



Evolving a signature sound: blending Celtic roots and aesthetics with divergent music production practices in studio albums recorded by The Corrs

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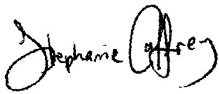
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Master of Arts by Research in Music

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Abstract

Successful bands and artists have a distinctive sound that makes them instantly recognisable to audiences and differentiates them from other performers within their genre. By examining practices within music production, this thesis will demonstrate how multiple decisions and creative collaboration between music producers and a band impact on the development of a particular sound that is disseminated to an audience. Taking into account that music producers can have their own distinctive signature sound due to divergent working practices, bands often choose to work with specific music producers to shape or refine their sound. While a band can have an overall recognisable sound across a recording catalogue, each album can vary within that sound, resulting in a varied portfolio influenced by divergent music production choices and socio-cultural contexts.

Using Irish music group The Corrs as a case study, this thesis critically examines three albums from their recording catalogue. Through a music production content analysis, which is supported by the reverse engineering of specified singles and album tracks through the use of digital audio workstation Pro Tools, the building blocks of The Corrs' identifiable sound and recurring patterns are revealed.

By examining the music production of each of the three albums in parallel with a critical study of the Irish music industry and cultural environment, this thesis adds to the field of musicology in record production.

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Chapter 1 – Introduction

In the 1990s a renaissance of Irish music and culture became a global experience (Ó Cinnéide 2002; Scahill 2009; Motherway 2013). Markedly, the seven-minute performance of *Riverdance* that aired during the 1994 *Eurovision Song Contest* launched Irish nationality and identity into international consciousness. Localised traditional events such as Irish dancing and its music became celebrated, and global pathways emerged for Irish musicians to sustain careers in the music industries. Reflecting early domestic and international enthusiasm for a “Celtic musical revival” (Walsh 1996), the *Riverdance* (Whelan 1994) single spent eighteen weeks at number one on the Irish Singles Chart (Myers 2018) and peaked at number nine in the Official UK Top 40 chart. Henceforth Irish popular music became diverse with varying levels of Irishness afforded into pop, rock and folk genres, and became combined into the ‘Celtic music’ catch-all, a sub-genre of the ‘world music’ umbrella (Smyth 2005; Scahill 2009; O’Flynn 2009; McLaughlin and McLoone 2012). U2, Sinéad O’Connor and The Cranberries became key exponents of Irish rock, The Chieftains and Altan conveyed Irish traditional music to modern audiences, Enya, Clannad and Anúna wove predominantly feminine Irish-sounding vocals with contemporary instrumentation and appealed to the New Age market, Afro Celt Sound System fused electronic music with Irish traditional and West African music, and radio-oriented groups Boyzone, B*Witched and Westlife earned a profitable portion of pop record sales.

At the forefront of these newly emerged Irish artists who took position on the global musical stage were The Corrs, a family band from Dundalk, Co. Louth, a region on Ireland’s Northeast coast. The Corrs became important musical figures in Ireland’s changing cultural status, and exemplified modernisation in Irish music through their recording catalogue (Nicholls 2001), which currently amounts to seven studio albums, three live albums and three compilation albums.

The Corrs are recognised for a signature sound that blends Irish traditional phrases and riffs with radio-friendly pop-rock music (O’Flynn 2009, p.34), which has led to commercial success worldwide.

As exponents of ‘Celtic music’, a genre that will be defined in Chapter 3 with reference to current scholarship (Sawyers 2001; Stokes and Bohlman 2003), The Corrs’ signature sound poses difficulty. Despite often exhibiting aesthetics from popular and Irish traditional genres simultaneously, The Corrs’ musical output does not strictly belong to the popular music genre or the Irish traditional music genre. Somers Smith (2001) states “the amalgam of tradition and modernity is, therefore an uneasy one that may carry the association of corruption of one vision by another” (p.111). The Corrs have creatively engaged with acclaimed musicians from both contexts. Popular artists include Mick Fleetwood (Fleetwood Mac), Ronnie Wood (The Rolling Stones), Rod Stewart and Bono (U2), and musicians aligned with Irish traditional music include The Chieftains, John McSherry (Lúnasa) and Gerry O’Connor (The Dubliners). Due to the fact The Corrs cross genres by placing Irish traditional instruments and melodies with contemporary popular instruments in chart-oriented songs, polished productions of Irish instrumental music and in live performances, they have received criticism from both popular music and traditional music commentators, in part due to the difficulties in the combination of sounds, genres and cultures.

This thesis also brings the role of the music producer to discussion. Patrik Wikström states, “the role of the creative artist is the most respected and admired in the music industrial ecosystem” (2013, p.7). As a consequence, the music producer is a lesser-known figure of the recording industry in terms of public awareness and as noted by scholars, the role of the producer is not fully understood (Zak 2001; Howlett 2012). Occasionally music producers have become household names but as often are the case, they have put themselves forward as “name brands”

(DeVile 2016), such as Phil Spector, Mark Ronson and The Chainsmokers. The music producer is an important figure in popular music for behind every album or single, is another person or team who has overseen the project, guided the artist through the recording process, collaborated or contributed to the sound and ensured the needs of a record label or artist have been met.

The Corrs collaborated with many established music producers with top selling records in their credentials including David Foster (Celine Dion), Mitchell Froom (Crowded House), and T-Bone Burnett (Elton John) amongst others. David Foster produced The Corrs' debut album *Forgiven, Not Forgotten*, released through Atlantic Records in 1995. Mitchell Froom produced their fifth studio album *Home*, released through Atlantic in 2005. T-Bone Burnett produced *Jupiter Calling*, their seventh and most recent studio album, released though East West Records in 2017. The creative roles of these three music producers on three of The Corrs' studio albums will be included in this study.

Objectives

The primary aim of this research is to better understand how music production can shape, influence and further a band's signature sound. This aim focuses on analysing the diverse music productions of the three afore-mentioned studio albums. To do this effectively, an understanding of how a signature sound can be demonstrated is needed to fully explore concepts of both in the recorded music of The Corrs. Therefore a discussion of signature sound's internal themes and selected key mavericks are given in Chapter 3.

The secondary aim of this research is to understand the changes that took place in the Irish recording industry in the 1990s and the interconnection between these changes and the

developing musical sound of The Corrs. The relationship between the sounds and representation of Irishness is critically considered with a particular focus on the artists who draw upon indigenous musical traditions. Drawing upon the paradigms of music production and ethnomusicology with a consideration of production values, technological development and cultural environment, Irish music is placed within the context of a globalised music industry.

The final aim of this research is to highlight that one of the music producer's roles is to understand the wider culture in which the music exists in order to achieve the appropriate level of precision for a recording. This research discusses the level of Irishness imparted on three of The Corrs' studio albums and how the choices of music producers affect this, a topic that has not yet received critical scholarship in this light.

Methodology

In his article pertaining to music producers, Reisman advised, “those interested in record production should do a lot of listening to all types of products and analyze hit qualities” (1977, p.66). Musical hits span an enormous variety of sounds, styles, arrangement and production techniques (Wadhams 2001, p.14) but rather than focus solely on the albums The Corrs released during their commercial zenith (1998–2004), this research comprises of analytical studies of three studio albums; *Forgiven, Not Forgotten* (1995), *Home* (2005), and *Jupiter Calling* (2017). Through the process of reverse engineering, critical music production content analysis is made for selected recordings on the three albums of this case study. Each album demonstrates differing music production practices yielding contrasting sounds, varying levels of Irishness and varying levels of creative intervention bestowed by three music producers.

Placing the study of rock music in the context of musicology, McClary and Walser (1990) state that to break down the components of music for critical analysis is to “compartmentalise it into atomic bits that no longer seem related to the entity that was able to seduce and move audiences” (p.286). Separating the various sounds of recorded music from each other therefore seems counter-productive to the artist’s intention of a listening experience however as this thesis will demonstrate, there is much to learn about music and music production through this process.

Moylan (2020, p.24) correctly states, “every recording is unique and demands analytical techniques appropriate to it, and an analytical framework that is accepting, relevant and useful for the study of them all”. Existing methodologies by Moylan, Machin, Moore and Bennett inform the analytical framework of this study. Moylan’s (2002) visual approach to illustrating dynamic contour and song arrangement is adapted in this study and is evident in the form of graphs throughout the analyses. In 2010 Machin provided a guide for analysing popular music in the media followed by Moore (2012), who aimed to provide a methodology to analyse song rather than popular music. Moore’s use of musical score is also useful to this study to illustrate melodic and harmonic reference points and is used throughout the analyses. Bennett’s “tech-processual” (2019, p.135) analytical methodology builds on Moore’s framework and examines the impact made by technology and process to the overall aesthetic of recordings. References to music production intention, technologies and workplace are also included throughout the analyses. Bennett’s approach is particularly novel in the field of musicology and the methodology applied in this study draws the aforementioned approaches together.

The approach for the music production analysis in this study is a practical process that could be applicable to music producers and analysts. The approach is termed as a ‘reverse engineering’ process and constitutes two stages. The first stage involves the importing of every chosen

recording from The Corrs' afore-mentioned albums into Avid Pro Tools digital audio workstation. In each session file, the various sounds are plotted as they occur during musical timelines, emulating each recording at the final stage of the production process. Musical data is embedded into each session file arrangement window including time signature, tempo, key signature, structure, bar numbers and chords. Mix production data is included in each mix window, illustrating an overall balance of the various sound sources. The role of each Pro Tools session file is to add visual and sonic indicators to the analytical findings. Every reverse engineered production session file is included in Appendix F, which the reader may defer to throughout Chapters 4 and 5. The second stage involves an in-depth written music production content analysis, which draws on the information plotted in Pro Tools and on the afore-mentioned methodologies and ultimately identifies the signature sounds and technical details for each song within the context of the relevant album.

Information for this research was also acquired through fieldwork comprising of a semi-structured interview with musician Jim Corr. The interview compliments the data acquired through the music production content analyses and reveals a new perspective on how music production supports, amplifies and impacts signature sound while bearing the agencies of music producers in mind.

As Bennett (2019, p.135) identifies, contextual information surrounding the artist and recordist(s) needs to be established to inform musical analysis. This project investigates the changes that took place in Ireland's musical trajectory during the 1990s. The research is informed by Popular Music Studies, Ethnomusicology and Irish Studies as well as the emerging field termed 'the musicology of record production' pioneered by Simon Zagorski-Thomas (2014). A study of the three albums

is contextualised through critical engagement with a number of writings about Irish music with a focus on developments in Irish music from the 1960s onwards.

The literature has developed within popular music studies and little work has been developed with a focus on Irish popular music from within the scholarship of music production therefore, much of the methodology for this research was inspired by the work of Burgess (2013), Zagorski-Thomas (2014) and Bennett (2019). This research also comes as a response to Bates' and Bennett's 2018 chapter which states that historical studies tend to privilege Anglophone commercial pop and rock music whereas studies on the production of indigenous music feature far less (2018, p.4). The Corrs' recorded output encompasses pop, rock, folk and Irish traditional music.

Literature Review

Understanding Irishness in the context of music is critical to engaging with the music of The Corrs and contextualising their recorded output within a wider soundscape. In 1982 Mícheál Ó Súilleabháin sought to define Irish music, followed by Julian Vignoles (1984). In 1987 music critic and journalist Mark Prendergast published *Isle of Noises*, a book concerning Irish rock that detailed in chronological order, the biographies and discographies of Irish groups and their places in Irish culture and record charts. *Riverdance* prompted much scholarly work regarding Irishness (Hall 1997; O'Flynn 2009), globalisation (Ó Cinnéide 2002; Motherway 2013) and the commodification of Ireland and Irish culture (Scahill 2009). In 1999 Fintan Vallely published selected papers from the 1996 Crossroads Conference that was held in Dublin pertaining to tradition and innovation within Irish traditional music. To update and further Prendergast's research on Irish rock, Noel McLaughlin and Martin McLoone's seminal work *Rock and Popular*

Music in Ireland Before and After U2 (2012) discussed national and cultural identity within Irish music, and included the artists that came to prominence after Prendergast's publication.

The study of how commercial music recordings are made and why they sound the way they do is a developing area within the multi-faceted field of popular music academia (Bennett 2019, Zagorski-Thomas 2014 and Burgess 2013). The processes of music recording have not received the same critical scholarship as other areas of music research although in recent years, academics have been addressing this imbalance.

Burgess states in *The History of Music Production* “music production exists because of recording technology” (2014, p.xiii) and accordingly, discussions pertaining to the creation of recorded music often speak of landmark developments in sound technologies. In addition Warner (2003) states “the technologies used to create pop records are hugely varied and in a state of almost continuous development and refinement” (p.18), giving reason that much of the literature continues to document advances in music technology. In *Chasing Sound: Technology, Culture and the Art of Studio Recording from Edison to the LP*, Schmidt Horning (2013) inquires into the history of sound recording, and provides a narrative concerning sound recording technologies of the acoustic and electrical eras coupled with an investigation into music recording workplaces and practices in North American and British studio culture. Burgess' *The History of Music Production* (2014) expands on Schmidt Horning's research and continues the investigation of sound recording technologies and their impact on music practitioners into the 1980s, 1990s and 2000s. According to Burgess “music producers manage the intersection of technology, art, people and commerce” (2014, p.178), and to demonstrate this point, he provides sketches of eighteen music producers who have displayed diverse production methodologies and impacted the history of music production. Burgess' previous book *The Art of Music Production: The Theory and*

Practice (2013) discusses the music producer on a deeper level and provides categories of music producers, which are defined by their disparate methodologies. Burgess (2014) also addressed the millennial shift that has occurred in the history of music production. Finneas O’Connell, the music producer of electro-pop singer Bille Eilish, exemplifies Burgess’ music producer of the Post-Millennial era. Eilish was conferred five awards at the 62nd Annual Grammy Awards in 2020, confirming the millennial production shift is relevant in the current recording industry.

In 2015 Allan Watson adopted a socio-geographical outlook on recording studios in *Cultural Production in and Beyond the Recording Studio*. Watson’s research traces the technological development of the contemporary recording studio from the 1960s to the early 2000s. The impacts of these developments were considered in the context of the recording studio personnel of each era however, the scope of Watson’s research allowed for a moderate account. Watson recognises that recording studios connect the local with the global, which is an additional theme of this thesis as Irish traditional and traditional-derived music is considered in a global context.

In 2014 Zagorski-Thomas called for a musicology of record production in *The Musicology of Record Production*, one that adequately addresses how the processes of recording changed music and the way people work in record production and one that encourages dialogue between scholars of different types of music. Of particular interest to this research, Zagorski-Thomas discusses the production of a traditional Irish record. The discussion of *Millhouse Measures* (Raw Bar Collective 2011) serves as a musical example to address authenticity in music production and to debate acceptable forms of technological mediation in the recording process. These themes were part of his chapter concerning aesthetics and consumer influences, which are key aspects of this thesis, discussed in Chapters 4 and 5. In his earlier article (2010), Zagorski-Thomas explores these themes in more depth. He coined the term ‘functional staging’ as a concept to describe how

sounds are placed in productions as a result of audience expectations. For example, according to Zagorski-Thomas, rock music is more frequently listened to in the small, less-ambient home environment, therefore, typical rock production adds reverberation to simulate a large venue. Zagorski-Thomas mentions popular artists readily accept forms of creative mediation in the recording process whereas world music artists are generally resistant to it. As artists of popular and world music, The Corrs pose an interesting case for functional staging and a number of examples are presented in this case study.

Emerging from music production literature are themes that are central to this thesis: music technology, the role of the music producer and production aesthetics. Warner's *Pop Music – Technology and Creativity* (2003) embodies these three themes in his study of music producer Trevor Horn and his selected works during the digital era. Warner discusses key sound recording and music technologies prevalent in the recording studio between the late 1970s and mid-1980s and his seven analyses of key influential recordings discuss how these technologies informed and shaped Horn's production practice.

Continuing examination in contemporary music producers, Bennett's *Modern Records, Maverick Methods* (2019) contextualises the digital age of sound recording technology. Of note, her research included a focus on the creative output of female artists including Madonna, Alanis Morissette and Blondie amongst others but importantly, also included Sylvia Massey, a current leading and innovative music producer. Bennett notes at the turn of the 2010s, women comprised less than 5% of commercial music recordists (*ibid.*). McBurnie and Everson (2019) published similar findings where a cross-examination of 800 songs in the US singles charts between 2012 and 2019 and revealed less than 3% of music producers were women. While the scope of this thesis does not allow for further investigation on the subject, the female members of The Corrs

actively participate in their productions as songwriters, arrangers, musicians and co-producers. In *Modern Records, Maverick Methods* Bennett provides an analysis of selected modern recordings that exemplify non-conformity to technological advancements and to technological hybridity, resulting in unusual methods of production and distinctive hit recordings. Bennett's research leaves space for more potential lines of enquiry into "phonomusicology" (Cottrell 2010) the study of recorded music, which this thesis addresses through the study of Irish traditional and popular music.

Thesis Structure

This study aims to expose the central Corrs' signature sound that remains intact across time, different music producers, different recording technologies, shifting aesthetics and methods. The Corrs' music is influenced by their cultural environment (Sharon Corr paraphrased in Nicholls 2001, p.7) therefore Chapter 2 will survey the history and development of Celtic music traditions, alongside the formation of The Corrs and will place the music of The Corrs within this context. Chapter 3 will examine Celtic music from a musicological perspective and will critically engage with the signature sounds commonly associated with Celtic music. The background provided from these chapters will inform Chapters 4 and 5 of this thesis, which consists of a case study of three Corrs' albums: *Forgiven, Not Forgotten, Home* and *Jupiter Calling*, which are analysed in terms of music production content. Each album analysis is followed with a concise focus on the signature styles of the respective music producers David Foster, Mitchell Froom and T-Bone Burnett and in turn, these style profiles demonstrate how, where, and when such signatures are present and observable in the records. Chapter 6 summarises the findings of the research and pulls them together, concludes the thesis and points to areas that would merit further

investigation. A framework is also proposed in Chapter 6 as a useful resource for future analytical studies.

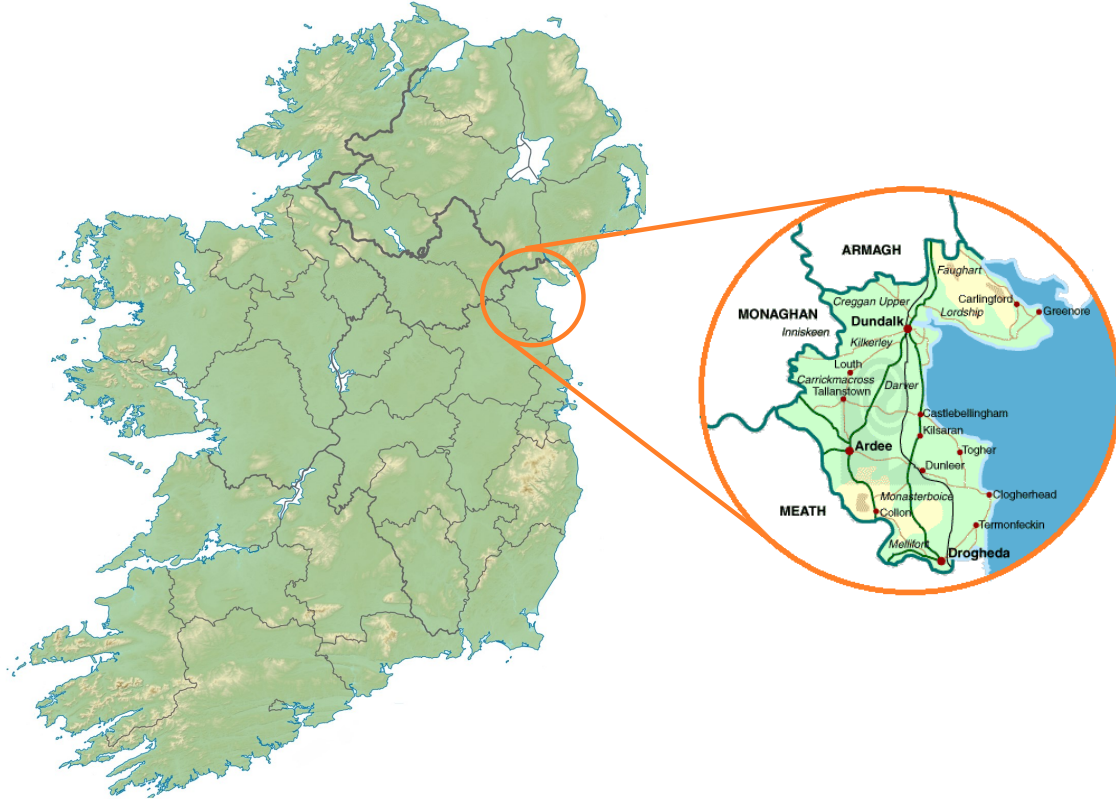
Chapter 2 – The Corrs in the Context of Irish Music and Socio-Economic Ireland

In the mid-1990s, the impact of *Riverdance* along with developments in Irish music led to greater discourse regarding authenticity, revival and tradition. In a fast changing economic and cultural environment, The Corrs emerged as a pop/Irish traditional crossover band after signing a record deal with 143 Records, a subsidiary of major label Atlantic. In order to foreground the music production content analyses of The Corrs’ albums forthcoming in Chapters 4 and 5, an understanding of how their music fits into an Irish musical narrative must first be developed. This chapter is laid out in two parts. The first sets out some key historical, social and economic contexts, which impacted and evolved Irish popular and traditional-derived music prior to The Corrs and the second is a brief account of The Corrs’ music career, which is supplemented by a chronological list of events in Appendix A.

Plotting the Soundscape of The Corrs’ Upbringing and Environment

During the 1960s Patrick “Gerry” Corr (1933–2015) and Jean Bell (1942–1999) met and married in Dundalk, Co. Louth (figure 2.1), a county in the Republic of Ireland, which borders Northern Ireland. Gerry and Jean were musicians who performed regularly in their duet Sound Affair, and as a result their children, James “Jim” (b.1964), Gerard (1966–1970), Sharon (b.1970), Caroline (b.1973) and Andrea (b.1974) were raised in a musical household (Cornwell 1999; Nicholls 2001; Tanham 2005; *Gathering Heritage* 2015; Corr 2019). At this time, the Irish popular music industry emerged alongside Ireland’s first economic boom as the distinctively Irish showband scene (Prendergast 1987; Power 2000; Heffernan 2000; Smyth 2005; O’Flynn 2009; McLaughlin and McLoone 2012; Holohan 2013; Miller 2014).

Figure 2.1: Map of Ireland (Pngio 2018) with enlarged map of County Louth (Turcopolier.typepad.com 2003) indicating Dundalk town.



Concurring Irish traditional music was evolving in the 1960s through Seán Ó Riada's (1931–1971) construct of traditional ensemble that began with Ceoltóirí Cualann¹ and the early output of The Chieftains. Ó Riada was a classically trained composer and is regarded as a bold innovator who demonstrated the enormous range and emotional power of traditional music (McLaughlin and McLoone 2012, Egan 2020) in a time when the Irish language almost completely lapsed and music became a conduit for growing a sense of Irish identity (White 2005). Ó Riada's soundtrack to the film *Mise Éire* (Morrison 1959) merged traditional music with classical and captured the nation's imagination in a way that would not be matched until the phenomenal response to Bill Whelan's *Riverdance* in 1994 (O'Flynn 2019). The success of Ó Riada's traditional chamber orchestra Ceoltóirí Cualann led to the *Our Musical Heritage* (1962) series broadcasted on Radio Éireann where traditional music became more clearly part of the national soundscape

¹ This thesis follows the standard set in Egan's (2020) thesis and omits the 'h' frequently placed in the spelling of Ceoltóirí Cualann.

² Related selected listening includes *Celtic Wedding* (1987), *The Celtic Harp* (1993) and *Santiago* (1996).

(McLaughlin and McLoone 2012, p.34). When Ceoltóirí Cualann disbanded in 1970 its legacy prevailed in The Chieftains (Glatt 1997; White 2005; McLaughlin and McLoone 2012) a group recognised for reinventing traditional Irish music on a contemporary and global scale (The Chieftains.com 2020) by founding member Paddy Moloney (b.1938) previously of Ceoltóirí Cualann in 1962, The Chieftains' sound evolved within the Irish traditional, folk and Celtic spheres² and have steadily engaged with guest musicians throughout their career including The Corrs.³

By the time Jim Corr was ten years old and his siblings were born, the showbands reached the peak of their popularity in the mid-1970s and Ireland underwent a number of important cultural changes: (i) *Raidió Teilifís Éireann* (RTÉ) the national broadcaster, introduced colour television in 1968, (ii) decimal currency was introduced in 1971 and (iii) Ireland joined the European Economic Community in 1973, which resulted in an increase in Ireland's economic growth (Haughton 2017, p.24). Politically Northern Ireland was deeply divided due to the on-going sectarian conflict of the 1960s and the effects of The Troubles reached Dundalk. Andrea Corr who was born on the same day as the Dublin and Monaghan bombings,⁴ described The Corrs' hometown in her memoir:

Dundalk became a refuge for Catholics who had been burned out of their homes in 1969. The burning of Bombay Street. One of the council estates, Muirhevnamor, became known locally as Little Belfast and it was understood that there were places you did not go, unless you 'sympathised'. And then of course the border, the soldiers...

(Corr 2019, pp.25-26)

The direction of Irish popular music shifted in part due to the rising popularity of the electric guitar and as an alternative to the showband scene (Prendergast 1987). Irish bands Skid Row,

² Related selected listening includes *Celtic Wedding* (1987), *The Celtic Harp* (1993) and *Santiago* (1996).

³ See *Talk on Corners* (The Corrs 1997) for *Little Wing* and *Tears of Stone* (The Chieftains 1999) for *I Know my Love*.

⁴ The Dublin and Monaghan bombings of May 17th 1974 were the deadliest attack of The Troubles in the Republic's history.

Taste and Thin Lizzy became the definitive Irish progressive-rock luminaries and the sound of Irish rock music took a decidedly ‘Celtic’ approach. The “Celtic rock phenomenon” (Prendergast 1987, p.52) mixed Irish traditional music aesthetics with rock music through three main ways: (i) the incorporation of traditional Irish melodies, (ii) the addition of traditional instruments and (iii) the design of ornate Celtic art-inspired album artworks. June Skinner Sawyers observes the typical Celtic rock band consisted of electric guitars and drums with a diverse range of instruments including fiddle, tin whistle, mandolin, bagpipes, bodhrán, harps, synthesisers and occasionally a Breton horn (2001, p.257). In Catherine Curran’s view, the electrification of traditional melodies in bands such as Horslips spoke to Irish audiences who had little in common with the traditional version of Irish music and spoke to thousands of young people (Vallely et al. 1999, p.62).

While Horslips were hybridising traditional music within the glam-rock context, a process of change was happening within Irish traditional music and integrating itself into the modern era (Niall Stokes paraphrased in Heffernan 2000; Smyth 2005; McLaughlin and McLoone 2012). Groups including Planxty,⁵ The Bothy Band,⁶ and Dé Dannan⁷ were performing Irish traditional music in non-traditional ways (Vignoles 1984, p.70). Also of great significance towards modernising Irish traditional music was the integration of acoustic instruments from outside the tradition into the music itself including the bouzouki, clavinet and double bass (O’Flynn 2009, p.35). The influence of Planxty on the sound of Irish music can be measured not only by their

⁵ Planxty’s *Raggle Taggle Gypsies/Tabhair Dom Do Lámh* on folk singer Christy Moore’s *Prosperous* (1972) is regarded the first attempt to conjoin Irish songs with traditional tunes (O’Toole 2006, p.90).

⁶ The Bothy Band gave Irish traditional music the excitement of rock music through energetic acoustic rhythm guitar accompaniment. (McLaughlin and McLoone 2012, p.72)

⁷ Distinctively, Dé Dannan incorporated a six-string bouzouki as a counterpoint in Irish dance tunes.

own musical output but also by the music they would later engineer in different formats including Christy Moore's solo career and Moving Hearts.⁸

According to McLaughlin and McLoone (2012) the reconfiguration of Irish folk and tradition was completed (p.77) by punk/folk hybrid The Pogues, who formed in London in 1982 by singer Shane MacGowan (b.1957). The Pogues took the ballad form popularised by The Dubliners during the 1960s and electrified it by adding bass and drums. This distinctive sound could be aligned with Irish traditionalism while simultaneously perceived to be “insulting” it (Prendergast 1987, p.112) in often-undefined boundaries between parody and pastiche (McLaughlin and McLoone 2012, p.77). Describing this hybridity U2's lead guitarist, The Edge said:

You talk to traditional Irish musicians and they say “Well The Pogues aren't traditional Irish music” then you put it into a rock and roll context and everything that they're about is traditional Irish music or the ballad form.

(Heffernan 2000)

The Pogues' post-modern identity was a challenging attitude during the Irish Republican Army's terror bombing campaign in England and has been researched in scholarly works (Keohane 1990; Smyth 2005; McLaughlin and McLoone 2000; 2012; Veiké 2017).

It was during the economic deflation of the 1980s that Jim Corr finished secondary school and began working as a musician.⁹ Concurrently with his early music career, the term ‘Celtic music’ re-emerged to describe the music of Clannad, and continued into the 1990s to include wave of contemporary Irish-based artists working at that time such as Enya, Afro Celt Sound System,

⁸ Moving Hearts took the foundation of drums, bass and electric guitars, merged it with traditional melodies primarily performed on uilleann pipes and innovated their sound with the addition of an alto saxophone while maintaining Moore's outspoken and topical lyrics.

⁹ In 1985 Jim became a touring keyboardist for The Molloys who toured British and American army bases in Germany. He returned to Ireland after eighteen months and set up a small recording studio in Dublin where he worked as a music producer and a session keyboard musician. At this time he worked with Irish singers Linda Martin, Red Hurley and pop/rock Dublin bands, The Fountainhead and Hinterland. Jim also worked as acoustic guitarist for Irish folk singer, Dolores Keane in her international touring band (*Gathering Heritage* 2015).

Coolfin, Kíla, Lúnasa, Martin Hayes, Michael McGoldrick who were on an “unprecedented roll, whether measured in record sales, audience share, or the quantity and quality of new acts and recordings” (Wilson 2001, p.176). Celtic music represented a commercial niche market (Smyth 2005, p.73,) and a convenient marketing term (Sawyers 2001; Thornton 1998; Mathieson 2001). As The Corrs are directly influenced by Clannad (Heffernan 2000), a link which scholars of Irish popular music have not previously observed, this thesis considers The Corrs to be part of the Celtic phenomenon of the 1990s. A discussion of signature sound in Celtic music will follow in Chapter 3.

The rock band U2 have also impacted on The Corrs’ music. The scope of this thesis does not allow for an in-depth overview of U2’s career, however much scholarly work exists concerning U2’s Irishness, identity and performance style (McLaughlin and McLoone 2012) and a comprehensive literature of the band up to their sixth album, *The Joshua Tree* (U2 1987) has been documented in Prendergast’s (1987) record of Irish rock music. This album and its predecessors were part of The Corrs’ teenage soundscapes, and they would later collaborate with U2’s Paul “Bono” Hewson (b.1960).¹⁰ U2 were able to maintain their audience during the 1990s through successful reinvention as “a postmodern, self-consciously ironic, dance-inflected pop/rock act, owing equally to the experimentation of late-1970s Bowie and 1990s electronic dance and techno” (Apple Music 2019) and their success continued onward to the present day, generating massive profits through worldwide tours (Deegan 2017).

When U2 released *Achtung Baby* (1991) and *Zooropa* (1993) Ireland’s economic recession surpassed macroeconomists’ expectations (Haughton 2017, p.27). Ireland could suddenly boast high and sustained economic growth, a very low ratio of debt, falling unemployment, net

¹⁰ The Corrs and Bono’s multiple collaborations are referred to in Appendix A.

immigration and a budget surplus (Donovon and Murphy 2013, p.16). In 1994 UK economist Kevin Gardiner named the rapid growth the ‘Celtic Tiger’, comparing the unexpected Irish take-off to booming Asian economies. Donovan and Murphy (2013) observe that while Ireland’s economic structure transformed through a series of changes due to “Europeanisation” (*ibid.*), a larger and more significant shift was occurring on a global scale. Ireland became the ideal location to attract US tech-oriented multinational corporations due to the country’s favourable tax regime, English-speaking advantage and computer-literate workforce (Donovon and Murphy 2013, p.25). This economic upturn occurred alongside important changes in Irish cultural and political life including (i) the Irish Presidential election of Mary Robinson (1990), (ii) the national referenda on abortion (1992) and divorce (1995) both of which indicated a lesser influence of the Catholic Church in Irish society, (iii) the Good Friday Agreement (1998) which ended the civil war in Northern Ireland, and (iv) the integration of asylum seekers and migrant workers in the early 1990s (Motherway 2013).

During this time of conversion in Ireland, The Corrs were forming as a musical entity. Jim Corr recounted in an interview with Dundalk journalist Harry Lee (*Gathering Heritage* 2015) that while he worked in Dublin he met John Hughes¹¹ (b.1950), and in the summer of 1990, Jim auditioned himself and his sisters Sharon, Caroline and Andrea for the casting of Alan Parker’s film, *The Commitments* in The Waterfront nightclub in Dublin. Hughes was working as musical co-ordinator for Parker and became manager of The Corrs shortly after the audition.¹² Jim Corr realised that forming a band with his sisters had “great potential” (*Gathering Heritage* 2015) and returned to Dundalk where he set up a project recording studio close to The Corrs’ family home.

¹¹ John Hughes and his brother Willie are from Dublin and formed Minor Detail. Bill Whelan (later of *Riverdance*) produced their self-titled debut album (1983). According to *Hot Press* (2001) Jim Corr was a keyboard player in Hughes’ next band The Hughes Version.

¹² At the time of this research Hughes continues to act as The Corrs’ manager.

Each of Jim's sisters mirrored his own passion for music due to the consistent exposure to Top 40 chart music from their parents throughout their upbringing and each were also classically trained piano players and singers. In addition, Sharon Corr studied classical violin under Father Brendan McNally and was a member of his Redeemer Youth Orchestra. From 1990 until 1994, The Corrs were focused on developing as a band, wrote songs and created demos in Jim's studio. Jim recalled the band's early determination: "We were so single-mindedly focused on the goal of achieving success that we didn't entertain it not happening" (*Gathering Heritage* 2015).

At this time Caroline and Andrea Corr were still secondary school students and in order to generate income, Jim and Sharon became a duet who regularly performed chart music covers and Irish traditional music in the Dundalk area. Jim stated these performances had a direct influence on what would become The Corrs' signature sound: "I think actually unbeknownst to ourselves we were actually working on The Corrs' sound then, which is kind of an amalgamation of traditional instrumentation, traditional melody lines and contemporary dance and rock rhythms" (Caffrey 2020). In these early sessions Jim was developing a distinctive and modern sound by incorporating sampling, a contemporary music production practice within an Irish traditional music context:

I had a keyboard that was also a sampler, a Roland W-30 that played a bodhrán sound. I would just literally press a key and play. I would already have a particular pattern programmed in, it would be on floppy disk, so depending on the song that I was doing, I would play whatever pattern was suitable. But it was me on the bodhrán, I would sample individual hits into the sampler so that brought a very unique sound to it because I had a lot of control over those individual hits on the bodhrán. So that lent itself to the unique modern sound.

(Caffrey 2020)

In November 1991 The Corrs made their first television appearance on RTÉ's *Eye on the Music* (RTÉ Archives 2017), a televised music series presented by Bill Whelan. The semi-live performance of their original song *Mystery of You* illustrates The Corrs' as a developing pop band

with Jim Corr playing acoustic guitar, Sharon playing violin and performing backing vocals, Caroline playing piano and performing backing vocals, and Andrea as the band's lead vocalist. *Mystery of You* was never subsequently released but it is apparent that at this early stage The Corrs' exhibited strong pop influences in their sound, were skilled performing musicians and had already formulated a distinctive vocal harmony sound. Of note, the Irish traditional aspect of their sound that Jim previously stated is not in this early footage.

In 1994 the reception *Riverdance* yielded on the global stage was unparalleled and stimulated more commentary than any other Irish musical work (White 2009). The combination of images, sounds and movements were distinctively Irish (Scahill 2009) and contemporary (Ó Cinnéide 2002, pp.105-115). Yet *Riverdance* was not entirely comprised of Irish traditional sounds, dance and aesthetics but other global stylistic and heterogeneous assimilations (White 2009). Motherway (2013) states *Riverdance* represented a local and global Ireland; "the old and new; the traditional and the modern; community and society; as well as collectivist and individualist worldviews" (p.10).

Development of The Corrs' Sound in the Context of Irish Music

As *Riverdance* expanded into an international touring theatrical show, The Corrs released their debut album *Forgiven, Not Forgotten* (1995). The album featured female vocal-oriented contemporary pop/rock songs and fused Irish traditional instrumentation, traditional melody lines and rhythms with contemporary instrumentation, and Irish traditional instrumental recordings. Jim Corr recounted that by the time The Corrs met the album's music producer David Foster, they had established their signature sound:

... we had been working on this for quite a while ... So yes, at that point we had established our sound which obviously going to be Celtic pop, pop/rock ... The girls had already been doing the

block harmonies with that very unique familial signature sound that we have. Yeah, we had certainly established our sound at that point

(Caffrey 2020)

The Corrs' band extended shortly after the production of *Forgiven, Not Forgotten* was completed. Permanent members Anthony Drennan (b.1958), a guitarist who previously worked with Clannad, Paul Brady and Moving Hearts, and Keith Duffy (b.1966), a bass player who previously worked with Andrew Strong and The Commitments band, joined The Corrs initially as touring musicians (The SBL Podcast 2017) but as their careers progressed, both have contributed to The Corrs' recording catalogue.

With each of The Corrs' seven studio albums (table 1) reaching the Top Twenty in Ireland's and the UK's charts, The Corrs have attracted critical acclaim and commercial success. Their sophomore album *Talk On Corners* is the twenty-eighth biggest selling studio album of all time in the UK Official Charts (Copsey 2019). According to the same article it remains the highest-selling Irish album in the UK, surpassing U2's *The Joshua Tree*. Reported by *Hot Press* (2017) *Talk On Corners* spent a total of 142 weeks on the charts. In April 1999 *Talk on Corners* and *Forgiven, Not Forgotten* simultaneously held the top two positions respectively in the UK Official Album Chart (Official Charts Company 2019a), an achievement previously held only by The Beatles (*Hot Press* 2017) which indicates The Corrs' success. However *Talk on Corners* was a difficult album for The Corrs to create (Tanham 2005; *Gathering Heritage* 2015; Corr 2019) due to the pressure exerted by Atlantic on The Corrs to deliver hit singles.

Table 1: Catalogue of The Corrs’ albums.

Year of Release	Album Title	Music Producer(s)	Record Label
1995	<i>Forgiven, Not Forgotten</i>	David Foster	Atlantic, 143, Lava
1997	<i>The Corrs – Live</i>	Torben Schmidt	Atlantic, 143, Lava, WEA International
1997	<i>Talk on Corners</i>	Oliver Leiber David Foster Jim Corr Rick Nowels and Billy Steinberg Glen Ballard John Hughes	Atlantic, 143, Lava
1998	<i>Talk on Corners</i> (re-release)	Oliver Leiber et al.	Atlantic, 143, Lava
1999	<i>Unplugged</i>	Mitchell Froom	Atlantic, 143, Lava
2000	<i>In Blue</i>	Robert John “Mutt” Lange The Corrs Mitchell Froom DFHM John Hughes Billy Farrell	Atlantic, 143, Lava
2001	<i>VHI Presents: The Corrs, Live in Dublin</i>	Mitchell Froom	Atlantic
2004	<i>Borrowed Heaven</i>	Olle Romo	Atlantic
2005	<i>Home</i>	Mitchell Froom	Atlantic
2015	<i>White Light</i>	John Shanks	East West
2017	<i>Jupiter Calling</i>	T-Bone Burnett	East West

In 2000 the release of The Corrs’ third studio album *In Blue* (The Corrs 2000b) led to a continuation of their success. *In Blue*’s lead single *Breathless* (2000a) co-written and produced by Robert John “Mutt” Lange (Shania Twain, AC/DC and Def Leppard), was their first and only number one UK single to date and was nominated for a Grammy Award for Best Pop Performance by a Duo or Group With Vocals. *In Blue*’s Celtic instrumental track *Rebel Heart* was nominated for a Grammy Award in the Best Pop Instrumental Performance category. In his *Hot Press* article, Jackson (2001) praised *In Blue* for its “authentic self expression” and pop song writing, which he stated was “reminiscent of Abba” (*ibid.*). The album had a heavy focus on pop

production and fewer Celtic aesthetics than *Forgiven, Not Forgotten* and *Talk on Corners*. Key songs that feature The Corrs' Celtic aesthetics through their respective middle eight sections include *Give me a Reason*, *All the Love in the World*, *All in a day*, and *Hurt Before*. *In Blue* launched their success in the USA and according to *Billboard* (2020) *Breathless* peaked at number seven on the Adult Top 40 chart of Christmas week of 2000.

The Corrs' fourth studio album *Borrowed Heaven* (2004) was produced by Olle Romo (Eurythmics, Bob Geldof and Shakespear's Sister) who was a former drum programmer for Mutt Lange. *Borrowed Heaven* continued the pop-driven sound of *In Blue* and incorporated Irish melodies and rhythms audible on songs *Angel*, *Long Night*, *Humdrum*, and on the Irish original instrumental recording *Silver Strand*. Notably Ladysmith Black Mambazo¹³ featured on the title track, and Bono, Gavin Friday and Maurice Seezer wrote the song *Time Enough for Tears*. The album peaked at number one on the Irish Recorded Music Association album chart in 2004 and charted highly in Australia, New Zealand and European territories.

The release of their fifth studio album *Home* (The Corrs 2005), an album primarily of Irish folk songs presented a dramatic change in The Corrs' production style that was directed by music producer Mitchell Froom (Crowded House, Suzanne Vega and Paul McCartney). Throughout their recording career The Corrs adopted the overdub approach, which typically involves tracking drums first and layering other parts on top, however according to Jim Corr *Home's* alternative signature sound was in part due to the fact the album was recorded primarily live:

All of *Home's* songs were recorded live. So you have your drums, the bass, two guitars, and then we overdubbed on top of that. So essentially you're listening to a live album where we've overdubbed certain things onto it. So that's what makes it kind of special as well it's a live studio album with overdubs on top of it.

(Caffrey 2020)

¹³ Ladysmith Black Mambazo is an internationally acclaimed South African male choral group.

In the same year of *Home*'s release The Corrs were awarded an MBE¹⁴ from Queen Elizabeth II in recognition of the band's "outstanding contribution to the music industry and of their charitable contributions" (*Hot Press* 2005) such as performing at fundraising shows for Freeman's Hospital in Newcastle, victims of the Omagh bombing, the Prince's Trust, World Aids Day, and Nelson Mandela's *46664* campaign.

In 2006 and sixteen years after their formation, The Corrs went on an indefinite hiatus. During this time Sharon and Andrea Corr pursued individual solo music careers releasing two albums each, while Jim and Caroline Corr retreated from public music pursuits. In the interim between The Corrs' fifth and sixth studio albums, some bands defined as Irish traditional music have attracted large audiences and achieved international success. For example The Gloaming, dubbed as "the trad supergroup" by Irish music journalist Niall Byrne (2012) comprised of Irish musicians Iarla O'Lionaird (Afro Celt Sound System), Martin Hayes, Caoimhín Ó Raghallaigh and American musicians Dennis Cahill and Thomas Bartlett are emblematic of drawing influence from Irish traditional contexts while innovating the "perceived boundaries of Irish traditional music according to the predominant media narrative" (Ford 2018). Their 2014 debut album reached number one in the Irish charts and won the Meteor Choice Music Prize for Irish Album of the Year. The Gloaming's seven-night sell-out residency at the National Concert Hall in Dublin in 2017, 2018 and 2019 is further evidence of The Gloaming's monumental success. Beoga, a group based in Northern Ireland and active in contemporary Irish traditional music spheres are self-described as "new wave trad" (Beoga 2019) and are noted for their collaboration with Ed Sheeran¹⁵ on his popular singles *Galway Girl* (2017b) and *Nancy Mulligan* (2017c). In 2014 the success of *Riverdance* was "on a par with U2 in terms of its global standing as an Irish

¹⁴ An award which stands for Member of the Order of the British Empire.

¹⁵ Sheeran (b.1991) is an English singer and songwriter, and cited The Corrs as a musical influence on *Galway Girl* (Petridis 2017).

entertainment export” (Clifford 2014) as it surpassed 25 million ticket sales. *Riverdance* gave rise to derivative shows that relate to Irish traditional music, song and dancing such as Michael Flatley’s *Lord of the Dance*, Jean Butler’s *Dancing on Dangerous Ground*, David King’s *Spirit of the Dance* and the Irish ensemble Celtic Woman, which connected with American audiences in a strong way (O’Neill 2010).

In 2015 The Corrs returned to the recording music industry with their sixth studio album *White Light* released through a new record deal with East West Records. The album was produced by John Shanks (Bon Jovi, Carlos Santana, Alanis Morissette) and featured contemporary pop productions and one Celtic instrumental recording *Gerry’s Reel*. The production approach for *White Light* included the overdub technique and many of the sounds on the album are synthesised and heavily affected through audio signal processing. Markedly, *White Light* was The Corrs’ first original output since *Borrowed Heaven* (2004) and features additional co-writing on *Kiss of Life* by Shanks and Natasha Bedingfield¹⁶ and *Unconditional* by Shanks and Ruth-Anne Cunningham.¹⁷ *White Light* debuted at numbers ten and eleven respectively in the Irish and UK charts.

In November 2017 The Corrs released their seventh studio album *Jupiter Calling*. The album consists of original songs written by The Corrs that were produced by T-Bone Burnett (Elton John, Counting Crows, Los Lobos). Although this album will be discussed in greater detail in Chapter 5, it marks a change in The Corrs’ signature sound. Notably *Jupiter Calling* does not include an Irish instrumental recording per The Corrs’ previous studio and live albums. *Jupiter Calling* peaked at numbers twenty and fifteen respectively in the Irish and UK charts.

¹⁶ Natasha Bedingfield (b.1981) is an English singer and songwriter.

¹⁷ Ruth-Anne Cunningham (b.1985) is an Irish singer and songwriter.

Conclusion

This chapter described key landmark socio-economic and musical events, which occurred in Ireland during the latter half of the 20th century, which would give rise to variations and crossovers emerging from Irish traditional music itself. These variations, while not strictly part of the tradition itself would gather momentum and attention, leading to dissemination and commercial success on the global stage during the mid-90s. The Corrs were directly influenced by this diversity and became exponents of Irish music during the Celtic Tiger, releasing seven studio albums and three live albums and representing a local sound on global stages. Shortly before Ireland's economic crash in 2007, The Corrs retreated from the music industry but Irish music continued to evolve across many genres. When The Corrs' industry hiatus ended in 2015, a new wave of contemporary Irish artists including The Gloaming, Beoga and more were connecting with large and mainstream audiences and demonstrating that Irish traditional and folk sounds were still part of Ireland's national soundscape. The Corrs were also continuing to remain relevant through their influence on Irish and global popular artists (Lynch 2020). This chapter leads to a closer investigation of the sounds that are evident on Celtic music and therefore create the genre's sonic signature.

Chapter 3 – Signature Sounds of Celtic Music

The term ‘Celtic’ is problematic (Porter 1998) and critics and scholars have contested the meaning of the word (Reiss 2003, p.145). Due to the fact that no recordings exist of the music performed by indigenous Celtic people and that little has survived in terms of instrumentation (Forsythe 2017 pp.28-31), it is impossible to know what Celtic music originally sounded like. The term ‘Celtic music’ has become meaningful for many seeking to place an identity on contemporary musical sounds (Gayraud and Gaelle 2016, p.86) or to capitalise on commercial opportunities (Reiss 2003; Ivakhiz 2005).

Skinner Sawyers problematically states that Celtic music is the “indigenous music of the Celtic lands” (pp.6-7) which Forsythe (2017) defines as the seemingly disparate lands of Ireland, Scotland, Wales, Brittany, the Isle of Man, Cornwall, and northwest Spain that were once part of a superhighway connected through maritime trade and commerce by a proud culture which dominated Europe nearly 3,000 years ago (pp.11-13). Despite geographical divergences it is agreed that just like their languages, music from the Celtic regions share characteristic similarities, which create a distinctive signature sound. ‘Celtic music’ however, is applied loosely within a contemporary music industry. Early artists associated with the genre include Alan Stivell and Clannad, who demonstrate pioneering ideas in their musical output.

Musical recordings are commonly considered in terms of their genre and are recognisable to audiences through recognisable audible hallmarks or signature sounds. Table 2 exhibits five key ways a signature sound is created and provides musical examples of each. The following section uses this table as a framework and as a means of analytical measurement by which to discuss the signature sounds of Celtic music.

Table 2: Five key ways a signature sound is created.

Signature Sound	Attributes	Musical Example(s)
Vocal performance (lead)	Language, tone, style, phrasing and style of recording.	Ed Sheeran’s lead vocal style switches between falsetto, baritone and belted voices (Doyle 2012).
Vocal performance (backing)	Language, tone, style, phrasing, style of recording, vocal group recording or overdubbing.	The Beatles made creative use of group vocal fills and vocal harmonies.
Musical instrument	Tone, style, phrasing, equipment specifics and generation method.	Yamaha’s DX7 synthesiser brought glassy and bright tones to multiple hit records of the mid-1980s (Clark 2018; Larson 2018).
Arrangement	Combination and orchestration of instruments.	A Motown record can be recognised for an arrangement of electric organs, string sections, vibraphones and saxophones (Wadhams 2001; Southall 2003; Burgess 2014; <i>Arena</i> 2018).
Music Production	Novel technique pioneered by music producer, the use of studio equipment or recurring patterns in the works of a music producer.	Phil Spector’s ‘Wall of Sound’ production technique was achieved through the simultaneous recording of multiples of instruments in the recording studio (Abbott 2005; Buskin 2007; Heiser 2012; Burgess 2014).
Musical Features and Techniques	Rhythm, chord voicing or performance technique.	Gallop rhythms are a prominent feature in heavy metal e.g. Iron Maiden (Mayer and Timberlake 2014). Steely Dan use slash chords ¹⁸ extensively across their discography (Gress 2018). The triplet slap technique is a recognisable sonic hallmark of bass player Vic Wooten.

¹⁸ Slash chords or compound chords, are chords which are played over different root notes as indicated by a diagonal slash e.g. G/B is a G major chord which has a bass note of B.

Scholarly research frequently suggests a strong association between Irish music and Celtic (Chapman 1994; Mathieson 2001; Stokes and Bohlman 2003; O’Flynn 2009), however Reiss (2003) notes that practitioners within the Irish tradition often reject the term ‘Celtic’ because there are differences between the two, primarily:

Celtic music only exists after it is produced and marketed; it has no existence outside its commodity form. Traditional music exists on its own, wherever people decide to share it, to play, sing or dance together, whether or not it is commoditized... It [Celtic music] is born in the studio and lives on CDs and tapes, on radio and TV, in the movies, on the Internet and on stage.

(Reiss 2003, pp.158-159)

Reiss’ emphasis on the production of the music is critical to understanding the development of signature sounds in popular music that borrow or incorporate aspects of traditional music and underlines the need for further engagement with music production as presented in this study.

1. Vocals in Celtic Music

The Irish vocal tradition is called *sean nós* (old style), a solo and unaccompanied singing style in the Irish or English languages or occasionally both (see Williams 2010). In direct contrast, Bill Whelan (*Riverdance*) referred to the multi-layered vocal signature sounds of Clannad as “Celtic harmony” (Heffernan 2000) when discussing the modernisation of Irish traditional music. *Hot Press* editor Niall Stokes observed the importance of the familial relationship between the members of Clannad on their vocal sound:

What was most striking about Clannad I think right from the start, was the fact the voices worked so well together and of course that’s because of the family connection because you do get a particular kind of resonance between voices among family members.

(Heffernan 2000)

Examples of Clannad’s Celtic vocal harmony signature sound is explicitly audible on *Theme From Harry’s Game* (Clannad 1983b), *Newgrange* (Clannad 1983a) and *Caislean Óir* (Clannad 1985a).

Another key exponent of Celtic music, Enya¹⁹ is an example of an artist whose music production values evident on studio albums are not replicable in live performance. Her signature vocal sound consists of her reverberant lead vocal coupled with a choir of backing vocals which is comprised of her own voice multi-tracked up to 200 times (Lane 2006). The process of overdubbing and multi-tracking her own voice to choral effect instead of taking a more traditional approach by recording an actual choir, results in an ethereal sound that is distinctive to her sonic identity. Enya’s “slightly otherworldly” (Rasmussen 2001) signature sound was an ideal musical fit for Peter Jackson’s film adaptation of *The Lord of The Rings: The Fellowship of the Ring*, and the accompanying soundtrack (Shore 2001) was an international success. Smyth (2005) is of the opinion that Enya’s Irishness is represented solely by her commercial success during the Celtic Tiger (p.94), however her records exhibit Irish attributes including (i) instrumentation, such as the uilleann piping of Liam Óg O’Flynn (see Enya 1986),²⁰ (ii) the use of the Irish-Gaelic language as lyrics (see Enya 1991) and (iii) the use of vocal ornaments such as rolls,²¹ turns²² and melismas (see Enya 1988).²³

2. Celtic Musical Instruments

Celtic music frequently includes instrumentation from popular music spheres such as synthesisers, drums and electric guitars as supporting sounds, and instrumentation from the Irish tradition often take central melodic positions. Evident in Johnston’s (1995) study of Irish folk instruments in their social and historical contexts, the range of Irish musical instruments is broad: (i) chordophones (fiddle, harp, guitar), (ii) aerophones (uilleann pipes, flute, tin whistle, melodeon, concertina, accordion) and (iii) membranophones (bodhrán, banjo). In addition the

¹⁹ Enya (Eithne Ní Braonáin) (b.1961) is a former member of Clannad who remarkably without performing promotional live shows has sold 80 million albums worldwide (Murphy 2015).

²⁰ Liam Óg O’Flynn (1945–2018) was an acclaimed Irish traditional musician and founding member of Planxty who collaborated with a range of musicians including Kate Bush, Mark Knofler, Enya and others.

²¹ A set of five notes in one breath (for example, A-G-A-B-C).

²² A set of several notes which decorate the transition of one note to another.

²³ Several notes sang to one syllable of text.

mandolin and bouzouki were popularised in the 1970s primarily due to the commercial recordings of Sweeney’s Men and Planxty, however there is evidence the mandolin was part of the tradition before then (Casley 2015). Captain Francis O’Neill (1848–1936), an Irish-born American police officer and collector of Irish traditional music, recorded mandolin and fiddle player Tom Kiely in the early 20th century. Subsequently O’Neill (1913, p.394) termed Kiely’s mandolin as “The Connemara Fiddle” in his book *Irish Minstrels and Musicians*.

Several musical instruments commonly found in Irish traditional music have featured throughout The Corrs’ recording catalogue: the tin whistle (Andrea Corr), the violin (Sharon Corr), the bodhrán (Caroline Corr), the mandolin (Anthony Drennan), the banjo (Gerry O’Connor), the keyboard accordion (Kieran Kiely), the uilleann pipes (John McSherry) and the lambe²⁴ drum (Noel Eccles). The substantial literature concerning the characteristics of Irish traditional musical instruments has been covered by Ó Cannainn (1978), Bracefield (1998), Vallely (1999), Williams (2010), Casley (2015) and Harte (2019).

3. Arrangement in Celtic Music

Arrangement in Celtic music usually refers to the orchestration of its instruments and the composition of harmony. Traditionally a solo and melodic art form, a variety of factors throughout the 20th century have led to a greater consideration of arrangement and performance styles (see Egan 2020), which impact directly on the approaches to music production. Irish music was traditionally performed in live music contexts and social gatherings in homes and crossroads dances (Williams 2010) and it migrated to pubs in the early 20th century where sessions developed. *Céilí* bands were large-scale groups of musicians who performed in unison specifically for the Irish dance tradition and continue to exist in concert settings. At pub sessions,

²⁴ Lambe drums are associated with the unionist traditions originating in Co. Antrim, Northern Ireland and are termed on The Corrs’ *Forgiven, Not Forgotten* album liner notes as “Celtic drums”.

musicians also continue to perform dance tunes in unison with occasional accompaniment from a guitar or bodhrán. Ó Riada took influence from classical music arrangements for his Ceoltóirí Cualann (1960–1969) where Irish traditional music and songs were performed in an ensemble format with the important difference that the works were orchestrated by Ó Riada, featured soloists and were accompanied. Commonly existing in the recording medium as opposed to live music contexts (Reiss 2003), Celtic music is orchestrated with contemporary instruments taking accompaniment roles and traditional instruments taking melodic roles. For example, Afro Celt Sound System's *Mojave* (2005a) features Iarla Ó Lionáird²⁵'s Irish language vocal and the tin whistle and uilleann pipes as primary melodic instruments which occur interchangeably on a textured soundscape of synthesised pads, drum loops and various harmonic fillers.

Hanway (2001) and Williams (2010) state the use of modes (Ionian, Mixolydian, Dorian and Aeolian) as opposed to major or minor keys in Celtic music contribute to the elusive character of Celtic tonality. The use of modes creates harmonic openness and open-tuned guitars (DADGAD), bouzoukis and drones (uilleann pipes, synthesisers and more) fit suitably for accompaniment. Clannad's (1983b) *Theme From Harry's Game* is a model example. The track's introduction is a synthesised drone sustaining a C sharp under Moya Brennan's reverberant lead vocal. The melody uses a hexatonic scale and the key is C sharp Aeolian.²⁶ The stacked vocal harmonies that enter the arrangement after the first verse are comprised of sequential fifths and octaves in the male tenor and bass vocal harmonies and the use of the flattened seventh occurs. Similar vocal arrangements can also be found in recorded works of Anúna the Celtic choir, for example *Dúlaman* (1995) and *Siúil a Rúin* (2002) arranged by Michael McGlynn (b.1964).

²⁵ Iarla Ó Lionáird (b.1964) is an Irish singer who performs in the traditional *sean nós* style. He is also a member of The Gloaming.

²⁶ The melody uses notes C#, E, F#, G#, A and B in the verses. The D# is used in the refrains.

4. Music Production in Celtic Music

The role of music production as a signifying sound of Irish traditional music is previously unexplored however the role of recording technology in the early 20th century as a conduit for the dissemination of traditional music has been widely acknowledged (see Bracefield 2004). Music producers of Irish traditional music have typically imparted a less obvious sonic signature on productions than that of contemporary music producers such as Phil Spector, Joe Meek (see Burgess 2014) and Sylvia Massy (see Bennett 2019). Production work by Dónal Lunny and Bill Whelan can be difficult to separate from their artistic work as arrangement and instrumentation choices regularly crossover between the two practices. An outcome from an undergraduate research project (Caffrey 2015) found digital recording practices work favourably with Irish traditional music contexts because of the transparency and low level of distortion typically imparted onto recordings. This demonstrates Irish traditional music may require different production practices and technological considerations.

5. Musical Features and Techniques in Celtic Music

Rhythm is an important element of the signature sound of Irish traditional music. Rhythm is directly related to Irish dancing and is the signifying distinction between Irish traditional dance tune types: reels, jigs (single, double and slip), hornpipes, marches, slides, polkas, mazurkas, barndances, highlands, waltzes and airs. The scope of this study cannot present all of the Irish traditional tune types in great detail therefore an overview is provided of the main traditional dance tune types that feature in The Corrs' recorded catalogue (table 3): reels and jigs.

Table 3: The Irish traditional dance tunes that feature in The Corrs’ recorded catalogue.

Tune Title	Album	Tune Type
<i>Erin Shore</i>	<i>Forgiven, Not Forgotten</i>	Song air
<i>Along With the Girls</i>	<i>Forgiven, Not Forgotten</i>	Double jig
<i>The Minstrel Boy</i>	<i>Forgiven, Not Forgotten</i>	March
<i>Toss the Feathers</i>	<i>Forgiven, Not Forgotten</i>	Reel
<i>Carraroe Jig</i>	<i>Forgiven, Not Forgotten</i>	Double jig
<i>Paddy McCarthy</i>	<i>Talk on Corners</i>	Reel
<i>Old Hag</i>	<i>Home</i>	Double jig
<i>Haste to the Wedding</i>	<i>Home</i>	Double jig

The form of traditional dance tunes primarily last thirty-two measures and normally consist of two eight-bar sections (“A” and “B”) that are repeated, therefore the form of Irish traditional dance music is binary. Tunes of the same type are often conjoined and played directly one after another, however in exceptional cases different tune types can be conjoined.²⁷

Reels are popular and common dance tunes in the Irish tradition (Williams 2010). They are in 4/4 common time and divided into two groupings of four quavers per bar (figure 3.1). Although the tempo of reels can vary they are generally fast-paced.

Figure 3.1: One bar musical notation of a basic reel rhythm pattern.

The most common form of jig is the double jig (Williams 2010) as opposed to the single jig (6/8) and the slip jig (9/8) and is typically played at a fast tempo in 6/8 time. Illustrated in figure 3.2, the double jig has two main beats per bar, an eight-bar phrase structure and a binary form of *AABB*.

²⁷ In their 2016 album contemporary Co. Louth folk group Kern conjoined a modern waltz tune *Heaven’s Gate* with polkas *Pulling Bracken* and *Magic Slipper*.

Figure 3.2: One bar musical notation of a basic double jig pattern.



Musical style is also intrinsic to Irish traditional music and often studied through the concept of regional styles (Kearney 2012). Musicians are commonly associated with various geographical locations across Ireland such as Donegal (Altan), Clare (Martin Hayes), Sliabh Luachra (Padraig O’Keefe) and Sligo (Michael Coleman). Stylistic parameters including articulation (*staccato* and *legato*), phrasing (grouping of melody notes) (McCullough 1977) and ornamentation are specific to regional styles (Williams 2010).

Ornamentation in Irish traditional music is regarded as an important means of expression for the traditional musician (Tourish 2013) and a key signature sound of Irish traditional music. Ornamentation refers to improvised musical embellishments of a melody for variation, aesthetic and decorative purposes. Ornaments can be observed across a range of instruments and due to the capabilities of particular instruments, the types of ornaments executed can be unique to certain instruments. The uilleann pipes present an ideal example:

The *uilleann* pipes, however, have a special quality in that when all the fingerholes are covered, and the end of the chanter is stopped on the knee, no sound is produced, and this facility is used to great effect to introduce silences into the tune, enabling a whole gamut of staccato techniques alongside the more familiar legato ornaments and grace notes.

(Williams 2010, p.133)

The choice of ornamentation is personal to a musician and relevant toward the shaping of an individual and recognisable sound. Acclaimed Irish fiddle player and former member of The Chieftains, Seán Keane (*b.*1946) is widely known for his use of left hand *crans*, which emulate and are a variant of a technique associated with uilleann piping. In his thesis concerning an archive of stylistic parameters for Irish traditional music, Tourish (2013, pp.437-44) explained

the historical context and contentious issue of defining the *cran*, and concluded that it is primarily used to decorate the bottom note and the second note of the chanter. Keane's uilleann piping influences are apparent on his 1975 solo album *Gusty's Frolicks*.

Conclusion

In this chapter the importance of signature sound and five key methods that identify and make distinction between artists within genres has been presented. These methods are used as analytical key points and a means for critical engagement with the signature sounds of Celtic music. This fundamental background is informative of which particular sounds audiences expect to hear when listening to Celtic music. Celtic music has different meanings in different contexts (see Ivakhiv 2005) therefore, for the purposes of this thesis Celtic music is defined as a style of contemporary music, which draws on musical traditions from a number of countries primarily located on the Atlantic edge of Europe with distinctive instruments, styles and articulation, and combines external non-indigenous sounds and influences created in the context of the recording studio for dissemination to a mass audience for a myriad of commercial possibilities. Irish traditional music is a prominent element of the broader Celtic music. The Corrs draw from both popular and Irish traditional music and it is the latter that distinguishes them as a Celtic band in the global music industry. To this end they incorporate elements of the signature sounds of Celtic music and Irish music discussed herein: (i) Irish traditional instrumentation, (ii) Irish traditional rhythms and (iii) Celtic harmony.

Chapter 4 – Critiquing The Corrs’ Signature Sound: *Forgiven, Not Forgotten*

The Corrs are a globally successful band from Dundalk, Co. Louth, recognised for their signature sound that fuses Irish traditional music with folk, pop and rock genres in their original songs and instrumental performances. They are established as one of Ireland’s most lucrative commercial artists to date, selling over forty million albums (Tyaransen 2017). Building on the concepts discussed in Chapters 2 and 3, this chapter establishes The Corrs’ signature sound with consideration of the use of technology in the production process. This chapter discusses the music production content of their debut studio album *Forgiven, Not Forgotten* and establishes a base signature sound by which to contrast the *Home* and *Jupiter Calling* albums by, forthcoming in Chapter 5.

To establish a sound by which *Home* (2005) and *Jupiter Calling* (2017) can be contrasted by, the following album analysis takes an in-depth examination of the production of five recordings from *Forgiven, Not Forgotten* (1995): *Runaway*, *Forgiven, Not Forgotten*, *The Right Time*, *Love to Love You* and *Toss the Feathers*. The first four tracks are official singles written, arranged and performed by The Corrs and *Toss the Feathers* is a fully instrumental Irish traditional tune arranged and performed by The Corrs that was not released as a single. Within the analyses is critical consideration of Zagorski-Thomas’ (2010) concept of functional staging.

Forgiven, Not Forgotten is The Corrs’ debut album and was released on the 26th of September 1995 through 143 Records, a subsidiary logo label of Atlantic Records, directed by the album’s producer David Foster (b.1949). *Forgiven, Not Forgotten* was primarily recorded in Chartmaker

Chapter 4 – Critiquing The Corrs’ Signature Sound: *Forgiven, Not Forgotten* Studios²⁸ in Malibu USA, Foster’s private studio in his residential estate with a bespoke array of music technologies. *Recording Engineer/Producer*, a publication that covered professional recording, production and studio technology from 1970–1992 detailed Chartmaker’s studio specification in 1986 (p.74) shortly after its opening. Completed in the first half of 1995 (Bessman 1995, p.77), *Forgiven, Not Forgotten* was created at a time of hybridity in sound recording and production technologies, which as detailed by Bennett (2019) saw the gap bridged between the analogue recorders of the 1970s and 1980s and the DAWs of the late 1990s and into the 2000s. Jim Corr *Forgiven, Not Forgotten*’s co-producer stated the album was recorded on a recently installed Sony DASH²⁹ 3348 reel-to-reel digital multi-track recorder. Additional recording for the album took place in The Record Plant recording studios in Los Angeles, which was launched in 1969. The release of *Forgiven, Not Forgotten* coincides with a significant increase in interest internationally in Irish music as a result of Bill Whelan’s *Riverdance* (Ó Cinnéide 2002) and musical references to Irish traditional music are also evident in the analysis.

Forgiven, Not Forgotten consists of nine original contemporary pop/rock songs of which five were released as official singles across global territories, and six instrumental performances. Additional guest musicians who feature on the album include members from Foster’s professional music circle: Simon Franglen (Synclavier synthesiser programming), Michael Thompson (guitar), Simon Phillips (drums), Neil Steubenhaus (bass guitar) and Tal Herzberg (bass guitar). Irish percussionists Noel Eccles and Des Reynolds performed Bill Whelan’s lambeag drum arrangement on the final track *Erin Shore*. Andrew Boland the recording and mix engineer of *Riverdance* recorded the lambeag drums in Windmill Lane Recording Studios, Dublin. The

²⁸ Chartmaker no longer exists as it was destroyed during a California wildfire in 2007.

²⁹ DASH is an anagram for Digital Audio Stationary Head.

Corrs’ band musicians, Anthony Drennan³⁰ and Keith Duffy³¹ did not participate in the album as they did not join The Corrs until the rehearsals for the *Forgiven, Not Forgotten World Tour* after the album was completed.

³⁰ In 1995 Drennan was already an experienced session musician who had recorded with key Irish musicians including Clannad, Andy Irvine, Davy Spillane and Rita Connolly.

³¹ Duffy was an experienced touring musician and played bass guitar for Andrew Strong from 1990–1994 and for The Commitments band from 1994–1995.

Music Production Content Analysis: *Runaway*

Runaway was released as The Corrs’ debut single in September 1995 and is sequenced as the sixth track on the *Forgiven, Not Forgotten* album. In her memoir Andrea Corr (2019) describes herself and her sisters in Foster’s living room, playing a song originally started by Caroline Corr in Dundalk, that they had just finished writing. Andrea recounts that *Forgiven, Not Forgotten* was nearly complete at the time when Foster enquired about the song, which ultimately became the first Corrs’ single to air on the radio: “and last shall be first: ‘Runaway’” (2019, p.111). The following analysis demonstrates both pop and ‘Celtic’ aesthetic choices.

Runaway’s original album version is four minutes and twenty-four seconds in duration while a shorter version was released for radio. *Runaway* peaked at number ten in the Irish singles charts and at number forty-nine in the UK (Official Charts Company 2019b). According to the Official Charts Company (2019c) the UK singles chart included electric dance music (Babylon Zoo, Technohead, and Ace of Base), contemporary pop (3T, Mariah Carey and Cher) indie (Red Hot Chili Peppers and Ocean Colour Scene) and urban (Luniz). In 1999 *Runaway* was later remixed by electronic music duo, Tin Tin Out and reached number two. Britney Spears’ debut single ...*Baby One More Time* (1998) held the number one position. Despite its success, this remix is not the subject of this analysis.

Runaway is a pop/rock ballad and more specifically, a love song, which lyrically expresses the protagonist’s love for their partner. It is an uplifting narrative where the writer declares in the first person that she has fallen in love and will never stop loving the person to whom the lyrics are addressed. The song arrangement is aesthetically pop/rock, and features a violin/tin whistle motif, contrasting dynamic sections, major/minor key modulations, an augmented fourth, an electric guitar crescendo, female backing vocal harmonies and a mix of Irish traditional instruments

(violin, tin whistle and bodhrán) with contemporary popular instruments (piano, guitars, bass guitar, programmed drums, sampled harp and a string pad). The tempo of 76 beats per minute (BPM henceforth) does not waver throughout, indicating a click track was present in the recording stage, and the 6/8 metre changes to double-time, adding a climatic peak to the final chorus sections. Harmonically the key is F major for the introduction, verse and chorus sections, and the pre-chorus sections modulate to the relative D minor.

Dynamic Contour

The dynamic contour of *Runaway* is reflective of its production and is illustrated as a line graph in figure 4.1. The x-axis represents the timeline of *Runaway* from the beginning through the end and corresponds to the song section markers in the Pro Tools analysis session file (Appendix F). The y-axis represents dynamic volume ranging from silence at the origin, to *fortissimo* at the top of the graph. As shown in the graph, *Runaway*’s production is additive in style, indicating after from the moderately loud introduction and from the first verse onwards, the song builds up in instrumentation, intensity and dynamics. Figure 4.2 is a screenshot of the stereo audio file waveform and corresponds directly to figure 4.1 and further exhibits the density build-up of *Runaway* on the timeline annotated in Pro Tools.

Figure 4.1: Dynamic contour graph of *Runaway* illustrating the density build up of the production from start to finish.

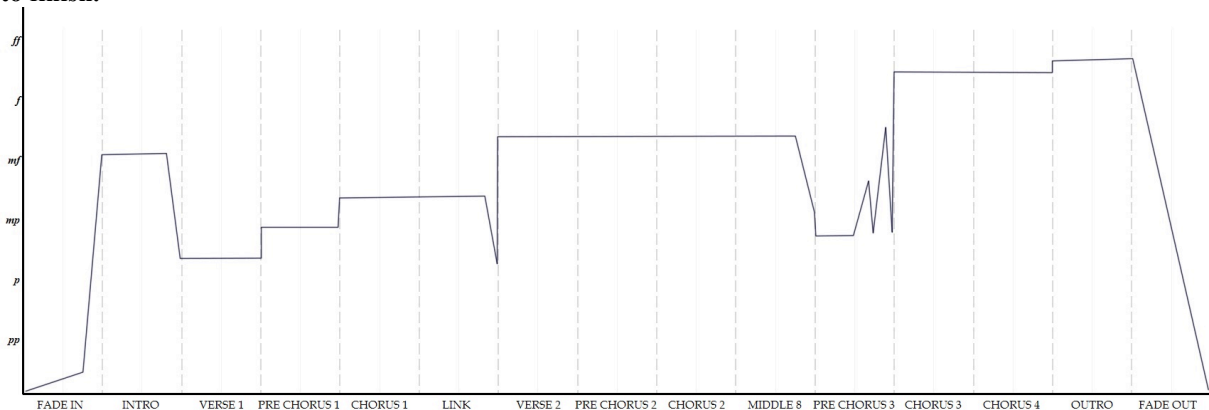


Figure 4.2: Screenshot of the stereo audio file of *Runaway* taken from the Pro Tools music production content analysis session file, illustrating the density profile of the production along the timeline.



The second chorus exhibits a large dynamic peak, demonstrated most noticeably by snare drum stacking, the addition of an overdriven rhythm electric guitar and the backing vocal layer. The layering of the snare drum and rim shot samples are indicative of multi-track sequencing technology. The overdriven electric guitar performs smooth and sustained strums and is panned opposite the clean electric guitar, which plays a sustained melodic sequence in the upper register of the instrument. The alto backing vocals are a continuation from the previous pre-chorus and move in parallel sequence with the melody and lyrics, and echo the second phrase “fallen in love” at bar forty-nine. Figure 4.3 illustrates the additive vocal production arrangement through the plotting of audio regions in Pro Tools.

Figure 4.3: *Runaway*'s vocal arrangement plotted in Pro Tools. The light green boxes signify the lead vocal, the purple boxes signify double tracking, the pink boxes signify female vocal harmonies and the dark green boxes signify repeats.



The second half of the third pre-chorus demonstrates a dynamic increase with the addition of combination backing vocals and palm muted *staccato* rhythm electric guitars. The backing vocals illustrated in figure 4.4, are at their most complex in the production and consist of: (i) a double of melody, (ii) two alto harmonies that punctuate selective lyrics “runaway” and “with you”, (iii) two alto harmonies that are repeated at beat four of bar sixty-seven and (iv) an ad-libbed “yeah with you” lyric placed a third above the melody. At bar seventy the drums, bass guitar and electric guitars perform a build up articulated on each beat of the bar and a downward melodic sweep on the harp signals in a one-bar solo of heavily distorted electric guitars which plays a

rhythmic motif on F and B flat power chords. This serves as a dramatic and climatic peak in the production.

Figure 4.4: Notated vocal harmonies from bars sixty-six to seventy of *Runaway*, illustrating the multi-layered vocal production.

The figure shows a musical score for vocal harmonies in 6/8 time, spanning bars 66 to 70. The score is written for seven parts: MELODY, DOUBLE, ALTO 1, ALTO 2, ALTO 1 (repeat), ALTO 2 (repeat), and AD-LIB. The key signature has one flat (Bb). The lyrics for each part are as follows:

- MELODY:** I would run-a way I would run-a- way with you.
- DOUBLE:** I would run-a- way with you.
- ALTO 1:** run-a way run-a- way with you.
- ALTO 2:** run-a way run-a- way with you.
- ALTO 1 (repeat):** run-a way run-a- way with you.
- ALTO 2 (repeat):** run-a way run-a- way with you.
- AD-LIB:** Yeah with you.

Led in by a reversed cymbal swell, the third chorus immediately follows this section at full dynamic intensity. The drum kit, bass guitar and overdriven electric guitars provide a solid foundation for the multi-layered backing vocals and the lead vocal. The backing vocals closely follow the melody six notes below it and an additional track of female backing vocals selectively repeat the phrase “fallen in love’ at bar seventy-four. The melodic motif performed on the violin and the tin whistle also sound however these instruments are not the key feature of the mix and are placed behind the lead vocal.

At bar 103, a twenty-second fade-out begins, bringing the song to an unresolved close. Warner (2003, pp.32-33) attributes the fade-out as a typical characteristic example of pop music and notes that a fade-out typically happens during the chorus of a song, often where the arrangement

Chapter 4 – Critiquing The Corrs’ Signature Sound: *Forgiven, Not Forgotten* is at its fullest, encourages repeated listening and acts as incentive for the listener to purchase the record. Weir (2014) recognises that it was a popular technique for ending songs from the 1950s until the 1990s, however the fade-out has disappeared almost entirely from recent chart-oriented music with the exception of Robyn Thicke’s (2013) *Blurred Lines*. As *Runaway* was written last for *Forgiven, Not Forgotten* and therefore not yet performed live, it is possible at the time that The Corrs did not have a need to create a cold ending.

A Pop Aesthetic

Runaway opens with a sampled reversed ride cymbal swell approximately two and half seconds in duration. Sampled reversed cymbal swells are a common signature sound of chart-oriented music of recent years and have been used to effect on singles such as *To You I Belong* (B*Witched 1998), *I Kissed a Girl* (Katy Perry 2008) and *Head Above Water* (Avril Lavigne 2018). As opposed to sequencing a recording of a *crescendo* performed on a cymbal with mallets, for example, audible at the beginning of *My Secret Bliss* (Afro Celt Sound System 2005b), the reversed cymbal swell is a different sound and is an example of creative studio manipulation. It is achieved by recording a sample of a cymbal crash with its natural decay, reversed in studio hardware or DAWs, automated to rise in volume by a fade-in and finally, edited and treated to fit within a music production. In the case of *Runaway*, the reversed cymbal serves as an introductory tool to set the production up for the incoming instrumentation. While a natural *crescendo* performed with mallets on a crash cymbal would undoubtedly suit the song, the use of a sample demonstrates an awareness of the musical trends at the time such as *Vision of Love* (Mariah Carey 1990), *Why* (Annie Lennox 1992) and *7 Seconds* (Youssou N'Dour 1994).

Andrea’s vocal is most prominent in the mix and provides the essential role of delivering the song’s lyrics and melody. Warner (2003) states the lead vocal is an extremely important element

of pop music because the human voice commands the listeners’ attention and communicates the message of a song through lyrical delivery. Warner also explains that lead vocals have been subject to enhancement in the recording studio by the ‘drop in’ technique, achieved on multi-track recording technology, which “enable musicians to record and edit their particular contribution, a section at a time, by dropping the track in and out of recording mode” (2003, p.31), resulting in precise and perfect recordings which may not be achievable in one take. Andrea’s lead vocal is treated with light compression and a small amount of stereo reverb.

A Celtic Aesthetic

A recurring melodic motif (figure 4.5) is performed on the violin and tin whistle in unison from bars one to five, suggesting a Celtic aesthetic over a contemporary arrangement consisting of a drum kit, bass guitar, piano, acoustic guitar and a string pad. The motif brings a Celtic aesthetic to the production in three ways. Firstly the violin and tin whistle are common instruments in Irish traditional music. Secondly in the Irish musical tradition, melodies performed on differing instruments are typically played in unison. Thirdly grace notes are used to ornament the melody, these grace notes are notated in figure 4.5 as cuts (bar one) and taps (bar four). This motif recurs throughout the track in varying lengths, typically bridging choruses and verses. In the middle eight, the motif is recapitulated twice as a key feature and doubled with a sampled accordion, which performs the melody in unison. The sampled accordion, which has been programmed by a keyboard, is low in the mix but its presence strengthens the Celtic aesthetic in the production.

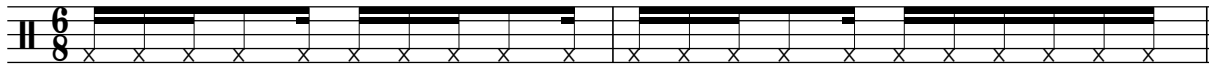
Figure 4.5: Musical notation of *Runaway*'s melodic motif.



The Irish drum or bodhrán is included on this recording. It should be noted that the treatment of the bodhrán in the mix is not reflective of its usual place in Irish traditional music, for on this

occasion, it lacks low-frequency presence due to severe high pass filtering. This aggressive filtering blurs the instrument into the mix and makes it difficult to discern. It is possible that without high pass filtering, the bodhrán may have demanded too much attention in the mix and sounded out of place, especially as it has not sounded in the production thus far. While 6/8 is a rhythm used in Irish traditional music for jigs, *Runaway*’s tempo of 76 BPM is slower than the average traditional jig, which is typically between 80 and 120 BPM. Caroline Corr plays a rhythm of semiquavers (figure 4.6) across seven bars.

Figure 4.6: An approximation of the bodhrán jig rhythm pattern in *Runaway*.



As discussed previously in relation to Clannad and Anúna, vocal harmonies are perceived as part of the Celtic aesthetic (figure 4.4) and *Runaway* exhibits a rich backing vocal production.

Texture

Runaway demonstrates a strong consideration of texture throughout the production, contributing to the presentation of both pop and Celtic sounds. From the introductory passage, Moore’s (2012) four textural layers are employed: (i) the explicit beat layer is articulated by the drums, (ii) the functional bass layer is provided by the bass guitar and to a lesser degree, the piano, (iii) the melodic layer is provided by the violin and tin whistle melodic motif which has a strong effect on the identification of the song and the artist by bringing a Celtic aesthetic to a contemporary production, and (iv) the harmonic filler layer which fills the space between the bass and treble layers is constituted by the acoustic guitar, string pad and middle register of the piano. The acoustic guitar sits in the background of this harmonic layer, providing high-end frequency brightness with the instrument’s upper register, while the string pad provides a continuous and rich breath of frequencies and the piano provides sequential movement.

A significant textural change is created in the first verse when the dynamic contour takes a sudden decrease, visually illustrated in figures 4.1 and 4.2. This is achieved by the dropping out of the drums, bass guitar, string pad and melodic instruments. Andrea Corr’s lead vocal (primary melodic layer) enters the arrangement to a harmonic filler layer of piano and acoustic guitar. The strumming pattern of the acoustic guitar becomes immediately more audible in the mix and mirrors the piano’s regular semiquaver rhythmic pattern one octave higher in register.

The first chorus is marked with three subtle additions to the production: (i) the presence of a synthesised bass line, (ii) a change in the rhythmic pattern of the piano and acoustic guitar and (iii) acoustic double tracking of the lead vocal. The synthesised bass is low in the mix and performs the root notes of the two-bar I-ii-IV harmonic sequence. The change in the piano and acoustic guitar rhythmic pattern adds a sense of urgency to the lyrical theme while filling in space created by the lead vocal which performs sustained notes as part of the melody. The acoustic double tracking is audible by the chorus effect on the lead vocal and is created by the process of recording an additional copy to a pre-existing track. Both tracks are evident in the final mix and the copy track serves as a textural element by thickening the sound and making the performance stronger. Female backing vocals further strengthen the last chorus lyric, primarily following the contour of the melody but also providing variation on the lyric “with” (figure 4.7). As the Corr sister siblings are accredited as vocalists in the album’s sleeve notes, it can be deduced that they provide these backing vocals. The vocal combination is synergistic and unifying due to the complementary and similar tones of each sister sibling. Andrea Corr (2019) said, “I like to imagine it’s the sound of and vibration of the minutest [sic] differences, rather than the similarities” (p.101).

Figure 4.7: Notated vocal melody and alto vocal harmony for the last lyric of *Runaway*'s chorus.

The image shows two staves of musical notation. The top staff is labeled 'MELODY' and the bottom staff is labeled 'ALTO'. Both staves are in G major (one sharp) and 4/4 time. The melody staff has a treble clef and a key signature of one sharp (F#). The alto staff has a bass clef and a key signature of one sharp (F#). The lyrics for the melody are 'I'm never gon-na stop fall-ing in love with you.' The lyrics for the alto are 'stop fall-ing in love with you.' The melody starts with a quarter rest, followed by a quarter note G4, an eighth note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F#4, a quarter note E4, a quarter note D4, and a quarter note C4. The alto starts with a whole rest, followed by a quarter note G3, an eighth note A3, a quarter note B3, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F#3, a quarter note E3, a quarter note D3, and a quarter note C3.

A combination of a drum fill, a bass guitar slide and a short reversed cymbal swell, propels the second verse and forebears a substantial textural change. This change is most apparent due to the return of the drum kit, bass guitar and string pad but also includes the addition of reverberant and effected electric guitars. The bass guitar and kick drum are synchronised tightly and compliment each other in terms of frequency balance, as both are clearly audible. It must be noted that despite the textural and dynamic change, the combination of piano and acoustic guitar established in verse one remain the primary harmonic layer, therefore the second verse is a development which fits within the context of *Runaway*'s production thus far. Henceforth the vocal production is subject to additions. The lyric “candlelight” is sung three notes above the melody by the female backing vocals. The use of digital delay is apparent on the melody line “through the night” and each repeat is panned hard left and hard right respectively.

Experimenting With Sound

Some of the aesthetic decisions came about during the production process. During the outro to *Runaway* the fourth note of the F major key becomes augmented, from a B flat to a B natural, giving an unexpected change to the melodic content of the song. The melodic motif implements this change (figure 4.8) and importantly, this augmentation would not normally be found in Irish traditional music. According to Jim Corr this occurred by accident when he played a G major chord instead of a G minor chord:

Runaway was basically written by Andrea and Caroline, and then myself and Sharon came in. Sharon wrote the melody line and we all came in and we wrote parts on top of it. Anyway it came to the end part and it might have been kind of an accident that happened on the keyboard where

instead of sticking on the minor, I went to the major and I thought “Actually that works!” so we then incorporated it but it was something I thought of at the end.

(Caffrey 2020)

Figure 4.8: Notation of *Runaway*'s melodic motif with the augmented fourth that sounds during the song's final sections.



***Runaway* Summary**

The production of *Runaway* exhibits a number of production choices and musical elements, which are indicative of 1990s popular music and of Celtic music. The use of a sampled reversed cymbal swell three times as a transitional device and the twenty-second fade-out, are typical signature sounds of chart-oriented music of the era. Indicative of the digital recording process, the tonality of the finished production is reflected by clean and tight recordings, with no audible external noises such as hum or hiss. Each instrument is exemplary in delivery and perfect in tuning and timing. In an era pre-Auto-Tune and in a studio environment which had not yet incorporated the DAW into its workflow, the performances were perfected by careful drop ins and overdubs. How *Runaway* differs from other pop/rock ballads of the era is executed through the signature sound of The Corrs: Andrea Corr’s distinctive lead vocal, layered female sibling backing vocals, and the use of Irish traditional instruments, the violin, tin whistle and bodhrán.

Music Production Content Analysis: *Forgiven, Not Forgotten*

Forgiven, Not Forgotten is the second UK and European single from the *Forgiven, Not Forgotten* album, released in February 1996. Peaking at number one in Ireland, the single reflected Irish enthusiasm for the band meanwhile in the UK, the single peaked at number 155 (Official Charts Company 2019b), which indicated The Corrs had not yet gained significant appeal in the UK market. According to the Official Charts Company (2019d) Britpop band Oasis, electronic dance music artist Robert Miles and boy band 3T topped the charts in March 1996. In her memoir Andrea Corr comments on the international reception The Corrs received at this point in their career:

But there were countries that adopted *Forgiven, Not Forgotten*, and us, indeed, like we were their own. Spain, France, Australia ... The UK, our next-door neighbour, eluded us though ... we were in the nowhere between Nirvana and Britney Spears... And, it must be said, this was another time of terror. A time in which English buses were blown up by the Irish. Understandably, we were not so popular.

(Corr 2019, p.125)

Forgiven, Not Forgotten’s lyrics were written by Andrea Corr and are centred on the subject of suicide. She describes in the third person, the grief of the loss of a loved one: “But now the memories of a man are haunting her days and the craving never fades”, while simultaneously contemplating suicide: “Wishing her life goodbye”. An unusually heavy narrative for radio audiences, the theme is disguised and only becomes apparent after several listens. R.E.M.’s *Everybody Hurts* (1992), which was later covered by The Corrs,³² was a top ten hit in Ireland and the UK famously had an anti-suicide message.

Dynamic Contour, Texture and Structure

The dynamic contour of the song is reflective of its production and is illustrated in figure 4.9 as a graph. As with *Runaway*, the production is additive in style, indicating that the song builds up in

³² See “Unplugged” (The Corrs 1999).

instrumentation, intensity and dynamics from the first verse onwards. Figure 4.10 is a screenshot from the accompanying Pro Tools session file and visually exhibits the density of the track’s build up from start to finish.

Figure 4.9: Dynamic contour graph of *Forgiven, Not Forgotten* illustrating the density build up of the production of the song from start to finish.

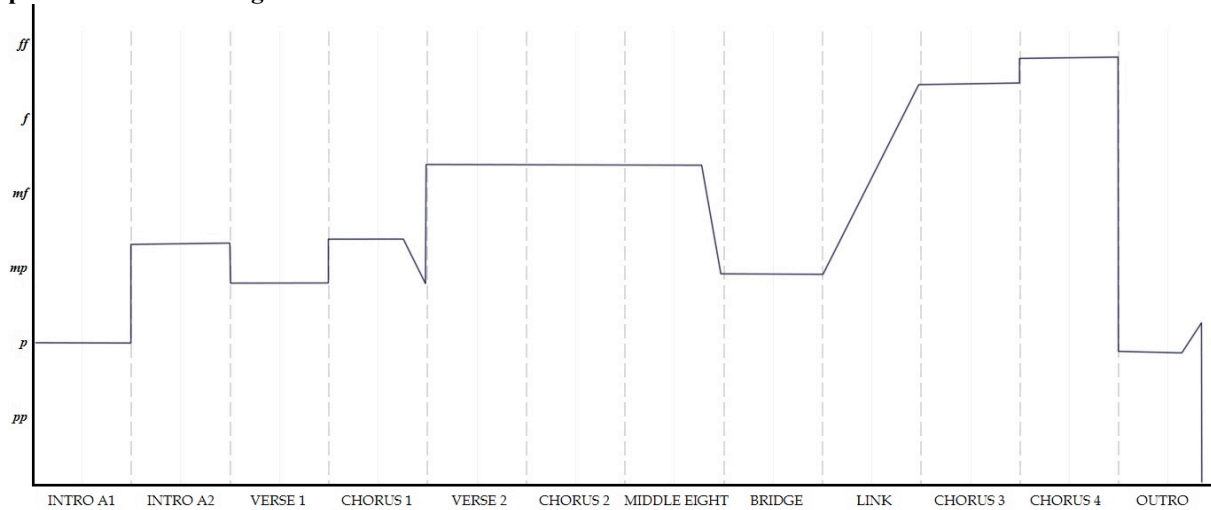
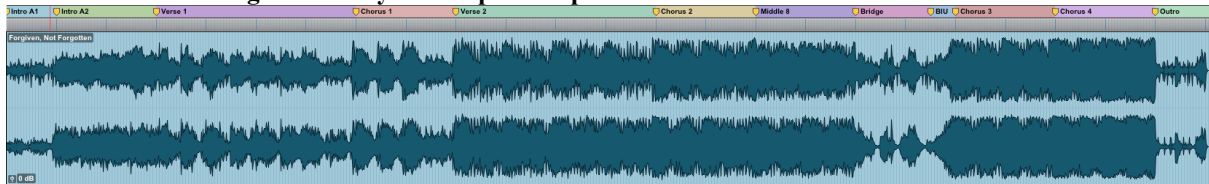


Figure 4.10: Screenshot taken from the *Forgiven, Not Forgotten* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



Forgiven, Not Forgotten opens with a four-bar melodic keyboard piano motif with percussive elements including a bodhrán and a programmed hi-hat. Indicated in figures 4.9 and 4.10 the over-all volume dynamic is quiet, setting up the production for further development. The keyboard has been given a sense of spatial coherence through the application of reverb and quarter note delays. The bodhrán has been panned to the left and treated with a high pass filter, and is mirrored by a rhythmic programmed hi-hat panned opposite. The high pass filtering of the bodhrán is not as aggressive as previously heard in *Runaway* and the cut-off frequency is audibly lower. The rhythm pattern of the bodhrán is primarily based on consistent quavers and emphasises the backbeat.

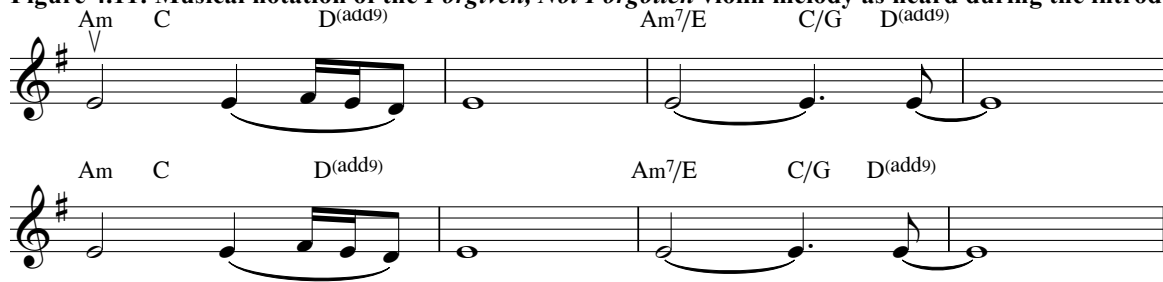
An apparent change in texture occurs at bar thirty-six, linking the first chorus to the second verse and illustrated in figure 4.4 as a rise in the dynamic contour. This is due to the addition of a contrasting tightly synchronised programmed drum kit which is prominent in the mix, an overdriven electric rhythm guitar, an acoustic guitar and acoustic piano composite pairing and a thicker lead vocal. The drum kit features a heavily compressed and low frequency-rich kick drum and bright snare drum which both cut through the mix. The overdriven electric rhythm guitar is the second most prominent feature after the lead vocal and it features a semi-improvised live performance. The performance includes rhythmic and variable palm muting between the notes A3 and A4, strummed simultaneous fourth intervals (bars forty, forty-six and forty-eight), natural harmonics (bar forty-three) and a lead motif (bar fifty-two). The stereo sound staging of the drums, bass guitar and rhythm electric guitar mimics a large-scale space and is an ideal example of Zagorski-Thomas’ (2010) functional staging related to rock music. The composite acoustic guitar and acoustic piano pairing is a subtle addition to the arrangement, bringing low frequency weight through the piano stabs and high frequency shimmer through the high pass filtered guitar strums.

Contrasting Aesthetics

Forgiven, Not Forgotten’s promotional video features the band on a rotating platform with a variety of contrasting backgrounds. The visuals are dark and mysterious due to the band wearing black clothes and pale make-up while being surrounded by gothic furnishings. Reflecting the Irish traditional aspect of The Corrs’ sound, Jim, Sharon and Caroline are shown playing acoustic piano, violin and bodhrán respectively while Andrea holds her tin whistle throughout the opening shots. In keeping with the music production of the song from the second verse onwards, Caroline is shown performing acoustic drums and Jim performs a Fender Stratocaster electric guitar.

Forgiven, Not Forgotten’s arrangement is aesthetically rock and features contrasting dynamic sections and a Celtic aesthetic with The Corrs’ respective Irish traditional instruments. In the introduction, Sharon Corr’s violin is panned soft left and performs sustained *legato* E4 notes, supporting the keyboard motif while anchoring the melodic layer. Her performance is ornamented with right-hand *vibrato* and has a Celtic aesthetic due to the descending melody (figure 4.11) which features during the first bar of each phrase. The bodhrán also sounds however its presence is very subtle.

Figure 4.11: Musical notation of the *Forgiven, Not Forgotten* violin melody as heard during the introduction.



The middle eight section features an instrumental interlude, which carries forward the second chorus’ arrangement and dynamic momentum. The violin and tin whistle play an original Irish sounding melody (figure 4.12) eight bars in duration and comprised of two four-bar phrases. The melody is composed in the A Dorian mode relative to G major, a common device used in Irish composition. Sharon Corr uses a slide up to the E from the open D note as notated in figure 4.12 and employs light *vibrato*.

Figure 4.12: Musical notation of the *Forgiven, Not Forgotten* middle eight melody.



The bodhrán sounds during the bridge section, performing a rhythmic pattern consisting of four groupings of semiquavers per bar. Andrea’s lead vocal is softly delivered and has been treated with timed delays audible at the end of each lyrical phrase. As annotated in the Pro Tools session file (Appendix F), a two-bar build up occurs after Andrea’s whisper “but not forgotten”, comprising of violin, a padded synthesiser swell, overdriven electric guitar, bass guitar and drums which propel the song to the next double chorus. The interplay of pop/rock and Celtic sensibilities is evident in the double chorus. The rock aesthetic is articulated by the drums, bass guitar and a wall of multi-tracked overdriven electric guitars, comprised of stacked power chords, panned rhythmic movement across the upper range of the instrument, swells and high pass filtered strums. This stereo spread of electric guitars adds to the dynamic density of the production. The second half of the double chorus exhibits a new melody (figure 4.13) performed on violin and tin whistle in unison, which cut through the mix. This addition brings a Celtic aesthetic to the production due to the instrument pairing and the rhythmic pattern of the melody. The frequent repetition and regularity of its form is also indicative of Celtic music.

Figure 4.13: Musical notation of the melody performed on the violin and tin whistle in unison on *Forgiven, Not Forgotten*'s fourth chorus.



Vocal Production Approach

Andrea Corr’s vocal is most prominent in the mix and treated with bright delays and reverb, particularly audible at the end of each lyrical sentence. Her vocal has been lightly compressed to draw out the creak onset audible on “watching her life go by” and to balance the overall level. This throaty creak is used for emotional effect to suggest personal pain and to communicate the emotion effectively. Each vocal line has been carefully articulated to express maximum emotional content through an imaginative vocal expression while simultaneously achieving perfect pitch and timing.

All Corr siblings participate in this vocal recording. The vocal arrangement consists of Jim (panned right) who voices the tenor line, Sharon and Caroline (panned left) who voice the alto line together and Andrea (panned centre) who voices the melody. Sharon and Caroline select the “You’re forgiven not forgotten” phrase, Jim omits the “you’re” lyric and all sing harmonies that follow the melody (figure 4.14). This vocal arrangement is a key signature sound of The Corrs’ and was showcased in the media *a capella* and unplugged on several occasions (see Costa 2009b, The Corrs 2013 and The Late Late Show 2015).

Figure 4.14: Musical notation of the *Forgiven, Not Forgotten* chorus melody and harmony backing vocals.

MELODY
You're for - giv - en not for - got - ten. You're for -

ALTO
You're for - giv - en not for - got - ten. You're for -

TENOR
For - giv - en not for - got - ten. For

giv - en not for - got - ten. You're for -

giv - en not for - got - ten. You're for -

giv - en not for - got - ten. For -

giv - en not for - got - ten. You're not for got - ten

giv - en not for - got - ten.

giv - en not for - got - ten.

Musical word painting occurs in two instances during the second half of the first verse. At bar twenty, the lyric “Different shades of mundane” is reflected by two distinct electric guitar takes

Chapter 4 – Critiquing The Corrs’ Signature Sound: *Forgiven, Not Forgotten*
that have been spliced together. The first guitar plays a series of natural harmonics³³ and the second plays a descending slap motif, similar to the signature style of bass player Vic Wooten, as mentioned in Chapter 3. These two guitar motifs are distinctive in their performance, style and execution but are perceived as one instrument or one performance take, due to overdubbing and editing techniques. The fact that two distinct and differently shaded electric guitar sounds appear immediately after the lyric is no accident. Word painting occurs at bar twenty-four, immediately after the lyric “has often heard her cry”. A second piano panned hard right performs a descending melody in the upper range of the instrument while coinciding with the violin performing a slurred repetitive F sharp-G-F sharp melody. The piano sounds distinctly acoustic and contrasts with the keyboard piano tone audible thus far.

Experimenting With Sound

Stacked backing vocals occur from bar eighty-nine until ninety-two simultaneously with the chorus vocals and violin/tin whistle melody. These previously unheard vocals perform a counter-melody with nonsensical monosyllabic “bop”s, which add variation to the production. It is common to overdub this style of backing vocal multiple times to achieve an articulated sound. When speaking about recording The Corrs’ demos in Dundalk during their formative years, Jim Corr said this approach to backing vocal layering was implemented and experimented with:

I knew you could get a sound by putting three girls on one mic panned over the left and again, three girls on the same mic put panned over to the right. There’s six voices for a start. You could go further but there could be diminishing returns with that. With that block harmony recording we were able to get together, but obviously not with the pristine quality that you would get from studio equipment. It was alright, it was half decent.

(Caffrey 2020)

³³ Harmonics are overtones of notes and in this case, the fundamental notes have been omitted by striking the open strings of the guitar while the fret hand lightly touches each string directly over the fret applicable.

This technique was re-implemented in David Foster’s recording studio where the vocals were re-recorded with high-end studio recording equipment:

All of the vocals we re-did because we would have done them on a beautiful Neumann U-87 ... Valve microphones give that lovely warmth to the sound, of course if you layer that, or if you double track that over and over again, you get beautiful, beautiful, sound.

(Caffrey 2020)

Forgiven, Not Forgotten Summary

Forgiven, Not Forgotten exhibits Celtic aesthetics within a contemporary rock production of guitars, keyboards, bass and drums. The staging of these sounds relates to Zagorski-Thomas’ (2010) functional staging where the sound of rock arena is emulated through the production process. The weight of the combined Celtic aesthetic is greater than audible in their previous single, *Runaway* due to an increase in the prominence of Irish sounding melodies and rhythm patterns performed on the violin, tin whistle and bodhrán. Due to the continuation of this Celtic aesthetic in this production, it can be ascertained that this is one of the features of The Corrs’ signature sound.

Of notable prominence in the song is its vocal production, which incorporates the voices of all Corr siblings as a group. Sequential harmonies follow the melody and a singular counter melody occurs as a group overdub. The approach to layering and stacking The Corrs’ vocals through overdubbing and panning was a key technique that Jim Corr experimented with his sisters in his project studio in Dundalk that carried forward into David Foster’s commercial recording studio. The Corrs’ backing vocals and Andrea Corr’s lead vocal are also recurring elements in both productions analysed so far, furthering the recognisability of their signature sound.

Music Production Content Analysis: *The Right Time*

The Right Time is the third UK and European single from the *Forgiven, Not Forgotten* album and was released in May 1996. Reflecting the reception of previous singles *Runaway* and *Forgiven, Not Forgotten*, *The Right Time* did not chart highly in the UK and peaked at number eighty-two (Official Charts 2019b) but reached number three in the Irish Singles Chart. According to the Official Charts (2019e), releases from pop music artists Baddiel, Skinner and Lightning Seeds, Gina G and Peter Andre topped the UK singles chart. The single *The Right Time* differs to the version released on the album due to additional postproduction by the Swedish production team *Lemon Productions*.³⁴ As this thesis considers the production of the *Forgiven, Not Forgotten* album, the *Lemon Production* remix is not the subject of this analysis.

Dynamic Contour and Texture

Figure 4.15 illustrates the dynamic contouring of *The Right Time* as a graph, which shows contrasting sections within the production. The track’s stereo waveform (figure 4.16) shows these contrasts in lesser detail. This may be due to stereo compression that occurred during the mastering³⁵ process to ensure all parts of the song are heard clearly, indicative of pre-empted radio play. These figures show a visible difference in the contouring approach when compared to *Runaway* and *Forgiven, Not Forgotten*.

³⁴ *Lemon Productions* is best known for producing Real McCoy’s 1993 number two hit *Another Night* and consisted of music producers Per Adebatt, Tommy Ekman and Douglas Carr.

³⁵ Although the *Loudness War* (see Deruty 2011) had yet to come into full effect in the 1990s, mastering engineers had begun to optimise music volume levels for CDs, generally making recorded music louder by decreasing dynamic range.

Figure 4.15: Dynamic contour graph of *The Right Time* illustrating the density build up of the production from start to finish.

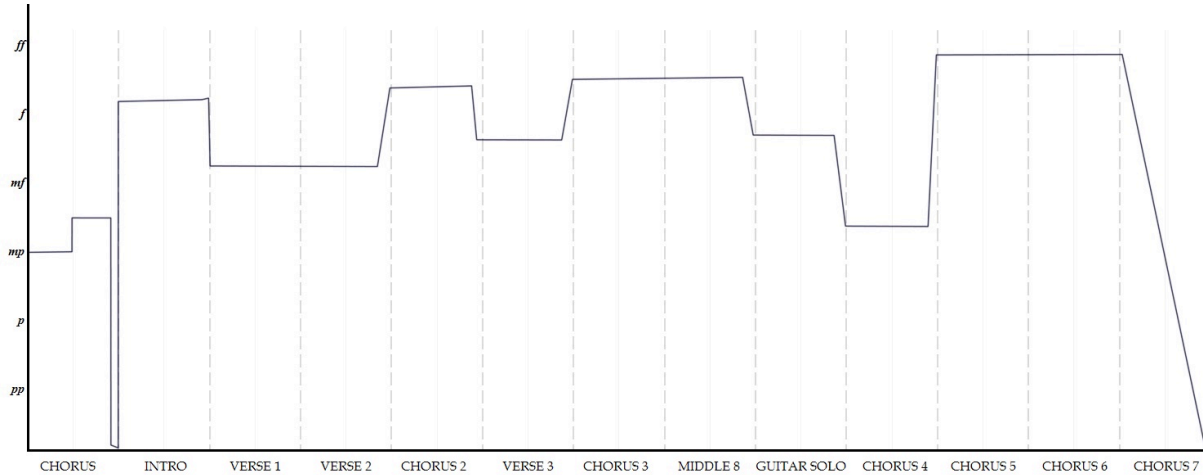
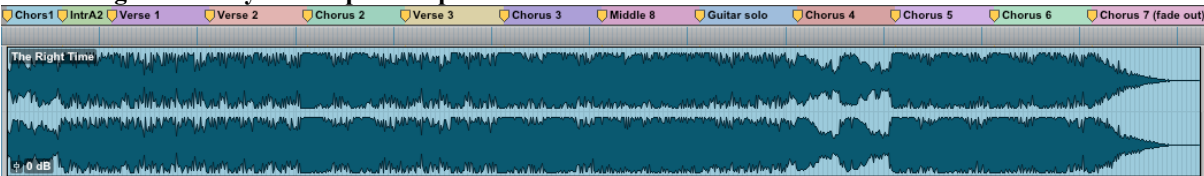


Figure 4.16: Screenshot taken from *The Right Time Pro Tools* music production content analysis session file illustrating the density build up of the production from start to finish.



The second chorus shows a dynamic lift with the addition of a tambourine, sustained padded synthesiser and a melodic motif (figure 4.17). The texture of the three verses is typically comprised of a tightly compressed sequenced drum pattern with a syncopated hi-hat (explicit beat layer), a bass guitar (bass layer) that has been layered with a synthesised bass, a syncopated keyboard and a sustained electric guitar that has been treated with chorus and spatial effects (harmonic layer). The combination of the syncopated hi-hat rhythm, groove of the bass and the offbeat keyboard gives a reggae aesthetic to the production and is indicative of the music production of The Police, who The Corrs have commonly cited as a musical influence. Additions to the production include synthesised brass *staccato* hits, a stereo spread of multi-tracked electric guitars and a variant bass synthesiser.

Changing Image

The Right Time was accompanied with a promotional video that portrayed The Corrs in an alternative fashion with heavy make-up, styled haircuts and matching outfits. Sharon Corr performs with an electric violin instead of her acoustic violin. The gothic image portrayed in the *Forgiven, Not Forgotten* video was visibly replaced. The combination of the remix and the change of image suggest an attempt to reach a mainstream audience. The sleeve insert from *The Best of The Corrs- The Videos* confirms this suggestion:

The Right Time was targeted at pop radio by Atlantic US, hence the video theme of 60s pop tinged with psychedelia, and the band's new haircuts and publicity photos - the new style lasted a week or so before the Corrs' classic look returned.

(The Corrs 2002)

Sequenced seventh on the *Forgiven, Not Forgotten* album, *The Right Time* is an upbeat pop song in which Andrea Corr describes in the first person, the excitement and joy of creating music and writing songs in the band, and is themed on their hope for success. This theme contrasts with that of the *Forgiven, Not Forgotten* single. Most prominent in the production is the chorus lyric “This is the right time, once in a lifetime” and is always sung as a group harmony. This musically illustrates The Corrs’ collective self-belief as successful and professional recording artists, which Jim Corr referred to in Chapter 2.

Pop and Celtic Aesthetics

The song’s tempo is 94 BPM in 4/4 timing and is performed in the key of G major with a modulation to the relative E minor during the middle eight and instrumental section. From the fifth chorus until the fade out, the key modulates up one step from G major to A major, resulting in an unexpected lift. This musical technique, termed as “modulating by step” (Music Notes 2018) is frequently employed in contemporary chart-oriented music, and is audible on musical examples *I Want it That Way* (Backstreet Boys 1999), *Love on Top* (Beyoncé 2011) and *All I Ask*

(Adele 2015). In addition musical modulations are a common feature in David Foster’s productions, audible for example on singles; *I Swear* (All-4-One 1994), *Un-Break my Heart* (Toni Braxton 1996), and *Because you Loved me* (Celine Dion 1996).

A four-bar motif recurs throughout the production performed in unison on the violin and the tin whistle (figure 4.17). This motif sounds recognisably Irish due to its rhythm pattern. In keeping with the stereo imaging of the single *Forgiven, Not Forgotten* the violin is panned soft left and the tin whistle is panned soft right, keeping them foregrounded in the stereo image whilst highlighting them as another key feature of the production and making the song recognisable as The Corrs.

Figure 4.17: Notation of *The Right Time* motif.



Vocal Production

In contrast to *Runaway* and *Forgiven, Not Forgotten*, *The Right Time* opens with its first chorus, which comprises of an upfront multi-tracked recording of The Corrs’ sibling vocal harmonies *a capella*. A key feature of the song, the alto and tenor harmonies move in sequence underneath the melody. The vocals are spread across the stereo image and are tightly compressed and de-essed. Tight compression, de-essing and overdubbing demonstrates the vocal production indicative of chart-oriented music of the time, for example *Hold On* (Wilson Phillips 1990). In addition, the vocal arrangement of the second phrase “once in a lifetime” is panned opposite to the first phrase. Jim Corr said this was an intentional creative choice implemented though sampling:

We panned it, it was just a little studio trick. That’s easily done. As far as I remember, the girls had sung that “this is the right time”, we put that onto a key, we sampled it onto a key. Then we had complete control over where we could make it happen in the song. We used to do a lot of that. We would get the girls to sing it, then we would sample that and then we could position it or where ever we wanted in the song or mess around with it.

(Caffrey 2020)

The Right Time Summary

It is clear that *The Right Time* exemplifies many of the production techniques used in popular and chart-oriented music of the era with the use of overdubbing, multi-tracking, postproduction treatment, an extended fade out and musical modulations. The combination of the glossy video exhibiting an image change and the remix produced by external music producers, *The Right Time* is aimed at a mainstream audience. In addition the optimistic lyrical theme contrasts with the theme of its predecessor *Forgiven, Not Forgotten*. Recurring elements from *Runaway* and *Forgiven, Not Forgotten* include Andrea Corr’s lead vocal, group vocal harmonies, the violin and tin whistle pairing and Irish sounding motifs are carried forward in *The Right Time*, building The Corrs’ recognisable sound.

Music Production Content Analysis: *Love to Love You*

Love to Love You is the fourth and final single released from *Forgiven, Not Forgotten* for the UK and European markets.³⁶ The single peaked at number sixty-two in the UK Official Singles Chart in February 1997 (Official Charts Company 2019b) and according to the Official Charts Company (2019f), Blur, White Town and George Michael topped the UK singles chart during the same period. *Love to Love You* is a pop/rock song and four minutes and eight seconds in duration, at a tempo of 84 BPM in 4/4 timing. Lyrically it is a love narrative written in the first person, where Andrea Corr explores the theme of unrequited love. Unrequited love is a recurring theme in popular music (Derek and The Dominos 1971; Taylor Swift 2008b; Adele 2011) but as *Love to Love You*’s narrator and lyricist, Andrea Corr inverts the common narrative and communicates her internal difficulty of her inability to return her admirer’s love.

Dynamic Contour

Love to Love You features a pop/rock arrangement of vocals, guitars, programmed drums, percussion, bass guitar, keyboard, synthesisers, violin, mandolin and programmed accordion. Figure 4.18 illustrates the dynamic contour of its production with three distinct build ups however figure 4.19, the stereo audio file shows a lack of dynamic contrast, suggesting the approach to mastering *Love to Love You* may have been similar to *The Right Time*. The combination of the snare drum and tambourine with additions of multi-tracked overdriven electric rhythm guitars, add power and density to the production. At bar thirty, a counter melody performed on a synthesiser that has been treated with spatial timing effects provides variation and interest. Sharon Corr’s sustained *legato* violin melody ornamented with *vibrato*, underpins the vocal melody and acts as a variation, which does not draw focus to itself.

³⁶ *Closer* was released as a single for Australia and New Zealand in May 1997.

In *Love to Love You*, key modulation act as a device to differentiate between song sections. The choruses are in the key of B flat major and the verses and bridge section modulate to the relative G minor. This musical modulation technique was previously employed in *Runaway*. In contrast *Runaway*’s choruses were in the relative D minor key and the verses were in F major. *Love to Love You*’s key modulations also act as a device to accentuate its lyrical content. The first verse in the key of G minor communicates sorrow while recounting memories of meeting the protagonist’s lover “I met you on a sunny autumn day, you busily attracted me when asking for the way” and the second verse wistfully hopes that one day her own feelings will change - “So I pray to God that I could give the love you gave to me”. The pre-chorus and chorus sections in the key of B flat major, communicate joy through lyrics “Time will make it be alright” and “I would love to love you like you do to me”. The change to the major key gives the song an audible lift.

Figure 4.18: Dynamic contour graph of *Love to Love You* illustrating the density build up of the production from start to finish.

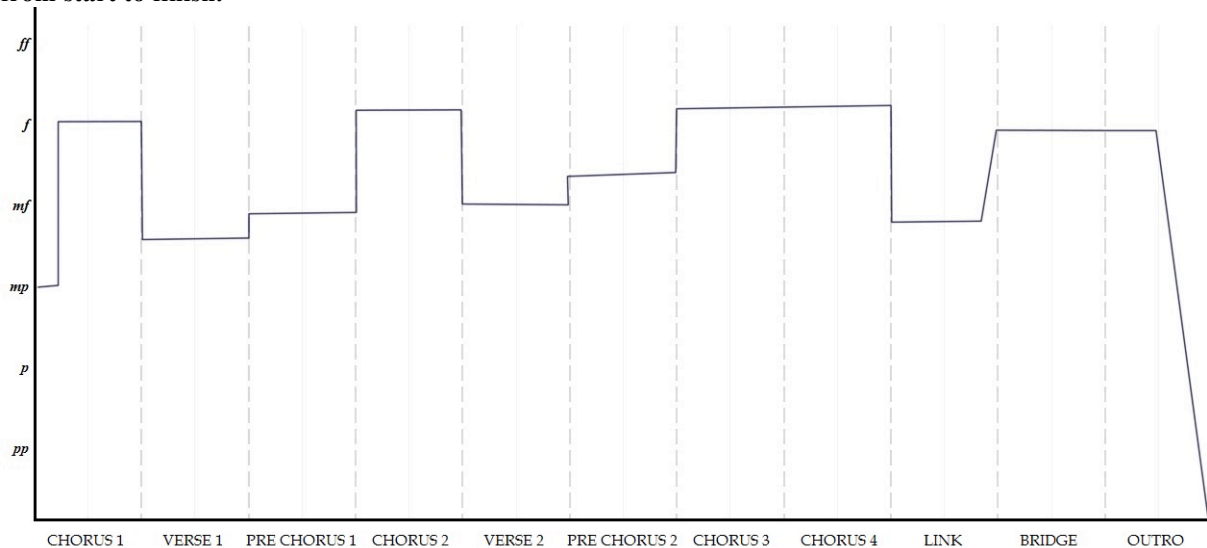


Figure 4.19: Screenshot taken from the *Love to Love You* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



A two-bar instrumental link section occurs at bar sixty-one where a temporary change in key and arrangement occurs. The tonality is C minor with a harmonic movement between C minor 7, C minor 11, returning to C minor 7. These chords are articulated on multi-tracked guitars. The electric guitars have been treated with a phase effect and reversed, adding sonic interest and texture, while the acoustic guitar performs single strums on the downbeats. This link leads in the bridge, which consists of an original melody performed on violin and a programmed accordion in unison. The melody (figure 4.20) is Irish sounding due to its repetitive rhythmic pattern of four semiquaver groupings per bar. Andrea Corr’s lead vocal intersperses with the lyric “Break those pillars down”. The counter melody audible on the synthesiser in previous choruses, returns at bar sixty-eight along with a programmed mandolin sample that plays a descending melody with a semiquaver rhythm pattern. The sample is panned hard right and is high pass filtered, becoming a rhythmic effect rather than a melodic addition to the production.

Figure 4.20: Notation of *Love to Love You’s* contrasting Irish sounding melody that occurs from sixty-three onwards.



At bar seventy-one the outro continues this arrangement and the vocal production becomes noticeably busier due to the addition of the stacked group harmony of the lyric “Love to love you like you do me” and Andrea Corr carrying the lead melody to “Take those pillars down”. This arrangement is illustrated in figure 2.21.

Figure 4.21: Musical and lyrical notation of *Love to Love You's* vocal arrangement from bar seventy-one to seventy-eight.

The musical score is presented in three systems, each with three staves. The top staff in each system is labeled 'MELODY', the middle 'ALTO', and the bottom 'TENOR'. The key signature is two flats (B-flat and E-flat) and the time signature is 4/4. The lyrics are: 'Love to love you like you do me.' (repeated in each system), 'Break those pil-lars down.' (first system), and 'Oh, take those pil lars down.' (third system). The melody part consists of rests in the first two systems and a short melodic phrase in the third. The alto and tenor parts feature rhythmic patterns of eighth and sixteenth notes, often with slurs and ties.

***Love to Love You* Summary**

Love to Love You is primarily a pop/rock production with a focus on vocal production and arrangement. Similar to the previous singles, Andrea Corr's lead vocal is the leading element and

in this production, The Corrs’ backing vocals have also taken a strong position. The interplay between both increases throughout the production, and further establishes The Corrs’ combined vocal sound as part of their recognisable signature. The Celtic aesthetic found in its preceding singles is diminished in *Love to Love You* however it exists through an original melody during its bridge and outro sections, which have similarities to melodies typical of Irish traditional music. This particular melody is performed in unison on violin and programmed accordion, which reinforces the Celtic aesthetic. Another commonly used instrument in Irish traditional music the mandolin, is present in this production although it is not as a primary musical element. Missing from this production are the principal Irish musical instruments of Andrea and Caroline Corr: the tin whistle and the bodhrán. In terms of music production practices of the 1990s, *Love to Love You* indicates multi-tracking, overdubbing and sampling techniques within a popular music production, and in accordance with the previous analyses, sounds polished and perfected.

Music Production Content Analysis: *Toss the Feathers*

Toss the Feathers is a non-single track and is sequenced ninth on the *Forgiven, Not Forgotten* album. Out of the six instrumental recordings on the album, *Toss the Feathers* is the fourth occurring and it is the only Irish traditional reel. It is an instantly recognisable tune to Irish traditional musicians and audiences and is part of the mainstream repertoire of traditional music due to the fact it is a standard session tune. A wide variety of musicians have recorded *Toss the Feathers* including the fiddle player Bobby Casey (1926–2000) in 1966 (Casey 2007), the traditional flute player Matt Molloy (*b.*1947) in 1976, and the Donegal fiddle player Tommy Peoples (1948–2018) (Peoples and Brady 1976). The tune was also incorporated into the song *Sword of Light* (Horslips 1976).

Jim Corr credited Kevin Shields a close friend and musician from Dundalk, for exposing him to *Toss the Feathers* and to many of the Irish traditional dance tunes in The Corrs’ repertoire:

A good friend of mine, his name is Kevin Shields. He used to play me some traditional stuff. He was great for expanding my knowledge of traditional music and it’s possible I heard a version of say the likes of *Toss the Feathers*. Maybe it might have been the very basic melody line.

(Caffrey 2020)

Jim continued he felt naturally inclined to alter and evolve the Irish traditional music he was exposed to:

But what I would always like to do is turn it into something quite unique by changing the whole background, changing the music, changing the chords, changing the timing, changing the rhythm if possible, seeing where it can be brought, to take it out of the pure traditional area.

(Caffrey 2020)

Toss the Feathers is the ideal example of The Corrs combining Celtic and pop aesthetics. The track features Irish traditional instrumentation including violin, tin whistle, bodhrán and a programmed keyboard accordion, and contemporary instrumentation including live drums, bass guitar, multi-tracked electric guitars and keyboard. The Corrs performed the respective Irish

traditional instruments and keyboards and guest musicians Simon Phillips (drums), Neil Steubenhaus (bass guitar) and Michael Thompson (electric guitars) contributed to the recording. *Forgiven, Not Forgotten*’s recording engineer David Reitzas mixed *Toss the Feathers* and the other five instrumental recordings.³⁷

Figures 4.22 and 4.23 illustrate *Toss the Feather*’s production dynamic contour that follows an *AABABCAABB*³⁸ structure. The Corrs’ structure of *Toss the Feathers* is more easily described as two main sections that are split by the drum solo (section *C*). Table 4 illustrates this structure and corresponds to the time-based linear configurations of figure 4.22 and 4.23. Indicative of Jim Corrs’ earlier quotation of innovating and bringing uniqueness to Irish traditional music, the structure breaks the standard binary form of Irish traditional music (*AABB* repeated three to four times) by adding section *C*. Breaking the binary form of Irish traditional music is uncommon. Tommie Potts (1912–1988), a Dublin-based fiddle player and subject of much academic research (Ó Súilleabháin 1987 and 1999), regularly changed the form and structure of Irish traditional music. The dynamic contour graph (figure 4.22) shows the production starting at a moderately quiet volume and becoming progressively louder until the drum solo in the middle of the production. After the drum solo, the production dynamic decreases to a similar level as the introduction but quickly increases henceforth until the end. This dynamic contour is the result of the addition and subtraction of instrumentation as will be discussed in this analysis.

³⁷ Acclaimed mix engineer Bob Clearmountain mixed *Forgiven, Not Forgotten*’s nine songs.

³⁸ Section *C* stands for the drum solo.

Figure 4.22: Dynamic contour graph of *Toss the Feathers* illustrating the density build up of the production from start to finish.

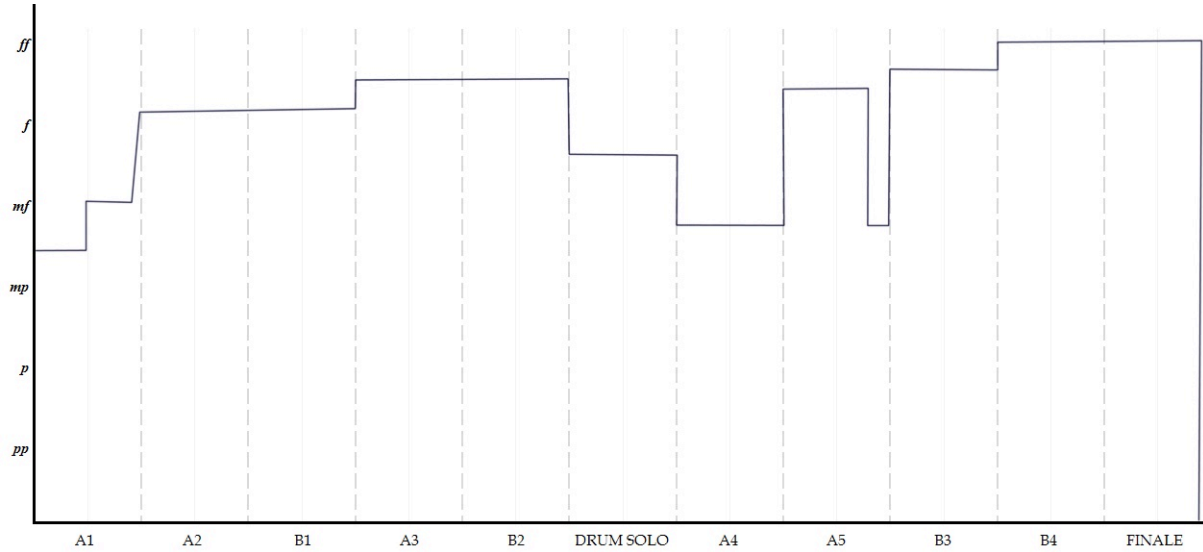


Figure 4.23: Screenshot taken from the *Toss the Feathers* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



Table 4: The Corrs’ structure of *Toss the Feathers*.

Name of Section	Form	Duration in Bars
Section 1	AABAB	40
Drum Solo	N/A	4
Section 2	AABB ³⁹	28

Typical of Irish traditional music, a combination of violin, tin whistle and right-hand keyboard performing in unison, opens the production with the first eight-bar phrase of the melody. Phrase A is illustrated in musical notation in figure 4.24. Audible underneath the melody is the one-bar fade-out of a sustained D major piano chord from the track sequenced before *Toss the Feathers*, *The Minstrel Boy*. Jim Corr plays sustained chords in the middle range of the instrument, which has been treated with reverberation. In keeping with the previous tracks analysed, the violin and tin whistle have been soft panned on opposing sides of the stereo image. The keyboard’s reverberation has been panned to the left stereo channel while the rest of the musical performance

³⁹ The last B phrase is shortened to 4 bars.

resides in the right side. At bar five, rhythmic elements the hi-hat and bodhrán join the arrangement and are placed in the centre of the stereo image. The hi-hat has been treated with a high pass filter to remove low frequency noise. The bodhrán, which features only during bars five until eight in the entire production, is at the lowest volume in the mix and its tone is dry due to a lack of reverb. Figure 4.25 is a screenshot of Wave’s Paz frequency analyser plugin from the Pro Tools music production content analysis session and shows the bodhrán’s prominent frequency of 107 Hz during this section of *Toss the Feathers*.

Figure 4.24: Musical notation of *Toss the Feathers*' A phrase melody.

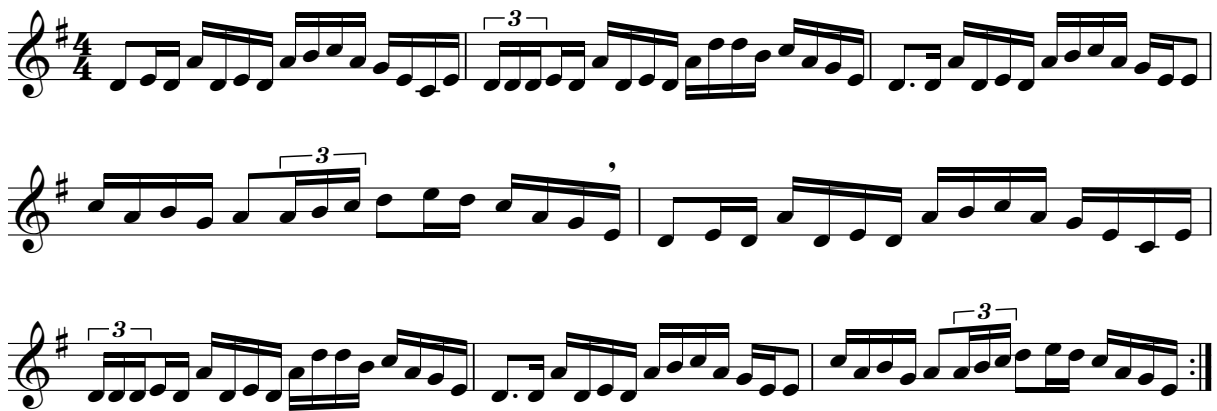


Figure 4.25: Screenshot of Wave's PAZ Frequency analyser plug-in inserted on *Toss the Feathers* stereo audio file in the Pro Tools session file illustrating 107 Hz as the resonant frequency of the bodhrán.



A fill on bar eight performed by the drums leads the performance into the second eight-bar A section, introducing a contemporary pop/rock aesthetic. Illustrated in figure 4.22, the dynamic contour increases due to the addition of the full drum kit, electric bass guitar and multi-tracked electric rhythm guitars. The kick drum tone is tight and solid with a resonant frequency of 64 Hz, as validated by figure 4.26.

Figure 4.26: Screenshot of Wave's PAZ Frequency analyser plug-in inserted on the *Toss the Feathers* stereo audio file in the Pro Tools session file illustrating 64 Hz as the resonant frequency of the kick drum.



The multi-tracked overdriven electric guitars are panned left and right respectively, giving the production a rock aesthetic through the use of power chords⁴⁰ in the lower range of the instrument. This dynamic profile continues for the duration of the B phrase of the melody (figure 4.27). At bar twenty-five as annotated in the Pro Tools session file (Appendix F), the programmed accordion and additional electric rhythm guitars join the arrangement. The accordion is panned soft left and plays the tune melody in unison with the afore-mentioned instrumentation.

⁴⁰ Power chords are comprised of fifths and octaves and are principally played on electric guitars.

Figure 4.27: Musical notation of *Toss the Feathers*’ B phrase melody.

At bar forty-one, the production takes a significant textural shift as all of the melodic and harmonic instruments drop out of the arrangement, leaving the drums to perform an elaborate and semi-improvised four-bar solo. Footage of Simon Phillips recording the drums in The Record Plant recording studio with The Corrs, John Hughes, David Foster and David Reitzas exists on YouTube.com (Mrenginear 2013). It is through this footage that one can discern that the drums were overdubbed on top of pre-existing melodic and harmonic audio tracks, as a close-to-finished audio mix is audible throughout.

***Toss the Feathers* Summary**

Although The Corrs do not have a substantial background in Irish traditional music, their musical milieu ensured opportunities for exposure and education in the genre. The lack of ornamentation in this production, which may be expected in a recording of Irish traditional music, demonstrates The Corrs’ background as primarily contemporary and classical musicians. A desire to innovate and change Irish traditional music and to bring it to a contemporary context is evident on *Toss the Feathers*. The Corrs adapted the tune’s traditional binary structure to fit into a contemporary production. While the Irish instruments are the lead melodic elements, the production has a strong rock aesthetic, explicitly showcased through Phillips’ drum performance and electric guitar power chords. By contrast Caroline Corr’s bodhrán pattern features only once in the

Chapter 4 – Critiquing The Corrs’ Signature Sound: *Forgiven, Not Forgotten*
production. It should also be acknowledged that Phillips varies his drum pattern throughout the production, adding to the interest and variation that would otherwise normally come from the melodic instruments. Thompson’s lead guitar that enters the arrangement in the latter A and B sections of the production also demonstrates an Irish rock aesthetic (Horslips) as he performs the traditional melody in the upper register of the instrument. The popularity of The Corrs’ version of *Toss the Feathers* has endured as the tune continues to be the closing number of their live set.

The Role of the Music Producer: David Foster

David Foster is a music producer, musician and composer from Canada and his catalogue of recording includes much of the recognisable chart-topping music of the late 1970s, 1980s and 1990s. By 1995 Foster was awarded fourteen Grammy Awards and worked with seminal pop artists including Paul McCartney, Whitney Houston and Celine Dion. Foster is known for imparting his signature “Malibu sound” (Bessman 1995, p.77) on his productions, in particular his distinctive composite sound of acoustic piano and electric piano are audible on examples *You’re the Inspiration* (Chicago 1984), *Glory of Love* (Peter Cetera 1986) and *I Swear* (All-4-One 1994).

Jim Corr had a critical impact on David Foster’s production approach during *Forgiven, Not Forgotten* due to the fact Jim Corr facilitated, maintained and worked extensively in studios in The Corrs’ formative years, understood the principles of music production and co-created The Corrs’ signature sound. Jim Corr is credited as co-producer on the album sleeve liner notes and Foster acknowledged how this impacted his approach in an article for *Billboard* magazine: “I spent almost six months on the album-with capable co-production from Jim Corr-and it’s one of the few times when I guided and nudged instead of rolling up my sleeves and getting messy” (Bessman 1995, p.77). Andrea Corr writes in her memoir that she suffered from bronchial asthma during the recording process and lost her voice entirely. She recalled that by the time her voice recovered, she became shy of Foster and subsequently tracked her vocals with Jim (2019, p.110). This also invariably resulted in Jim obtaining an extended creative role as co-producer.

While Foster shared creative production duties with Jim Corr, he retained a steady input and creative voice. Although not critiqued in this case study, the album track *Someday* is the only production where Foster holds a song-writing credit. Also, Foster is credited as an additional

arranger, live string arranger and an additional keyboard performer in the album’s sleeve liner notes. It appears that he coaxed an extra percentage out of The Corrs by exaggerating their Celtic aesthetics. He said in *Billboard* magazine:

There may have been a few times when I pushed more of a Celtic vibe, since the way they weave it into their pop music is so new and fresh. But it would have been such a mistake for me to try and take over.

(Bessman 1995, p.77)

While primarily actively directing the creative process of recording (Burgess 2013, p.22) for a commercial record label, Foster practiced a collaborative production method with The Corrs by participating as co-songwriter, additional arranger and additional keyboard player. These collaborative activities are akin to George Martin’s production role with The Beatles, considering Foster allowed The Corrs to maintain their signature identity while simultaneously complimenting it and without imposing his own signature ‘Malibu’ sound onto the record. Taking into account that *Forgiven, Not Forgotten* is The Corrs’ first commercial album, and the band were in their “critical phase” (Negus 1992, p.vi) a period where the recording industry discovers and develops recording artists, Foster also adopted a consultative approach to The Corrs’ production. According to Burgess in this approach the music producer “counsels, coaches, advises, guides and provides conceptual, psychological, and visionary alignment for the project” (2013, p.17) while being “highly integrated into the creative process, especially in choosing and shaping the material” (*ibid.*). A portion of the sounds on *Forgiven, Not Forgotten* can be traced to Foster’s previous productions however Foster’s own signature identity is not the primary sound of the record. Furthermore the digital recording methodology operated by engineer David Reitzas imparted a level of high fidelity and recording transparency onto the recordings. Additional technologies such as sampling, programming and MIDI keyboards conveyed sounds of 90s chart-oriented music production, bestowing a recognisable era of music making onto the album.

Summary: *Forgiven, Not Forgotten* Album Analysis

Forgiven, Not Forgotten (1995) was released at a time when electric dance music, contemporary pop indie and urban genres dominated the UK singles chart. The Corrs differentiated from their contemporaries through their signature sound, which combined pop/rock and Celtic musical aesthetics. The music production content analyses reveals their recognisably Irish sounding melodies and rhythms performed on Irish traditional musical instruments paired with the lead vocal of Andrea Corr and their sibling backing vocal arrangement created a distinctive signature sound that blended with pop/rock contexts. Of particular note is *Toss the Feathers* the Irish traditional reel. The Corrs differentiate their version from previous recordings by acclaimed musicians of the Irish tradition through the addition of contemporary instruments that are not typical of Irish traditional music, and through the melodic structure presented in this recording, which also differs from standard practice in Irish traditional music. Drums, bass guitar and electric guitars have been previously featured in key Irish bands Horslips and Moving Hearts, however in this recording, these instruments perform in the style of overt American stadium rock with a drum solo, cymbal catches and a chromatic riff, which are further evidence of functional staging relating to rock music. To fit into their production, The Corrs adapted the standard *AABB* binary form that normally repeats several times. This form is described as *AABABCAABB* within the analysis and section *C* in this description demotes Phillips’ drum solo. *Toss the Feathers* showcases The Corrs as an innovative group willing to explore the fusing of indigenous world music and popular music.

It was ascertained through the research of this album that the overt Irishness of *Forgiven, Not Forgotten* was received with enthusiasm from their Irish audience with high-ranking chart positions and sold-out concerts. However The Corrs had not yet broken into the UK market in part due to their Irish sound, which was not yet a part of or celebrated in the UK soundscape.

Political unease between Ireland and England was still on-going through the terrorist campaign by the Provisional Irish Republican Army, and Britpop a musical and cultural movement that celebrated and emphasised Britishness in the mid-1990s prevailed in the music charts. The Corrs had yet to create a number one hit and deliver songs that would receive substantial airplay on UK radio stations.

In addition The Corrs were yet to settle on a visual identity for presenting their music to the public during the *Forgiven, Not Forgotten* album cycle. Their stylistic image changed often in their music videos and was subject to experimentation through clothing, make-up and hairstyles. The Corrs cross-genre sound was also reflected in the photographic environments for their music videos. *Runaway* positioned the band on location in Dublin and Wicklow, reinforcing The Corrs as “serious artists” (Negus 1992, p.67), the video featured The Corrs amongst recognisably Irish scenery: stone walls, woodlands and monastic ruins. The image portrayed on *Forgiven, Not Forgotten*’s music video was noticeably gothic. The band dressed in dark clothing and the lighting, gothic furnishings and contrasting backgrounds of out-door scenery emphasises their rock aesthetic. In contrast The Corrs were filmed in a photographic studio environment for *The Right Time* music video. The brightly lit setting emphasised The Corrs new image of fashionable clothing, sleek hairstyles and heavy make-up, placing the band firmly in a pop music context. While these marketing contexts had the possibility of capturing the interest of a broad audience and propelling The Corrs into the global music industries, there was a danger of not establishing a base audience. After *The Right Time*, The Corrs reverted to their previous image.

Functional staging, overt Irishness and visual identity highlight the significance of the exploration and development of The Corrs’ Celtic signature sound evident during the *Forgiven, Not*

Chapter 4 – Critiquing The Corrs’ Signature Sound: *Forgiven, Not Forgotten*
Forgotten album cycle. The development of The Corrs’ signature sound is further explored in the context of the albums *Home* (2005) and *Jupiter Calling* (2017) in the following chapter.

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter*

Calling

This chapter critiques the evolution of The Corrs' sound through the examination of the differing sounds on *Home* (2005) and *Jupiter Calling* (2017). The concept of signature sound, an artist's recognisable sonic identity is central to this thesis. Signature sound can vary within an artists' recording catalogue and The Corrs fit the criteria for such a study because their catalogue features developments within a signature sound and exhibits divergent approaches to music production.

The analysis of The Corrs' debut album *Forgiven, Not Forgotten* in Chapter 4 serves as a foundation by which to compare and contrast future albums by. The Celtic and contemporary musical influences on the album have been identified and allow the two proceeding albums to be considered in terms of development, progression and contrast. The first album in this study is their fifth studio release, *Home* which was released just prior to a ten-year musical hiatus, signalling the end of their recording contract obligation with Atlantic Records, an important milestone for The Corrs. The second case study critically considers their 2017 release, *Jupiter Calling*. Following The Corrs' comeback album *White Light* (2015) where much of the music followed in the same vein as their commercial zenith, *Jupiter Calling* prompted the band to change their recording practice from digital, layered multi-tracked overdubs to analogue, live performance captures, ultimately resulting in a new sound. This stark change is a monumental event in their recording career and warrants investigation, yielding compelling results applicable to music producers and musicians. A critical element of the track analyses will include consideration of both pop and Celtic aesthetics and approaches to production.

Album Analysis 2: *Home*

Released on the 26th of September 2005, *Home* was The Corrs' penultimate release with Atlantic Records.⁴¹ *Home* was produced in the first half of 2005, a time where digital recording was well established in contemporary and chart-oriented music production workflow with Pro Tools⁴² and software plug-ins.⁴³ The album was primarily recorded in Westland Studios⁴⁴ and RTÉ Studios in Dublin. At the time of *Home*'s recording, Westland housed a Solid State Logic 4000E mix console and a Pro Tools HD recording system. Additional recording took place at Whitfield Street Studios (1972–2005) in London. *Home*'s release coincides with the rise of the Irish singer-songwriter (Paddy Casey, Damien Rice and Lisa Hannigan) and continued global success for Irish traditional groups, including Altan, Dervish and Kíla (O'Flynn 2009), and musical references to Irish traditional music are evident in the forthcoming analysis.

Produced by Mitchell Froom, *Home* is a collection (table 5) of Irish songs, non-Irish songs and Irish traditional instrumentals some of which, Andrea Corr stated in the *Home* EPK (The Corrs 2009) were compiled from the songbook of the late Jean Corr. In contrast to the previously discussed album *Forgiven, Not Forgotten*, The Corrs did not author *Home*'s musical material directly but instead, contributed toward the production through musical arrangements and performances. Jim Corr explained, "It's called *Home* because it's essentially an album of mostly old Irish songs where we've put our own interpretation onto" (Caffrey 2020).

⁴¹ *Dreams: The Ultimate Corrs Collection* (2006) the compilation album was The Corrs' final release on the Atlantic label.

⁴² Noted by Milner (2009) Ricky Martin's *Living on a Prayer* (1999) was the first number one record to be recorded, edited and mixed entirely within Pro Tools.

⁴³ Pitch-correction software Auto-Tune was explicitly used for the first time on Cher's *Believe* (1997), which imparted a dehumanised effect on her vocal.

⁴⁴ Westland (1976–2018) opened under the name Lombard Sound Studios where Horslips, Planxty, U2 amongst others recorded albums. In 1985 the studio was renamed and continued to record albums with Irish and international artists until its closure.

Table 5: Track classification of *Home*.

Classification	Track Name
Irish song	<i>My Lagan Love, Spancill Hill, Peggy Gordon, Buachaill on Eirne, Moorlough Shore, Old Town, Bríd Og Ni Mhaille.</i>
Non-Irish song	<i>Black is the Colour, Heart Like a Wheel, Dimming of the Day.</i>
Irish traditional dance music	<i>Old Hag, Haste to the Wedding, Return to Fingall</i> ⁴⁵ .

As catalogued in the album liner notes, The Corrs' band extended to include drummer Jason Duffy⁴⁶ (Sharon Shannon, The Mercury Project) and accordion player Kieran Kiely (Don Baker, Damien Dempsey), alongside permanent members Anthony Drennan and Keith Duffy. Additional guest musicians featured on selected tracks including uilleann piper John McSherry (Lúnasa, Coolfin),⁴⁷ drummer Matt Chamberlain (Tori Amos, Elton John), saxophonist Michael Buckley (The Cranberries, The BBC Big Band) and trumpeter Ronan Dooney (Paul Brady, Rita Connolly). With the exception of Chamberlain, these artists have worked extensively within the area of Irish music and projects, which engage with or focus on Irish traditional music.

Home was recorded “as live as possible” according to Jim Corr (The Corrs 2009) and features stereo overdubs from The BBC Concert Orchestra, arranged by Fiachra Trench (The Chieftains, Van Morrison). Irish music has often employed orchestral scores, evident in “classical crossovers” (O’Flynn 2009) in works by Seán Ó Riada and Mícheál Ó Súilleabháin.

This music production content analysis examines three songs: *Heart Like a Wheel*, *Buachaill on Eirne*⁴⁸, and *Moorlough Shore*, and one instrumental: *Haste to the Wedding*. *Heart Like a Wheel* was chosen because it was released as a single, *Buachaill on Eirne* because its vocal delivery is in

⁴⁵ *Return to Fingall* was a bonus track on the Japanese, German Karstadt edition and Spanish releases of *Home*.

⁴⁶ Jason Duffy (brother of Keith) temporarily joined The Corrs in 2004 filling in for Caroline Corr on the *Borrowed Heaven Tour* while she was pregnant with her second child.

⁴⁷ In the 1980s McSherry formed a group with his siblings called The McSherrys and in the 1990s the band extended to include two non-family members and was re-named Tamalin.

⁴⁸ The Irish language’s only accent called the *fada* is omitted on *Home*’s album artwork. The correct spelling should be *Buachaill ón Éirne*.

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter Calling*
the Irish language, *Moorlough Shore* because it is an Irish traditional air, and *Haste to the
Wedding* because it was a staple in The Corrs’ live set for much of their career. A fourth song, the
traditional ballad *Black is the Colour* was analysed but is not part of this analysis, as it does not
contribute significantly to the discussion. The observations obtained from this recording are
included in Appendix C.

Music Production Content Analysis: *Heart Like a Wheel*

Heart Like a Wheel is a non-Irish song written by Anna McGarrigle (b.1944) and was released by The Corrs in October 2005 as the leading single from the *Home* album as part of a double A-sided single alongside a cover version of Phil Lynott's *Old Town*. The song was recorded live as a vocal and acoustic piano performance with Andrea and Jim Corr, and a string arrangement performed by The BBC Concert Orchestra arranged by Fiachra Trench. The single peaked at number sixty-eight in the UK Official Singles Chart (Official Chart Company 2019b) and number forty-nine in the Irish Singles Chart. According to the Official Charts Company (2019g) Westlife, Arctic Monkeys and Sugababes topped the UK singles chart during that period, demonstrating the chart-oriented audience's preference for pop vocal groups and indie-rock bands.

Of relevance to this study is Dolores Keane's (1988) recording of *Heart Like a Wheel*. Due to the pronounced similarities in the piano performance, song structure and choice of key, it is likely The Corrs took influence from Keane's recording to inform their own. It is also likely that this influence was due to Jim Corr's familiarity with Keane's version as he worked as a session musician in her touring band before the formation of The Corrs.

Dynamic Contouring and Arrangement

Heart Like a Wheel features Andrea Corr's lead vocal (primary melodic layer), Jim Corr's acoustic piano (harmonic layer) and the BBC Concert Orchestra (harmonic layer). The dynamic contour graph (figure 5.1) illustrates the production profile of *Heart Like a Wheel* throughout its timeline and correlates to the arrangement. The waveform image of the stereo audio file of *Heart Like a Wheel* exhibits explicit dynamic transients in figure 5.2. This waveform image is indicative of a single musical instrument recording master rather than a full, contemporary

production master typical of the figures included in the previous analyses. It also indicates a transparent approach to mastering, one that raises the overall loudness to a commercial level and will lend the production effectively to an audience that is used to pop production but without leaving a sonic imprint or taking away the impact and clarity of the music.

Figure 5.1: Dynamic contour graph of *Heart Like a Wheel* illustrating the density build up of the production from start to finish.

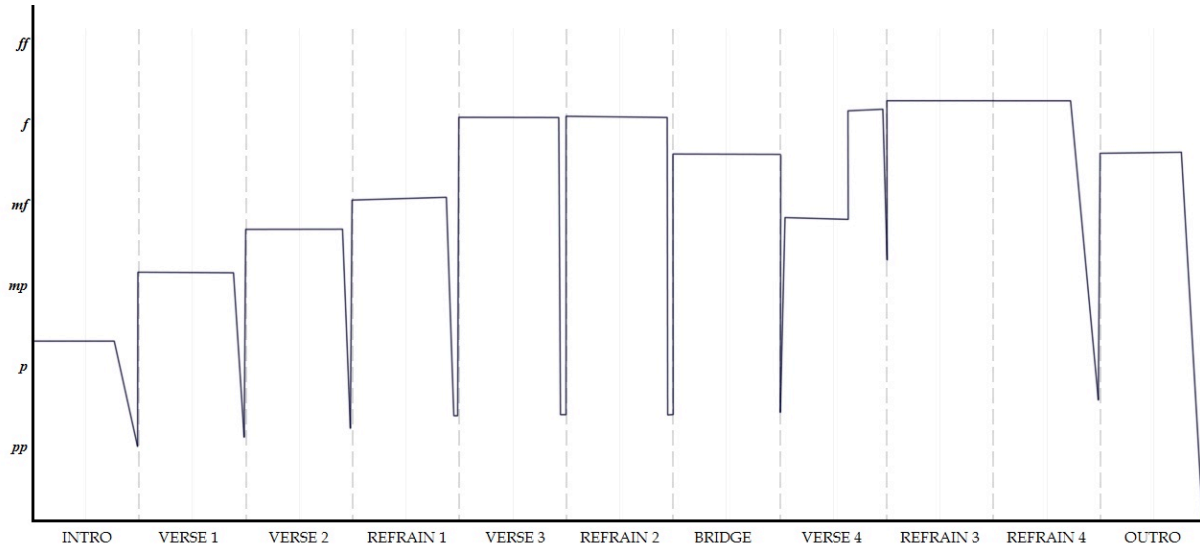


Figure 5.2: Screenshot taken from the *Heart Like a Wheel* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



The acoustic piano opens the production with a four-bar ornamented version of the refrain’s melody. The BBC Concert Orchestra enters at bar thirteen with a *legato* violin section arrangement. In bar fifteen the string section briefly pauses creating space to underpin the lyric “once” with a singular bowed note, audible in bar sixteen. This is undoubtedly a conscious production decision and an example of musical imagery mirroring a lyric. Demonstrating influence from Keane and unlike the McGarrigle’s (1975) recording, The Corrs place the first refrain directly after the second verse. The dynamic contour of this section is dictated by the BBC

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter Calling*
Concert Orchestra, which temporarily drops out for the first half of the refrain, creating a sense of space and returns at bar twenty-seven. The *legato* double bass joins the arrangement in bar twenty-nine, marking the dynamic peak of the section. This musical arrangement is carried forward into verse three but at verse four the arrangement returns to piano and vocal. In contrast to the second and third verses, the BBC Concert Orchestra enters approximately halfway through and remains during the final two refrains, creating a rounded mix. Unlike the McGarrigle’s recording that finishes with a perfect cadence on the final refrain, Jim Corr closes the song with an outro in similar style as heard in the introduction and finishes with an imperfect cadence.

Aesthetics

There is strong live performance aesthetic in *Heart Like a Wheel*. The tempo wavers constantly throughout and is documented in the Pro Tools session file (Appendix F) as variances between 69.9 BPM and 82.2 BPM. This indicates the performances were not recorded to a click track and were not edited in post-production to fit into a continuous and unchanging tempo. The piano and vocal were recorded simultaneously⁴⁹ and extraneous noises such as piano pedal movements are particularly audible in the introduction and middle eight sections.

Despite the obvious similarities between The Corrs’ and Keane’s productions of *Heart Like a Wheel*, there are differences between the two. Firstly Keane’s version exhibits a long reverberation on the piano and the vocal while The Corrs’ version is much dryer with a natural room sound with a very short decay. Secondly Jim Corr expands the frequency range by adding bass notes, therefore giving the production audible warmth not present in Keane’s version.

⁴⁹ In her memoir Andrea Corr confirms the song was recorded in one take because she found it difficult to sing without crying (2009, p.159).

A Celtic aesthetic exists on *Heart Like a Wheel*. For example on beat three of bar forty-three, Jim Corr embellishes the F sharp 5 note with a tap ornament in contrast to the straight execution of the same note on bar twenty-three. This demonstrates Corr's awareness of decorating and varying his performance within an Irish traditional context. Andrea Corr's vocal is close-miked⁵⁰ and it is apparent that Keane's Celtic vocal style influenced her phrasing. For example, Corr's execution of the vocal ornament on the lyric "just" from the first line is similar however it not as cleanly executed as Keane's. Corr continues to use vocal ornaments throughout the recording, which adds a Celtic aesthetic.

Missing from this production are principal signatures of The Corrs' sound that were presented in *Forgiven, Not Forgotten*: The Corrs' signature backing vocals, and the combined Irish traditional music instruments of violin (Sharon Corr) tin whistle (Andrea Corr) and bodhrán (Caroline Corr). Despite the lack of Irish instrumentation, Andrea and Jim exhibit Celtic musical influence respectively from Irish artist Dolores Keane's recording in terms of song structure, vocal phrasing, vocal ornamentation and piano arrangement while imparting their individual style onto the recording with subtle differences.

⁵⁰ Close-miking is a microphone placement technique that is typically less than one foot away from the sound source and captures a direct sound without ambience.

Music Production Content Analysis: *Buachaill on Eirne*

Buachaill on Eirne is a traditional ballad in the Irish language that been recorded and released by Irish artists including Phil Coulter (1983), Clannad (1985), Reeltime (1998) and Anúna (2000). The melody of *Buachaill on Eirne* has also been recorded by Irish-American flute and whistle player Joanie Madden (1999) and was released under the title *Come by the Hills*. *Buachaill on Eirne* is sequenced as *Home*'s sixth track and was released with *Old Town* as a two-track promotional CD prior to the album's release in 2005. The version produced for the *Home* album is in the key of C sharp major and meters in 6/8 at 71 BPM.

Dynamic Contour and Arrangement

The dynamic contouring (figure 5.3) for *Buachaill on Eirne*'s production differs from the previous analyses presented thus far. Two-bar transitional link passages are used to introduce instrumentation to the production and instead of using whole sections of the song as blocks for dynamic contouring, sections within themselves have their own dynamic contours. This approach makes for a less obvious and subtle overall dynamic profile in addition to blending contrasting song sections together. Figure 5.4 illustrates the overall density profile reflected on the recording's stereo waveform

Figure 5.3: Dynamic contour graph of *Buachaill on Eirne* illustrating the density build up of the production from start to finish.

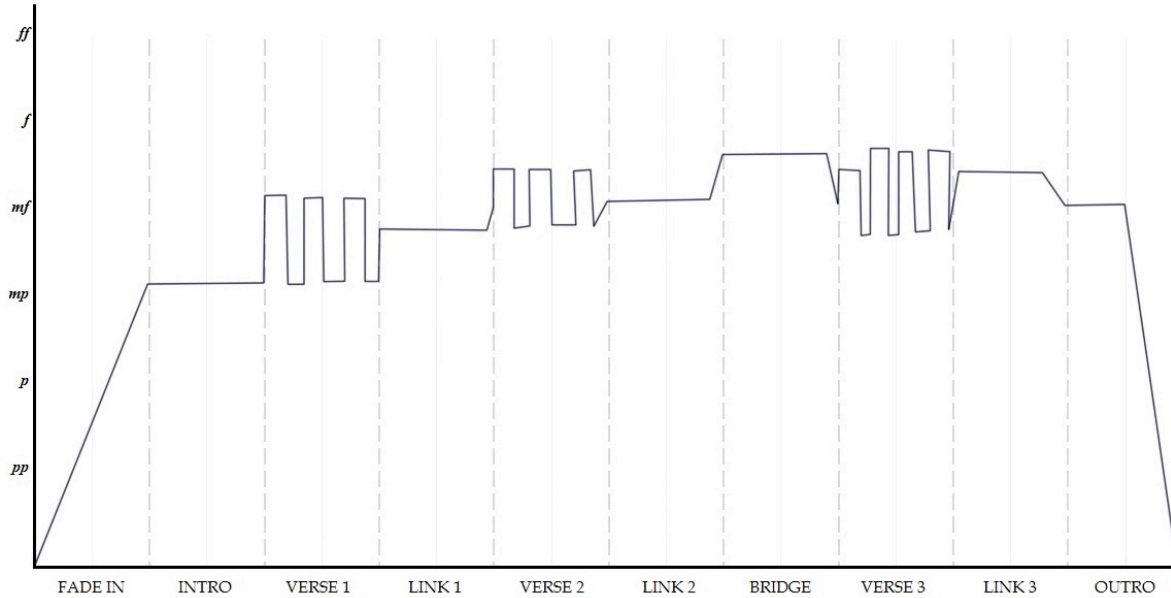
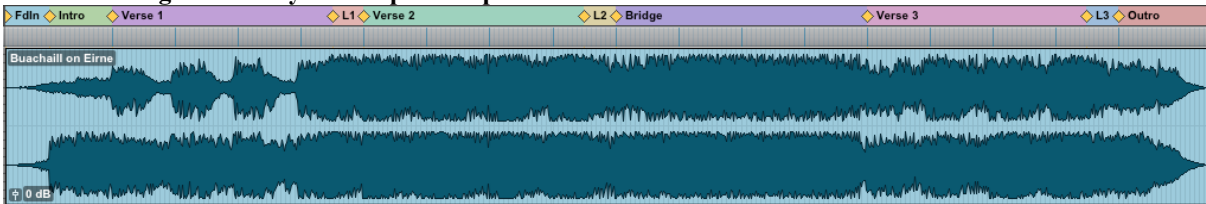


Figure 5.4: Screenshot taken from the *Buachaill on Eirne* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



Buachaill on Eirne opens with a brief fade in consisting of a clean electric guitar that has been affected with reverb and stereo delays. This leads into a four-bar introduction consisting of acoustic piano, clean electric guitar and the BBC Concert Orchestra. During this four-bar section, the right channel is audibly louder than the left, due to the fact that the mix leans heavily to the right. This is a result of the piano track, which on this occasion occurs in mono. This imbalance is also visible in figure 5.5. Furthering the stereo imbalance of the mix, a hand-held tambourine (Caroline Corr) enters at bar three on the right channel and adds percussive high frequency content. This stereo image is also illustrated by figure 5.6 a screenshot of Wave’s PAZ Position plugin, which was inserted on the stereo audio file during the music production content analysis.

Figure 5.5: Screenshot taken from the Pro Tools session illustrating the balance of the left and right stereo channels of *Buachail on Eirne*'s four-bar introduction. The right channel is visibly larger, representing louder audio than the left channel directly above it.



Figure 5.6: Screenshot of Wave's PAZ Position analyser plug-in inserted on the *Buachail on Eirne* stereo audio file in the Pro Tools session file illustrating a visual representation of the mix during the four-bar introduction which leans heavily to the right.



Verse one omits the clean electric guitar to create space for the Andrea Corr's lead vocal, which occurs in the centre of the mix. Her vocal is immediate due to a closely placed microphone and has no audible reverb present. Her vocal has been given priority in terms of its placement in the mix as the primary focal point, allowing every syllable to be perfectly audible and emotion to be felt by the listener. Audible on the left channel of the mix at this point are the cellos that are underpinned by bowed double basses, which add bass frequency warmth.

Caroline Corr's bodhrán and Anthony Drennan's acoustic guitar enter the arrangement at the second verse. The bodhrán is positioned in the centre of the mix and its tonality is warm and dark with pronounced bass frequency content. In direct contrast, Drennan's rhythmic acoustic guitar is bright and crisp with a lower degree of bass and is panned hard left in the mix. This arrangement ensues a balanced stereo mix. Although the arrangement in verse two is busier than in verse one, Andrea Corr's lead vocal retains strong presence and focal impact.

Within the bridge section, a dynamic contour occurs through the temporary muting of the acoustic guitar from bars thirty-seven to thirty-nine and a lateral *decrescendo* in the BBC Concert Orchestra arrangement. The bass guitar mirrors this dynamic by performing elongated notes on the higher register of the bass guitar, creating space in the lower register of the arrangement. It is at this particular point in the production that the kick drum is most audible. Masking of the kick drum occurs when Keith Duffy performs in the lower register of the bass. In spite of this masking, Caroline Corr's bodhrán remains audible throughout. The dynamic profile of the section rises after these two bars with the return of the acoustic guitar and low frequency register bass line of the bass guitar and the BBC Concert Orchestra.

Following the instrumental bridge a brief sense of space is created for the first line of the third verse. This is achieved by a pause in the drums, bodhrán, bass guitar, acoustic guitar and the BBC Concert Orchestra. The atmosphere set in verse one is returned to as Andrea Corr's lead vocal is accompanied by Jim Corr's piano performance. A noticeable difference is the register of the piano, which performs one octave higher than that of verse one. This results in a subtle production variation due to the melodic content itself and the tonality of the higher register of the piano. The tone is less reverberant than previously heard, and has greater presence. Analogous to the instrumental bridge, verse three has its own dynamic profile achieved by the addition of

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter Calling*
instrumentation on the lyric “ariamh”. The bodhrán and acoustic guitar re-join on this lyric,
closely followed by the BBC Concert Orchestra.

A Celtic Aesthetic

Buachaill on Eirne features a stronger presence of Irish instrumentation than *Heart Like a Wheel* due to the inclusion of violin, tin whistle and bodhrán instruments in the bridge section. The Corrs’ signature backing vocals do not have any presence in the recording but when considered in the context of Irish traditional music, songs are usually sung unaccompanied in the *sean nós* tradition. It is possible that the creation of backing vocals did not suit the production of the traditional song. Despite the lack of backing vocals, *Buachaill on Eirne* can be easily recognised as The Corrs due to Andrea Corr’s distinctive lead vocal and the Irish instrumental combination performing the melodic passage in the bridge section.

Buachaill on Eirne’s bridge is instrumental and the violin and tin whistle play the song’s melody (figure 5.8) in unison. The melody is distinctly Irish traditional due to its repetitive 6/8 slip jig rhythm pattern. Notated in figure 5.7 Andrea Corr embellishes the melody with triplet⁵¹ ornaments and a slide⁵² ornament. The bridge serves as a transitional passage within the song and as an opportunity to create diversity in the production. A contemporary production aesthetic is achieved through the addition of the electric bass guitar (Keith Duffy) and the acoustic drum kit (Matt Chamberlain).

⁵¹ A triplet ornament is a commonly used decoration in Irish traditional music produced by adding an additional note between two principal notes. This is illustrated in musical notation in the second bar of figure 5.8.

⁵² A slide ornament is similar to *portamento* in classical music and is best described as a smooth transition between pitches. This is illustrated in musical notation in the sixth bar of figure 5.8.

Figure 5.7: Musical notation of the melody of *Buachail on Eirne*.



Additionally at bar sixty-nine, the violin and tin whistle play the final phrase of the song's melody in unison to an accompaniment of piano, strings, acoustic guitar and bass guitar. This brings a Celtic aesthetic to the closure of the song.

Music Production Content Analysis: *Moorlough Shore*

Moorlough Shore is an Irish traditional love song. As its melody has been set to different lyrics, most notably *The Foggy Dew*, a number of versions of both the song and the tune exist as recordings (see Dolores Keane 1989; The Chieftains 1995; Patrick Street 1996 and O'Connor 2002).

Unlike *Home*'s productions discussed thus far, *Moorlough Shore* has several key modulations where the key signature changes from B flat major to its relative G minor. These modulations are annotated in the Pro Tools session file (Appendix F) and below in table 6.

Table 6: Placement of key changes in *Moorlough Shore*.

Song section	Introduction	Verse 1, 2 & 3	Middle Eight	Link	Tune
Key	B flat major	G minor (lines 1, 2 & 4) B flat major (line 3)	B flat major	G minor	G minor

Dynamic Contour and Arrangement

Demonstrated by figures 5.9 and 5.9, *Moorlough Shore* has a varied production dynamic contour, which this analysis will examine. *Moorlough Shore* opens with an eight-bar instrumental introduction consisting of two acoustic guitars, a mandolin, drums and an electric bass guitar. In contrast to expectation where one would expect a reduction in the dynamic profile to create room for the vocal presented in much of the analysis thus far, the first verse continues this arrangement and dynamic level. In parallel with Andrea Corr's lead vocal entering the mix, two notable changes occur: (i) the bass guitar performs in the lower register and (ii) the acoustic guitars change their role from providing the melodic layer to providing the harmonic layer, executed through rhythmic strumming. Andrea Corr's vocal is most prominent in the mix and in keeping with the productions previously discussed, is balanced, clear and intelligible.

Figure 5.8: Dynamic contour graph of *Moorlough Shore* illustrating the density build up of the production from start to finish.

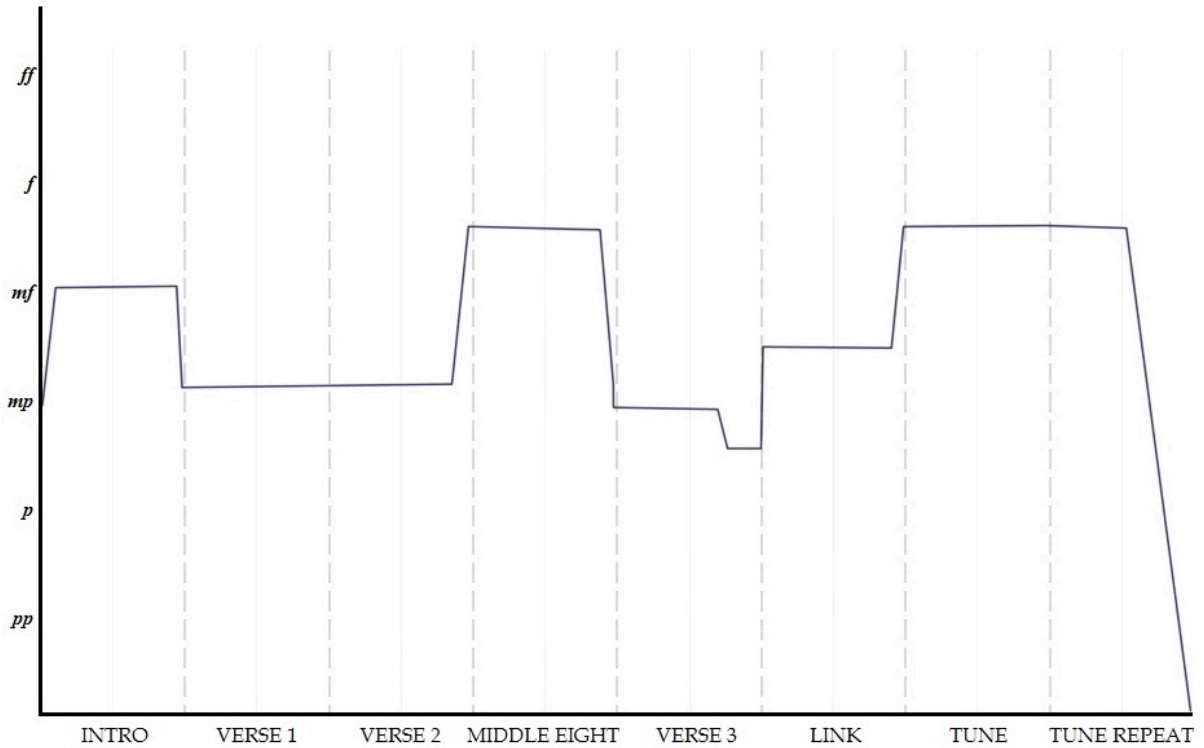
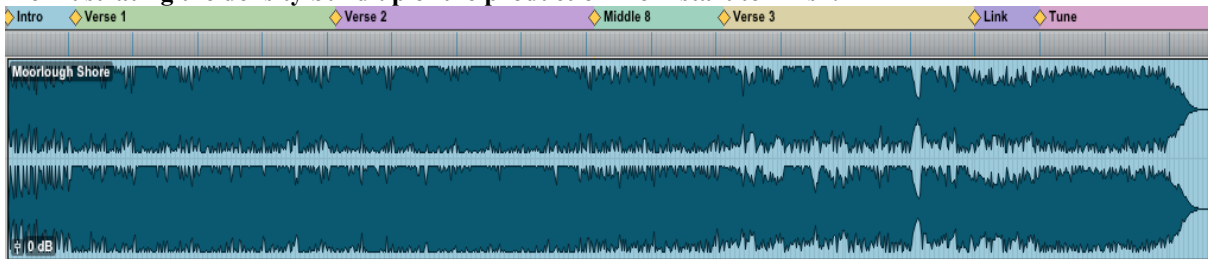
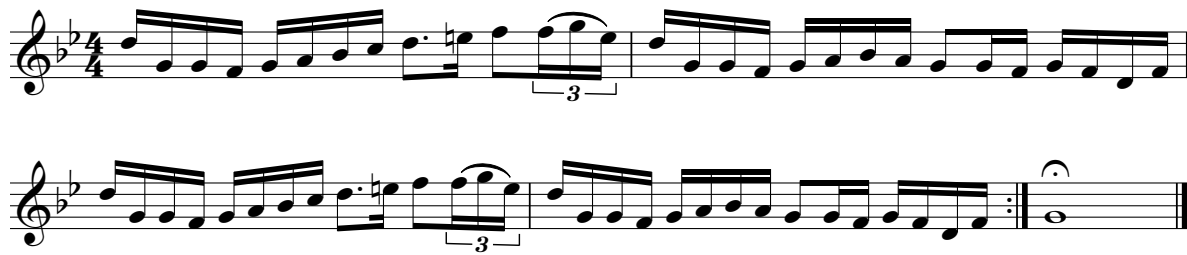


Figure 5.9: Screenshot taken from the *Moorlough Shore* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



The third verse indicates a significant change in the overall dynamic and arrangement. Most obvious is the drop out of the drum kit and bass guitar. Caroline Corr’s bodhrán enters the arrangement for the first time, low in the mix and treated with a low pass filter, eliminating the upper frequencies and natural brightness of the frame drum. The bodhrán serves as a rhythmic layer and performs a rhythm pattern of eight quavers per bar. Stereo-panned guitars provide a rhythmic and harmonic layer that contrasts with the elongated notes of the BBC Concert Orchestra. The Corrs’ female backing vocals enter the arrangement on the lyric “sailing over the sea of Maine” starting above the lead vocal in parallel harmony and joining with the melody in

Figure 5.12: Notation of the melody that occurs at bar 129 of *Moorlough Shore*.



Of particular note in The Corrs' production of *Moorlough Shore* is the use of key modulations and contrasting scales. The song modulates from G minor to B flat major in its verses and uses the B flat Mixolydian scale and G Dorian scale for instrumental melodic passages. The Mixolydian and Dorian scales are both commonly used in Irish traditional music.

Music Production Content Analysis: *Haste to the Wedding*

Haste to the Wedding is an Irish traditional double jig and was one of over 2,000 tunes collected by Captain Francis O'Neill. In 1907 it was published in manuscript form in his book, *The Dance Music of Ireland*. As is often the case, traditional tune titles change for “the titles of tunes are often of little importance and are usually much less venerable than the tunes themselves” (Krassen 1976, p.12). Scottish musician and composer James Oswald (1710–1769) published a tune titled *The Small Pin Cushion* (1759), which bore a compelling melodic similarity to *Haste to the Wedding*. Although *Haste to the Wedding* is regarded as a fiddle tune in *O'Neill's Music of Ireland* (Krassen 1976), the tune has been recorded on a range of musical instruments including the accordion (Kimmel 1920), uilleann pipes (Rowsome 2011), flute (Ó Gráda 1990) and banjo (Griffin, O'Neill and Cooper 2009).

Similar to *Toss the Feathers*, *Haste to the Wedding* is a standard tune in Irish traditional repertoire and recognisable to Irish traditional music audiences. The tune has featured consistently in The Corrs' repertoire and first emerged as a recording on the 1995 *Forgiven, Not Forgotten* EPK.⁵³ In 1998 the tune was performed at the Saint Patrick's Day concert in the Royal Albert Hall London where Mick Fleetwood (Fleetwood Mac) performed drums alongside Caroline Corr.

Dynamic Contour and Arrangement

Haste to the Wedding is a fully instrumental studio recording with a varied dynamic contour and arrangement illustrated in figures 5.13 and 5.14. Similar to *Toss the Feathers*, The Corrs adapted the normal structure of Irish traditional music and present a slightly alternative structure, illustrated in table 7 below. This table correlates to figure 5.15, an annotation of the melody. Part

⁵³ A press kit designed to promote an artist to various music and media professionals.

A of the melody is annotated as the first eight-bar repeat in and part B is annotated as the second eight-bar repeat. The musical notation does not convey the important internal ‘swing’ that makes the tune sound distinctly Irish.

Figure 5.13: Dynamic contour graph of *Haste to the Wedding* illustrating density build up of the production from start to finish.

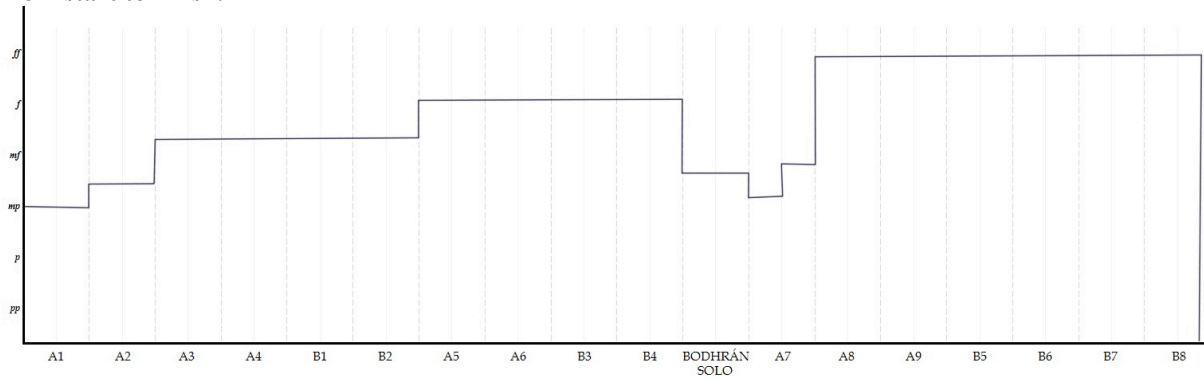


Figure 5.14: Screenshot taken from the *Haste to the Wedding* Pro Tools music production content analysis session file illustrating the density of the production from start to finish.



Figure 5.15: Musical notation of *Haste to the Wedding*.



Table 7: The Corrs’ structure of *Haste to the Wedding*.

Primary name of section	Section 1				Bodhrán Solo	Section 2	
Melody phrase	A	B	A	B	N/A	A	B
Duration in bars	32	16	16	16	16	32	32

Haste to the Wedding opens with the A phrase of the tune performed by Sharon Corr on solo violin. The dry and close-miked violin audio signal is panned soft left and its reverberated signal is panned soft right. This sonic image is reflected visually in figure 5.16, a screenshot of the stereo waveform from the Pro Tools Appendix.

Figure 5.16: Screenshot taken from the Pro Tools session file illustrating the balance of the left and right stereo channels of the *Haste to the Wedding* stereo audio file during the violin introduction.



The following repeats of the A phrase melody add the bodhrán (rhythmic layer), tin whistle, and stereo panned acoustic guitars (harmonic layer) respectively. The tin whistle is panned centre and plays the tune melody in unison with the violin, creating a strong melodic layer that is given priority in the mix. The arrangement continues until bar forty-eight where new instruments enter the arrangement: the accordion (melodic layer), the electric bass guitar (bass layer) and the stereo drum kit (rhythmic layer). With the addition of these three instruments, the mix has become busier and Caroline Corr varies her performance to accommodate this by incorporating striking

the frame of her instrument with her beater into the rhythm pattern, adding high frequency content, which easily cuts through the mix.

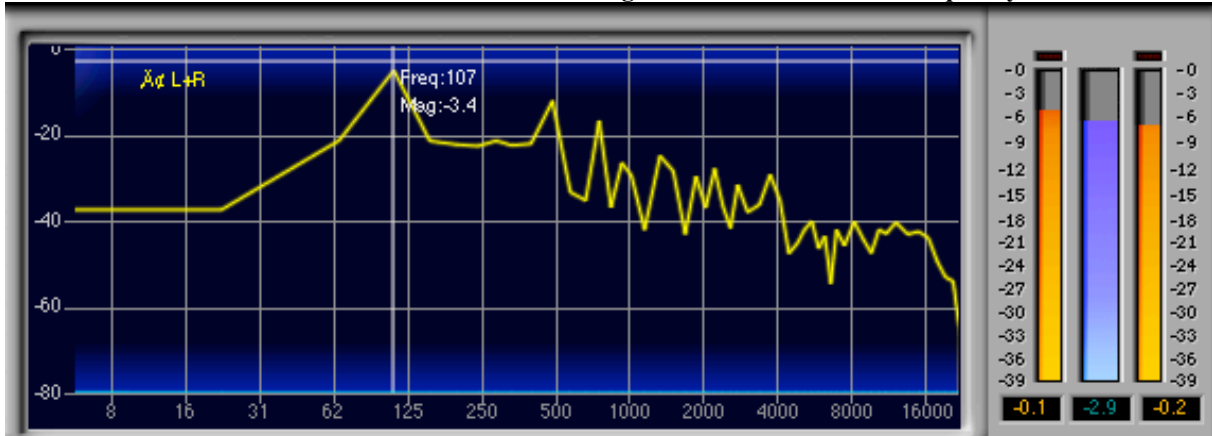
A distinct change occurs at bar eighty-one where all the instruments drop out, with the exception of the bodhrán and hi-hat. This section aligns with The Corrs' live-recorded versions of the tune where Caroline Corr performs a bodhrán solo. To fill the space where normally an audience clapping would fill (see The Corrs 2000c), the hi-hat plays a syncopated rhythm and is treated with reverb. This reverb is also applied to the bodhrán and a large sense of space is created. Variation occurs eight bars later where once again, Caroline Corr incorporates striking the frame of the bodhrán into the rhythmic pattern and additionally, by percussive palm muted strumming of the acoustic guitar, which is panned hard right. The following sixteen bars contrast to what The Corrs previously performed live. Instead of the violin taking the tune melody in a solo performance, this production opted for an accordion solo. At bar 113 the dynamic peak occurs as McSherry's uilleann pipes join the full arrangement.

Innovating Irish Traditional Music and Aesthetics

The tone of the violin is bright without sounding harsh and has been gently compressed to balance the performance dynamics transparently. This aligns with Ó Cannain's (1978, p.42) description of tone in Irish traditional music. Caroline Corr's bodhrán is authoritative and treated with equalisation, which presents the frequency spectrum of the whole instrument. The resonant frequency of the open instrument skin, approximately 107 Hz, is audibly present which adds depth, body and bass content while the mid-range frequency muted skin strikes are also clear and present. This frequency is illustrated in figure 5.17 in the screenshot of Wave's PAZ frequency analyser plugin inserted on the stereo audio track in the Pro Tools session. The bodhrán's function in this production is two-fold, as a rhythmic layer and as a bass layer. The recording of

the uilleann pipes features only the melody performed on the chanter, omitting any harmonic accompaniment from the regulators or drone pipes. The chanter is bright in tone and is panned in the centre, re-enforcing the melodic unison combination of the fiddle, whistle and accordion.

Figure 5.17: Screenshot of Wave's PAZ Frequency analyser plug-in inserted on the *Haste to the Wedding* stereo audio file in the Pro Tools session file illustrating 107 Hz as the resonant frequency of the bodhrán.



Indicative of Irish traditional music, no metronome was present at the recording stage as the tempo wavers between 194 and 206 BPM. *Haste to the Wedding* poses an interesting case for functional staging as it demonstrates Irish traditional music recorded live in a studio environment. The arrangement is akin to Ó Riada's ensemble with various instruments taking solo positions and with instruments providing rhythmic accompaniment, however the addition of drums and bass guitar add an element of functional staging in rock music albeit lesser than demonstrated in *Toss the Feathers*. Furthermore, although low in volume, foot tapping of the beat is also audible. While foot tapping is normally associated with live performance and its inclusion in a studio recording is rare, in this case it connects the recording to a live traditional session context.

The Role of the Music Producer: Mitchell Froom

Mitchell Froom is an acclaimed music producer, musician and composer from the USA who is noted for his production work with Crowded House. Froom and his recording engineer Tchad Blake (b.1955) became known for their distinctive signature sound of “reverb vocals, distorted texture and junkyard percussions” (Mix With the Masters 2018a).

The Froom/Blake partnership ended before the *Home* album was recorded and David Boucher became Froom’s recording and mix engineer. In O’Connor’s (2005), interview Froom stated at this time, his approach to production changed: “Nowadays I’m interested in being much more transparent and just seeing how powerful I can make the recordings, with no ‘stamp’” He added in the same interview that his primary aim became to focus on the artist’s own original musicality and highlight that, rather than embed his own signature sound into a record.

By 2005 Froom was well familiarised with The Corrs due to a pre-existing and successful relationship. Froom produced The Corrs’ live *Unplugged* album (1999b), co-produced five⁵⁴ tracks from *In Blue* (2000b) and produced *VH1 Presents: The Corrs, Live in Dublin* (2001). Jim Corr said Froom was chosen to produce the album because The Corrs were fans of his previous work with Crowded House and they felt he would be suited to producing a live studio album with them:

We were always big fans of Crowded House and Mitchell Froom worked extensively with them. We loved his sound ... We knew that this was going to be perhaps a much more live album, which it was, and we just thought that he would be greatly suited to producing this, which he was. I still love that album, I still listen to that album. I think he did an absolutely superb job, he’s a lovely producer ... That was a wise decision to get Mitchell Froom to produce that album. I feel it turned out great.

(Caffrey 2020)

⁵⁴ Froom has joint production credits with The Corrs for *Say*, *At Your Side*, *Give it all up*, and additional production credits for *Hurt Before* and *Rebel Heart*.

According to Burgess the facilitative music producer allows the artist to be the primary force in the recording and their role is to support, facilitate and maximise the artist's ideas (2013, p.14). Based on this study's interview with Jim Corr, it can be construed that Froom's approach to producing The Corrs was as a facilitator and as a collaborator. At the time The Corrs were working with Froom, they were established artists with four studio albums and three live albums in their catalogue. From this it is fair to state at this point in their career they were seasoned recording artists and chose to work with a music producer with an extended understanding of music production, skills in arranging and who would also understand the sound of the band enough to let them be the driving force of their music. Jim Corr said Froom's primary role was to help forward The Corrs in the studio quickly:

We would have done a lot of the fine tuning in the studio as well with Mitchell Froom. And this is where he was great, because some of the songs we would be able to do from beginning to end ourselves ... Other songs we were stuck, we didn't know where we where going to take this ... that's the role of the producer to step in and say "Try this, try this, try this" and he's brilliant because where we were falling down in a sense or not able to bring certain songs to completion, his ideas were wonderful. He brought us forward at a very quick pace.

(Caffrey 2020)

The Corrs' *Home* presents the ideal example of Mitchell Froom producing an album without imparting a signature stamp while simultaneously allowing The Corrs to express their Irishness. Speaking about Froom on the *Home* EPK (The Corrs 2009), Sharon Corr said that his approach brought The Corrs to an "organic" sound. Sharon's use of the word "organic" suggests a production approach that did not interfere with the artist's signature sound. Jim Corr also used the term in the interview for this study when comparing Froom with David Foster:

I would say that Mitchell was probably more organic in his approach in terms of real instruments whereas David wasn't afraid, as I was, to be a little bit more, not reliant but to gravitate more toward what samplers and synthesisers could do. I love that too. Mitchell would have been more organic in his approach musically.

(Caffrey 2020)

In summary the role of Mitchell Froom when producing The Corrs was as a facilitator and collaborator. Froom allowed The Corrs to create the primary sound of the recordings and as evident in an interview with Jim Corr, Froom supported The Corrs in terms of arrangements and song structures in the studio. Although Froom is acclaimed for having a recognisable signature sound as a music producer due to his production work with studio engineer Blake, Froom changed his approach to production after meeting Boucher. Froom's new approach indicated he no longer became the dominant sound on his productions and this is evident in The Corrs' *Home* album.

Summary: *Home* Album Analysis

By 2005 The Corrs were an established band and experienced global commercial success. The experimentation evident in The Corrs' image throughout the *Forgiven, Not Forgotten* album cycle had consolidated by this point and The Corrs had matured personally: Sharon had married and Caroline had also married and had two children. The album was The Corrs' first to be primarily recorded live in the studio. Nonetheless, the resulting sound had a sense of familiarity despite being different. This was due to Froom's facilitative production approach, which allowed The Corrs' to create the primary signature sound of the record. In addition, Froom previously worked with the band, therefore the live and acoustic sounds from *Unplugged* (The Corrs 1999) carried over in *Home*.

The Celtic Aesthetic Without Pop/Rock

The musical material for *Home* was sourced from the songbook belonging to The Corrs' late mother Jean and all of the recordings, which are a mix of Irish traditional songs, contemporary songs and Irish traditional dance music, are indicative of The Corrs' upbringing and environment described in Chapter 2. Andrea Corr (2019, p.159) said, "We embodied our past and that of our parents and learned the songs that they had played before us, embracing exclusively our traditional history".

Similar to *Forgiven, Not Forgotten* the Irish traditional repertoire included on *Home* consists of standard tunes commonly played in Irish traditional spheres and recorded by several exponents. The inclusion of standard tunes gives instant recognisability and credibility to The Corrs' signature sound from the perspective of Irish traditional audiences while simultaneously engages global popular music audiences who are potentially exposed to Irish traditional music for the first

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter Calling* time through their recordings. *Haste to the Wedding* and *Old Hag* are both double jigs, which strongly focus on Irish traditional instrumentation the violin, tin whistle, bodhrán, accordion and the uilleann pipes. *Home* indicates a strong presence of Irish traditional tunes with the aforementioned two jigs plus a melodic segue after *Spancill Hill* which is the jig *The Rakes of Kildare*. Of note is the lack of reels or other dance tune types on this album. The use of the Irish language on *Buachaill on Eirne* and *Brid Og Ni Mhaille* reinforces The Corrs as a group with Celtic aesthetics. In the entire catalogue of the analyses presented, the use of traditional Irish vocal ornamentation is most evident on Andrea's lead vocal, further strengthening The Corrs' Celtic sound.

Evolving the Celtic Aesthetic in Context of Live Performance

A strong live performance aesthetic is evident on several of *Home's* productions. *Heart Like a Wheel* demonstrates the simultaneous recording of Andrea Corr's lead vocal and Jim Corr's acoustic piano. *Haste to the Wedding* and *Old Hag* demonstrate live recordings of The Corrs within the context of a contemporary Irish traditional ensemble. The binary structure of Irish traditional music has been altered in *Haste to the Wedding* pointing towards innovation of Irish traditional music. In addition, this jig often featured in The Corrs' live sets. Therefore The Corrs were putting the live performance context into the recording studio.

Without the pop/rock sound of *Forgiven, Not Forgotten*, The Corrs present arrangements, which feature contemporary instrumentation (lead vocals, acoustic drums, guitars and acoustic piano) with Irish traditional instrumentation (violin, tin whistle and bodhrán). Trench's classical string arrangement (The BBC Concert Orchestra) is not an entirely new sound to The Corrs (see *The Minstrel Boy* and *Erin Shore* on *Forgiven, Not Forgotten*, and *Unplugged* 1999) however its presence is stronger than previously heard. In the decade surrounding *Home's* release Trench had

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter Calling*
a significant recording output with Irish artists in the context of the orchestral arrangements including The Chieftains (2002) Celtic Woman (2006) and Altan (2010). The musical input of Trench on the *Home* album validates The Corrs as innovators within Irish music who also maintain an awareness of trends within the genre. This musical combination continued in recent years with performances by Lúnasa and Beoga with the RTÉ Concert Orchestra in 2013 and 2017 respectively.

Album Analysis 3: *Jupiter Calling*

Jupiter Calling was released on the 10th of November 2017. The album was The Corrs’ second release through a new record deal with East West Records⁵⁵ (Boyzone, Jools Holland and Robert Plant) following their nine-year hiatus (2006–2015). Under the direction of American music producer T-Bone Burnett, *Jupiter Calling* exhibits a shift in The Corrs’ sound as a result of the recording and production techniques implemented.

Jupiter Calling was recorded in RAK Studios,⁵⁶ London in less than one month (Tyaransen 2017) an unusually short time for The Corrs but customary in Burnett’s recording approach and methodology. Along with DAWs Pro Tools and Logic, Studio 1 features a Studer A800 Mark III two-inch 24-track analogue tape machine and an Automated Processes Incorporated 48-track console. RAK’s selection of modern and vintage recording technologies across four dedicated recording spaces is indicative of contemporary, traditional and hybrid music production practices of the current time.

Although twelve years had passed since *Home*, similarly the musical intention for *Jupiter Calling* was to capture the fundamental sound of the band by recording live and with minimal overdubs.⁵⁷ By implementing this process The Corrs aimed for *Jupiter Calling* to be as transparent as possible: “This record distills [sic] us live in a living room” (Andrea Corr quoted in The Corrs 2017a). In an interview for this thesis, Jim Corr stated that the production idea for *Jupiter Calling*

⁵⁵ East West Records is a record label formed in 1955 as a subsidiary of Atlantic and is now a division of Warner Music UK.

⁵⁶ Mickie Most (The Animals, Jeff Beck and Suzi Quatro) founded RAK Studios in 1976, and the studio has hosted acclaimed international recording artists including David Bowie, Michael Jackson and Adele.

⁵⁷ *White Light* conveys The Corrs’ pop sensibilities through its sonic signature of layered synthesisers, extensive overdubbing, digital recording methods, heavy audio processing and polished production.

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter Calling*
was to create a record that was not perfect: “We were going for imprecision. Not something that was too perfect” (Caffrey 2020).

The creation of *Jupiter Calling* coincides with the rising popularity of the singer-songwriter in chart-oriented music (Ed Sheeran, Adele and Taylor Swift) and the furthering of innovative Irish traditional-based music (The Gloaming, Beoga and Lankum). References to Irish traditional music are also evident in the forthcoming analysis.

During The Corrs’ recording hiatus, The Corrs’ permanent musicians Anthony Drennan and Keith Duffy joined Mike and the Mechanics and Ronan Keating (Boyzone) respectively as studio and touring musicians. Drennan is credited in *Jupiter Calling*’s album liner notes for performing electric and acoustic guitars, mando-guitar and electric sitar but Duffy does not feature on the album due to touring with Keating on his coinciding *Time of my Life Tour*. Irish bass player Robbie Malone (David Gray, The Hothouse Flowers) is credited for bass guitar and double bass performances on *Jupiter Calling*. The change in bass player could have impacted the studio environment and atmosphere. Additional musicians Jay Bellerose, Keefus Ciancam, Patrick Warren and Mike Piersante are credited for contributing to *Jupiter Calling* but their respective instruments are not listed.⁵⁸

As corroborated by Jim Corr during an interview, *Jupiter Calling* primarily differs from *Home* because it is a collection of thirteen original songs written by The Corrs, as opposed to a collection of The Corrs’ interpretations of other people’s songs (Caffrey 2020). Of particular note on the album is the distribution of piano performances amongst Jim, Sharon and Andrea Corr.

⁵⁸ Bellerose is a session drummer and percussionist, Ciancam and Warren are keyboardists however Piersante is not directly associated with any particular musical instrument.

Sharon is credited as pianist on *The Sun and Moon*, *Season of Our Love* and *Live Before I Die*, Andrea is credited on *No Go Baby* and Jim is credited for the remaining songs. Despite the fact Gerry Corr taught the Corr siblings' piano during their childhood, Jim Corr has been solely credited as pianist on all previous Corrs' albums.⁵⁹

Previously discussed in the *Home* analysis, Irish traditional instrumental recordings consistently recur throughout The Corrs' recording catalogue. Importantly *Jupiter Calling* is the first album in The Corrs' catalogue that does not include an Irish traditional instrumental track. Jim Corr stated he could not remember any particular reason why this occurred:

Generally we would try and we would experiment with songs to see if they were going to work and maybe we just weren't inspired. I mean it has to be good, it has to pass myself and the girls. We have to like it and feel that it's different and worth putting on an album. Perhaps we weren't feeling that way! I'd say we probably would have tried! Maybe we just weren't feeling it and T-Bone Burnett wasn't fussed. I can't remember.

(Caffrey 2020)

The following album analysis critiques four tracks *Son of Solomon*, *SOS (Song of Syria)*, *Bulletproof Love* and *Dear Life*. These tracks were chosen because they represent The Corrs' promotional music content and album cuts and additionally featured during the set of the 2017 Royal Albert Hall performance.⁶⁰ *Son of Solomon* was presented as the first recording, which emerged prior to the album's release, *SOS (Song of Syria)* was chosen for its political message and its release as an official single, *Bulletproof Love* was featured prominently during the televised promotional stage of the album's cycle and *Dear Life* showcases The Corrs' Irish traditional aesthetics. Two additional tracks *Chasing Shadows* and *Butter Flutter* were initially included in this album analysis but are omitted from this thesis. The observations from these recordings are included in Appendix D and Appendix E respectively.

⁵⁹ Evident on RTE's *Eye on the Music* (1991) Caroline Corr was originally The Corrs' pianist and occasionally plays piano during *Runaway* live. Sharon Corr also plays keyboard live.

⁶⁰ The Corrs' performance in the Royal Albert Hall, London on the 19th of October 2017 was the only concert that celebrated *Jupiter Calling* and at the time of this thesis, remains the band's most recent show.

Music Production Content Analysis: *Son of Solomon*

Son of Solomon is *Jupiter Calling*'s promotional single and was released on the 21st of September 2017 via iTunes in a digital download format. It was accompanied by a homemade video that was filmed and edited by Andrea Corr on her iPhone in London 2016. With a duration time of four minutes and twenty-one seconds the song is long in terms of a single and feels like a ballad, due to its tempo of approximately 132 BPM.

Dynamic Contour and Arrangement

Son of Solomon opens with Jim Corr fingerpicking an Avalon Americana D340A custom acoustic guitar solo. Andrea Corr's close-miked vocal in verse one gives a sense of immediacy to the listener while a dark, low frequency-rich reverb with a short pre-delay fills the remaining space and evokes an image of Jim and Andrea performing in an empty live venue. Illustrated in figures 5.18 and 5.18 the production of *Son of Solomon* becomes additive henceforth, building in arrangement, dynamics and density throughout until verse four. During the second verse an effected electric guitar appears on the right and extends the stereo image. This guitar can be described as clean but effected with chorus and tremolo and performs punctuated arpeggios. The first chorus adds Caroline Corr's bodhrán to the arrangement and it exists in the centre of the stereo image. Sharon Corr's *legato* violin appears at bar forty-nine panned left, underpinning the lyric "I seek but you, you find me", reinforcing the melody. The third verse and second chorus adds the overdubbed cajon and the violin, which performs double stops. The dynamic peak of *Son of Solomon* occurs during the thirty-two-bar instrumental bridge and remains during the following choruses, primarily due to the addition of the drums and electric bass guitar. The previous percussive elements have been omitted and the drum sound is large and prominent in the mix. Although played with brushes, the authority is strong and every part of the kit is given a

clear placement in the mix balance. The 1966 Ludwig kit resonates with the song’s key due to the specific tuning of the toms, kick and snare. The overall drum sound is natural, full-bodied and warm due to the faux calfskin heads and the soft-velocity performance technique, which produces a sound with less attack and more tone (Burnett paraphrased in Massey 2009, p.29). In the final chorus, a descending melodic motif performed on an upright piano provides production variation. The piano is previously inaudible and the motif appears twice only, demonstrating that its role is purely as melodic filler. The song ends with a recapitulation of the first verse, which is similar to the original arrangement bookending the song dynamically. The drums and bass guitar have dropped out, leaving the lead vocal accompanied by the acoustic and electric guitars, bodhrán, improvised ride cymbal splashes and a descending *pizzicato* melody executed on violin

Figure 5.18: Dynamic contour graph of *Son of Solomon* illustrating the density build up of the production from start to finish.

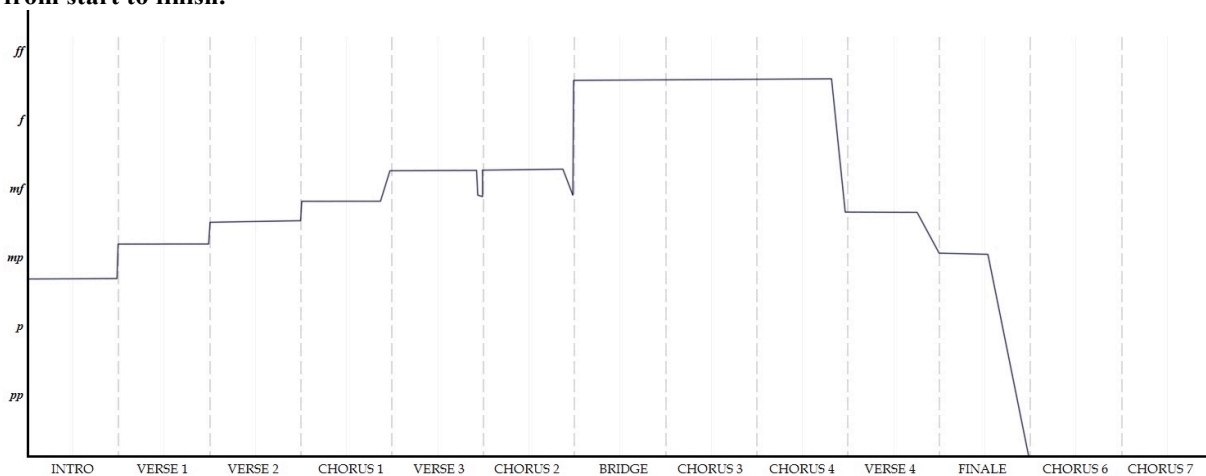


Figure 5.19: Screenshot taken from the *Son of Solomon* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



A Celtic Aesthetic

Although *Son of Solomon* began as a traditional piece composed by Caroline Corr (Corr 2019 p.215), the melody resembles those found in English folk music (Simon and Garfunkel 1966; The Imagined Village 2007). The D Dorian scale is used however the sixth note is omitted. Caroline Corr's bodhrán appears in the first chorus and its tone is dark and dry due to a lack of mid-high frequencies and reverb respectively. Its placement in the mix is strikingly low. Potentially the bodhrán is the victim of frequency masking,⁶¹ which has occurred due to the inclusion of low frequencies on the acoustic guitar and both sources sitting in the same position on the stereo field. A sixteen-bar original melody (figure 5.20) is played twice in unison on violin and tin whistle during this bridge. This melody bears similarities to an Irish traditional tune due to the instrumentation combination, ornamentation and key.

Figure 5.20: Musical notation of *Son of Solomon's* instrumental bridge melody.



An Imperfect Aesthetic

The imperfect aesthetic is used as an indicator of authenticity in functional staging. Natural performance nuances such as guitar string squeaks are foregrounded in the mix and additional extraneous sounds of moving air caused by Jim's right hand is audible in the introduction. The

⁶¹ Masking occurs when two sound sources occupy the same frequency simultaneously. One voice will dominate the other and the other will result in a loss of definition.

hiss of the electric guitar amplifier is audible and no attempt has been made to fade it out or process it in order to reduce the noise. The Corrs' performances are not edited in Pro Tools for timing perfection, which is a usual standard in modern commercial records. The lack of precision micro editing leads to natural performances. It is audible in the accompanying Pro Tools session (Appendix F), that all of the instruments waver with the metronome click track and occasionally fall behind it. This also reinforces a production aesthetic to capture feel and not manipulate the performance to perfection. The slightly imperfect production aesthetic is also audible on the tuning of Andrea's vocal. Auto-Tune is not utilised and her tuning wavers slightly during the final verse.

Music Production Content Analysis: *SOS (Song of Syria)*

SOS (Song of Syria) was released as *Jupiter Calling*'s lead single on the 29th of September 2017 and was premiered on BBC Radio 2 the day before. On the 7th of October the song was announced as BBC Radio 2's *Song of the Week* (The Corrs 2017b), indicating a positive response from the media. Significantly shorter in duration than its predecessor *Son of Solomon*, *SOS* has a total duration of three minutes and thirty six seconds and has a tempo of 196 BPM in 6/8 timing.

Dynamic Contour and Arrangement

Significant is its smaller dynamic contour, visually displayed as a graph (figure 5.21) and in waveform format (figure 5.22).

Figure 5.21: Dynamic contour graph of *SOS* illustrating the density build up of the production from start to finish.

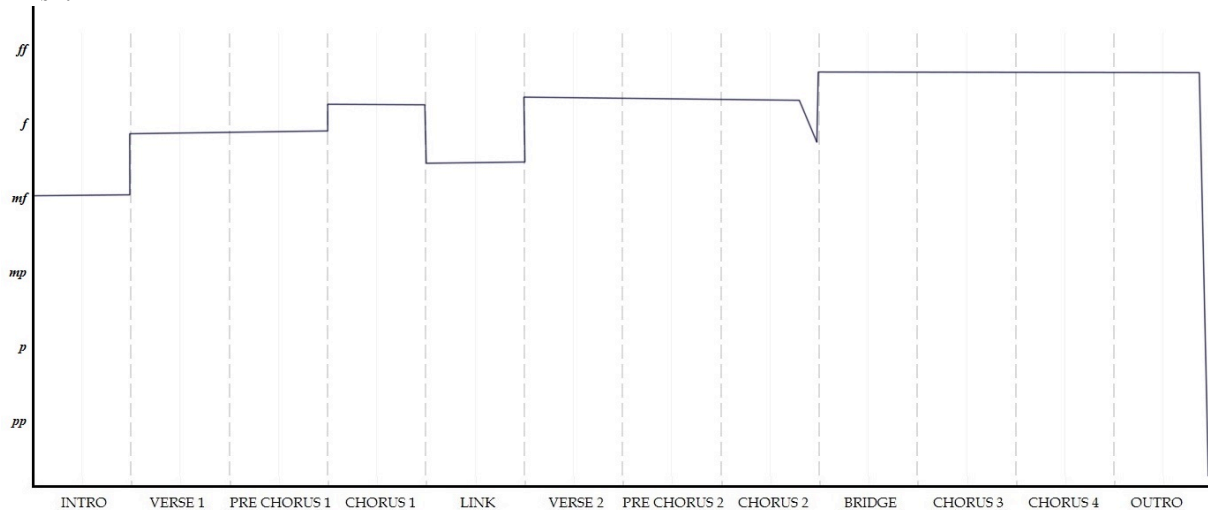
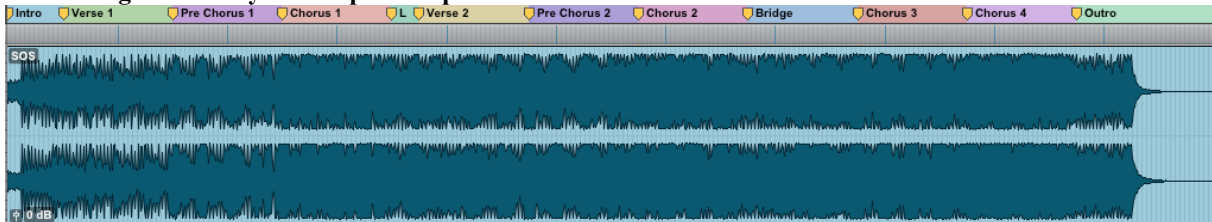


Figure 5.22: Screenshot taken from the *SOS* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



Opening at a moderately loud dynamic with a combination of ukulele and acoustic guitar, the drum kit enters at bar three performing a downbeat pattern. The snare is struck with a brush and the bass drum has authority and power in its presence. An acoustic piano motif provides a transitional melody, which serves to lead in the verse lead vocal. In terms of the mix production, all instruments have clear positions and cut through well, unlike *Son of Solomon* where frequency masking occurs. Verse one continues this arrangement with the exception of the piano motif, which does not sound during this sixteen-bar section. The first pre-chorus brings additional instruments including a rack tom panned centre and a mildly overdriven electric guitar panned right. The first chorus continues building instrumentation and introduces the bass guitar, backing vocals, violin and a backdrop of multi-tracked electric guitars. A musical juxtaposition occurs with change of the key to E minor. The upright piano re-joins the arrangement and its role is to provide harmonic accompaniment rather than provide melody as previously mentioned. Although they are audible, it should be observed here that the backing vocals and violin are low in the mix. The end of the sixteen-bar chorus is marked with a reversed cymbal swell, which has an unnatural cut-off without any decay. This cymbal is disjointed from the drum kit due to its prominence in the mix and is distinctly an overdub. The second verse builds the production density in a number of ways: (i) the drum pattern has developed to include bass drum hits on chosen upbeats as well as the downbeat, (ii) the bass guitar provides low-frequency musical content with a sustained D2 note, punctuated by melodic fills at the end of every second bar, (iii) the piano repeats the melodic motif previously heard in the introduction and short bridge sections and (iv) a stereo spread of electric guitars provides further variation. The dynamic peak of *SOS* occurs during the fourth chorus. This is where the arrangement becomes most busy due to the violin and tin whistle combination melody intertwining with an ad-libbed lead vocal, backing vocals and the bed of instrumentation previously established. This particular section of the song exemplifies the use of overdubbing most clearly. The band could not possibly replicate this

section live because: (i) Andrea Corr cannot physically sing and play tin whistle at the same time, (ii) the execution of the backing vocals is highly unlikely to be achieved while simultaneously playing the melody and (iii) the multi-tracked rhythm electric guitars reveal an additional overdriven lead guitar at 03:08. The layering of these parts in the production provides interest and is in keeping with the arrangements audible on the *Forgiven, Not Forgotten* (1995) and *Home* (2005) albums.

A Contemporary Aesthetic

In terms of lyrical content *SOS* is The Corrs' most politically outspoken song in their catalogue. The lyrics contrast the internal feeling of helplessness voiced by Andrea Corr with the external cry for help for the misunderstood victims affected by the war in Syria (2011–present). Andrea Corr references her position as a mother who is not directly affected by the humanitarian crisis and reveals it to be one of privilege: “My girl in a tutu, what shoes to pick for her feet?” and also one of guilt and helplessness: “But it’s only a bad day that I’ve ever rescued”. If one was to read the lyrics without hearing the music beforehand, one might expect the song to be dark and atmospheric in content but the music recorded by The Corrs juxtaposes heavy lyrics with an upbeat tempo, a bright major key and a walking bass line. The Corrs offered their audience a melodic, upbeat song with a powerful and relevant political message in the singles format. Andrea Corr’s C5 note harmonically clashes with the G major tonality providing an anguished cry for the lyric “Blame”. Her use of this note fits appropriately with the lyrical theme.

The role of the ukulele is prominent in *SOS*. It works well in the production because it sits above the guitar frequency range, therefore lending itself to a contemporary mix without incurring frequency masking. The ukulele featured on *With Me Stay*, a non-single track on The Corrs' previous studio album *White Light* (2015), and its use may be seen as a response to contemporary

The Corrs’ awareness of changing popular music soundscapes.

A Celtic Aesthetic

The bridge is a sixteen-bar instrumental led by the violin and tin whistle. It showcases the Irish sound of The Corrs through a four-bar melody (figure 5.23), which is original and sounds recognisably Irish traditional to its jig-like rhythm pattern and D Mixolydian melody. However the performance is repeated four times, demonstrating little by way of variation and ornamentation.

Figure 5.23: Musical notation of *SOS*'s instrumental bridge melody.



Music Production Content Analysis: *Bulletproof Love*

Bulletproof Love is the third song sequenced on the *Jupiter Calling* album and although it was not released as a single, it was performed semi-live on two RTÉ television broadcasts during December 2017: *The Late Late Show* (The Late Late Show 2017) and *The Imelda May New Year's Eve Special* (Tony Cal 2018). With a total playing time of three minutes and seventeen seconds, it is possible that during its production phase, *Bulletproof Love* may have been intended for release as the follow-up single to *SOS*. On the 21st of December, it was noted on *The Corrs Club* online discussion forum (Taliesin 2017) that the track was included on BBC Radio 2's C playlist.⁶²

Dynamic Contour and Arrangement

Figures 5.24 and 5.25 illustrate the dynamic contour of the production. *Bulletproof Love* opens with a four-bar introduction consisting of ukulele, bass drum and a stereo synthesised pad. The strummed ukulele is foregrounded against an ethereal backdrop provided by the synthesiser and its performance is a little rough and clearly unedited. It is audible that the instrument is strummed lightly with the fingertips due to the rounded, mellow tone of the strings and the unpolished articulation. The role of the ukulele is purely as a harmonic layer. It establishes the key of F major and provides a rhythmical accompaniment for the forthcoming lead vocal. The presence of the ukulele is prominent in the production, establishing the instrument as a new sonic signature in The Corrs' recorded music. In contrast to the ukulele, the bass drum sound is heavy in low and sub frequencies and lacks the usual attack and immediacy of a bass drum found in pop music. It is possible that a noise gate⁶³ is present in the drum processing chain as the first beat of every

⁶² The BBC Radio 2 A list pertains to songs that are played the most often across a week while the B and C list songs are played less often.

⁶³ A noise gate is a process, which controls how much of an audio signal passes through a channel at a given time. It can be used to reduce unwanted external sounds, noises or as a creative effect.

second bar has a significantly longer decay than the rest. This indicates the noise gate has been opened, allowing the full audio signal through the channel for these particular beats, possibly for creative effect.

Figure 5.24: Dynamic contour graph of *Bulletproof Love* illustrating the density build up of the production from start to finish.

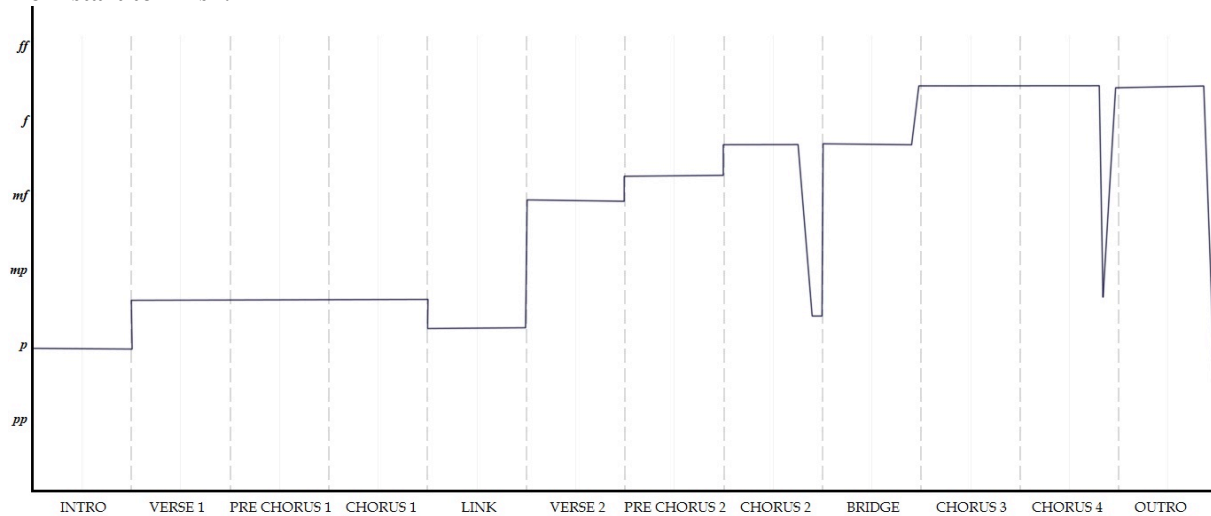


Figure 5.25: Screenshot taken from the *Bulletproof Love* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



The first pre-chorus exhibits small textural developments including an additional synthesiser, which provides clarinet-like volume swells and a broader stereo image, and a hi-hat and tambourine. These additional percussive elements sound disjointed from the bass drum but provide further textural atmosphere. Further sonic elements are added in the first chorus: (i) a reverberant shaker, (ii) an electric guitar panned left which has a tremolo pedal in its audio signal path and (iii) high-register strings panned right, balancing the stereo image. A significant change in arrangement occurs at verse two, with the bass guitar and full drum kit, which are both positioned primarily in the centre of the stereo-field. The crash cymbals are the only elements of

the drum kit, which sit either side of the stereo image. The electric guitars bring width, depth and country influences to the production. The synthesised sounds have disappeared and the ukulele remains, keeping the sense of familiarity established in verse one. A backing vocal occurs for the first time, supporting the lyric “This armour of mine I gotta pass on”. The backing vocal is likely to be Sharon Corr as she typically provides alto harmonies and Caroline provides harmonies above the melody.⁶⁴ A switch in the vocal arrangement has occurred during this lyric. The backing vocal performs the melody and the lead vocal performs the harmony five notes above. This is undoubtedly a conscious creative choice to provide melodic variation and to retain focus on the lead vocal. The second pre-chorus develops further this textural arrangement by introducing Sharon Corr’s violin which has been panned to the right, as opposed to the left, audible on *Son of Solomon* and *SOS*. The backing vocal which still takes the melody line, echoes Andrea Corr’s lead vocal in call and response fashion and underpin the lyric “Telling me there’s always light” (figure 5.26).

Figure 5.26: Musical notation of the vocal arrangement that occurs during the second pre-chorus of *Bulletproof Love*.

The figure displays musical notation for the second pre-chorus of 'Bulletproof Love'. It features two vocal parts: LEAD VOCAL and ALTO. The key signature is one flat (Bb) and the time signature is 4/4. The lyrics are: 'An em-blem of love, Look - ing from a-bove. An em-blem of love, Look Tel-ling me there's al- ways light. ing from a bove. Tel-ling me there's al - ways light.'

The notation shows the following structure:

- LEAD VOCAL:**
 - Measures 1-2: An em-blem of love, (with a long note on 'love')
 - Measures 3-4: Look - ing from a-bove. (with a long note on 'bove')
 - Measures 5-6: An em-blem of love, (with a long note on 'love')
 - Measures 7-8: Look (with a long note on 'Look')
 - Measures 9-10: Tel-ling me there's al- ways light. (with a long note on 'light')
 - Measures 11-12: ing from a bove. (with a long note on 'bove')
 - Measures 13-14: Tel-ling me there's al - ways light. (with a long note on 'light')
- ALTO:**
 - Measures 1-2: Rest
 - Measures 3-4: Rest
 - Measures 5-6: An em-blem of love, (with a long note on 'love')
 - Measures 7-8: Rest
 - Measures 9-10: Rest
 - Measures 11-12: Rest
 - Measures 13-14: Rest

The ALTO part provides a harmonic line that is five notes above the LEAD VOCAL line. The LEAD VOCAL part includes lyrics that are not fully aligned with the ALTO part's rests, indicating a call and response or overlapping vocal arrangement.

⁶⁴ See *No Frontiers* (The Corrs 1999b) for an example of this vocal arrangement.

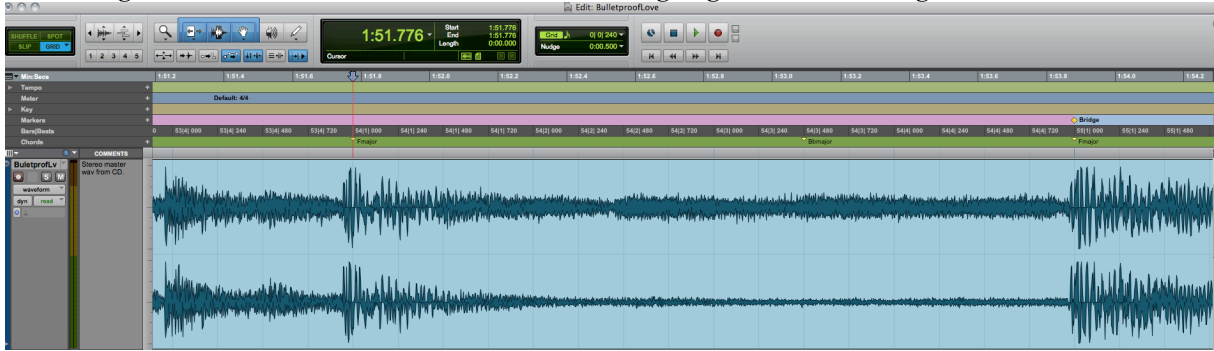
The third and fourth choruses carry forward the same arrangement and the main variation that occurs during these choruses is the vocal arrangement. The call and response device used previously has been replaced by backing vocals, which sing the melody in unison with Andrea Corr. This style of vocal arrangement represents a literal and musical unification of the repeated lyrics “We will be bulletproof”. The third and fourth lyrics of each chorus “If we let love win, let love rule the world” are vocally arranged as per the previous chorus with the backing vocals following the melody three steps below.

An Imperfect Aesthetic

Background noise such as the sound of the live recording room and headphone spill from a potential guide track⁶⁵ is audible during pauses supporting the imperfect aesthetic. Extraneous noises such as headphone spill and AC hum are also audible during the ten second fade out. In addition, while it is entirely possible that a click track was used to aid the band execute the two pauses at 01:51 and 02:55, the drums waver against the metronome, as audible in the Pro Tools session file (Appendix F). The drums are slightly rushed and push forward the music slightly. This could be considered to be an imperfection and ordinarily, would be edited to align with the gridlines in a DAW. Figure 5.27 is a screenshot from Pro Tools (Appendix F) and shows the drum transient from the stereo track not aligning with the nearest gridline. This slight push would not be noticeable to the untrained ear and editing could be considered to be invasive and detrimental to the groove. The use of pitch correction on the lead vocal is also non-existent as occasionally, Andrea Corr’s A3 note is slightly flat.

⁶⁵ A guide track is a rough audio track, which has been recorded during pre-production and serves to establish the song structure early on in the creative process. It is usually omitted or replaced during the recording process.

Figure 5.27: Screenshot from the *Bulletproof Love* Pro Tools music production content analysis session file illustrating a drum transient from the stereo track not aligning with the nearest gridline.



Music Production Content Analysis: *Dear Life*

The Corrs performed *Dear Life* live in November 2017 for *The Dan Wootton Sessions*,⁶⁶ which was published as a video on Wootton's (2017) Facebook page. *Dear Life* is four minutes and eighteen seconds in duration and meters in 6/8 timing.

Dynamic Contour and Arrangement

Dear Life exhibits a rising dynamic contour, illustrated on figures 5.28 and 5.29. *Dear Life* opens at the first verse moderately quiet with Andrea Corr's lead vocal and accompaniment of Jim Corr's acoustic piano. Andrea's vocal (panned centre) has been treated with a stereo reverb with a short pre-delay and medium decay, and Jim's piano is positioned as a stereo recording which leans towards the left as he plays sustained chords in the piano's middle register. Caroline Corr's bodhrán enters the arrangement at the second verse and is panned centre. The bodhrán has a strong low frequency presence in the mix and its mid frequency audio signal is audible in the reverb. It is likely that a high pass filter was applied on the reverb channel, which is a common technique to remove undesirable frequencies and enhance a clear mix. The rhythm pattern is distinctly an Irish traditional jig pattern and is based on two groupings of quavers and semiquavers per bar. The first refrain adds Drennan's mandolin to the arrangement and is panned left. The mandolin is low in the mix but clearly audible as a high frequency instrument. Sharon Corr's violin enters the arrangement at bar forty-three and is panned right. The arrangement becomes denser in the second verse with the addition of sustained piano bass notes, the brushed drum kit and a counter melody performed by Sharon Corr on the lower register of the violin. The second refrain adds female backing vocals and a synthesised string pad to this arrangement. Sharon and Caroline Corr provide the female backing vocals and sing three notes above the melody while following its contour. The dynamic contour decreases after the bridge sections

⁶⁶ Dan Wootton is a journalist and broadcaster and is currently executive editor of *The Sun*.

during which the refrain is repeated for the last time. The drums, double bass and bodhrán do not sound. Andrea Corr’s lead vocal is surrounded by Drennan’s mandolin and Jim Corr’s piano, which are panned on opposite sides of the stereo image. Sharon Corr plays a repeat of the two motifs as heard in the first refrain and the double bass, drums and bodhrán join the arrangement during the refrain’s second round of eight bars.

Figure 5.28: Dynamic contour graph of *Dear Life* illustrating the density build up of the production from start to finish.

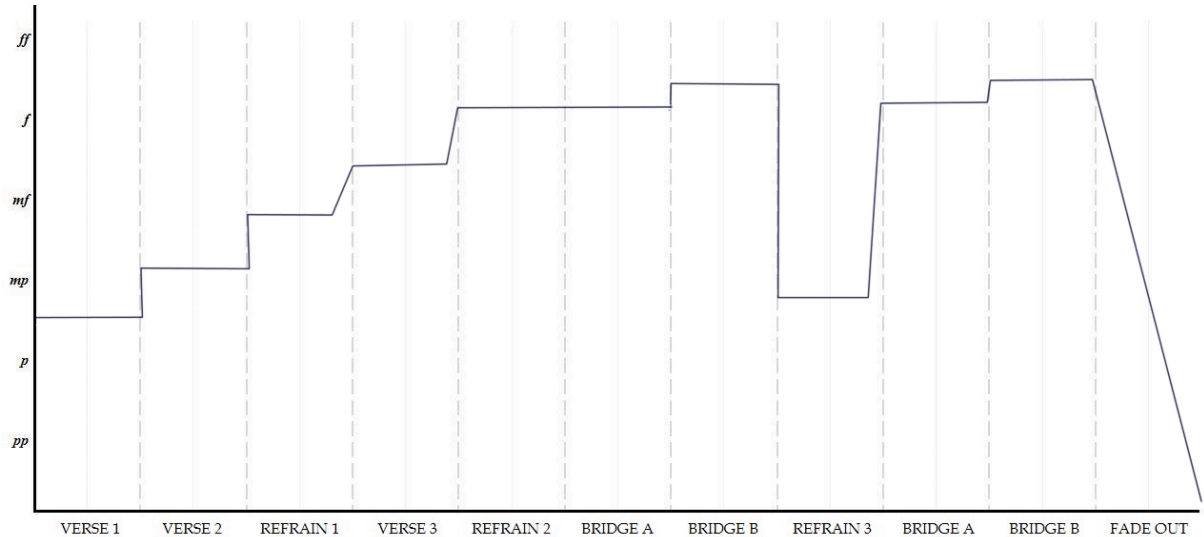
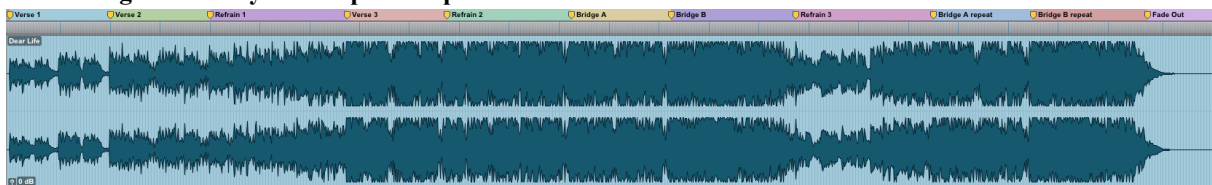


Figure 5.29: Screenshot from the *Dear Life* Pro Tools music production content analysis session file illustrating the density build up of the production from start to finish.



A Celtic Aesthetic

Illustrated in figure 5.30, Sharon plays two motifs that are interspersed with Andrea’s melody. Of interest is the second motif, which is an excerpt of the melody that sounds during the instrumental bridge later in the song and is underpinned by Malone’s double bass line. The use of the double bass reflects a move towards the acoustic aesthetic and the instrument has become prominent in Irish traditional (Lúnasa), folk and American folk and bluegrass music (Alison Krauss and Union Station). The violin melody and Andrea’s vocal melody illustrated in figure 5.30 have jig rhythm

patterns. Also notated is the vocal ornament Andrea places on the lyric “losing”, which adds to the Celtic aesthetic of her performance.

Figure 5.30: Musical notation of the lead vocal melody and the violin melody that occur during the first refrain of *Dear Life*.

The figure displays musical notation for the first refrain of the song "Dear Life". It is organized into three systems, each with a vocal line and a violin line. The key signature is one flat (Bb) and the time signature is 6/8. The first system shows the vocal line with the lyrics "And sing that we were born to live and love to give a love so" and a violin line with rests. The second system shows the vocal line with the lyrics "I live like I'm los-ing and hold-ing on for dear life." and a violin line with a melodic accompaniment. The third system shows the vocal line with the lyrics "Live like I'm los - ing and hold-ing on for dear life." and a violin line with a melodic accompaniment. The lyrics "los-ing" and "hold-ing" in the second and third systems include a vocal ornament (a grace note) on the "i" of "losing" and the "o" of "holding".

An instrumental section occurs between the second and third refrains. This section has been labelled in the Pro Tools session file as “Bridge A” and “Bridge B”. Bridge A is sixteen bars in duration and the melody is performed in unison by the violin and tin whistle. The melody (figure 5.31) is an original piece and is recognisably Irish due to its jig rhythm pattern and F major tonality. Missing from the illustration are several instances of ornamental grace notes performed on the tin whistle, which contribute further toward the Celtic aesthetic of the melody. Jim Corr also plays the melody in unison with the violin and tin whistle.

Figure 5.31: Musical notation of the melody that occurs during Bridge A of *Dear Life*.



Bridge B (figure 5.32) is twenty bars in duration and features a new eight-bar melody performed in unison by the violin and tin whistle. This is also an original jig and highly decorated by both the violin and the tin whistle.

Figure 5.32: Musical notation of the melody that occurs during Bridge B of *Dear Life*.



During the second (B) bridge section The Corrs’ backing vocals sound as a stereo group recording that has been overdubbed after the performance. These backing vocals perform three instances of sustained “Ooh”s in close harmony and are similar to the “Celtic harmonies” (Bill Whelan quoted in Heffernan 2000) audible on Enya and Clannad recordings. Sounding simultaneously with the third “Ooh” is an additional overdub of the lead vocal consisting of ad-libbed “Yeah”s.

An Imperfect Aesthetic

Out of the four analyses presented in *Jupiter Calling*, *Dear Life* presents The Corrs' live and analogue recording aesthetic most accurately. The Corrs performed their respective musical instruments with Drennan (mandolin), Malone (double bass) and two un-credited musicians (drums and synthesiser) live and notably only two instances of three backing vocal overdubs are apparent in the bridges.

Annotated as a tempo map in the Pro Tools session (Appendix F), the tempo fluctuates throughout the recording between 132 and 143 BPM and averages around 135 BPM from the second verse onwards. A minute amount of analogue tape hiss and low frequency rumble is audible during the first verse and indiscernible low frequency rumble is audible during the last refrain.

The Corrs' live performance of *Dear Life* on Dan Wooten's 2017 Facebook broadcast clearly demonstrates that the song translates suitably well as a live four-piece performance. The performance on Wooten's show also demonstrates striking similarities with the live and acoustic 1995 *Forgiven, Not Forgotten EPK*.

The Role of the Music Producer: T-Bone Burnett

T-Bone Burnett has a distinctive production signature sound audible on albums for Counting Crows (1993), Robert Plant (2007) and Los Lobos (1983–88), and is famous for being aligned with the Americana⁶⁷ music genre and an analogue/live recording aesthetic. According to Sachs' (2012, p.146) interview with musician Leslie Ann "Sam" Phillips, Burnett started to develop his sound in the early 2000s. In an interview with Massey (2008, p.110) Burnett explained his signature low-end heavy and rich tonal sound developed out of his collaboration with recording engineer, Mike Piersante. Burnett also has a consolidated method of recording that has remained unchanged throughout his career and has been described as "the modern day version" (Sheets 2009) of music producer Samuel Cornelius "Sam" Phillips for his approach to music production, pertaining to his cutting away of sonic effects, recording a small number of takes per song and not recording a vast amount of overdubs. Burnett is also renowned for arguing against the digital sound recording technologies (Willman 2013) and for consistently working within the analogue domain as he primarily uses tape as his medium of recording (Crane 2008).

Burnett's approach to recording and production is different for The Corrs, as the vast majority of their studio albums with the exception of *Home*, have implemented the overdub method during recording. Jim Corr explained:

This [*Jupiter Calling*] we approached very differently because the way that T-Bone Burnett wanted to do it was, he asked us to go and learn all of those songs to play live, that we were about to record. We had done demos alright, but he asked us to learn them as if we were going to play them live. Now we had always done it the other way around where we would have gone into the studio and created in the studio on the multi-track, created the song and built it up layer after layer to turn it into a complete song and then we would learn it live. But he wanted to do it the opposite way. To learn it, play it live and then record it.

(Caffrey 2020)

⁶⁷ The term 'Americana' emerged in the mid-90s and is contemporary music that incorporates elements of various American roots music styles, including country, roots-rock, folk, bluegrass, R&B and blues.

Jupiter Calling was recorded in less than one month, an unusually short amount of time for The Corrs to spend recording an album considering *Forgiven Not Forgotten* took almost six months. The Corrs were able to record the album quickly by recording simultaneously as a live band and by recording fewer takes. In an article for the *Independent*, Caroline Corr commented her experience of recording in this way was both freeing and intimidating:

It's a beautiful feeling just to play a song and having that as 'the take'. Some people do entire tracks and put the voices in later, so the idea of saying let's do this as a whole take. It's pretty nerve-wracking.

(Corr quoted in O'Connor 2017)

Jim Corr found difficulty in Burnett's approach believing that it allowed for imperfections to remain on recordings:

Because we would do a pass or the girls would do a pass and he'd go "That's good". And I would go "What?! I don't think that's so good"! There was a lot of that. Put it this way, he didn't have the emphasis on the perfection that we all would have done, certainly previously. That took a bit of getting used to I have to say... Tuning would bother me. It always has. Something slightly out of tune bothers me, I want to fix it.

(Caffrey 2020)

Burnett's role as a music producer was to support, guide and achieve a cohesive sound recording of commercial standard however his signature sound is most prominent on *Jupiter Calling*, which implies a high level of creative control and input. Jim Corr said, "When you're in that situation and you've hired a producer you kind of have to relinquish control, it's like you're handing the musical landscape sonically over to this other guy. It was his vision really. Totally." In this case it appears that the pairing of T-Bone Burnett and The Corrs was not entirely suitable, as The Corrs are an established band with a recognisable signature sound and Burnett is a music producer particularly suited to working with emerging artists (Counting Crows), artists who deliberately choose new musical directions (Robert Plant and Alison Krauss) and projects where Burnett is the key creator (soundtracks and solo career).

Summary: *Jupiter Calling* Album Analysis

In 2017, The Corrs recorded *Jupiter Calling* as a live studio album of original songs in RAK Studios, London. T-Bone Burnett, an American music producer known for his production work within the ‘Americana’ genre, produced the album. Burnett’s signature sound of American country music instrumentation and bass-heavy mix is prominent throughout the album, which in combination with the recording and production techniques implemented illustrates a departure in The Corrs’ sound.

Evolving the Live Performance Aesthetic

Playing live as a group in the recording studio illustrates a traditionalist approach to recording similar to that of *Home*. This approach also presents The Corrs relatively transparently without post-production enhancements such as micro editing, pitch correction or creative effects previously audible on their recording catalogue. The advantage of recording live results in recordings that sound cohesive and in the case of *Jupiter Calling*, the use of overdubs as a creative music production technique is used minimally. Overdubs are audible primarily as vocal ad-libs (*Son of Solomon*, *Dear Life*, *Chasing Shadows*), backing vocals (*SOS*, *Dear Life*, *Butter Flutter*, *A Love Divine*) guitar layers (*Bulletproof Love*, *Road to Eden*, *Butter Flutter*, *A Love Divine*, *The Sun and Moon*) and percussion layers (*Son of Solomon*, *A Love Divine*, *The Sun and Moon*).

As professional recording artists from the 1990s onwards, The Corrs have primarily used digital recording technologies. The recording of *Jupiter Calling* is the first occasion The Corrs have used analogue studio equipment, primarily to two-inch analogue tape on a Studer A800 Mark III 24-track tape machine and an API mixing console. Analogue tape recording is heralded for its sound, which is often described as “warm”, due to the softening of attack transients (compression) and

roll off of high frequencies and was discussed with favour by music producers and artists on Dave Grohl's 2013 documentary *Sound City*.

The “Imperfect” Aesthetic

Due to the technology itself and the nature of recording live, extraneous noises are imparted onto *Jupiter Calling*. The sounds of AC hum, tape hiss and low frequency rumble are audible on all of the album's tracks. By choosing to leave these noises and performance imperfections into the recordings, the unpolished music production aesthetic is supported. In the case of *Jupiter Calling* it is evident from the interview with Jim Corr, The Corrs did not seek perfect musical recordings in terms of performance fluctuations and sonic high fidelity, per the current standard of their past recordings and of their contemporaries. Instead *Jupiter Calling* demonstrates The Corrs as a live studio band with a low level of musical and technical imperfections. The pitfalls of recording live were documented in this album analysis as tempo fluctuations (*Son of Solomon*, *Bulletproof Love* and *Dear Life*) and as vocal tuning imperfections (*Son of Solomon*, *Bulletproof Love* and *Dear Life*).

Conflicting Sounds

A departure from The Corrs' signature sound is also as a result of two new musical instruments, which yield a significant presence throughout the album: the ukulele (Andrea Corr) and the cajon (Caroline Corr). The ukulele features on *SOS*, *Bulletproof Love* and *Road to Eden* and the cajon features on *Son of Solomon*, *Chasing Shadows* and *A Love Divine*. For the first time in The Corrs' studio recording experience, the role of piano performance on *Jupiter Calling* was distributed amongst the Corr siblings: Sharon Corr (*The Sun and Moon*, *Season of Our Love* and *Live Before I Die*) and Andrea Corr (*No Go Baby*) in addition to Jim Corr. This distribution of the piano across the album yields minor yet significant performance differences through individual style

Chapter 5 – Critiquing the Evolution of a Sound: *Home* and *Jupiter Calling* and articulation. Considering Gerry Corr taught the Corr siblings piano during their respective childhoods, these differences are minute, as discussed in terms of their vocals in Chapter 4. Furthermore the absence of a fully instrumental Irish traditional music recording is striking on *Jupiter Calling*, as it is the only instance in The Corrs’ recorded catalogue where one does not occur. The Irish sound The Corrs previously incorporated into their music has also diminished. The recordings that present The Corrs’ Celtic aesthetics through traditional Irish instrumentation, melodic and rhythmic phrasing and articulation are *Dear Life* and *Son of Solomon*, and to a lesser extent *SOS* and *Season of our Love*.

After the development of a successful recording catalogue across a twenty-two year period, The Corrs’ signature sound presented on *Jupiter Calling* evolved to reflect Americana musical aesthetics, an “imperfect” production aesthetic and a departure from Celtic aesthetics. The observed differences between *Home* and *Jupiter Calling* demonstrate the role of the music producer, T-Bone Burnett and his divergent music production practice is significant to the evolution of The Corrs’ signature sound in the recording studio. The on-going evolution of their signature sound is a response to popular musical aesthetics and signifies that The Corrs continue to be influenced by commercial, pop music culture while remaining relevant in their genre.

Chapter 6 – Summaries and Conclusion

The principal aim of this thesis has been to investigate how different music production practices shape, influence and impact an artist's musical work and evolve a signature sound. This research focused on the musical output of the Irish band The Corrs, whose recorded catalogue blends Celtic aesthetics and popular music production practices within the paradigm of contemporary music. To examine the development of The Corrs' signature sound, three studio albums were analysed in terms of music production content analysis. The first album served as a base by which to compare and contrast two subsequent albums and develop as a case study that focused not only on the establishment of an ensemble sound but also its development. Each album served as a representation of The Corrs' signature sound across differing points in their career: beginning (1995), middle (2005) and most recent (2017). As demonstrated throughout the analyses there are a number of examples of functional staging (see Zagorski-Thomas 2010) and each album exhibited common and contrasting sounds. A number of key lines of enquiry emerged through this research, which are compiled and further discussed below.

Understanding Celtic Aesthetics

The Corrs drew on Irish traditional music influences in the creation of their signature sound during the early 1990s and subsequently became part of the re-emergence of Celtic-influenced music in the commercial recording music industry. As discussed in Chapter 3, 'Celtic music' as a concept has numerous contextual and sometimes conflicting meanings and is the focus of much scholarly work. The signature sounds connected with Celtic music aesthetics identified in Chapter 3 are represented here in table 8 as a summary of the findings. This framework is proposed as a useful resource for future analytical studies.

Table 8: Five key lines of enquiry into the signature sounds of Celtic music.

Signature Sound Element	Attributes	Musical Example(s)/Evidence
Vocal performance (lead)	Language (English/Irish or Celtic language), <i>sean nós</i> style, phrasing and articulation, accent (regional).	Iarla Ó Lionáird.
Vocal performance (backing)	Language, style, phrasing and articulation, style of recording, vocal group recording or overdubbing.	Enya (multiple overdubbing of her own voice in the recording studio). Clannad (familial group vocal).
Musical Instruments	Instrumentation from native Celtic regions in melodic roles and instrumentation from popular music spheres in supportive roles.	Violin/fiddle, tin whistle, uilleann pipes, harp and flute. Melodic instruments from outside the Irish tradition are also frequently used (mandolin, bouzouki and banjo). Drums, guitars, keyboards are supportive. Native percussive instruments such as the bodhrán feature frequently in rhythmic roles.
Arrangement	Combination/orchestration of instruments is widely varied.	O’Riada’s Ceoltoirí Cualann was comprised of Irish traditional instruments. Afro Celt Sound System includes synthesisers, drum loops, West African instruments with Celtic instruments.
	Harmonic composition.	Ionian, Mixolydian, Dorian and Aeolian modes. Open tuning and drones.
Music Production	Music recording technology as a means of documentation and dissemination.	Evident in phonographic recordings such as Michael Coleman. Music producers typically impart a transparent sonic signature onto recordings.
Musical Features and Techniques	Rhythm, regional style and ornamentation.	Rhythm is related to traditional Irish dance e.g. jigs and reels. Articulation, phrasing and ornamentation are related to regional styles.

For the purposes of this thesis, Celtic music is defined as a style of contemporary music, which draws on musical traditions from a number of countries primarily located on the Atlantic edge of Europe with distinctive instruments, styles and articulation, combined with external non-indigenous sounds and influences created in the context of the recording studio for dissemination to a mass audience for a myriad of commercial possibilities. As Ireland is geographically located in North-western Europe in the North Atlantic Ocean, Irish traditional music is intrinsically linked to Celtic music. This definition places significant importance on music production as a key element of the Celtic aesthetic, for example evident in the music of Enya who rarely performs live due to her multi-tracked vocal recording approach in her production, which is a key identifier of her sound. In contrast, Irish traditional music primarily exists in live contexts such as *céilí* dancing and sessions and its recorded form emulates this through functional staging (see Zagorski-Thomas 2010).

Signature Sound and The Corrs

Signature sound was defined in Chapter 3 as an artist's recognisable sonic identity through a discussion of how popular artists and commercial music producers can differentiate from each other and distinguish themselves in music markets. The musical approaches artists can adopt and shape their music in order to bring coherence and recognisability across a discography were identified: vocals, musical instrument, musical arrangement, approach to music production and music performance techniques.

This study recognises that signature sound can evolve. Chapter 4 investigated the process pertaining to how The Corrs created their signature sound by combining key musical influences in their upbringing and cultural environment. The blend of contemporary and traditional music

The Corrs were exposed to from a young age through their musical parents, the classical music training each sibling received, and Jim and Sharon Corr's early experimentation with Irish traditional musical instruments and sampling resulted in a contemporary pop/rock sound with Irish influences and Celtic aesthetics. How this sound was showcased on their debut album *Forgiven, Not Forgotten* was discussed in Chapter 4. The combination of Irish traditional and traditional-influenced melodies and rhythms performed on Irish traditional instruments the tin whistle, bodhrán and violin with Andrea Corr's distinctive voice and The Corrs' sibling group vocal harmonies were identified through a critical music production analysis of five recordings from the album. Table 9 indicates the signature sounds of *Forgiven, Not Forgotten*.

Table 9: Five key lines of enquiry into the signature sounds of *Forgiven, Not Forgotten*.

Signature Sound Element	Attributes	Musical Example(s)/Evidence
Vocal performance (lead)	Language (English), phrasing and articulation, accent (regional), overdubbing.	Andrea Corr is lead vocalist.
Vocal performance (backing)	Language, phrasing and articulation, vocal group recording and overdubbing.	The familial group vocal is achieved through stacked layers and overdubbing.
Musical Instruments	Instrumentation from native Celtic regions in melodic roles and instrumentation from popular music spheres in supportive roles.	Violin, tin whistle, sampled accordion, sampled harp and mandolin. Drums, guitars and keyboards are supportive. The bodhrán features frequently in rhythmic roles.
Arrangement	Combination/orchestration of instruments is widely varied.	Variation occurs though: female vocal-driven contemporary songs and live Irish traditional instrumentals. Irish traditional sounding middle eights and hooks feature often in the songs.
	Harmonic composition.	Ionian, Mixolydian, Dorian and Aeolian modes.
Music Production	Overdubbing, live recording and digital recording equipment used. “Perfect” aesthetic.	Overdubbing is used extensively throughout. Live recording features on Irish traditional instrumentals. Sony DASH 3348 digital multi-track recorder used as recording medium. Producer David Foster is regarded for a polished production sound.
Musical Features and Techniques	Rhythm, regional style and ornamentation.	Rhythm articulated through melodic content is related to traditional Irish dance e.g. jigs and reels. Articulation, phrasing and ornamentation are in line with contemporary styles rather than Irish traditional regions.

Rather than focusing on the music produced during their commercial zenith, this study investigated two further albums with production aesthetics that demonstrate the evolution of the band's signature sound: *Home* (2005) and *Jupiter Calling* (2017). An analysis of The Corrs' commercial hit singles and albums would enhance knowledge of the field of music production however this would require a deeper investigation of chart-oriented music beyond the range of this study. After their first album, The Corrs gained worldwide recognition due to their commercial singles, attractive music videos, stadium concerts, charitable work and collaborations with popular artists. By 2005 they recorded their fifth studio album *Home* and were close to completing their recording contract with Atlantic Records. The signature sound presented on *Home* differed from The Corrs' previous studio albums because the music recorded was sourced from Jean Corr's songbook, which was a meaningful factor in The Corrs' upbringing, personally and musically. The musical material consisted primarily of Irish traditional songs and music, and contemporary songs. Additional musicianship that featured on the album came from musicians who were connected to Irish music and from stereo recordings of the BBC Concert Orchestra arranged by Fiachra Trench. The predominantly acoustic sound of the album was supported by guitars, drums, piano, violin, tin whistle, bodhrán, uilleann pipes, accordion, mandolin and the BBC Concert Orchestra, however a lesser degree of electric guitars and effected drum loops upheld The Corrs' contemporary influences that were audible on *Forgiven, Not Forgotten* (1995). The choice of primarily acoustic musical arrangement was the first indication The Corrs' signature sound evolved. The second identifier was the primarily live recording aesthetic with few overdubs. The process of recording live and as a band resulted in a different sound to *Forgiven, Not Forgotten* (1995). Without a significant creative input such as additional musical performances from music producer Mitchell Froom, the album sound belonged to The Corrs and was recognisably the work of The Corrs. Table 10 illustrates the signature sound of *Home*.

Table 10: Five key lines of enquiry into the signature sounds of *Home*.

Signature Sound	Attributes	Musical Example(s)
Vocal performance (lead)	Language (English and Irish), phrasing and articulation, accent (regional), overdubbing.	Andrea Corr is lead vocalist with the exception of Sharon Corr who is lead vocalist on one track.
Vocal performance (backing)	Language, phrasing and articulation, vocal group recording and overdubbing.	The familial group vocal is achieved through overdubbing.
Musical Instruments	Instrumentation from native Celtic regions in melodic roles and instrumentation from popular music spheres in supportive roles.	Violin, tin whistle, keyboard accordion, uilleann pipes, low whistle and mandolin. Drums, guitars and keyboards are supportive. The bodhrán features in rhythmic roles. The BBC Concert Orchestra, piccolo trumpet and saxophone are additions.
Arrangement	Combination/orchestration of instruments is widely varied.	Variation occurs though: female vocal-driven contemporary songs and live Irish traditional instrumentals. Irish traditional sounding middle eights and hooks feature often in the songs.
	Harmonic composition.	Ionian, Mixolydian, Dorian and Aeolian modes.
Music Production	Overdubbing, live recording and digital recording equipment used. “Perfect” aesthetic.	Overdubbing is used to a lesser extent. Live recording features heavily. Pro Tools digital multi-track recorder used as recording medium. Producer Mitchell Froom is regarded for a transparent production approach.
Musical Features and Techniques	Rhythm, regional style and ornamentation.	Rhythm articulated through melodic content is related to traditional Irish dance. Articulation, phrasing and ornamentation are in line with contemporary styles rather than Irish traditional regions.

In 2017 The Corrs released their seventh studio album *Jupiter Calling*, which consisted of original material written and composed by The Corrs and demonstrated a deviation in their signature sound. The change was caused by the production approach of music producer T-Bone Burnett and by the prominence of new acoustic instruments in The Corrs' musical palette: the ukulele and the cajon. Burnett produced the band using analogue recording technologies in a live set-up and the sounds of musical spill, tape hiss and AC hum are evident on recordings. Burnett also sourced vintage microphones and requested The Corrs used a bespoke 1966 Ludwig drum kit, which produces a sound Burnett is directly known for. The recording process was fast-paced and significantly quicker than The Corrs' previous studio album recordings. In the interview conducted for this research, Jim Corr revealed T-Bone Burnett approved of recording takes that Jim would otherwise not have. Imperfections such as tuning and timing discrepancies were not altered after recording and remained on the final productions. The ukulele and the cajon were the two new acoustic instruments played by The Corrs that featured on the album. While the cajon was a percussive instrument featuring in the explicit beat layer, the ukulele featured prominently on tracks *SOS* and *Bulletproof Love*. Much of Burnett's previous production work is centred on or influenced by American contemporary country music and many of the sounds audible on *Jupiter Calling* can be attributed to this influence, in particular the double bass, electric guitar and acoustic guitar. Considering The Corrs exhibited a strong and definitive acoustic sound on *Home* (2005), the music production analysis of *Jupiter Calling* revealed an unexpected conflict of sounds, which were not in line with The Corrs' established signature sound. The amalgamation of country and folk sounds with The Corrs' distinctive Irish traditional sound that featured consistently in their signature sound resulted in a loss of Celtic aesthetics and an incoherent album sound. Jim Corr stated Burnett tightly controlled the recording and production process, which invariably resulted in *Jupiter Calling* sounding like a T-Bone Burnett record rather than a Corrs' record. Table 11 illustrates the signature sounds of *Jupiter Calling*.

Table 11: Five key lines of enquiry into the signature sounds of *Jupiter Calling*.

Signature Sound Element	Attributes	Musical Example(s)/Evidence
Vocal performance (lead)	Language (English), phrasing and articulation, accent (regional), overdubbing.	Andrea Corr is lead vocalist.
Vocal performance (backing)	Language, phrasing and articulation, vocal group recording and overdubbing.	The familial group vocal is achieved through overdubbing.
Musical Instruments	Instrumentation from native Celtic regions in melodic roles and instrumentation from popular music spheres in supportive roles.	Violin, tin whistle and bodhrán feature to a lesser extent. Drums, guitars and keyboards are supportive. New instruments include ukulele, cajon and double bass.
Arrangement	Combination/orchestration of instruments is not widely varied.	Female vocal-driven contemporary songs with contemporary instrumentation performing in Americana music style. Celtic aesthetics are minimal. No Irish instrumental standalone recording.
Music Production	Harmonic composition. Overdubbing, live recording and analogue recording equipment used. “Imperfect” aesthetic.	Ionian, Dorian and Aeolian modes. Live group recording method. Studer A800 Mark III 24-track tape machine and an API mixing console multi-track recorder used as recording medium. Producer T-Bone Burnett is regarded for a bass-heavy, live and analogue production sound.
Musical Features and Techniques	Rhythm, regional style and ornamentation.	Rhythm articulated through melodic content is related to traditional Irish dance. Articulation, phrasing and ornamentation are in line with contemporary styles rather than Irish traditional regions.

The Role of the Music Producer

This study has demonstrated that the music producers who worked with The Corrs had varying but critical roles in the development and evolution of their signature sound. Recent scholarship in music and music production has highlighted that the role of the music producer is little understood and under-researched. Burgess' (2013) *The Art of Music Production* confirms the role of the music producer is broad and many types of music producer exist. A challenge for this study was to separate the production work of the music producer from the recordings and sufficiently investigate the role of the music producer. Analysing the production process through a deconstruction of the product (record) makes it difficult to understand the role of each individual music producer. The interview with Jim Corr conducted as part of this research revealed the music producer's role was to collaborate with The Corrs and to bring ideas to the recording process at a quick pace. It was difficult for Corr to fully recall events that happened in the recording studio so long in the past therefore the detail concerning the role of each music producer was not fully described in the interview. Despite this, understandings were drawn from the research. David Foster had a creative role as producer, collaborator, musician, co-writer and co-arranger on *Forgiven, Not Forgotten* (1995). The research revealed Jim Corr had a substantial role in the pre-production of the album by sequencing sounds and drafting demos, and his role extended to co-producer in Chartmaker Studios while Foster guided the recording and production process. Andrea Corr acknowledges in her memoir (2019) that Jim Corr worked alongside Foster extensively and that a sharing of production roles occurred. Jim Corr said Foster's role was "immeasurable" (Caffrey 2020) and emphasised his ability to forward the production process quickly, draw external musicians together and complete songs where necessary. Mitchell Froom had a creative role as a collaborator and producer on *Home* (2005). Jim Corr directly said Froom brought the production process forward at a quick pace and contributed musical ideas, which

completed The Corrs' unfinished material. Through his live group recording approach and limited use of effected overdubs, Froom contemporised The Corrs' traditional repertoire and evolved The Corrs' Celtic aesthetics into the modern era. Jim Corr also stated that one of the ways Froom differed to Foster was in terms of his musical palette. Froom was less likely to gravitate towards synthesisers and samplers, therefore he was "more organic in his approach musically" (Caffrey 2020). T-Bone Burnett approached The Corrs' sound with a view to perform the recorded material as live as possible. This came in direct contrast to both Foster and Froom's production methodologies. For example, Burnett's emphasis on musical perfection was not as meticulous or precise as The Corrs were previously used to. Jim Corr stated that The Corrs relinquished control of the "musical landscape" (Caffrey 2020) for *Jupiter Calling* (2017) and let Burnett lead the production. This resulted in Burnett directly imparting his own signature sound onto the album, a sound that was "much more raw" (*ibid.*) than The Corrs anticipated. Jim Corr acknowledged the sound was recognisably the work of Burnett as *Jupiter Calling* sounded like his older material (*ibid.*). This research revealed each music producer interpreted The Corrs' music differently and imparted their individual styles onto each respective album. To fully understand the role of the music producer in each Corrs' album part of this study, it would be desirable to witness the production of each album in person, however this act would be flawed as third parties can often be invasive to the creative process.

Conclusion

This thesis has critically evaluated the recorded outputs of the Irish music group The Corrs as a case study to examine how a band's signature sound evolves alongside advances in music technology, cultural contexts and divergent production approaches in the recording studio. As is evident from the themes that have emerged in this research, there is scope for further investigation to continue and evolve this study. The analysis of the three afore-studied studio albums could be augmented with analyses of the remaining four studio albums in The Corrs' recorded catalogue. These four studio albums represent The Corrs' commercial zenith and to fully investigate the links between style originality, perceived authenticity and mainstream earning potential, further scholarship is necessary. An interrogation into addressing other important aspects that make popular music appealing to audiences such as genre, appearance, aspiration, belonging etc. would also further this study. As music production considers an audience in its many and varied practices, fieldwork that engages with listeners across a spectrum of genres including Irish traditional, popular music and crossover music would also enhance this research. As Watson emphasises, the emotive work of music producers and engineers is essential yet often overlooked (2015, p.185), therefore insights into the day-to-day working practices of the music producers involved in each album obtained through fieldwork would also provide valuable information that could be examined, analysed and integrated into further music production practice. New correlations drawn from music producers would also provide a basis for an examination of the divergent processes of music production rather than solely examining the finished products (albums).

Three albums recorded by The Corrs were analysed in terms of music production content as part of the methodology for this research. Although popular musical analysis is well established, the

reverse engineering approach taken in this study can be used as an analytical model that could provide a useful approach for other musicologists and practitioners of music production and music. This study also contributes to the lack of scholarship connecting popular Irish music and music production processes. This research also highlights the interdependent relationship between the advancements of recording technologies and their usage in contemporary music production. In the interview conducted as part of this research, Jim Corr corroborated the importance of digital recording technologies in David Foster's studio for its advantages such as improved sound quality and sound editing flexibility. T-Bone Burnett's approach of producing and recording The Corrs in the analogue domain with vintage sound recording technologies in 2017 was also discussed. Bearing such developments in mind, this is an area that could be further explored beyond the realms of this thesis.

A number of groups in the Celtic regions and across the world engage with traditional music and Celtic aesthetics in contemporary music. Music is not just received as sound but also through imagery (Negus 1992) and this study connected Celtic imagery and rock/pop visual aesthetics with The Corrs, therefore there is room for potential enquiry into visual Celtic imagery portrayed by musicians on the global stage. Furthering this line of enquiry would yield to a better understanding of production values in Irish traditional music making and beyond and would contribute to the broad and new field of phonomusicology in popular and traditional music.

Having provided a contextualisation of Irish popular music and an analysis of one case study, the recorded music of The Corrs is varied and fascinating, not least due to the combination of Irish traditional sounds with popular music within divergent music production practices. The Corrs demonstrated a distinctive signature sound of Celtic and popular music in 1995 on their debut album *Forgiven, Not Forgotten*, achieved through their blend of Irish traditional instruments and

melodies with contemporary instrumentation, female lead vocals and familial backing vocals. David Foster's approach to the production was indicative of modern and radio-oriented popular music of the era however the record is distinctly the work of The Corrs. In 2005 the *Home* album demonstrated The Corrs' sound evolved through primarily acoustic musical arrangements and live group recordings. Mitchell Froom's recording approach involved digital multi-tracking with Pro Tools software, which contributed toward his transparent signature sound and the finished record was recognisably the sound of The Corrs. In 2017 The Corrs recorded the third album analysed in this study, *Jupiter Calling* produced by T-Bone Burnett. Burnett's production approach was indicative of past historical standard production practices: recording a band in one room simultaneously to analogue tape. The finished record resulted in a conflict of sound, in part due to the heavy presence of Burnett's recognisable signature sound.

Bands, artists and music producers across commercial popular music spheres are commonly recognised for their signature sound. This thesis demonstrated that signature sound is dynamic, interactive and evolves alongside changes in socio-cultural environments. In general, these evolutions are incremental and typically exhibit common threads from record to record but as illustrated in this thesis, occasionally external influences can converge and result in unforeseen sounds. This thesis expanded on previous scholarship where The Corrs are merely noted as successful participants of the re-emergence of Celtic music during the 1990s. Expanding on this, The Corrs connect Celtic roots and aesthetics with divergent popular music production techniques and exhibit a distinctive signature sound, which continues to evolve, placing their music and themselves as important exponents of Irish popular music.

Appendices

Appendix A – Chronology of The Corrs

The following appendix is a chronological list of key events in the lives of The Corrs including their upbringing and recording career. Exact dates are provided where possible.

Date	Event Description
1933 (March 10)	Patrick “Gerry” Corr is born in Dundalk, Co. Louth.
1942 (February 8)	Jean Bell is born in Lifford, Co. Donegal.
1962	Gerry and Jean meet in Blackrock, Co. Louth.
1963	Gerry and Jean marry and settle in Dundalk, Co. Louth.
1964 (July 31)	James Steven Ignatius “Jim” Corr is born.
1966 (August 12)	Gerard Corr is born.
1970 (March 24)	Sharon Helga Corr is born.
1970 (April 3)	Gerard Corr passes following tragic car accident.
1973 (March 17)	Caroline Georgina Corr is born.
1974 (May 17)	Andrea Jane Corr is born.
1974–1990s	Gerry and Jean Corr form The Sound Affair and work as semi-professional musicians for the next 20 years.
1960s–1980s	Gerry Corr teaches all Corr children piano.
1982	Jim finishes school and begins career as session musician. Artists he plays with include Who’s Eddie (Dundalk), The Fountainhead (Dublin), Hinterland (Dublin) and Dolores Keane.
1988 (June)	Sharon finishes secondary school. She spends one year in Dundalk Regional studying biology and starts work in Record Sleeve music shop in Dundalk.
1989	Jim returns to Dundalk and sets up project home studio.
1990 (June 14)	<i>The Commitments</i> film audition in Dublin. The Corrs meet John Hughes and officially form.
1990–1994	The Corrs experiment with their sound, write songs and play small gigs in the Dundalk region.
1991 (June)	Caroline finishes secondary school.
1991 (August 6)	<i>The Commitments</i> (Alan Parker) film is released. Andrea Corr is cast as Sharon Rabbitte and the rest of The Corrs feature as musicians in various bands.
1991 (November 3)	The Corrs’ first TV performance <i>Mystery of You</i> on <i>Eye on the Music</i> airs on RTÉ.
1992 (June)	Andrea finishes secondary school.
1992	The Corrs feature as backing musicians for Paul Brady on his charity single <i>Light in the Dark</i> . They perform on RTÉ on Pat Kenny’s <i>Kenny Live</i> show.

1993 (February 16)	The Corrs win first award Best Newcomers 1992 by CARA.
1993 (February 17)	The Corrs play first showcase at The Waterfront, Dublin.
1994 (March 27)	The Corrs play Whelans in Dublin, are noticed by Jean Kennedy Smith and are subsequently invited to perform in America.
1994 (June 19)	The Corrs perform at Kennedy Library in Boston in front of Senator Ted Kennedy.
1994	The Corrs perform at the FIFA World Cup in Boston.
1994	The Corrs search for a record deal.
1994 (June)	The Corrs audition for David Foster in New York's Hit Factory recording studio.
1994	The Corrs sign record deal with Foster's 143 record label.
1995 (January- May)	The Corrs record <i>Forgiven, Not Forgotten</i> in Malibu with producer, David Foster.
1995 (summer)	Guitarist Anthony Drennan and bassist Keith Duffy join The Corrs.
1995 (June 15)	The Corrs feature on Paul Brady's <i>Just in Time</i> on his seventh solo album <i>Spirits Colliding</i> .
1995 (September 26)	<i>Forgiven, Not Forgotten</i> album is released on CD and cassette.
1995 (September)	<i>Runaway</i> single is released.
1995 (October 27)	The Corrs play their first UK show at Glasgow's SECC, opening for Celine Dion.
1996 (February)	<i>Forgiven, Not Forgotten</i> single is released.
1996 (March 29)	The Corrs win "Best New Irish Act" at the IRMA Awards in Dublin.
1996 (April 26)	<i>Forgiven, Not Forgotten World Tour</i> starts in Ennis, Ireland and continues for almost 2 years.
1996 (May 18)	The Corrs play in two countries on the same day: Dublin's Lansdowne Road and Odense, Denmark.
1996 (September)	<i>Love to Love You</i> single is released.
1996 (December 14)	Andrea Corr is cast in Alan Parker's musical film adaptation of <i>Evita</i> .
1996	The Corrs join Celine Dion's worldwide <i>Falling into you Around the World Tour</i> as supporting act.
1996 (December)	<i>Forgiven, Not Forgotten</i> is Atlantic's biggest selling album of the year outside the USA.
1996 (July)–1997 (May)	Studio album number two <i>Talk On Corners</i> recorded in various locations with various music producers.
1997 (February 25)	The Corrs <i>Live</i> is released.
1997 (May)	<i>Closer</i> single is released in Australia and New Zealand only.
1997 (May 31)	The Corrs perform with The Chieftains at The Gathering.
1997 (October)	<i>Only When I Sleep</i> single is released.
1997 (October 20)	<i>Talk On Corners</i> album is released on CD and cassette.
1997 (December)	<i>I Never Loved You Anyway</i> single is released.
1997 (December 16)	The Corrs have an audience with the Pope in Vatican City. The following day, The Corrs perform <i>Holy Night</i> with the RAI Orchestra.
1998 (January)	<i>What Can I Do</i> single is released.
1998 (March 17)	The Corrs play at the Royal Albert Hall in London and is televised live by BBC One.
1998 (May 5)	<i>Talk On Corners</i> is re-issued on CD, cassette and MiniDisc with Fleetwood Mac cover <i>Dreams</i> .

1998 (May 14)	The Corrs appear on <i>Top of the Pops</i> for the first time with <i>Dreams</i> .
1998 (May 15)	Andrea Corr is cast as a singing voice actor for the animated musical fantasy film <i>Quest for Camelot</i> .
1998 (May)	<i>Dreams</i> single is released.
1998 (May 18)	The Corrs feature on Rod Stewart's <i>Ooh La La</i> single.
1998 (June 9)	The Corrs perform at the <i>Pavarotti and Friends for the Children of Liberia</i> charity concert alongside Jon Bon Jovi, Celine Dion, Spice Girls and Stevie Wonder.
1998 (August)	<i>What Can I Do (Tin Tin Out Remix)</i> single is released.
1998 (August 22)	The Corrs open for The Rolling Stones in Prague, Czech Republic.
1998 (September 21)	The Corrs perform at the Commonwealth Games closing ceremony in Kuala Lumpur, Malaysia. Estimated TV audience for the broadcast is 400 million people.
1998 (October)	<i>So Young</i> single is released.
1998 (November 9)	<i>Talk On Corners: Special Edition</i> released.
1998	<i>Live at the Royal Albert Hall, St. Patrick's Day</i> is released on VCD, VHS and DVD.
1999 (February)	<i>Runaway (Tin Tin Out Remix)</i> single is released.
1999 (February 16)	The Corrs receive BRIT award for Best International Band.
1999 (April 4)	<i>Forgiven, Not Forgotten</i> and <i>Talk On Corners</i> hold top chart positions in the UK. This made The Corrs the first act since The Beatles to simultaneously occupy the top two positions of the UK Albums Chart.
1999 (May 24)	<i>I Know My Love</i> (featuring The Corrs) is released by The Chieftains.
1999	<i>Lifting Me</i> single is released as part of Pepsi promotional campaign.
1999 (July–May 2000)	<i>In Blue</i> album recorded in various locations with various producers.
1999 (July 17)	The Corrs play to 40,000 fans to homecoming concert in Lansdowne Road, Dublin.
1999 (October 5)	<i>MTV Unplugged</i> album is recorded in Wicklow, produced by Mitchell Froom.
1999 (November 12)	<i>MTV Unplugged</i> album is released on CD, cassette, VCD, DVD and VHS.
1999 (November)	<i>Radio</i> single is released.
1999 (November 24)	Jean Corr passes following idiopathic pulmonary fibrosis disease.
1999 (November 29)	<i>Forgiven, Not Forgotten</i> is released on MiniDisc.
2000	The Corrs celebrate 10-year formation anniversary.
2000 (February 21)	The Corrs are nominated for two Grammy Awards.
2000 (July 3)	<i>Breathless</i> single is released.
2000 (July 17)	<i>In Blue</i> album released on CD, cassette, MiniDisc and DVD-A.
2000 (November 10)	<i>Live at Lansdowne Road</i> is released on VCD, VHS and DVD.
2000 (November)	In Beautiko's poll of 3,000 people across Britain, Andrea Corr is voted "The Most Beautiful Woman in the World".
2001 (October 19)	<i>Best of The Corrs</i> compilation album is released on CD and cassette.
2001	<i>Best of The Corrs – The Videos</i> is released on VCD, VHS and DVD.
2001	<i>Live in London</i> is released on VCD, VHS and DVD.
2000 (November 13)	<i>Irresistible</i> single is released.
2000 (December 21)	The Corrs perform at World AIDS Day Lifebeat's <i>Music With a</i>

	<i>Message</i> concert in New York.
2001 (January 25)	The Corrs record <i>VHI Presents: The Corrs, Live in Dublin</i> album with guest appearances from Bono and Ronnie Wood.
2001 (March 12)	<i>VHI Presents: The Corrs, Live in Dublin</i> album is released on CD and cassette.
2001 (March 12)	<i>Give me a Reason</i> single is released.
2001 (June)	<i>All the Love in the World</i> single is released.
2001 (October)	<i>Would You be Happier?</i> single is released.
2001 (November 20)	The Corrs feature on one track of Josh Groban's <i>Josh Groban</i> album.
2002 (March 12)	<i>When the Stars go Blue</i> (featuring Bono) single is released in Spain.
2002–2004	<i>Borrowed Heaven</i> album recorded in Dublin and Los Angeles with music producer Olle Romo.
2003	Andrea Corr records song <i>Time Enough for Tears</i> with Bono and Gavin Friday for <i>In America</i> film.
2003 (September 12)	Andrea Corr is cast in <i>The Boys from County Clare</i> film.
2003 (November 29)	The Corrs perform at the 46664 concert that was held in Cape Town and hosted by Nelson Mandela. Roger Taylor of Queen performs drums alongside Caroline Corr during <i>Toss the Feathers</i> .
2004	The Corrs' manager John Hughes releases <i>Wild Ocean</i> on CD. Hughes' solo album features The Corrs, The Chieftains and Tara Blaise
2004 (May 17)	<i>Summer Sunshine</i> single is released.
2004 (May 31)	<i>Borrowed Heaven</i> album is released on CD and cassette.
2004 (Summer)	The Corrs recruit Jason Duffy (brother of Keith) to play drums during <i>Borrowed Heaven Tour</i> .
2004 (September 13)	<i>Angel</i> single is released.
2004 (December 6)	<i>Long Night</i> single is released.
2005	<i>Home</i> album is recorded in Dublin with Mitchell Froom.
2005 (May 17)	Andrea Corr is cast in short film <i>The Bridge</i> .
2005 (June 6)	The Corrs perform at Bob Geldof's <i>Live 8</i> concert in Edinburgh.
2005 (September 26)	<i>Home</i> album is released on CD and cassette.
2005 (October 24)	<i>Heart Like a Wheel/Old Town</i> double A-sided single is released.
2005 (November)	The Corrs are awarded honorary MBEs by Queen Elizabeth II.
2005 (November 14)	<i>All the way Home – A History of/Live in Geneva</i> is released on DVD.
2006	The Corrs announce indefinite hiatus.
2006 (November 20)	<i>Dreams: The Ultimate Corrs Collection</i> , The Corrs' second compilation album is released on CD and cassette.
2006 (November 20)	<i>Goodbye</i> single is released. Notably this is The Corrs' first release in a digital download format.
2007 (June 22)	Andrea Corr releases first solo album, <i>Ten Feet High</i> on CD, produced by Nelle Hooper.
2007	Andrea Corr is cast in film <i>Broken Thread</i> .
2007 (August 27)	<i>The Works</i> , The Corrs' third compilation album is released on CD.
2008 (January 1)	Andrea Corr features as a performer on the single <i>The Ballad of Ronnie Drew</i> along with U2, The Dubliners, Kila and others.
2008	Andrea Corr is cast in the film short <i>Pictures</i> .
2008 (May 29)	Jim Corr is interviewed by Matt Cooper on Today FM's <i>Last Word</i> regarding his personal beliefs about the Lisbon Treaty.

2009	Andrea Corr is cast in the stage production <i>Dancing at Lughnasa</i> in The Old Vic theatre, London.
2010 (January 30)	Jim Corr is interviewed by Brendan O'Connor on RTÉ's <i>The Saturday Night Show</i> about his personal beliefs.
2010 (September 3)	Ed Sheeran publishes on Twitter that he loves The Corrs.
2010 (September 10)	Sharon Corr releases first solo album <i>Dream of You</i> on CD, produced by Billy Farrell.
2010–2011	Andrea Corr is cast as the title role for the <i>Jane Eyre</i> stage production in the Gate Theatre, Dublin.
2011 (May 29)	Andrea Corr releases second solo album <i>Lifelines</i> on CD, produced by John Reynolds and Brian Eno.
2011	The Corrs' manager John Hughes releases a second solo album <i>Wild Ocean II</i> on CD.
2012–2013	Sharon Corr is a vocal coach on the RTÉ music talent show <i>The Voice of Ireland</i> .
2013 (May 27)	Sharon Corr features on The Devlin's single <i>Love is Blindness</i> .
2012 (October 5)	Andrea Corr features on one track of Schiller's album <i>Sun</i> .
2013 (September 16)	Sharon Corr releases second solo album <i>The Same Sun</i> on CD and digital download, produced by Mitchell Froom.
2014 (March 17)	Andrea Corrs features on one track of Engelbert Humperdinck's <i>Engelbert Calling</i> album.
2015 (April 9)	Gerry Corr passes following a heart attack. The Corr siblings play music at his funeral and decide to write music together again.
2015 (June)	The Corrs publicly announce reformation.
2015 (May–October)	<i>White Light</i> is recorded in London and produced by John Shanks.
2015 (September 13)	The Corrs play BBC Radio 2 Live in Hyde Park concert in London, the first large-scale concert since before their hiatus.
2015 (November 27)	<i>White Light</i> is released on CD and digital download and is followed by a European and UK arena tour.
2015 (November)	<i>Bring on the Night</i> single is released.
2015 (November 27)	The Corr sister siblings are interviewed by the <i>Belfast Telegraph</i> and reveal they have different personal beliefs to Jim but this does not interfere with the band.
2016	<i>I do What I Like</i> single is released.
2016 (August 18)	<i>White Light Tour</i> ends in Belfast, Northern Ireland.
2016 (Autumn)	The Corrs record demos for next album.
2017	<i>Jupiter Calling</i> is recorded in London with T-Bone Burnett.
2018 (August 30)	Sharon Corr announces joint UK and Ireland tour with Vonda Shepard.
2018 (October 12)	Andrea and Caroline Corr perform <i>Leaving of Liverpool/Tell Me Ma</i> traditional medley on RTÉ's <i>The Late Late Show</i> with Paddy Moloney, Moya Brennan, John Spillane and John Sheahan.
2018 (October 26)	Andrea Corr features on two tracks of Alan Stivell's <i>Human / Kelt</i> album.

2019 (March 22)	Sharon Corr is awarded honorary doctorate of the Open University recognition for her contribution to music and her charitable work.
2019 (April 12)	Andrea Corr features on one track on Dervish's <i>The Great Irish Songbook</i> .
2019 (September)	Sharon Corr records 3rd solo album in Los Angeles with music producer Larry Klein.
2019 (October 17)	Andrea Corr releases autobiography <i>Barefoot Pilgrimage</i> .
2019 (November 15)	Jim Corr with violinist Liam Monagher, play intimate concert mainly comprising of The Corrs' instrumental material in Dundalk in aid of local charity.
2019 (November 20)	Andrea Corr wins Ireland AM Popular Non-Fiction Book of the Year at the <i>An Post Irish Book Awards</i> in Dublin.
2019 (December 1)	Andrea Corr performs at the <i>Light Up A Life</i> charity event for Our Lady's Hospice and Care Services, Dublin.
2020 (March 18)	While in lockdown in her Madrid residence, Sharon Corr records a cover of <i>Dream a Little Dream Of Me</i> (Andre, Schwandt and Kahn) on her iPhone. The piano accompaniment was performed by Andrea Granitzio in Italy. The track is published on her social media.
2020 (March 27)	Taylor Swift publishes a playlist on Spotify entitled "Women's History Month" and places The Corrs' <i>Breathless</i> as the top track.
2020 (April 19)	While in lockdown in her Palma residence, Caroline Corr publishes a self-recorded video to her Instagram account of her solo piano performance of <i>Son of Solomon</i> .
2020 (May 18)	While in lockdown in her Madrid residence, Sharon Corr records a cover of <i>Tea in the Sahara</i> (The Police) on her iPhone. The piano accompaniment was performed by Andrea Granitzio in Italy. The track is published on her social media.
2020 (June 18)	Irish Women in Harmony release <i>Dreams</i> , a cover of The Cranberries 1993 single. Caroline Corr performs cajon and backing vocals.
2020 (October 9)	Andrea Corr performs at the National Society for Prevention of Cruelty to Children virtual <i>Surprise Ball</i> event.

Appendix B – Interview with Jim Corr in Dundalk, 4th of March 2020

This appendix contains the transcript of the interview conducted as part of this research with musician and member of The Corrs, Jim Corr. This interview discusses The Corrs' formation and the music production processes of their first, fifth and seventh studio albums.

SC: First of all, thank you very much Jim for meeting me here today.

JC: You're very welcome Steff! Great to see you again!

SC: I really appreciate you taking the time out to talk to me about my research about music production.

JC: Not at all, you're very welcome. I'll do my best to answer these questions, to the best of my ability but no doubt we'll be delving into quite deep into the past! If there's stuff I can't remember I'll get back to you, no problem. We can fill in the blanks!

SC: Thank you! I'm interested in finding out how music producers work in the studio and how they impact a band's sound. You have worked with many music producers over the years and I've been focusing on three- *Forgiven, Not Forgotten* and David Foster, *Home* and Mitchell Froom and *Jupiter Calling* and T-Bone Burnett. What I would love and deeply value is your personal insight because its very valuable first-hand information.

So first of all, let's rewind and talk about before The Corrs before the recording studio. I understand yourself and Sharon were a two-piece band during your formative years who played traditional Irish music in your aunts pub.

JC: In Dundalk. Yes! We played around various different places in Dundalk. I think actually unbeknownst to ourselves we were actually working on The Corrs' sound then, which is kind of an amalgamation of traditional instrumentation, traditional melody lines and contemporary dance and rock rhythms. So yes, that was very educational and we enjoyed it a lot. It also helped to bring a little bit of money in because at that point, we didn't have very much money.

SC: How did you source the Irish traditional tunes you played back then?

JC: Wow, let me see. Good question! Good question, trying to think where did *Toss the Feathers* come from. Yeah. A good friend of mine, his name is Kevin Shields, he used to play me some traditional stuff. He was great for expanding my knowledge of traditional music and it's possible I heard a version of say the likes of *Toss the Feathers*. Maybe it might have been the very basic melody line. But what I would always like to do is turn it into something quite unique by changing the whole background, changing the music, changing the chords, changing the timing, changing the rhythm if possible, seeing where it can be brought, to take it out of the pure traditional area. So yes, I would have been educated by just listening and sourcing music myself but also through my musician friends.

SC: Lovely! What were these sessions like? Was it just the two of you or did others join in?

JC: No, there was just the two of us. I had a keyboard that was also a sampler, a Roland W-30 that played a bodhrán sound. I would just literally press a key and play. I would already have a particular pattern programmed in, it would be on floppy disk, so depending on the song that I was doing I would play whatever pattern was suitable. But it was me on the bodhrán, I would sample individual hits into the sampler so that brought a very unique sound to it because I had a lot of control over those individual hits on the bodhrán. So that lent itself to the unique modern sound.

SC: That's fascinating!

JC: It was the start of it, yeah! So it was just the two of us and yes the drums and bodhrán were handled by the keyboard. I played keyboards and acoustic guitar and Sharon played violin.

SC: So these sessions were very much an influence on The Corrs sound then!

JC: Yes I think so but we expanded on it further when we actually got The Corrs band together but myself and Sharon didn't know at that time what we were really doing. We were experimenting alright yeah but I suppose we didn't realise that it would go on to become something much bigger. It formed a foundation of sorts, yeah.

SC: That's awesome. So moving on to *Forgiven, Not Forgotten*, what was David Foster's role?

JC: What did he bring? David Foster is one of the greatest musicians that I've ever come across that I've ever worked with. He's an amazing guy. He's got an amazing ear. With the vast amount of experience that he has, he knows what has to be done to an incomplete song to make it complete. What he brought to it was immeasurable really.

Now luckily we had done an awful lot of the work ourselves, in fact a lot of the work that we had done here in Dundalk in terms of the pre-production actually made it onto the final record. Which was great! On the basis of some of the songs mightn't of needed a huge amount of work at the same time, what David did was he put the sheen on everything and the sound he was able to get from Andrea, the lead vocals, using the microphones that he did, using the studio equipment was just phenomenal. And he was such a fast mover. He was so quick at everything that he did and establishing a great sound.

But he pulled in musicians, he would pull in drummers occasionally if he needed to, he would pull in guitarists, he would pull in keyboard players, other people to give a different flavour. As you bring in different people they're going to add something dynamically to it. They're going to add something ingredient-wise and often they might think of things musically that you necessarily mightn't of thought about yourself, so they can bring something new to the table which can be very arty and constructive musically.

SC: Brilliant! So briefly, what was the recording process of *Forgiven, Not Forgotten*, bearing in mind it was 1994, what technology was used at that point?

JC: He was using two Sony PCM units. I think it was two 48-tracks that were slaved together as far as I know to give 96 tracks. It was digital but it was recorded to tape. It was the first digital multi-track. Do you remember these Sony PCM units?

SC: I've read about them!

JC: Great! Oh wait. Or was it a Mitsubishi? I need to check on that. Could it have been the Sony or was it the Mitsubishi? I need to check on that, let me get back to you.

But there was two 48-track units digital recorders slaved together and they were using tape but you could sample onto them as well. David was very, very, quick at doing that and it was easy enough to cut and splice the take as well, there was an awful lot of advantages. We were coming into the digital phase, the digital era, but obviously we didn't have the same flexibility that you have with the likes of Pro Tools or something like that but still it was the start, and the sound quality was phenomenal. So that's what we did yeah, he had a fabulous mixing desk, an SSL, I think it was a Neve going to the two Sony PCM units, I'm nearly sure on that.

SC: Lovely. You hold a co-producer credit on the album.

JC: Yeah.

SC: Could you explain to me please what that entailed?

JC: Well he offered it to me because as I was saying, an awful lot of the pre-production we had done in a small studio, a small bedroom studio here in Dundalk. A lot of the initial sequencing, the programming that I had done made it onto the album. It was very graceful of him I thought to give me that co-production credit.

SC: That's wonderful. Would it be fair to say then that you had a vision of the album before entering David Foster's studio?

JC: Yeah well we all had. Myself and the three girls, I mean we had been working on this for quite a while. I think we had been together for about 5 years before anything started to happen. 5 years is a long time. So yes, at that point we had established our sound which obviously going to be Celtic pop, pop/rock. But yes, we all had. The girls had already been doing the block harmonies with that very unique familial signature sound that we have. Yeah we had certainly established our sound at the point. So really, the job of the producer, the job David Foster had was to enhance and expand on what was already there.

SC: Thank you for this. So you mentioned the girls and the block harmony sound. So how was that recorded in studio? Was that separately or together with one microphone?

JC: I was using an 8-track multi-track recorder and it was an eight-track cassette. I think it was a Tascam Portastudio. Might have been an 844 something like that. Anyway sound quality wasn't the best but the only way we could do it was to get the girls around one microphone, I wouldn't of had the best quality mics in those days! Obviously we were working on a budget but I was kind of just reading studio magazines trying to pick up tips, and buying books you know, trying to work out what to do. But at least I knew you could get a sound by putting three girls on one mic panned over the left and again, three girls on the same mic put panned over to the right. There's six voices for a start. You could go further but there could be diminishing returns with that. With that block harmony recording we were able to get together, but obviously not with the pristine quality that you would get from studio equipment. It was alright, it was half decent.

SC: Was this the same approach David Foster took? Did any of those takes make it onto the record?

JC: Oh no, no. Anything we recorded audio-wise, we did again. All the guitars would have been done again. The sequencing we would have used. Of course if he had ideas in terms of editing the song or expanding or doubling up on a chorus, once the information I had programmed went into their computer then it was dead easy for them to expand or subtract or whatever. But no, all of the vocals we re-did because we would have done them on a beautiful Neumann U-87. In fact he phoned up Richard Carpenter one day, to ask how he got that sound, that Karen Carpenter sound. Because we were going for that. We had an hour-long conversation with Richard Carpenter on the phone it was amazing. But it's all about close miking and of course a good pop shield because you don't want it to be popping and getting your compression level right. Valve microphones give that lovely warmth to the sound, of course if you layer that, or if you double track that over and over again, you get beautiful, beautiful, sound. As long as you don't overdo it. You can overdo it you know, diminishing returns. You can't have twenty-four vocals unless you're going for a wall of sound. You have to be careful you can only do it to a certain extent.

SC: Yes. Was that how *The Right Time* was done, that lovely four-part vocal introduction? I noticed the polarity swop in the vocal arrangement on the second line. Was that deliberate?

JC: Yeah. We panned it. It was just a little studio trick. That's easily done. As far as I remember, the girls had sung that (sings) "this is the right time", we put that onto a key, we sampled it onto a key. Then we had complete control over where we could make it happen in the song. We used to do a lot of that. We would get the girls to sing it, then we would sample that and then we could position it or where ever we wanted in the song or mess around with it. Yeah that's how we did that.

SC: That's really fascinating. I always wondered about that. Where might the influence have come from to rock up *Toss the Feathers*?

JC: The approach that we took for *Toss the Feathers* was an approach initially that myself and Sharon took when we were operating as a two-piece in Dundalk and it was just, if you remember the piano part (mimicks the rhythm) "dekedah-dekedah-...." That infers a four on the floor beat. There may have been a little bit of an AC/DC influence in there perhaps on the guitar. Those sustained rock chords, it just grew that sound. That's the way it can happen sometimes it can be very fruitful that way, to let something grow naturally and see where it goes. It wasn't pre-meditated in that way of going "Ok this is what we need to do with this song, we're going to take it this direction". When we were experimenting we had the luxury of time in that small little studio in Dundalk. We had the luxury of time to build on and develop songs without the studio clock running. I think that's very import for bands, that they are not under that type of pressure, to be writing in a studio environment when the clock is ticking, you know? You have to able to experiment freely.

SC: Great. *Runaway* has a beautiful production, suits the song perfectly.

JC: Yes.

SC: I'm particularly interested in the sharpened note in the melodic phrase that occurs at the end of the production. The B flat to B natural. Could you tell me how this came about please?

JC: *Runaway* was basically written by Andrea and Caroline, and then myself and Sharon came in. Sharon wrote the melody line (sings) and we all came in and we wrote parts on top of it. Anyway

it came to the end part and it might have been kind of an accident that happened on the keyboard where instead of sticking on the minor, I went to the major and I thought “Actually that works!” so we then incorporated it but it was something I thought of at the end. It may have been initially an accident and you go “Oh that sounds cool!”, might have been as simple as that. So we went from the minor to the major. That is what you’re talking about is it? Right at the end?

SC: Wow! Thanks for that! Ok, so jumping forward 10 years to the *Home* album. So by this stage in your career, you’re even more of a seasoned recording artist, loads of albums done and under your belt. How or maybe, were you aware of the various practices of different music producers were you? Was this something you took into consideration before choosing to work with producers for this album?

JC: Well we were always big fans of Crowded House and Mitchell Froom worked extensively with them. We loved his sound. It’s called *Home* because it’s essentially an album of mostly old Irish songs where we’ve put our own interpretation onto. We knew that this was going to be perhaps a much more live album, which it was, and we just thought that he would be greatly suited to producing this, which he was. I still love that album, I still listen to that album. I think he did an absolutely superb job, he’s a lovely producer. Every producer has got their own individual style, they’ve got their individual defines of all of their experience from all the work that they’ve done over the years, so they would always interpret things differently. That was a wise decision to get Mitchell Froom to produce that album. I feel it turned out great.

SC: I think it’s a lovely album. How much time was spent on pre-production? What did that entail?

JC: For *Home*, not a huge amount. Again, it was very important we had our own unique interpretation of the songs, so it was the four of us initially, myself and the three girls sitting down around the piano or around the guitar and we would take it as far as we could. Then we went in to rehearse, I'm not sure if it was in the studio but we would have done a lot of the fine tuning in the studio as well, with Mitchell Froom. And this is where he was great, because some of the songs we would be able to do from beginning to end ourselves and it was unique and it was great. Other songs we were stuck, we didn't know where we were going to take this. Some songs you're inspired to bring something good or unique to and others can be very slow in terms of what is forthcoming. Again, that's the role of the producer to step in and say "Try this, try this, try this" and he's brilliant because where we were falling down in a sense or not able to bring certain songs to completion, his ideas were wonderful. He brought us forward at a very quick pace.

SC: That's interesting. This question isn't exactly on my list but do you think the fact that Mitchell is American had any effect on those little bits? Do you think maybe an Irish music producer might have pushed things in a different direction?

JC: Well it depends on the market that you're going for. If you're going for an American market, you want to have an American producer because they're listening to American music mostly. So I suppose that as the idea. We were going for the American market although we don't really think like that. You just want to produce the best album that you can. Yeah, it kind of does make sense. You've got to decide what market you're aiming for.

SC: Great. It's open knowledge the recording process for *Home* was very different to the other albums. Would you like to talk a little bit about that?

JC: All of *Home*'s songs were recorded live. So you have your drums, the bass, two guitars, and then we overdubbed on top of that. So essentially you're listening to a live album where we've overdubbed certain things onto it. So that's what makes it kind of special as well it's a live studio album with overdubs on top of it. So we would have rehearsed with that in mind of course. What was very different about say the David Foster albums is, it's all overdubbing. It was all overdubbing! Whereas with this, it was practically an entire live performance of each song, it was quite different. Very different in approaches.

SC: What do you think then are the advantages of recording live then?

JC: I suppose you have to be accomplished at the parts that you want to play so you can deliver. Its very different to be playing something live. Obviously if you're overdubbing you can use certain trickery but it's more challenging to do it live.

SC: Andrea said on the *Home EPK* video online that Mitchell Froom contemporised the repertoire of *Home*.

JC: Yes.

SC: What did she mean by that?

JC: Well he was able to help us bring, what were older songs into the modern era. That's what she means by that. To make it contemporary, so that it would fit in with what was on the radio at that time. That's what the whole idea with that was.

SC: Would that be the drums and bass, etc.?

JC: Yeah, particularly the drums. Recordings years ago, the drums use to be a little bit back there and gradually the level of the recordings of the drums, as you know started to creep up, if you listen to the drums on an AC/DC track and then listen to programmed drums on dance tracks and it's all kick and snare and they're all the loudest parts of the song. That's just the way the styles and flavours of music production has gone over the years.

SC: Cool. How was Mitchell different from working with David? Or how was he similar. I'm not trying to pin one against the other of course!

JC: I would say that Mitchell was probably more organic in his approach in terms of real instruments whereas David wasn't afraid, as I was, to be a little bit more, not reliant but to gravitate more toward what samplers and synthesisers could do. I love that too. Mitchell would have been more organic in his approach musically.

SC: Wonderful. Let's move on to *Jupiter Calling*, your most recent album. What did pre-production entail for this album? Was there a demo?

JC: Right. This we approached very differently because the way that T-Bone Burnett wanted to do it was, he asked us to go and learn all of those songs to play live, that we were about to record. We had done demos alright, but he asked us to learn them as if we were going to play them live. Now we had always done it the other way around where we would have gone into the studio and created in the studio on the multi-track, created the song and built it up layer after layer to turn it

into a complete song and then we would learn it live. But he wanted to do it the opposite way. To learn it, play it live and then record it. So very a different approach for that.

So we went into the studio and we rehearsed for two weeks in there and we tried a variety of songs, some didn't make the cut and he came in the last couple of days and gave his input to the areas we could improve and then we found ourselves in the studio. It was recorded in RAK Studio, Mickie Most was the guy who owned it, he had a load of hits in the 1980s.

Anyway, again it was all of us playing together in a huge room. Now we had baffles to try to minimize the spill because the drums were in the same room. So it was a challenge to record all of that! It was a very different approach but not too dissimilar from *Home*. But *Home*, we were interpreting other people's songs, here we were live performing our own songs in the studio. That's what the difference was.

SC: Nice! Was there any particular record you hoped *Jupiter Calling* might sound like in terms of production style before recording?

JC: It's a good question. I'm trying to think. Possibly there was but do you know what? When you're in that situation and you've hired a producer you kind of have to relinquish control, it's like you're handing the musical landscape sonically over to this other guy. It was his vision really. Totally. To be honest that's not the approach we would have taken. We would have taken an entirely different approach in terms of learning the songs and performing them live as a band. It was different for us but lots of other bands do that. There was a lot of stuff that he had worked on before, we knew that it would more than likely sound like pretty much like that. Like his older material, which it did!

SC: Interesting. So thinking about contemporary Irish music at the minute, bands like The Gloaming and Beoga. Are any of these bands in your musical landscape? Did any of that inform you?

JC: Martin Hayes I love. I love his style as a musician. I love his style of fiddle playing. To me when I'm listening to Martin Hayes I'm not just listening to his fingers at work, I'm listening to his soul expressing itself. Of course he's with The Gloaming. I love what they have done, do you know what? I haven't listened enough to them! I want to get all of their stuff and study it and learn from it. From what I've heard about The Gloaming they're absolutely amazing and I'd love to hear them live.

SC: I've seen them live!

JC: Did you see them live?! At the National Concert Hall?

SC: Last year, yes. They were phenomenal, brilliant.

JC: The Gloaming. What a great name as well! But there are wonderful acts out there. Wonderful acts.

SC: I agree. So why did you choose T-Bone Burnett as your producer? How did that come about?

JC: Do you know, I think it was the manager who suggested T-Bone Burnett. I wouldn't have been hugely *au fait* with T-Bone Burnett's production. I'd heard of him yeah, he's a guy who is very respected in the industry. Yeah I think the manager came up with that idea.

SC: T-Bone is known for being good friends with Bono and for appreciating Irish culture. Was his understanding of Irish music and culture important to you or did that matter? Do you think that might have influenced the sound of the album?

JC: He's a very knowledgeable guy. I think he can pull from a lot of different musical pots. He's a very influential person, very well respected in the industry so yeah he would have his ear in a lot of different genres of music I suppose. Yeah I've no doubt that would have played a part in the sound that we got with him. But yeah he's a bit of an enigma as well.

SC: It's hard to find out anything about him, I mean in terms of production. There's only 1 real book published about him and a handful of interviews online. David Foster is easier to find, he wrote his own book. It's the same with Mitchell Froom, he's not got a whole lot of interviews out there.

JC: Those guys kind of work under the radar. They just go about their business and they do it very well.

SC: Cool. Back to T-Bone Burnett, how did he influence the sounds on the album? What really was his role as producer?

JC: Well it is his sound. He was listening to us and he was taking us in a direction that we wouldn't have anticipated which was much more live, much more raw like, during our career all of the different recordings that we have done, we would have gone from being very meticulous regarding the vocals and having them very precise. I think probably the vocals are the rawest that we've ever recorded in the T Bone Burnett productions. Because we would do a pass or the girls

would do a pass and he'd go "That's good". And I would go "What?! I don't think that's so good"! There was a lot of that. Put it this way, he didn't have the emphasis on the perfection that we all would have done, certainly previously. That took a bit of getting used to I have to say.

SC: Did you find it freeing to just leave a take as it is?

JC: I don't know if it can be. Maybe? It depends. It depends how wide or off field it is. It really depends. Tuning would bother me. It always has. Something slightly out of tune bothers me, I want to fix it. That's just the way it is. I think nowadays you have to be very careful because with the likes of Auto-Tune and these programs you have on your computer, they will correct to perfect pitch every syllable, every melody that is sung by a singer. The young generation of people are so used to that, so used to hearing pristine vocals, that the imperfections sound like, I mean normal natural imperfections that would be in a beautiful vocal performance probably sound like imperfections nowadays! They've gotten so used to that synthetic sound. That's not a good thing. That's where it's gone. Maybe to one extreme you know? But there's a happy medium, there's an in-between which works.

SC: The thing about David Foster, he's known for having pitch perfect vocals, well like yourself, he hears something minimally out of tune, he feels compelled to go back and fix it. He's said this in his book. Would you say David Foster was nearly like a human Auto-Tune?

JC: I just loved working with David Foster, when I think back on it! See what I didn't realise in my bedroom in Dundalk when I set up this decent stereo sound and I had a collection of music over the years and I wouldn't have been paying a huge amount of attention, probably not any really, to who the producer was. I was just enjoying the music. So I remember arriving into his

studio out in LA now I had already knew that I liked a lot of his music. I arrived into his studio and I just seen the awards he had on the wall and I gasped “He produced Chaka Khan *Through the Fire*?! What!!! I fucking love that song, I played that song to death!” So many hits. Hit after hit. Chicago. I was in awe of the guy before meeting him. He was a God to me because I realised I had grown up absolutely loving this guy’s music. So I just identified with everything he did. To be very honest I suppose, of all the producers that I’ve worked with, personally speaking, just talking about me, it was such a fantastic experience working with David Foster. It was such a wonderful experience.

SC: I love the records he has produced, he has a such a clean sound.

JC: Yes.

SC: I love his choice of tones as well, his piano sounds.

JC: Yeah. He’s so musical.

SC: I think he’s absolutely wonderful. Out of all the producers you guys have worked with, I still come back to the first album. I love the sounds you got on it, Maybe it’s the drums. Sorry I’m gushing!

JC: You’re right, you’re right!

SC: Thanks! This next question might be slightly difficult. Was the omission of a traditional Irish instrumental from *Jupiter Calling* just something that happened naturally or...

JC: The which?

SC: The traditional Irish instrumental in *Jupiter Calling*...

JC: Remind me, how does it go?

SC: That's just it, I was saying that there's actually none.

JC: There's none?! OK.

SC: Yeah say on *Talk on Corners* you have *Paddy McCarthy*, *Forgiven, Not Forgotten* there is *Lough Erin Shore*.

JC: What about *Gerry's Reel*?

SC: That was on *White Light*.

JC: Ah yeah, yeah, yeah, yeah! So we omitted that? We left that out did we?!

SC: Yeah but it's ok!

JC: Good question! No you're right! We shouldn't have!

SC: Oh no, I'm not saying you shouldn't have! I was just wondering of it was a deliberate choice, did T-Bone say anything? It appears it's just something that just happened naturally then!

JC: Generally we would try and we would experiment with songs to see if they were going to work and maybe we just weren't inspired. I mean it has to be good, it has to pass myself and the girls. We have to like it and feel that it's different and worth putting on an album. Perhaps we weren't feeling that way! I'd say we probably would have tried! Maybe we just weren't feeling it and T-Bone Burnett wasn't fussed. I can't remember.

SC: It's ok! That's perfectly reasonable. So coming back to T-Bone Burnett, how did he differ from David and Mitchell? How was he the same as a producer?

JC: I would have viewed his production and his attention to detail as very raw, rough and ready. Compared to the likes of David Foster or especially Mutt Lang. It's an older sound? The whole idea was we were supposed to get a very rough, well not rough recording, that's not the right, let me see. Ah, not pristine. We were going for imprecision. Not something that was too perfect. That was kind of what we were aiming for. It was different, put it that way! (Laughs)

SC: Ok! So concluding comments. Thinking about your home studio that you had in Dundalk in the early days and your experience working as a music producer in Dublin. Did these experiences enable to communicate better with the like of David Foster?

JC: Perhaps a little bit. But that didn't stop me from feeling like an absolute novice when I was out in LA! I thought "Whoa I'm thrown in the deep end here!". You know, you can only do so much on your own, especially with a limited budget and limited equipment. Suddenly with all the equipment there I was like a kid in a candy shop! Yeah I suppose it would have but being honest, it didn't stop me feeling like a novice, especially in the presence of David Foster you know he's just so good!

SC: That's very honest of you. Again, without meaning to sound blunt, why have The Corrs never been produced entirely by an Irish music producer. Now I know you worked with Anthony Drennan and...

JC: Well we worked with Bill Whelan. He produced some of our stuff.

SC: Those were demos, pre-*Forgiven, Not Forgotten* I believe?

JC: Yeah. It's just the way it worked out. There's nothing that would be a barrier to us working with a good Irish producer. Of course we would. It's just the way that it worked out. We got signed in America. We got signed to Atlantic Records. They had also got David Foster on the roster. It just made sense at that time that he would produce us. It's just the way it worked out. So there's no reason, just circumstances.

SC: Do you mind me asking, what was it like to work with Bill Whelan?

JC: Yeah, (laughs) we will go back again! Very educational, I suppose it was introduction with Bill into the computer technological side of music. Yeah. We did a song on *The Late Late* that was produced by Bill Whelan. Great experience and what a wonderful success story with *Riverdance*. He was wonderful to work with. In fact for part of *Lough Erin Shore*, David Foster had known we had worked with Bill Whelan and Bill was starting to get huge success with *Riverdance* and the suggestion was put that we get Bill Whelan to do the lambeg drums in *Lough Erin Shore*. Which is what he did, that middle section! So he had the timing, he had the tempo, so at home then in Dublin he did all that (mimicks the rhythm pattern) and then we slotted in (sings the melody) so it was great!

SC: That is awesome.

JC: Yeah, he did that remotely.

SC: That's kind of how producers work nowadays, flying stuff in. But that was back in 1994 you guys did that!

JC: It's amazing that there would be duets on hugely successful records and the chances will be that the two singers will have never met each other! It's weird isn't it!

SC: Amazing! Right, that's all of my questions! Thank you very much Jim!

JC: Good! (Laughs) You're welcome!

Appendix C – Additional Music Production Content Analysis: *Black is the Colour*

Further research was undertaken in the music production content analysis of The Corrs' albums *Home* (2005) and *Jupiter Calling* (2017) that is not included in this thesis. Included in this appendix is the music production content analysis of *Black is the Colour*.

Black is the Colour is a traditional ballad folk song and was documented by ethnomusicologist and recordist Alan Lomax (1915–2002) in 1937. Many artists from different genres have recorded the song in various styles and approaches. Some notable recordings include American singer-songwriter Nina Simone (1959), Irish folk singer-songwriter Christy Moore (1994), and Irish folk vocalist Cara Dillon (2001). Sequenced as the fourth track on the *Home* album, *Black is the Colour* was performed by The Corrs, their band and The BBC Concert Orchestra in the key of E minor and at a tempo of 128 BPM in common time. Figure 1 illustrates the production's dynamic contour and figure 2 illustrates this larger production with a mastering process indicative of a contemporary pop production.

Figure 1: Dynamic contour graph of *Black is the Colour* illustrating the density build up of the song from start to finish.

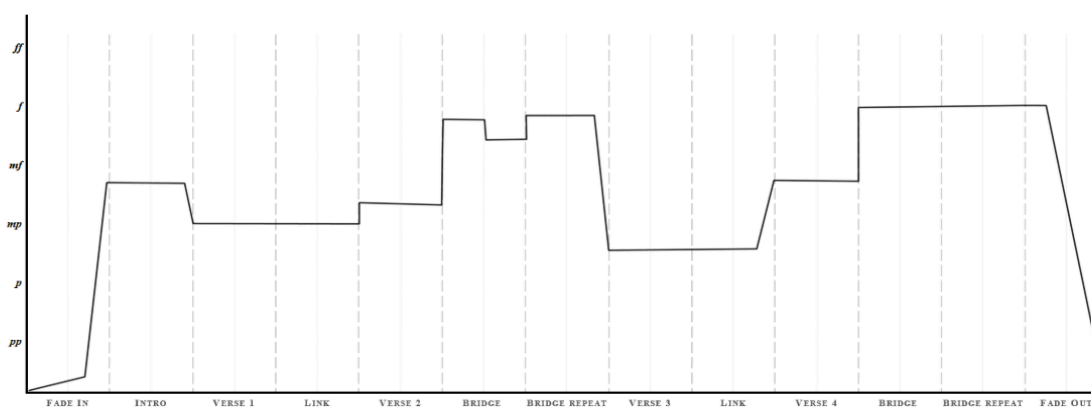


Figure 2: Screenshot taken from the *Black is the Colour* Pro Tools music production content analysis session file illustrating the density build up of the song from start to finish.



Black is the Colour opens with a two-bar fade in which is comprised of a mix down of effected clean electric guitars performing an E suspended four chord. This mix of guitars and signal effects was reversed post recording and automated to rise in volume steadily, leading in the song's eight-bar instrumental introduction. The introduction is a wide, fully balanced stereo mix consisting of a stereo acoustic drum kit, electric bass guitar panned centre, an acoustic guitar panned centre, clean electric guitars panned left and right and a stereo string section from The BBC Concert Orchestra. In terms of the drum mix, the kick drum is at the lowest volume and the ride cymbal is loudest. Overall the drums are placed further back in the mix than previously heard in *Forgiven, Not Forgotten*. No immediate hook features in this introduction, however the string section provide melodic content albeit low in the mix while the acoustic and electric guitars provide a harmonic layer following a VI-VII-i chord progression, the drums provide a rhythmic layer and the bass guitar provides a bass layer.

Verse one is sixteen bars in length and closely follows this same harmonic progression. As documented in the chord ruler in the Pro Tools session file, the progression is modified in phrase three and extended in phrase four to include the iv-v-i progression. A similar dynamic profile to the introduction is kept throughout this verse and three key audible differences take place: (i) the addition of Andrea Corr's lead vocal, (ii) the temporary subtraction of the electric guitar that is panned to the left and (iii) the change of pattern performed by the drum kit to exclude the ride

cymbal. While these two instrumental differences are minute, they create space for the lead vocal to fill. The lead vocal is close-miked, dry and performs in a range from E2 to F sharp 3.

Following a one-bar transitional link provided by the string section, which plays a melodic excerpt previously audible from the introduction, the electric guitar re-joins the production in verse two. In keeping with verse one, verse two is also sixteen bars in duration and with the exception of the electric guitar panned left, follows a similar dynamic level.

Black is the Colour has no vocal refrain or chorus so in lieu of one, this production includes a eight-bar melody performed twice in an instrumental section from bars forty-one until fifty-six. This section is best described as having two contrasting eight-bar sub-sections. As phrase one starts with an anacrusis, the melody from bars forty until forty-four, is performed by the fiddle, tin whistle and string section. It should be noted that at this point, the string section has become louder in the mix than previously heard. This phrase is followed in a call and response style by the string section which answers with a second four-bar melody, annotated in the Pro Tools session file as “phrase 2”. In the section sub-section, a repeat of phrase one’s melody is performed by the fiddle, tin whistle and the string section and is immediately followed by phrase two which is continued on all the instruments. The division of two sub-sections within the instrumental passage gives an unanticipated variation and interest to the production which otherwise sounds reasonably similar to the song’s eight-bar introduction.

The most apparent change in production occurs at verse three, which follows this instrumental. The production mirrors the sombre mood of the lyrics “I go to the Clyde and I mourn and weep” by creating an open space and sense of loneliness of the narrator by dropping the electric guitars, acoustic guitar, bass guitar and most of the drum kit for twelve out of sixteen bars. During these bars, the violin section provides harmonic content, the high hat keeps a metronomic pulse and the

bodhrán is audible for the first time. The bodhrán has been treated with a low pass filter and any mid to high frequency content of the instrument has been rolled off, giving the instrument a warm, yet dull tone, similar to that of a heartbeat. It might be expected for the lead vocal sound to open or contrast during this section and be treated with plenty of reverb, however this is not the case. The fourth line “and I suffer death ten thousand times” occurs during the final four bars of the verse and this serves as a transitional link to verse four. The kick and snare pattern resume in bar sixty-nine and are underpinned by the bass guitar while the stereo spread of clean electric guitars resume in bar seventy-one. A single strike on a floor tom at beat four of bar seventy-two serves as a fill.

Verse four takes its lyrics from verse one and adds eight additional bars, which repeat of the lyrics “I love the ground whereon he stands”. The ride cymbal adds texture and high frequency content to these bars. A sixteen-bar repeat of the instrumental passage follows verse four and takes the same sub-section structure as previously heard. The production is finished by an eight-bar fade out on the tonic E minor chord during which, the reversed effected electric guitar from the fade in is heard again. The fade in and fade out sections bookend the production and the iv-v-i cadence give a resolved ending.

Black is the Colour Summary

Black is the Colour demonstrates a typical contemporary studio production where a click track has been implemented to guide the performances. With the drums placed at a relatively low volume in the mix, the driving force and energy of the production comes from the bass guitar. While this production does not contain backing vocals, it does showcase The Corrs performing their respective Irish instruments and it is quite possible that the recording was completed as a group performance with the exception of one guitar, and The BBC Concert Orchestra, which was

overdubbed. This aligns closely with Andrea Corr's quote of recording the album "as live as possible". The use of the reversed audio signal processing track audible at both ends of the song give a creative signature to the production.

Appendix D – Additional Music Production Content Analysis: *Chasing*

Shadows

Further research was undertaken in the music production content analysis of The Corrs’ albums *Home* (2005) and *Jupiter Calling* (2017) that is not included in this thesis. Included in this appendix is the music production content analysis of *Chasing Shadows*.

Sequenced second on the *Jupiter Calling* album is non-single track, *Chasing Shadows*. With a total playing time of 03:36, the song is 88 BPM measured in 4/4 timing and is in the key of D minor. The dynamic contour of the production is illustrated in figures 1 and 2. These figures display a build up in dynamic volume from the introduction until the first chorus, where the dynamic remains for the duration of the track.

Figure 1: Dynamic contour graph of *Chasing Shadows* illustrating the density build up of the song from start to finish.

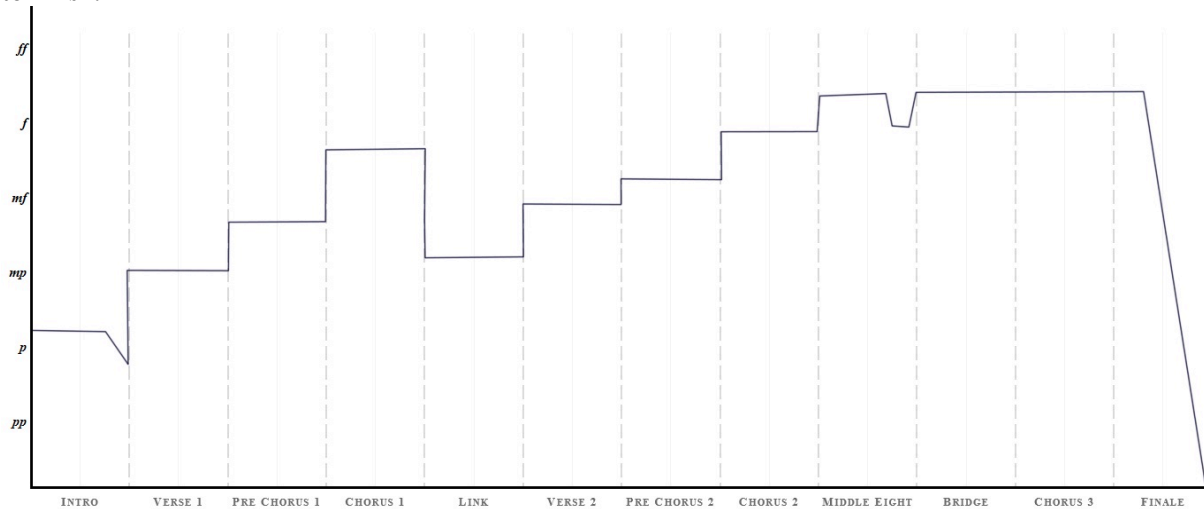
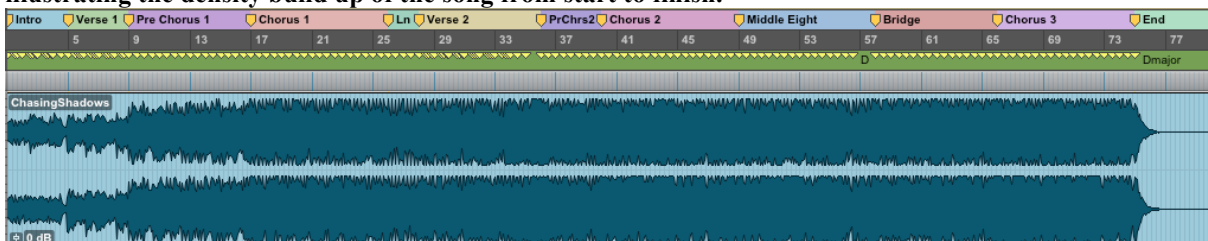


Figure 2: Screenshot taken from the *Chasing Shadows* Pro Tools music production content analysis session file illustrating the density build up of the song from start to finish.



Jim Corr's Avalon acoustic guitar opens *Chasing Shadows* with a fingerpicked progression as transcribed in the Pro Tool appendix. A development in Corr's fingerpicking ability is evident as the style is more complex than *Son of Solomon*. Jim Corr exhibits a technique which includes several hammer ons⁶⁸ while his right hand follows a *p-a-m-p-a-m-p* pattern per bar. His playing is fluid and executed cleanly. Natural nuances such as string squeaks and clicks exist in the recording but do not distract from the performance. It is also obvious that the performance is unedited because the fundamental note is sustained throughout each bar. Editing would cause an unnatural and clipped decay, which would be audible, so it is likely that Jim Corr performed the piece in one take or by dropping in section by section. Anthony Drennan provides a descending melodic motif performed on a clean electric guitar, which has a tremolo effect pedal in its signal chain and is panned left.

Verse one begins promptly at bar five and again like *Son of Solomon*, the lead vocal is backed by solely by Jim Corr's guitar. A short yet large reverb with a short decay is applied to the vocal and compression is used to enhance the intelligibility of every syllable and balance the naturally dynamic performance. As with the previous *Jupiter Calling* recordings discussed, Andrea Corr's vocal is given priority and placed at the forefront of the mix. Both elements sit in the centre of the stereo image.

The pre-chorus builds on this foundation as Caroline Corr's cajon, Robbie Malone's upright double bass, and Anthony Drennan's electric guitar enter the mix. The sound becomes distinctly Americana in the following chorus, which adds the full drum kit, an organ pad which plays sustained high register chords and is submerged in the mix, tambourine and female backing

⁶⁸ A hammer on is a technique used primarily in guitar playing where the string is sounded by hammering a finger down onto a note without striking the string with the strumming hand.

vocals. The stereo image is widened by Anthony Drennan's aforementioned guitar and by the backing vocals, which are panned right. The backing vocals provide support to the lead as they follow it one third higher. It is Anthony Drennan's guitar performance, which makes the sound distinctly Americana, as he plays semi-improvised pentatonic motifs throughout the section.

A two-bar transitional passage links the second verse to the previous chorus in which Sharon Corr's fiddle performs double-stops, a typical sound found in the Americana genre. Interestingly, submerged in the mix is a reversed stereo tape loop. It is most audible on the right side of the stereo image. However because it is so deeply submerged in the mix, it is difficult to discern what the recording printed on the tape actually is.

Verse two omits the tambourine and organ, and strips back Anthony Drennan's busy electric guitar line, leaving space for vocal intelligibility. In addition to aid this, the vocal phrasing is smoother and less cluttered than previously noted in *Son of Solomon* due to shorter lines and use of words with less syllables. Sharon Corr's *pizzicato* fiddle appears on bars 33, 35 and 37 as a new textural element, interspersed with the lead vocal. The reversed tape loop reappears at bar 36 as earlier, is submerged in the mix, providing high frequency content in the right side of the stereo image until the start of the second chorus at bar 40.

It is at the middle eight (02:11) where the biggest textural change occurs. This is mainly the result of changing the key to A major, which adds a lift before any instrumentation is discussed. However new instruments to the arrangement include the piano and the shaker, which together, add more weight to the apparent change. Sharon Corr's *pizzicato* fiddle makes an additional appearance alongside a call and response vocal arrangement. The reversed tape loop is used as

transitional element once more to usher in the eight-bar instrumental bridge that follows. It should be observed here that this section returns to the original key of A minor. The fiddle/tin whistle combination is pushed to the forefront of the mix and performs a melodic line in A/B format, however, unlike *Son of Solomon*; the melody does not resemble an Irish traditional tune. Andrea Corr's overdubbed adlibbed humming of the chorus melody punctuates the second half of the bridge.

The third chorus (02:57) returns sounds remarkably similar to the previous choruses with the exception of the additional piano. The song concludes with a resolved ending as per previous *Jupiter Calling* analyses, however the final chord is D major 6 and not the expected A minor. AC hum is apparent during the fade out once again.

The lyrical content of *Chasing Shadows* is an inner monologue where Andrea Corr describes the breakdown of a relationship. The verse lyrics portray the narrator as a lonely: "Feeling all the pain of a lonely night" and sad woman: "Mirror, mirror on the wall, is this me/Who's the saddest of them all?" who appears to deeply dislike herself: "Hate this girl that I've become". The musically contrasting middle eight is reflected in the lyrics as they reveal a sense of optimism that everything will work out in the end; "Show me the sun after the rain and all that dies will live again".

Audible in the Pro Tools appendix is the slight wavering of the overall music with the click track. This is most apparent during the first chorus. Further to the slightly imperfect approach are the highlighted incorrect bass notes at bar fifty-three. The chord during this bar is A major but the bass plays two notes which are not part of this chord and clash with the music.

***Chasing Shadows* Summary**

Chasing Shadows is a non-single recording on *Jupiter Calling*. Similar to *Son of Solomon* Jim Corr's fingerpicked acoustic guitar opens the musical arrangement and Andrea Corr's lead vocal is the focus of the mix throughout. *Chasing Shadows* has a distinct Americana signature sound throughout due primarily to Anthony Drennan's electric guitar tone and due to the musical arrangement of drums, double bass, violin and organ. The Corrs' Celtic signature sound is not evident in this production for three reasons. Firstly the tin whistle and bodhrán are not present in the musical arrangement. Secondly no Irish traditional or Irish traditional influenced melodies exist in the song and thirdly, Sharon Corr's violin performance includes techniques such as double-stopping and *pizzicato*. *Chasing Shadows* was evidently recorded without a click track as the tempo fluctuates throughout and minor technical and musical imperfections exist in the recording, most notably the incorrect bass notes at bar 53.

Appendix E – Additional Music Production Content Analysis: *Butter Flutter*

(Love in a Time of Terror)

Further research was undertaken in the music production content analysis of The Corrs' albums *Home* (2005) and *Jupiter Calling* (2017) that is not included in this thesis. Included in this appendix is the music production content analysis of *Butter Flutter (Love in a Time of Terror)*.

Butter Flutter (Love in a Time of Terror) is sequenced as the fifth track on the album. On the 17th of November 2017, an official music video for the album track was released on the Corrs' YouTube channel. Bearing a visual resemblance to the *Son of Solomon* music video, *Butter Flutter* portrayed all six members of the band performing the song in a studio space and was both filmed and edited on Andrea Corr's iPhone. With a total running time of 03:45, *Butter Flutter* has a tempo of 98 BPM measured in 4/4 time and is in the key of C minor. Figures 1 and 2 illustrate the dynamic contour of the production, which will be discussed in this analysis.

Figure 1: Dynamic contour graph of *Butter Flutter* illustrating the density build up of the song from start to finish.

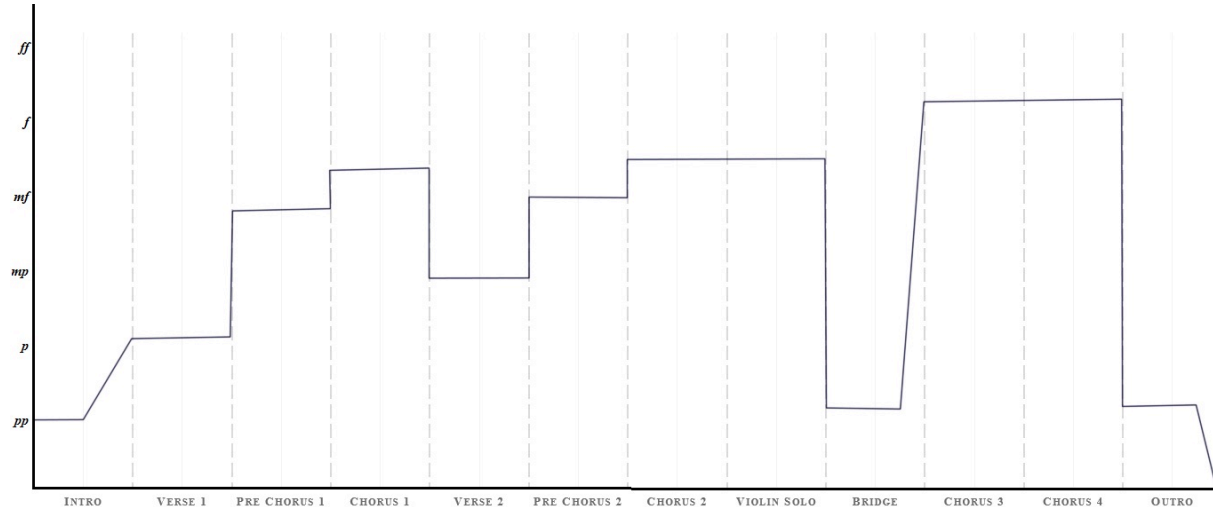
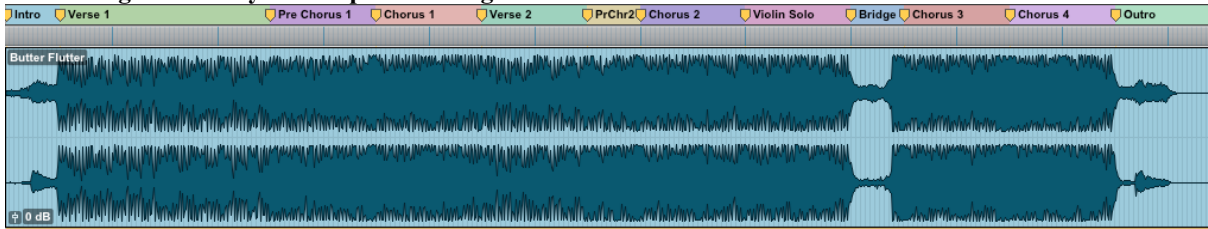


Figure 2: Screenshot taken from the *Butter Flutter* Pro Tools music production content analysis session file illustrating the density build up of the song from start to finish.



Butter Flutter opens with a solo electric guitar motif panned hard left, performed by Jim Corr in C minor. Jim Corr's mildly overdriven guitar is the focal point and an atmospheric sense of space is created with digital reverb and delay effects with long decays. As shown in the music video, Jim Corr has a guitar multi-effects processor unit on the studio floor and is controlling an expression pedal with his right foot in order to creatively filter the frequency content of his performance. The resulting sound is unprecedented in The Corrs' repertoire. As documented in the correlating Pro Tools session file, Anthony Drennan's clean electric guitar, Robbie Malone's electric bass and a textural percussive anomaly appear from bars two until four, serving as atmospheric elements.

In verse one, this sense of space is carried forward and a predominant rhythmic groove articulated by the drum kit, joins the arrangement. Featuring a steady downbeat on the bass drum and snare drum, syncopated upbeats provided by the hi-hat, add swing and motion. Andrea Corr's lead vocal is relatively dry, close-miked and compression brings the breathiness of her performance out to the fore. Anthony Drennan's palm-muted electric guitar appears on bar nine, sounding like a brief line-check during a live performance rather than the melodic contribution, which occurs on the empty space of bar ten. Malone's bass joins at bar thirteen, supporting the rhythm and providing melodic groove.

The following pre-chorus is lifted with the change to an A flat major chord combined with additional sitar, *pizzicato* fiddle and the introduction of backing vocals. The underlying VI-VII-i chord progression adds to the feeling of expectation for the chorus, which opens at bar 29. Although it is unclear what Anthony Drennan's guitar part for the chorus is, Jim Corr's panned guitar is balanced with a synthesiser which is panned hard right. The synthesiser is heavily high-pass filtered and provides high-end range, maximising the frequency spectrum. A stereo track of all Corr siblings' gang backing vocals punctuates the chorus and underpins the lyric "Butter flutter in my breast". The busier hi-hat pattern adds to the feeling of increased energy, adds sonic variation and along with the synthesiser, fills the space created earlier.

Unusual thus far in the production of *Jupiter Calling*, there is no melodic link passage between the first chorus and second verse in *Butter Flutter*. Verse two starts immediately on bar thirty-seven, returning to the open, spacious soundscape of verse one. Minute variation is provided by Anthony Drennan's descending motif, which has been processed with a shimmering chorus effect. The bass guitar returns halfway through the verse underpinning the key lyric of the song: "2016 never felt so fragile", a reference to the socio-political landscape of the time. The shortened second pre-chorus and chorus follow in the same vein as previously heard, leading to Sharon Corr's eight-bar fiddle solo. The increased energy of the chorus is carried forward through the backing instruments and Sharon Corr plays a melodic four-bar phrase, which is repeated twice. On the second repeat, Andrea Corr sings the same melody to the word "hey". The use of overdubbing is apparent again with the incorporation of gang backing vocals.

A four-bar bridge section returns the original soundscape of Jim Corr's solo electric guitar with atmospheric textural elements and is immediately followed by a double chorus. Sharon Corr's melodic fiddle line re-appears in the final chorus alongside a variation of the lead vocal melody,

providing noticeable difference from the previous choruses. The song closes with a final return to Jim Corr's electric guitar motif.

Butter Flutter (Love in a Time of Terror) Summary

Butter Flutter is a non-single recording on *Jupiter Calling*. The Corrs' recognisable signature sound is obscured through the use of creative electric guitar pedal effects and the Celtic aesthetic is not evident. The use of dynamic contouring to shape the song's production is most apparent on *Butter Flutter*. As exemplified in figures 1 and 2, the contrast between the song's sections is visually obvious. Compared with the smoother dynamic contouring of *Son of Solomon*, *SOS*, *Bulletproof Love* and *Chasing Shadows*, *Butter Flutter* focuses on the use of creative dynamic contrast to shape its production.

Appendix F – List of Pro Tools Reverse Engineering Project Files

Included in this appendix is the list of all reverse engineered Pro Tools session files that correlate to the written music production content analyses included in the thesis and Appendices C, D and E. These files can be accessed from the DVD included in this thesis and from the web link:

https://www.dropbox.com/s/r7xyynyh7yn4f48o/StephanieCaffreyAppendixF_ProTools.zip?dl=0

Each file is a comprehensive reverse engineered account of each recording's instrumentation and musical arrangement, viewable in each edit window. Also included is a series of charts graphically detailing chord progressions, key changes, tempo and metre changes. An estimation of individual track volume levels is also included in the mix window of each session.

Table 1: List of all reverse engineered Pro Tools session files.

Folder Name	File Name
Album 1	1. Runaway
Album 1	2. Forgiven, Not Forgotten
Album 1	3. The Right Time
Album 1	4. Love to Love You
Album 1	5. Toss The Feathers
Album 2	1. Heart Like a Wheel
Album 2	2. Moarlough Shore
Album 2	3. Buachaill on Eirne
Album 2	4. Haste to the Wedding
Album 2	5. Black is The Colour
Album 3	1. Son of Solomon
Album 3	2. SOS (Song of Syria)
Album 3	3. Bulletproof Love
Album 3	4. Dear Life
Album 3	5. Chasing Shadows
Album 3	6. Butter Flutter

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