The terms are rejected and a terrible battle ensues where, after a week, the Fenians triumph. Unfortunately, they lose a great quantity of their own men in the battle.

There are a number of sources for this tale, but summarized in Leabhar na Féinne (J. F. Campbell, 1872) in a number of locations. The introductory lines identify the lay and show various names associated with “Teanndachd mhór na Féinne”. In “Cath Bein Edin”, reprinted in Leabhar na Féinne (J. F. Campbell, 1872), the first verse begins:

La [là] ga ’n raibh Padric na Mhùir / Gun Sailm bhi air Uigh ach ól / **Chuaidhe** Thigh Osseinn mhic Fhinn/ O san leis bu blinn a Ghloir. (p. 96)

In “The Best Battle that the Heroes Ever Fought” also reprinted in Leabhar na Féinne begins in the same manner:

Latha bha Pàdraig na mhùir, / Cha robh Sailm air uigh ach sceul ; / **Chuaid** a thagh Oisain Mac Fhinn. / Oir Sann leis bu bhinn a hbeul. (pp. 98-99)

This construction also appears in The Fians; or Stories, Poems, & Traditions of Fionn and his Warrior Band and entitled “Alvin”; this is the same hero whom the Queen of Lochlainn loves in Leabhar na Féinne (J. G. Campbell, 1891, pp. 113-119). It is also in Reliquiae Celticae, Vol. I (Alexander Cameron, 1892), entitled “N Cath is tinn’ a thug an Fhiann”. The first verse states:
Latha gan raibh Pàdric 'na Mhùir / Cha raibh sailm air ùidh, ach ceol. / Cha raidh Oissain Mhic Fhinn, / O sann leis bu bhinn a ghlòir. (pp. 248-252)

It may also be referred to using the term “banners”, as in “The Banners of the Fenians”, Brataichean na Féinne. This correlates with “Manus” (the king of Norway) in the lay, Na Brataichean : Manus—The Flags (Alexander Cameron, 1892, p. 326). It was also published by the newspaper Mac-Talla c.1904 from the larger version of John and Hugh M’Callum collected in 1816 in Montrose. Additionally, it has been recently reprinted in Bàrdachd na Féinne as “Teanndachd mhór na Féinne” (Matheson, 2005). The first verse of this lay is:

Latha do Phàdraig ‘na mhùr, / Gun sailm air ùigh ach ag òl,’ / Ghluais e do thaigh Oisein mhic Fhinn, / O ‘s ann leis bu bhinn a ghlòir. (pp. 45-56)

So, often the first lines are used to identify the lay and not the title, which may vary. This makes a simple scansion of lay titles in a compilation such as Leabhar na Féinne ineffective in discerning relationships between lays.

Language

The transcription as created by MacLeod (1970) was very similar to that provided by Campbell (1990) and was recorded from a different informant one year previously. That recording was unfortunately destroyed, but the transcription was published in 1970 in Bàrdachd á Albainn Nuaidh (MacLeod); both are extremely similar. This is remarkable since oral composition often tends to make the words vary. Below are examples of the first two verses of each placed side-by-side for comparison (Table 7.7):

<table>
<thead>
<tr>
<th>Major Calum MacLeod’s Version</th>
<th>John Lorne Campbell’s Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘S an oidhche chaidh Pàdraig dha mhùr, Bha sùrd aig an t-seisear air òl, A’ coimhead air Oisean na Féinn Oir ’s ain leis fhéin bu bhinn a ghlòir.</td>
<td>‘San oidhche chaidh Pàdraig ‘na mhùir, Bha sùrd air seirn is air òl, A’ coimhead air Oisin na Féinn’ O’s ann leis bu bhinne glèir.</td>
</tr>
<tr>
<td>‘S a chléirich a sheinneas na sailm, Ar leam fhéin gur b’hatha chiall; Nach éisd thu car tamull ri m’sgeul Air an Fhèinn nach cua’ thu riamh?</td>
<td>‘A Chléirich a sheinneas na sailm, Ar liom fhéin gur bàth do chaill, Nach éisdeadh tu tamull ri m’ sgeul Air an Fhèinn, nach cua’ thu riamh?’</td>
</tr>
</tbody>
</table>

Table 7.7: “Teanndachd mhór na Féinne” MacLeod vs. Campbell

Here (below, Table 7.8) is Campbell’s version in the transcription of Angus MacIsaac, complete with translation from Songs Remembered in Exile (1990):

<table>
<thead>
<tr>
<th>Teanndachd mhór na Féinne, 1953</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ‘S an oidhche chaidh Pàdraig ‘na mhùir, Bha sùrd air seirn is air òl, A’ coimhead air Oisin na Fénn’ [Fo’n] O’ s ann leis bu bhinne glèir.</td>
<td>The night Patrick went to his [Oisin’s] dwelling, There was hilarity, singing and drinking Since his speech was sweetest.</td>
</tr>
<tr>
<td>2. ‘A Chléirich a sheinneas na sailm, Ar liom fhéin gur b’atha chiall, Nach éisdeadh tu tamull ri m’sgeul Air an Fhèinn, nach cua’ thu riamh?’</td>
<td>‘O Cleric who singest the psalms, Methinks thy sense is simple; About the Fiann, which you have never heard?’</td>
</tr>
<tr>
<td>3. ‘Cha n’éisd mi tamull ri d’sgeul Air an Fhèinn nach cua’ mi riamh, Is bias na sail air feadh mo bheul— Gum b’ theàrr siod do cheol bhomh fhìn.’</td>
<td>‘I will not listen awhile to your tale About the Fiann, which I never heard, That is the music I myself would prefer.’</td>
</tr>
</tbody>
</table>
If you are preferring your psalms
To the Fiann of Ireland of naked weapons,
Cleric, but for little I
Would sever your head from your body!

'You are welcome, alas!
We came to visit you
What was the hardest fight in which the Fiann were,
Since you were born of their race?'

'One day we were on the hill for hunting,
And the quarry did not come our way;
We saw a thousand ships,
Come on an errand on the shore.

'The son of the King of Norway was there, vexed—
What reason is there to hide it?
He cannot be restrained from Fionn,
Without taking [my] young wife and [my] dog with him.

'My God! [?] I will not give my wife
To any man under the sun,
And I will never give (my dog) Bran away,
Until death comes on me myself.'

The analysis of the poetry is again rather straightforward. It should also be remembered that the intrusive vowel does not count as a counted syllable; for example, it occurs in 1B, in the word seirm:

'S an oidhche chaidh Pàdraig 'na mhùir, (8)
Bha sùrd air seirm is air òl, (7)
A' coimhead air Oisín na Féinn' (8)
O 's ann leis bu bhinne glòir. (7)

The rhyming scheme looks a bit loose, but appears to be present, with alliteration being observable (marked by italics). The verses have approximately seven syllables per line. Line 1B and 1D endings have assonantal rhyme as opposed to “Laoidh Dhiarmaid” in which it was the first and third. As well, the aicill rhyme is placed at the end of the first line and the middle of the second.

The register is not particularly high although there are poetic elements such as Do dhuine a tha fo'n ghréin (To [a, any] man under the sun), which is a rather interesting image. Also, Nach éisdeadh tu tamull ri m’sgéul (Would you not listen awhile to my story) is interesting as it is conditional, has assonance, and a strong trochee pattern.

There are supernatural elements as well. The story begins with Oisin speaking to St. Patrick, which immediately engenders a religious context to the lay and lifts it above the mundane. Furthermore, Oisin threatens to kill St. Patrick rather casually. The translation is rather free and not pointed toward accuracy but creating a similar image in the mind of the reader, hence the English translation of “My God” for rìgh (“king”) in 8A (if meaning the “King of heaven”, the <r> in rìgh would be capitalised).

**Graphical Analysis**

The transcription of “Teanndachd mhór na Féinne” in *Songs Remembered in Exile* was created by Margaret Fay Shaw. Here is the lay as it appears (Figure 7.21) with the mean of B (Connan) = 141.8 Hz (J. L. Campbell, 1990, p. 220):
Figure 7.21: “Teanndachd mhór na Féinne” from Songs Remembered in Exile

This notation matches not the first verse, but the second. The pitches do not seem to be particularly accurate; however, Shaw may have been noting the major notes of the tune without ornamentation as that shifted from verse to verse. The notation would therefore not be an exact match for the poetry, but a generalisation for the entire song. The following graphic analysis was performed on the music with the following results (Figure 7.22, below), with the mean of A \( (\text{oidhche}) = 152.8 \text{ Hz.} \):

![Figure 7.22: “Teanndachd mhór na Féinne” Graphical Analysis, Lines A, B](image)

The second half may be seen below, in Figure 7.23:

![Figure 7.23: “Teanndachd mhór na Féinne” Graphical Analysis, Lines C, D](image)

**Pitches**

Shaw’s notation was a reduction of the tune as sung. There are differences between the version and the pitches as notated above in Figure 7.22 and Figure 7.23. The most notable is that in the audio recording, there are neums and suspensions. This occurs above on the syllables/words \( \text{mhùir} \) (1A), \( \text{Féinn’} \) (1C), \( \text{bhinn} \) and \( e \) of \( \text{bhinne} \) (1D).

The pitch sequence, extracted from the above figures, is as follows (Figure 7.24, below):
This figure can also be written as below (Figure 6.25):

This latter version is a more accurate portrayal, as the leading tone to G₅ is sung flat (as shown). However, B₄ is prominent. Therefore, it does not match the natural scale; however, the pattern here (Figure 7.25) does match the bagpipe scale as shown in Figure 3.16. It should be noted that the bagpipe scale in Figure 3.16 does have a flat “leading tone” and so matches Figure 7.25 rather well.

**Rhythm**

As Figure 7.22 and Figure 7.23 show, the lay is sung narratively. However, there is an overall tendency of the informant to group linguistic neums together and elongate the stressed/accented syllable. This does not mean that he clips (“orphans”) unstressed syllables, but that he does not elongate them. This is perhaps due to the moderate volume that is employed. He also elongates ending syllables.

**Pitch Accent**

This lay is perhaps the best example found that demonstrates that singers would shift pitch to match stress or accent. That is, the melody changes to match the stress or accent of the poetry. This can be seen since the informant sings all verses twice. There is a small but significant change between the two versions. In the first instance of 1A, the unstressed syllable of Pàdraig, rraig, was placed on a high pitch. In the repeated version, the stressed syllable of Pàdraig, Pàd, was placed on the higher pitch. See the examples below (Figure 7.26):

---

238 This term is used for convenience. There is no leading tone in bagpipe music or in the natural scale.

239 This is common. An example noted by McCaughey (1984) was with Mór, “Bean Néill” Chaitriona Chaimbeul (Marion Campbell) of South Uist singing “Laoidh a’ choin dhuibh” in 1963 where she repeated every couplet (pp. 47–48).
Pitch variability also existed in the repetition of the singing of the same verse occasionally. This may be seen in the end of the first verse and its repetition (see Figure 7.27 below):

![Figure 7.27: “Teanndachd mhór na Féinne” Accent Variation, 1D](image)

The informant did not seem to do a great deal of variation in the remainder of the lay; for example, (5A) bheatha, (6A) latha, (7A) Lochlainn, (8A) tugainn-sa all moved to the higher pitch on the unaccented (italicised is spoken, volume stress, bold was accent/pitch stress).

Another significant point, and mentioned above, is the existence of neums on a number of syllables but not words. For example, in the first line (1A), there is a neum on the word mhùir. In following verses in that location, words that appear to be monosyllabic but actually are either disyllabic (here, with hiatus – two vowels pronounced separately and positioned consecutively) or with intrusive vowels seem to stop the neum instead of assisting in its creation. This occurs with (2A) sailm, (5A) thrua-igh', and (6A) seilg; the disyllabic nature of the word break the musical neum even though the first and second vowels are sung to the same pitch; that is, the suspension disappears – the first note takes on the pitch of the second syllable. This is inexplicably reversed from what one would expect: a two-syllable word would have two notes and a one-syllable word would have one pitch. In fact, the opposite occurs.

The song is sung narratively. There does not seem to be any underlying repetitive pulse or metre.

**Resonance Tuning**

Resonance tuning was present, but not strongly. It was focused in the 4,000-6,000 Hz. range which is a somewhat high. Here is a typical example at time index 1:45.5 seconds (Figure 7.28, below):

![Figure 7.28: “Teanndachd mhór na Féinne” Resonance Tuning](image)
Most spectrum plot samples looked similar to this one.

**Vibrato**

Vibrato exists strongly throughout, but it is difficult to hear, as it is not extremely periodic. Here is an example of the ending syllable of the last line of the first verse (1D, [Fo ’n] O ’s ann leis bu bhinne glòir), glòir (below, Figure 7.29):

![Vibrato speed & width](image1)

**Figure 7.29: “Teanndachd mhór na Fèinne” Vibrato on Glòir**

**Volume**

The volume is moderate and does not cause extensions on unstressed syllables.

**Summary**

This is a fine example of a Fenian lay that remained in a living tradition in Nova Scotia. Whilst some of the verses may have similarities to previous published versions, there are many verses in this lay that do not appear in print; the oldest being from 1784 in Dublin, according to Campbell (1872, p. 96). Additionally, it should be remembered that literary examples of Fenian lays were taken from informants who sang them from memory.

The lay is sung narratively with limited nyahh and volume; again, this seems to be an attribute of advanced age rather than any other factor. Vibrato is present although not markedly so since it is not always periodic. The informant uses a number of musical neums at the ends of lines on monosyllables, but does not on disyllables (including intrusive vowels). Also, the presence of disyllables at the ends of phrases also seems to remove pitch suspensions. The pitch structuring is that of the bagpipe scale, which almost tales on the character of the “rural mode” except for the strong presence of B₄.

The poetry is interesting in that syllable count has been generally preserved. There is mainly B-D assonantal and often perfect end rhyme. The alliteration seem accidental, but there are a few phrases that may be formulaic that have them, such as 1B, Bha sìrd air seírm is air òl (There was hilarity, singing and drinking), 2A, ’A Chléirich a sheinneas na sailm (O Cleric who singest the psalms), and 2C, Nach éisdeadh tu tamull ri m’ sgeul (Would you not listen awhile to my story?).

In summary, this is an authentic lay from Nova Scotia that retained syllabic, medieval heroic lay singing in an oral tradition.
7.3.6 Am Bròn Binn

Recording History

This recording was made from Joe Allan MacLean who also recorded “A’ Mhuileartach Bhuidhe Ruadh” (section 7.3.2, above), “Dh’ Éirich Conan ‘s dh’ Éirich Gol” (section 7.3.3, above), and “Duan na Ceardaich” (section 7.3.7, below). The recording was originally identified with the Cape Breton Gaelic Folklore Collection: Tape No: 230, Item: A 03. Digitisation was performed by Paul MacDonald and renumbered as GF230i03.mp3. The copyright is owned by the Minister of Public Works and Government Services Canada, 2006 who has given permission to reproduce this work for academic analysis. It is attached to this dissertation as 7.3.6_AmBronBinn.wav.

Narrative

This lay fragment has been linked by Effie Rankin, and others, to the Arthurian legend of “Am Bròn Binn” (lit. “The Grief Melodious”, commonly known as “The Sweet Sorrow”). The story of this lay has been discussed previously in Chapter 6, section 6.3.8. A brief synopsis is as follows:

The King of Britain (sometimes the King of Scotland; possibly Fionn) has a dream of a beautiful woman and becomes infatuated with her image. He sends one of his fianna or knights of the round table; MacInnes (1987, p. 124) suggests that bròn binn is a garbling of bord cruinn (round table). The hero’s name of Fios Falach, Sior Falach, or Sior Bhoilidh (J. F. Campbell, 1872, pp. 208, V. 202A) has been linked to Sir Gawain, which is an Anglicisation of Gabhan (which is pronounced as in English, but with the accent on the first syllable). The hero sails across the sea and finds the woman who is in some versions protected by a mysterious dark man. The woman lulls the hero to sleep with her voice and the accompaniment of a harp. In most versions, the woman then cuts off the sleeping hero’s head; in others, the dark man returns and does this, which at least has the advantage of providing a motive for the decapitation. In the latter case, the woman and the dark man then sail back across the ocean.

Language

The informant was of advanced age and found it difficult to sing so there is not a recognizable tune; however, the pattern and approach of speaking the words to an undefined rhythm is worth noting. The lay as transcribed and translated by Effie Rankin is as follows below, Table 7.9:

<table>
<thead>
<tr>
<th>Am Bròn Binn</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Seachd seachdainnean is dà mhios</td>
<td>Seven weeks and two months</td>
</tr>
<tr>
<td>A thug mi fhin a’ siubhal cuain</td>
<td>I myself spent sailing the sea</td>
</tr>
<tr>
<td>Ma facas fearann no fonn</td>
<td>Before I saw land or terrain</td>
</tr>
<tr>
<td>Ris an gabhadh mo long támh.</td>
<td>On which to rest my ship.</td>
</tr>
</tbody>
</table>

Table 7.9: “Am Bròn Binn” Transcription and Translation

240 Sior-bhualaidh means constantly striking; boil means fury or passion, as bòilich means bombastic or boasting.
The rhyme scheme is as indicated:

Seachd seachdainnean is då mhìos (7)
A thug mi fhìn a’ siubhal cuain (8; 7 with a hiatus contraction of siubhal to siu’al)
Ma facas fearann no fonn (7)
Ris an gabadh mo long tàmh. (7)

Alliteration may exist in 1B where the initial sounds of <th> (of thug) and <fh> (of fhìn) are actually pronounced almost the same (the variation is due to one being non-palatal and the other palatal); it is also possible, but doubtful, that 1D has liquid alliteration with <r> (Ris) and <l> (long). There is aicill rhyme with 1A and 1B (mhìos and fhìn) and 1C and 1D (fonn and long; this is marginal, as the <nn> makes the <o> of fonn a diphthong). There also appears to be a formula at Ma facas fearann no fonn, since the alliteration is rather rhythmic (again matching Watkin’s example of “flee of foot”).

**Graphical Analysis**

Graphical analysis of the audio wave form with respect to pitch and amplitude may be seen below (Figure 7.30) with the mean of C (cuain) =163.6 Hz.:

![Figure 7.30: “Am Bròn Binn” Graphical Analysis, Lines A, B](image)

Here are the remaining lines (below, Figure 7.31):

![Figure 7.31: “Am Bròn Binn” Graphical Analysis, Lines C, D](image)

One can see that the delivery is with a narrative rhythm and is not metric.

**Pitches**

The reduction of the tune as sung may be seen below (Figure 7.32):

![Figure 7.32: “Am Bròn Binn” Pitch Summary](image)
The pitch summary shows that this tune is in the upper octave of the natural scale (see Figure 3.4) and although may be played by the bagpipe (Figure 3.16), is missing B₄. Therefore, it is either playable by a shepherd on a trumpet or on a bagpipe. It is also playable by both together in the “rural mode” (see Figure 3.30), which is more restrictive.

**Rhythm**

As MacLean has performed in previous examples, this song is narrative as well. There is elongation on many of the unstressed syllables, which is interesting in that the informant is very old and has difficulty singing. A good example of this elongation might be noted in Figure 7.30 where the length of dà of dà mhìos is fairly long and near to the intensity of the accented syllable of mhìos.

**Pitch Accent**

The pitch accent of the poetry and the placement of pitch accent in relation to stress is interesting. The stressed syllables are in capital letters and the primary stressed syllable per line is in bold font:

Seachd SEACHdainnean is dà MHÌOS  
A THUG mi fhin a’ siubhal CUAIN  
Ma facas fearann no fonn  
Ris an GABhadh mo long TÀMH.

The informant seemed to consider two lines as inclusive of an exhalation. Therefore, the accented syllables that may appear at the end of a line (1A) are actually in the middle of it. Oddly, there is a pitch accent on an unstressed syllable in 1D. Here, an is on a higher pitch (234 Hz), but the intensity is low (79.9 dB). Gabhadh has a pitch of 171 Hz. but a higher intensity of 81.9 dB. So the situation is rare in that a syllable that is pitch accented is not stressed by volume. That is, normally, a pitch-accented syllable is often a subset of all volume stressed syllables.

**Resonance Tuning**

This is the same as noted above in section 7.3.2, A’ Mhuileartach Bhuidhe Ruadh.

**Vibrato**

This is the same as noted above in section 7.3.2, A’ Mhuileartach Bhuidhe Ruadh.

**Volume**

This is the same as noted above in section 7.3.2, A’ Mhuileartach Bhuidhe Ruadh.

**Summary**

This is another example of a lay that has survived in the Gaelic oral tradition. It may also be considered either from the Arthurian or the Fenian cycle.

**7.3.7 Duan na Ceardaich**

**Recording History**

This recording of “Duan na Ceardaich” (Poem of the Smithy) was recorded from Joe Allan MacLean who also sang “A’ Mhuileartach Bhuidhe Ruadh” (section 7.3.2, above), “Dh’ Éirich
The recoding was originally identified with the Cape Breton Gaelic Folklore Collection: Tape No: 56, Item: A 02. Digitisation was performed by Paul MacDonald and renumbered as GF056i02.mp3. The copyright is owned by the Minister of Public Works and Government Services Canada, 2006 who has given permission to reproduce this work for academic analysis. It is attached to this dissertation as 7.3.7A_DuanNaCeardaich-MacLean.wav. There are quite a number of recordings of this lay from sources in Scotland including 6.4.8_DuanCeardaich.wav which was included in the present dissertation in the previous chapter. So this lay may be seen as an example of the close ties between Scotland and Nova Scotia.

Narrative

The *fianna* meet a giant who takes them to a fairy mound; they enter to find a smithy where blacksmiths are making weapons. One sword in the making is a magical one and requires tempering in living human blood. Fionn leaves the *sìthe* and brings back an old woman to the smithy to sacrifice. The smith runs her through with the magic sword, thereby killing his mother. There is then a terrible fight with the result that the Fenians now possess magical weapons. So in one lay, one can see how the Iron Age mentality of the blacksmith being a purveyor of magical arts is coupled with a magical world of the *sìthe*, supernatural beings, human sacrifice, human error, and tragedy.

Language

The first few verses of the lay were transcribed and translated by the present author, and are as follows (below, Table 7.10):

<table>
<thead>
<tr>
<th>Duan na Ceardaich</th>
<th>Translation</th>
</tr>
</thead>
</table>
| 1. 'S latha dhuinn air luachair leothaid  
A geas ãit chròdha na bhuidhinn ach  
M' fhéin na 's Osgar a 's Daorghlas  
Flath 'sa Fionn fhéin ann  
[this may also be: M' fhéin n a 's Osgar a 's Daorghlas  
A Fionn fhéin ann, with an accent on las of Daorghlas] |
| 2. 'S e Mac Cumhaill  's Chonacas a' tighinn air tighinn  
An o 'n mhagh an t-oglach mór  
Fear air g' aon chois [a 's e air aon chois]  
Le chlogaid dhuibh cia'r 'ubh criacin. |
| 3. Labhair Fionn a bha 'sa chuideachd  
Bis an urra a bha dol seachadh  
'Co i' n tir dha'm bheil do chuideachd?  
Bu tu urra nan cochall craicinn,' |

Table 7.10: “Duan na Ceàrdaich” Transcription and Translation

The fourth verse is chosen for analysis because of the almost rap-like delivery of the poetry with regard to stress, rhyme, and metre:

| 4. Cheanaabhar cheardach mar dhaoín' dheid (8)  
'S e' gá' dh'as tuatail tha tu (8)  
Gumaid air a' siubbal a choir (8)  
Do mòr no bhana dhearg (7 – with intrusive vowel) |

The poetry seems syllabic with the word in 4B, *tuatail* having three syllables.
There is internal rhyme in the first line (4A) *cheardach*; *dhéid*, that is difficult to visualise, but is comprehensible when listening. Also, there is *aicill* rhyme on lines 4C and 4D with *choir* and *mór*. There is alliteration with the first line (4A), *Cheanabhar cheardach* and *dhaoin’ dheid*, the second line (4B) with *tuatail* and *tu*, related alliteration with coordinate consonants (one being voiced and the other unvoiced and aspirated) in the third line (4C), *Gumaid choir*, and a weak one in 4D, *mór* and *bhana* (bi-labials). The pronunciation of *tu* (*tú*) of 4B is curious, as this is an older pronunciation that now only exists in Irish Gaelic and some restricted areas of Scottish Gaelic, but is not normal in this construction (*thu* is now used).

The poem begins using a copula format *'S e* emphasising equality of the day with the plain of rushes (as in *'S e latha briagh a th’ ann*: it is a beautiful day that is in it). It is also interesting to see that *fear* (man) is used at the beginning of 2C. There does not seem to be a verb present nearby which seems to add to the poetic nature of the delivery.

**Graphical Analysis**

The graphical analysis does not indicate a different performance practice of MacLean as has been demonstrated previously. Nonetheless, the first verse of this lay is provided below in Figure 7.33 with the mean of C (*latha*) =102.8 Hz.:
During the delivery, the informant begins to tire and eventually recited the lay with accentuation on the important parts of each verse. Importance seems indicated by increased pitch, not necessarily volume. See the section below on volume for an example.

**Pitches**

The pitch summary is not conclusive, as the pitches became monotone after a few moments. Yet, the arc of the melody with raised pitches in the middle of the exhalation. The pitch summary may be seen below in Figure 7.35:

MacLean began to simply chant the words and vary the pitches in the accented syllables by altering the pitch by a full or half step.

**Rhythm**

The rhythm was at the rhythm of spoken Gaelic. The fourth verse as mentioned above is interesting in the pattern of the metre. A sample is provided (7.3.7B_DuanNaCeardaich-MacLean.wav) which is repeated (looped) so that the listener might notice this pattern. The diagram below may help to see the rhythm (Figure 7.36):

Other examples of this syncopated rhythm occur throughout the recording. However, it is doubtful that the informant is attempting to exaggerate such syncopations.

**Pitch Accent**

Since the first verse is the most tuneful of the entire lay, its pitch accent profile is the most important. Here is the pitch accent of the first verse with stresses indicated by capital letters and pitch accent by bold font:

1. ‘S LATHA dhuinn air LUAchair LEOthaid
A GEAS àit CHRÓdhia na BHUIdhinn ach
M’ FHEIn na ’s OSGar a ’s DAORghlas
FLAth’ sa FIONN FHÉIN ANN.
There many interesting elements in this rendering. The first is that all pitch accents occur on stressed syllables. Secondly, the informant sings the entire verse of four lines in one breath. Thirdly, the last line of this verse may have been corrupted to the point where the syllable count is lost (he may have said, “M’ fhéin na ’s Osgar a ’s Daorghlas a Fionn fhéin ann” with the unaccented *ghlas* of *Daorghlas* a stressed syllable), making the last line five syllables, inclusive of *ghlas*. Fourthly, when the informant has no remaining high pitches of the tune to choose from, he chants the remaining syllables of the verse (the last line) on the last pitch of Daorghlas.

**Resonance Tuning**

As before with MacLean, resonance tuning was not present. For example, here is the first word that he spoke (*latha*) that included vibrato (see Figure 7.37):

![Vibrato graph](image)

**Vibrato**

There was immediate vibrato in the informant’s voice as he began. Here is a graph of vibrato on the first word (Figure 7.38, below):

![Vibrato graph](image)

**Volume**

This is the same as noted above in section 7.3.2, A’ Mhuileartach Bhuidhe Ruadh. As an example of how pitch indicated importance and not volume, see lines C and D of the second verse, below (Figure 7.39):
Notice that the last stressed syllable in the word *craicin* has a higher pitch but lesser amplitude than the preceding words of *ciar* and *ubh*.

**Summary**

This is a fine example of a lay that has survived in the Gaelic oral tradition in Nova Scotia into the 1970s. The following example is from a different informer entirely. The words may begin roughly the same, as most lays may be identified by the commonality of the first verse, but variation shows that the two versions are quite different in content.

**7.4. Analysis and Discussion**

The preservation of Fenian lay singing in Nova Scotia is not surprising when one considers the relative isolation that the people experienced. Although lays are no longer performed, the culture that produced them is struggling to maintain cultural values even while facing extraordinary challenges with modern technology and the impact of the media on their everyday lives.

Yet, the lays that were found to exist do demonstrate very old patterns. The natural scale was found to exist in many of them, although not in a low register, which would generally indicate early to mid-Neolithic traits. The upper register therefore showed the presence of longer natural instruments\(^{242}\) and bagpipes. The language was very old as well. Formulae and poetic usage were present. It seems doubtful that this is some remnant of a courtly fashion, but is perhaps stems from a PIE tradition. The stories themselves are quite old and have many elements of the PIE Culture, as Mc Cone, amongst others, has demonstrated (2012). The exaggeration of the emotional foibles of mankind made manifest in the supernatural beings populating these stories display all that is truly tragic and heroic. It is no wonder that when describing such super-normal circumstances that super-normal language is warranted. Such language is rare today. Technology is not only assisting to unify the world’s musics into one monotone, diatonic drone, but also flattening-out the world's languages into one, flat-register *lingua franca*. Perhaps this is for the best. Without religion, magic, and classed societies, there is no need for high register speech. Perhaps this is a reflection of the stability that modern technology brings to modern life. Certainly, it has made the modern world more rational, if not a bit duller and pedantic.

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\(^{242}\) This was noted in Chapter 3 when an informant related to me a Nova Scotian family tale from the 1840s of a farmer calling for assistance from his neighbours and did so on a horn.
CHAPTER EIGHT

Conclusion

8.1. Introduction

The purpose of this study was to investigate through archival and musicological analysis the audio recordings of the lays of Fionn mac Cumhaill made in the last century. These recordings were made from informants of the Gaelic diaspora who learned the material orally, and they contain cultural elements that help in comprehending the musical kinetics of Fenian lays at a time when their performance practices were being removed by foreign musical influences. In order to understand these Fenian lays, this research answered a simple question: how are Fenian lays from Ireland, Scotland, and Nova Scotia structured in terms of their linguistic-musical material? This investigation demonstrated that the lays contained elements of Indo-European cultural practices displayed in thematic material, poetic usage, language register, syllable-timing characteristics, pitch structuring, rhythm, pitch accent, and vocal techniques.

Most written discussions concerning the fianna have focused on thematic material preserved in texts, such as the work of McCon (1990), (2012), Nagy (1985), (1987), (1981), Slotkin (1978), Watkins (1995), (1963a), Meek (1991), (1990), Wyatt (2009), and others. Those who have attempted to describe Fenian lays recordings and the manner in which they are performed invariably not demonstrate unemotional objectivity; for example, consider Bruford (1990), (1987) and MacInnes (1987), (2006a). Even those attempting to recreate the singing practices of dán díreach poetry such as Blankenhorn (2010) and Gillies (2010) have no demonstrated experience in resonance tuning or singing with consistent vibrato that were such common behaviours of the past. Most researchers are not aware of the unconscious modern cultural proclivities that are brought to early music research. This dilemma has been resolved in the present dissertation by defining the boundaries between the anthropological etic (outsider) and emic (insider) approaches. Previous research was not detached enough as it infused the study of Fenian lays (and Gaelic traditional music in general) with the emic cultural mores of European art music. By deliberately un-learning and rejecting conservatory training, a truly anthropological emic (insider) approach could be taken. This was extremely difficult, since knowledge, and hence security, had to be rejected.243 As musicologist,

243 This was facilitated by my experience in Stanislavski acting which trains the actor to live within defined imaginary circumstances. The difficulty in this approach is in the actor forgetting what he knows and seeing the imagined environment as though it were true, without present knowledge. Since animals survive through learning
trumpeter, and translator Edward H. Tarr stated in the preface to his translation of the 1638 instruction by Fantini:

> It is clear that such an evaluation [of Fantini’s effort in writing an instrument manual] cannot be made by looking backwards; in such comparisons, the temptation to praise one’s own time and the so-called perfection which has since been attained, is difficult to resist (1978).

Once modern conventions are rejected, a truly anthropological etic (outsider) approach could then be used to investigate the culture, poetry, and music surrounding Fenian lays. Its application resulted in the understanding that European society today, which includes the Gaelic diaspora, is an extension of the IE culture that spawned it. Poetry was developed for religious reasons, not for the pleasure of leisurely reading. Music was an extension of speech that helped with work, conveyed culturally significant traditional values, and acted as a conduit to the otherworld. Investigation into Fenian lays led to the identification of several significant IE cultural practices including the observance of firstly, poetic formulae which acted as a parallel with the Slavic song analysis of Parry and Lord (2003); this harmonised with the work of Watkins (1963a), showing an IE provenance to the Fenian lays. Secondly, a root musical structure which is linear and therefore a characteristic of the natural scale; it is not exponential, a characteristic of the diatonic scale. Likely due to this trait, vocal analysis showed the presence of consistent resonance tuning, associated overtones, and vibrato.\(^{244}\)

### 8.2. Thematic Material

The work of McCone (2012), (1990), Nagy (1987), (1985), (1981), and Wyatt (2009) among many others, has firmly established the link between the *fianna* and IE culture. Although Fenian lays contain motifs of the supernatural, the existence of the *fianna* as a societal group displays an IE cultural practice. Groups of *fianna* did exist in Ireland wearing animal skins, hunting, drinking, fighting, playing sports and *ficheall*, and occasionally engaged in *diberg* (brigandage). The thematic material is extensive and supernatural. The shamanistic aspects of Fionn have been explored through the work of Chadwick (1934) and Nagy (1981) where he is likened to a protector from malevolent spiritual forces.

Whether concerning the exploits of the monstrous sea hag (which is occasionally portrayed as male) as evidenced in both Scotland and Nova Scotia and perhaps Ireland with “Laoi na Mná Móire”, or the exaggerated foibles of humanity in the lays of Diarmud and Fraoch, the topics of Fenian lays were sensational and extreme. One lay in particular is fascinating as it is enwrapped with the Iron Age technology of creating iron from earth – surely a phenomenon fraught with the supernatural. The synthesis of being drawn to a foreign land (Lochlan) by a

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\(^{244}\) Volume was also a factor, but since the Fenian lay performances were recorded in fairly small spaces or with the listener close by, no lay was found to be recorded at full (loudest possible) voice, although secondary sources to attest to this (Shields, 1993, p. 17). Since most people in the First World have been raised listening to and utilising electronic amplification, loud singing is now paradoxically considered to be an artistic behaviour, while it is still a characteristic of song in the Third World.
disfigured giant, coupled with the working of metal, placed in a fairy mound where a man conspires to murder the hero, ultimately to kill his own mother, and forging the name of one of the fianna, is such a combination of extreme conditions as to be on a mythological par as any pantheon that Rome could conjure.

**8.3. Language, Poemics and Poetics**

In many ways, the diaspora of the Gaelic language and culture from Ireland to Scotland and then on to Nova Scotia might be seen as a continuation of the PIE diaspora. However, as in any diaspora, each daughter culture will preserve parent traits in a slightly different manner than any other. Fenian lays are excellent examples of preserved IE cultural characteristics. All of the Fenian lays known to have survived in Nova Scotia and Ireland were analysed as well as similar lays in Scotland. Specific lays from Scotland were selected for analysis due to factors such as thematic continuity with those found in Ireland and Nova Scotia, age of the recording and of the informant, and a desire to show any element that showed an IE connection or tracked the increased presence of modern musical practices.

The Fenian lays that were investigated displayed a number of characteristics in language usage that are intriguing. Firstly, the poetic ornaments of perfect, assonantal, and alliterative rhyme were found in the orally-maintained poetry. In some Irish lays, cadence was found. All of these devices acted as memorisation markers for the speakers. This implies that poetic ornament now thought of as sound-rhyme was actually motion-rhyme; this must be so since illiterate informants often transmitted the poetry. It is a literate convention to think of rhyme as a visual concord of letters that represent sounds. Without such visual aids, sounds can only be recollected by physical patterns. So, although the structure of a line may have been syllabic, it was composed of alliterative formulae that were constructed of stress-patterned neums. Hence, Fenian lays were physically structured incantations that existed to access the otherworld. While it is generally assumed that Fenian lays are a sub-set of dán direach poetry created by the filidh, it is more likely that dán direach poetry is an extension of a shared, older, IE method of supernatural supplication.

That lays are a form of supplication is reinforced by the usage of high register voice in both Fenian lays and dán direach poetry. At a time before the decline of the Gaelic languages, high register usage was common as can be evidenced in early Gaelic Christian Bibles. The impetus for shifting to a higher register might be seen to be the degree of fear experience by

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245 It is generally assumed that the older the informant and recording, the more authentic (preserving older, IE features) the performance. This is not necessarily true, but acted as a rough guide.

246 This was succinctly stated by Lamb, “Some researchers, such as Dressler (1988), have asserted that one of the qualities of a dying language is monostylism – the lack of register variation. It is reasoned that as languages ‘die’ they tend to be used for fewer and fewer contexts until they retreat to either a purely domestic or ritual domain. The process of language extinction is one of mass obsolescence; instead of words and idiomatic expressions falling into disuse gradually, in tandem with the situations that gave rise to them, entire contexts become linked to a higher-status language in lieu of a lower-status one. One might claim that Gaelic, for many of its speakers at least, is now in such a state. Because virtually all speakers of Gaelic are bilingual and surrounded by English on every front, there are almost no situations or functions for which the language is necessary and increasingly fewer for which it is reliably chosen as a means of communication” (2008, p. 17).
the speaker. Variation over time is inevitable and can be seen through a number of Mondegreens that appeared, often confusing the story, but maintaining syllable count.

One of the methods for limiting variation is through the use of formulaic language. Parry and Lord (2003) championed this technique of finding IE elements through identifying fixed poetic markers. These formulae were found to exist in Fenian lays. They are rhythmically structured and are normally identified in Fenian lays through the use of alliteration or “runs” of the same pattern of words with slight variation with the ending element.

By organising language elements (poemics) into a larger pattern (poetics), the language is elevated to the level worthy of entreating the aid of a supernatural being. Poetry organises physical, aural, and rhythmic patterns. Markers for those alignments are often referred to as ornaments (alliteration, consonance or assonance, rhyme, syllable or stress timing, cadence, dúnadh, etc.). If this same process is directed upon music, one can see that the microstructure of musical elements (pitch, perhaps referred to as “musemics”) can be organised in a macrostructure (melodic line, perhaps referred to as “musetics”) and seen as an additional type of ornament which enhances poetics. Working symbiotically, poetic and musetic structures improve supplicatory communication and access to the otherworld.

8.4. The Ornament of Pitch

Perplexingly, an anthropological emic (insider) approach to Gaelic musical analysis, and by extension indigenous European folk music, had not been accomplished prior to this present dissertation. An investigation into the musical pitches produced by trumpets, horns, willow flutes, bagpipes, the human voice, and harps showed that there was a sharp contrast between linear (trumpet, willow flute, voice, bagpipes) and exponential scales (organ, harp). Fenian lays were mainly constructed using the natural scale that has been associated with the Neolithic Age and the need for herding livestock. The introduction of farming technology and associated transhumance roughly coincided with the spread of the IE languages into Northwestern Europe.247 This technology, coupled to the wheel and harnessing draft animals allowed for expansion into what was mostly uninhabited land (most human expansion previously was through fluvial expansion – along large rivers). Although specific tunes cannot be said to have survived, the technology used to herd animals did continue until recently, just as the use of bronze has been continued until the present day from the Bronze Age, iron from the Iron Age, etc. All of those technologies are with us today; they are simply hidden due to their familiarity.

Very little musical ornament seemed to exist in any of the lays with the exception of the occasional neum. Mordents occurred in the Irish lays but rarely; they were most evident in modern renditions. This indicates that traditional lays, and by implication songs, were not embellished. This also suggests that Gaelic songs were originally musically syllabic and that

247 According to Fortson (2010, pp. 48-49), this was c. 3,000 B.C.E., but according to work by Forster and Toth (2003, p. 9079), the arrival of Celtic into Britain was 3,200 B.C.E. ±1,500 years. Of the interface with the spread of farming and animal husbandry, Ross states, “At 7000 BC, Europe was a continent of foragers. At 4000 BC Europe was mostly a continent of farmers” (Robb, 2013, p. 658). The latter figure probably represents when farming reached the outermost areas of Europe; that is, the British Isles. With these two sources, the introduction of farming and the introduction of the IE culture seems to roughly coincide.
neums, mordents, and other embellishments such as melismatic runs are modern developments in songs. There was a modern ornament noted in the younger performers consisting of squelching vibrato and overtones on leading, neighbouring, and passing tones placed over phantom dissonant harmonies of the diatonic scale. Additionally, the omnipresence of electronically amplified music has utterly changed the manner by which songs are now sung; resonance tuning was often observed in the older singers but not the younger ones. All of these changes have taken place so gradually that when I ask young singers about these behaviours, they reply that they do not notice them.

The pitch organisation of the Fenian lays are summarised in Table 8.1, below:

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<td>Figure 5.17: “Laoi na Mná Móire” Tune A</td>
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<td>Figure 5.18: “Laoi na Mná Móire” Tune B</td>
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<td>Natural Scale (Low)</td>
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<td>Figure 5.48: “Laoi na Mná Móire-2008”</td>
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<td>Figure 6.4: “Laoith Dhíarmaid”</td>
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<td>Figure 6.9: “Duan na Muligheartaich”</td>
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<td>Rural Mode</td>
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<td>Figure 7.5: “Laoith Dhiarmaid”</td>
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<td>Figure 7.13: “A’ Mhuileartach Bhuidhe Ruadh”</td>
<td>Indistinct</td>
<td>N/A</td>
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<td>Figure 7.17: “Dh’ éirich Conan ’s dh’ éirich Goll”</td>
<td>Indistinct</td>
<td>N/A</td>
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<tr>
<td>Figure 7.19: “A’ Mhuileartach Mhaol Ruadh”</td>
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<td>N/A</td>
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<td>Figure 7.24: “Teanndachd mhór na Féinne”</td>
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<td>Figure 7.32: “Am Brón Binn”</td>
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<td>Figure 7.35: “Duan na Ceàrdaidh”</td>
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<tr>
<td>Willow Flute</td>
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<td>Willow Flute: Flats</td>
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<tr>
<td>Diatonic: High Bass Key</td>
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Table 8.1: Pitch Summary for Fenian Lays

This table suggests that there are a number of significant implications due to the presence of the natural scale in Fenian lays:

1. Since pastoral music was based on shepherd trumpets which utilized the natural scale, and animal husbandry was practiced throughout Europe prior to the introduction of the diatonic scale by the early Christian Church, all early medieval European music must have been based
on the natural scale. This is made rather clear by the date of creation of the diatonic (actually, a hexachordal) system in the 10th century by Guido of Arezzo. Since it is unlikely that Greek academics wandered the forests of Northern Europe teaching shepherds how to create a diatonic scale and then not play certain notes, it is more likely that people used the scales of the instruments they had produced and used as tools. Wooden trumpets were routinely employed to herd livestock before the clearing of forests created large acreages delegated to livestock and the subsequent development of small herding dogs.

Since willow flutes and trumpets have been found in archaeological digs (Buckley, 2000) and iconography and manuscripts show natural instruments that were not adapted to the diatonic scale, there must have been a time when the natural scale was the dominant, if only, scale present in Europe. This implies that those instruments with adjustable tuning systems (harps, lyres, fiddles) would tune their instruments to the only standard that existed – the natural scale. It also explains why the number of strings on a frame harp suddenly increased in the 10th century with the development of the technology of Pythagorean tuning. Prior to this time, there would be no method for tuning a chordophone without reference to a natural instrument as a tuning guide. The rough compass of a shepherd trumpet is ten pitches (C4-A5). This matches the number of strings on a frame harp.

2. There are a number of traditional folk tunes that are often performed in a round. Many of these tunes can be played on short 1.2 m. (4-foot) trumpets/bugles. These instruments are attested in iconography, particularly in the illumination of 9th century Bible of Charles the Bald (Paris, Bibliothèque Nationale), where the trumpets in the lower right corner have bands around them that are not parallel, which implies that they were wrapped by birch bark and not by metal bands. Familiar tunes include “Row, Row, Row Your Boat”, “Sumer Is Icumen In”, “The Farmer in the Dell”, and “Frère Jacques”. There are quite a number of lesser known Gaelic tunes that can be played like this as well.

3. The definition of “folk music” that we have today does not address the intonation of shepherd trumpets. Therefore, the dividing line between art music and folk music can perhaps be made sharper with a distinction made using markers of intonation and available pitches; that is, folk music was played on natural instruments and art music was played on the diatonic scale. This is not a prescription, but a suggestion that at there is a spectrum of one system melding into the other, where the majority of music in the Early Middle Ages was played using the natural scale (and those harmonies) and slowly the spectrum shifted to the majority of music being played on the diatonic scale.

So, at one time, the difference between folk music and art music was probably delineated by the intonation system each used. The natural scale and its intonational properties were utilized by the folk; the diatonic scale and its properties were utilized by the Church. The courts were probably open to whatever was agreeable and where the two systems melded.

4. The connection between field and court was probably closer in the past than we imagine today. There is no reason to believe that only metal trumpets were played in an aristocratic court in Western Europe. Indeed, because of the vestige of bosses on metal trumpets, wooden trumpets were probably seen as the model for the appearance of the metal trumpet. Most
research on the history of the trumpet suggests that the modern trumpet evolved from its use on the battlefield. This does not seem probable. The pitches played in the field were lower in the natural scale than those played at court since smaller trumpets (bugles) are more durable; court music played on trumpets often made use of the upper partials. This would require longer instruments and the skill to play them in the clarino register. That skill would have been developed by shepherds, not soldiers. Examples of a corps of trumpeters playing difficult music in the field is the result of a noble bringing his retinue into the military encampment with him, not using existing trumpeters drawn from the military ranks.

5. This implies that the “choral key” may represent the key that was used so that all instruments could play together. This would be strings tuned to D major, which is a variation of Figure 3.15: The Natural Key Tuning for Harp for harp (scordatura tuning for fiddle: A₃-E₄-A₄-E₅ as shown in Figure 3.17: The High Bass Tuning for Harp), D natural trumpets, and A-drone bagpipes (Hirt, 2015a). With this system:

The harper could shift between diatonic (art music) and natural (rural mode) tunes, which would allow for two cultures to be present in a court at the same time. The system of three keys permits both art singers and folk singers to sing concurrently. It also enables the harper to shift a tune by half an octave, which then accommodates differing singers’ tessituras. Moreover, this system allows for the inclusion of G and A mixolydian bagpipes, as well as C and D natural trumpets. This system would be truly elegant and flexible, providing for all the needs of singers while allowing for the differing intonational propensities of instrumentalists in both urban and bygone rural communities. (Hirt, 2015a)

6. The early music notation that is extant may not reflect the diatonic scale but that of the natural scale; that is, the musical staff may not necessarily represent the diatonic scale in Early Music. Guido of Arezzo spent a good deal of time on hexatonic scales, so there may be a connection between folk music based on the natural scale and early Christian chant. Furthermore, early Church music was confined to a set gamut of notes. This would seem to have affinity to the set gamut of the natural scale and not that of the wide-ranging diatonic scale with its octave equivalency. Extant staff notation may not represent the diatonic strings of a harp where the note rests on an imaginary horizontal harp with its bass strings on the bottom; it may simply represent the pitches of the natural scale. This would be particularly true if the chant tune is limited in breadth. This may imply that early chant as it is performed in recreations today may have sounded entirely differently in the past.

7. It is possible that organum and triadic harmony developed from the practice of shepherds playing together. The harmonies produced by shepherd trumpets tuned to the same pitch are remarkably sonorous as can be heard in alpenhorn choirs in Switzerland today. Additionally, the genesis of organum was not with the Notre Dame school of polyphony in the 12th century, but before the 9th century (Seay, 1975, p. 79). This would give a reason for the desire to temper thirds in the Pythagorean system which were 22 cents sharp for a major third since a model of in-tune thirds already existed in the trumpet corps music surrounding the Church in the field and at court. Therefore, it is quite possible that organum was a natural sacred extension of a secular tradition (Hirt, 2015b, p. 15).

8. Current compositional practices might find some new stimulus in re-examining past intonational practices. There are some significant problems with the diatonic scale and resulting tempered harmonies. The most significant is that every chord played on fixed-
pitched instruments is not in tune. The ability to tune electronic instruments to have perfectly tuned triads is now possible with modern technology. Therefore, if a performer wishes to effect a relaxed mood in the listener, perhaps for a lullaby or ballad, programming an electric keyboard to play every chord in tune will create a relaxed state of mind in the listener, thereby enhancing the sympathetic response in the listener desired.

This approach can also be taken with regard to vibrato and overtones in singers. If a composer deliberately wishes to create a restful emotion in the listener, he can compose a song that omits leading, neighbouring, and passing tones that create a dissonance with accompaniment; therefore, the singer will not be encouraged to make strident sounds to increase the dissonance of an accompanying chord. This would prevent squelch-and-release tendencies which would cause suspense, and hence unease, in the listener.

8.5. The Rhythm of Music and Language

Different languages possess differing aspects of timing, including syllable-timing, mora-timing, and stress-timing. Since songs produced by a culture incorporate language timing patterns and instrumental music often include such patterns, musical rhythms often match the language patterns of a culture. Also, as Alberti stated:

Before 1200 the problem of rhythm did not really exist. It was furnished by the verses or the literary text to which the music was set. It was essentially the natural rhythm of speech, somewhat slowed down for greater emphasis. (1968, p. 44)

Therefore, understanding the rhythmic nature of a language increases the facility of a singer’s performance. Understanding a language’s rhythmic characteristics can also help to develop formula for a musical composer. The volume is also significant. Declamation of poetry at a great volume has an impact on the lengths of syllables and hence the grammar of the language. As the use of loud singing is reduced in cultures that use electronic amplification, this impacts both the speed of delivery of the words and the number of words that are placed in a musical phrase. That is, as electronic amplification reduces the need for resonance tuning, the number of syllables/stresses per exhalation will increase as the text becomes more conversational. Therefore, musical phrases will have more notes to match the additional syllables. This will not necessarily increase the temporal length of the phrase. This is present in conversational rap music where the instrumental accompaniment cannot match the rapid syllabic delivery, making modern rap music which is sung at a conversational volume becoming more and more like recitativo secco in the design of the accompaniment.

It was also discovered that, since flow rate (expressed in litres/sec or cubic inches/sec) varies throughout an exhalation and this, as expressed by the Bernoulli Effect, is related to frequency ($f_o$); a typical flow-rate diagram mirrors a frequency-rate diagram of a typical utterance. If pitch accent of any language is placed against this line, one can predict general pitch contours of utterances. In this dissertation, with only a few exceptions, these spoken patterns of the Gaelic language matched the pitch-patterning of Fenian lays. Simply stated, a study of linguistics and how pitch varies in an utterance can act as a model for musical composition of melodic lines. This is particularly true in languages that have well-defined pitch hierarchies of pitch accent such as French.
8.6. Pitch Accent

A significant aspect of Fenian lays was explained in the discovery of the presence of pitch accent (as a subset of stress accent). Since Fenian lays are without artificially imposed musical rhythmic metres, the lays were sung to the rhythm of speech, often to that of declaimed speech. The pitch was found to shift not merely due to shifting stress in similar lines in different verses, but due to spoken pitch accent.

This not only impacts how Fenian lays were sung, but also explains the shifting melodic lines in the extant musical notation of the lays of the troubadour and trouvères. It may also act as a window into the performance of similar traditions of the Meistersingers, Minnesingers, skalds, scops, etc. With the new dimension of pitch accent, renewed investigation into the heroic lays in Western Europe may reveal deeper insight in how these non-Gaelic lays may have been performed.

8.7. Synopsis

Analysis of Fenian lay recordings has verified that many elements contained therein can be traced to the Indo-European culture. Speculative time lines and dates are notoriously fluid and variable for when farming practices and IE culture may have entered the British Isles; the latest date seems to be roughly 4,000 B.C.E. for agriculture entering Britain (Cramp et al., 2014, p. 1) and c.3,200 B.C.E. ±1,900 years (Forster & Toth, 2003, p. 9079) for the arrival of the Celtic, and hence IE culture.

The many elements that are displayed in the lays include thematic material and poetics as well. The lays displayed alliteration, consonance (assonance, or “clink”), rhyme, syllable or stress timing, cadence, dúnadh, etc. They were also stanzaic and were roughly syllabic; this is something quite unusual in a stress-timed language. Syllabic poetry suggests, not that Fenian lays had aristocratic provenance, but rather, they had a parallel sustainment from a common past. This is supported, not nullified, by the presence of a high language register. These elements, in combination with the otherworldly thematic material, increased the importance of the supplicant nature of the speaker.

Significantly, the lays displayed elements of oral-formulaic construction. This supplements the argument of Watkins (1963a) that early Gaelic poetic metrics correlate to IE metrics. It is also an elegant parallel to the work of Parry and Lord (2003) and shows an IE base in a living (until the late 1960s) tradition. This was further enhanced by the addition of the ornament of pitch in Fenian lays whose specific structure matched patterns matching those used since at least the Late Neolithic Age. The general melodic form of a tune seems tied to exhalation patterns; the higher pitches of the melody shift to match the spoken accent, which is a subset of stress accent.

This dissertation contributes to general knowledge in that it provides musical tools in identifying the origin of indigenous European musical intonation. It explains the impetus behind the development of diatonic scale tempering systems, the presence of triadic harmony in European art music, the probable modal nature of medieval courtly music based on the confluence of the natural scale as played by trumpets with the bagpipe scale and the diatonic
scale. It correlates pitch accent of the spoken word to that of song. This dissertation also helps to reveal that the nature of song, and hence music, is not relegated to simplistic musical rhythmic metrics, but can be based on the more complex rhythms of human speech which varies with language and dialects. It also helps the average lover of music to realise that the patterning of the diatonic scale and associated chordal progressions is limiting. This is particularly true with the unconscious obedience to dissonance-to-consonance, squelch-and-release patterning that limits overtones and stops vibrato, something that is not observed in most informants shown in this dissertation. Most informants also sang with a strong $F_3$ (the singers’ formant), which is noticeably absent in moderns singers raised using electronic amplification when speaking to an assembly.

The true value of this dissertation is to expose a hitherto unknown or forgotten perspective of performance. With an understanding of the past, small choices can be made in approaching, perhaps, a recitative in Händel’s Messiah so that the rhythms and pitches are adjusted to match the English language. Perhaps “They Call You Lady Luck” from the musical Guys and Dolls can be realised to be recitativo secco and sung narratively. It might occur to a choral conductor to have a choir sing a syllabic plainchant following the natural scale instead of the diatonic scale. Maybe a popular music composer may remove leading and passing tones, tune an electronic keyboard to just intonation, and record a lullaby. Often, musicians feel trapped by the very systems that once gave them the conduit for personal expression. Understanding the past allows us to understand why things are as they are. We can then go back and make different choices and change our present.


Tolmie, F. (1911). One Hundred and Five Songs of Occupation from the Western Isles of Scotland (Vol. Third part of Vol. IV). Glasgow: Printed by Robert MacLehose & Co. Ltd.


Appendix

In most documents concerning an analysis of unique instruments or more commonly, instrumental groups, it is customary to provide a mathematical explanation of the series of pitches that such instruments produce. However, such an explanation in the text proper interrupts the flow of the narrative. Therefore, a formulaic explanation is hereto provided. These formulae are common knowledge and may be found in any elementary physics or wave propagation of sound textbook such as Hall (1980), Musical Acoustics.

Natural Instruments

In order to create a standing wave whose repetitions determine what people perceive as pitch, there must be a whole number of waves on a string. The analogy of a plucked string placed along the x-axis and the amplitude of the string placed along the y-axis of a graph is a common technique of instruction. However, such an analogy becomes inadequate when considering the three main types of media that create standing waves in musical instruments. The media can be fixed at both ends (a string; for example, a violin where the string is fixed at the peg and the bridge), open at one end and fixed at the other (an organ pipe, a reed pipe), or open at both ends (a flute or trumpet). 

Theoretically, for two fixed-ended or open-ended instruments, exactly half of one wavelength fits into the length for its fundamental (simplest) frequency. So if $L$ is the length of the instrument or string and $\lambda$ is the wavelength:

$$L = \frac{\lambda}{2}$$

Here, $\lambda_1$ is the wavelength of the first wave that can fit along or within the vibrating media. If there are two waves in the instrument, the wavelength decreases and is indicated by the symbol $\lambda_2$; three waves $\lambda_3$, etc. It has long been noted that this theoretical pattern matches that of the mathematical harmonic series. The harmonic series is the divergent infinite series. This is represented as:

$$\frac{1}{n} = 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \cdots$$

Here, $n$ is equal to the value of the number of waves that can be created within the string (or tube). Therefore, the series of pitches that are produced according to the whole number of waves that can be created in an instrument (1, 2, 3, 4, 5, etc.) matches the above mathematical expression, and such a series of pitches is referred to as the harmonic series. The first whole wave that can fit in a tube is termed the fundamental; subsequent waves (2, 3, 4, 5, etc.) are

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248 As an aside, it should be pointed out that a willow flute combines two of these conditions at the same time. The end away from the player may be left open or may be stopped by the finger. This allows for two different note sequences being layered one on top of the other. One is half of the other, or $L = 1/2\lambda$ (open at both ends) or $L = 1/4\lambda$ (open at one end and fixed at the other).
called overtones. The second note (two waves formed in the instrument) that can be produced is designated as the first overtone. The third note is the second overtone. This can be confusing, as is using the term “harmonic” which implies “harmony”; therefore, the expression “partial” is often used to refer to harmonics. So, the first frequency, the fundamental, is termed the “first partial” (or 1st partial); the second is the “second partial” (2nd partial), etc. Also, the expression “harmonic series” tends to make musicians think in terms of harmony; that is, when considering the harmonic series, the various pitches produced are thought of in context to one another in terms of harmony (creating harmony, chords). Therefore the term “natural scale” was used in the present dissertation to emphasise that this series of pitches produces melody and is a scale.

If \( L = \frac{1}{2} \lambda \), then \( \lambda = 2L \). Since frequency is the velocity of the wave divided by its wavelength, 

\[
f_i = \frac{v}{2L}
\]

then simply multiplying this by the number of waves per unit wavelength (\( \lambda_1 = 2 \times \lambda_2, \lambda_2 = 3 \times \lambda_3, \lambda_3 = 4 \times \lambda_4 \), etc.) results in the frequency of each partial:

\[
f_i = \frac{n_i \cdot v}{2L}
\]

The velocity of the wave is the speed of sound. This varies depending on the temperature, pressure, etc. of the vibrating medium. In air, the approximate value generally used for this is 345 m/sec (meters per second; the speed of sound at 20° C at average pressure is 243.2 m/sec).\(^{249}\) So the fundamental (\( n = 1 \)) frequency for an \( \sim 8.0' \) (2.44 m) long trumpet that would produce a fundamental\(^{250}\) of about C\(_2\) (which is 65.4 Hertz – abbreviated Hz, cycles per second, when A = 440 Hz), results in:

\[
\frac{1 \cdot 345(\text{m/sec})}{2 \cdot 2.44(\text{m/cycle})} = 70.7(\text{cycles/sec})
\]

Obviously, 65.4 Hz ≠ 70.7 Hz. The realities of the bore shape and the individual trumpeter’s vocal tract alter the actual pitch that is produced. Therefore, the trumpet’s length (2.44 m) is

\(^{249}\) It should be forcefully observed that the experimental error or accuracy of this number is actually only to two significant digits. Non-scientifically-trained researchers place inappropriate value on excessively long numbers, which imply great accuracy. Due to the experimental error of the speed of sound (345 ± 5 m/sec; ~1.5%), the accuracy of any number produced by a formula using the speed of sound is correspondingly degraded. For example, writing the frequency of a fundamental pitch of C\(_4\) as 65.41 Hz. implies a higher degree of accuracy than actually exists (the least accurate number in a determining formula is 345 ± 5 m/sec, so the solution should only have three digits, or 65.4 ± .1 Hz). The same is true with higher pitches such as G\(_5\) being expressed as 6271.93 Hz. instead of 6270 ± 10 Hz. while using the speed of sound as 345 ±5 m/sec. However, since this is generally not known in the music community, the format of using a number accurate to a tenth will be followed, even though it is not correct; for example, C\(_4\) will be written as 261.6 Hz.

\(^{250}\) It is commonly possible to play the 2nd partial (I can do this), but there are very few, if any, trumpeters who can actually play the fundamental.
lengthened or shortened in order to match whatever pitch is desired. This is commonly done on modern instruments through tuning slides placed at strategic positions on the instrument. According to the formula above, as the number of waves that can fit within the tube or along the length of a string increases by whole numbers, the frequency increases by the factor of the fundamental. So if the next partial increases by one (2nd partial), then its frequency is the fundamental frequency plus the fundamental frequency (if 70.7 ≈ 70, then 70 Hz + 70 Hz), which is 140 Hz. The 3rd partial will be the 2nd partial plus the fundamental frequency, or 140+70=210 Hz.; the fourth partial is that partial frequency plus the frequency of the fundamental frequency or 210+70=280 Hz., and so on. If the theoretical length of a trumpet (or string) needs to be determined to match the frequency of C₂, 65.4 Hz (in equal temperament where A=440 Hz), would be:

$$\frac{345 \text{ (m/sec)}}{2 \cdot 65.4 \text{ (cycles/sec)}} = 2.64 \text{ m/cycle or } 87 13/16''/\text{cycle}$$

The Willow Flute Scale

With \(L=(1/2)\lambda\) (open at both ends) and \(L=(1/4)\lambda\) (open at one end and fixed at the other), there are two separate series of notes:

$$f_1 = \frac{n_1 \cdot v}{2L} \quad \text{and} \quad f_i = \frac{n_i \cdot v}{4L}$$

For a 2’ (61 cm) long willow flute, and with the speed of sound at 345 ±5 m/sec, the fundamental frequencies for the two different conditions (open and closed end) results in, theoretically:

$$\frac{1 \cdot 345 \text{ (m/sec)}}{2 \cdot 61 \text{ (m/cycle)}} = 282 \text{ (cycles/sec)} \quad \text{and} \quad \frac{1 \cdot 345 \text{ (m/sec)}}{4 \cdot 61 \text{ (m/cycle)}} = 141 \text{ (cycles/sec)}$$

This occurs alternately with the pipe open, \(n=1, 2, 3, 4, 5, \text{ etc.}, \) and with the pipe stopped, \(n=1, 3, 5, 7, 9, \text{ etc.}\) Evaluating this for the various partials for both open and closed tubes results in the following theoretical values with a common denominator simplified to 70 Hz (Table Appendix 1, below):

<table>
<thead>
<tr>
<th>Notes Available</th>
<th>Opened End (Hz)</th>
<th>Note Name (Adjusted)</th>
<th>Closed End (Hz) (Partial Nr., n)</th>
<th>Note Name (Adjusted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>280</td>
<td>C₄</td>
<td>140 (1)</td>
<td>C₂</td>
</tr>
<tr>
<td>2</td>
<td>560</td>
<td>C₃</td>
<td>420 (3)</td>
<td>G₃</td>
</tr>
<tr>
<td>3</td>
<td>840</td>
<td>G₃</td>
<td>700 (5)</td>
<td>E₃</td>
</tr>
<tr>
<td>4</td>
<td>1120</td>
<td>C₃</td>
<td>980 (7)</td>
<td>A₄ (A-B♭)</td>
</tr>
<tr>
<td>5</td>
<td>1400</td>
<td>E₃</td>
<td>1260 (9)</td>
<td>D₅</td>
</tr>
<tr>
<td>6</td>
<td>1680</td>
<td>G₃</td>
<td>1540 (11)</td>
<td>F₆ (F-F♯)</td>
</tr>
<tr>
<td>7</td>
<td>1960</td>
<td>A₄</td>
<td>1820 (13)</td>
<td>A₅ (A#/G♯-A′)</td>
</tr>
<tr>
<td>8</td>
<td>2240</td>
<td>C₇</td>
<td>2100 (15)</td>
<td>B₅</td>
</tr>
<tr>
<td>9</td>
<td>2520</td>
<td>D₇</td>
<td>2380 (17)</td>
<td>C₇ (~C♭)</td>
</tr>
</tbody>
</table>

Table Appendix 1: Theoretical Frequencies for a 2’ Willow Flute
If the total number of pitches available for both open and closed positions is normalized, perhaps at nine notes, the following results (Table Appendix 2, below):

<table>
<thead>
<tr>
<th>Partial (n)</th>
<th>Opened End (Hz)</th>
<th>Note Name (adjusted)</th>
<th>Closed End (Hz)</th>
<th>Note Name (adjusted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>280</td>
<td>C₄</td>
<td>140</td>
<td>C₃</td>
</tr>
<tr>
<td>2</td>
<td>560</td>
<td>C₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>840</td>
<td>G₅</td>
<td>420</td>
<td>G₄</td>
</tr>
<tr>
<td>4</td>
<td>1120</td>
<td>C₆</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1400</td>
<td>E₅</td>
<td>700</td>
<td>E₄</td>
</tr>
<tr>
<td>6</td>
<td>1680</td>
<td>G₆</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1960</td>
<td>A₆</td>
<td>980</td>
<td>A₅</td>
</tr>
<tr>
<td>8</td>
<td>2240</td>
<td>C₇</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2520</td>
<td>D₇</td>
<td>1260</td>
<td>D₆</td>
</tr>
<tr>
<td>10</td>
<td>2800</td>
<td>E₇</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>3080</td>
<td>F₇</td>
<td>1540</td>
<td>F₆</td>
</tr>
<tr>
<td>12</td>
<td>3360</td>
<td>G₇</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Appendix 2: Willow Flute Notes Possible*