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Orchestrating Film: The contrasting
orchestral-compositional approaches of
Bernard Herrmann and John Williams
and their modern legacy



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ORCHESTRAL-COMPOSITIONAL APPROACHES
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WILLIAMS AND THEIR MODERN LEGACY

Abstract

Music is one of the most powerful forces in film, and composers' varied use of orchestration and sound is fundamental to the impact of music in this medium. From the live accompaniments of the earliest silent film, to the lush orchestrations of the 'golden age', to the electronic and experimental scores of the twenty-first century, the role of orchestration, timbre and sound has been pivotal to the function of music in film and its ability to shape and inform narrative, character and theme (Gorbman, 1987). In an increasingly vast and constantly evolving body of film music, two figures stand out as proponents of contrasting compositional approaches to orchestration in film: Bernard Herrmann and John Williams (Cooke, 2004). Their work reveals orchestration and compositional considerations as powerful tools that contribute to dramatic elements of narrative, character and theme. To understand these approaches their influences and contexts must be discussed (Part I). Analysing the contrasting orchestral approaches of Herrmann and Williams in their respective films *The Day The Earth Stood Still* (1951) and *Close Encounters Of The Third Kind* (1977) sheds light on the contrasting ways orchestration is approached to influence dramatic elements in film (Part II). It is important to examine the legacy of Herrmann and Williams' contrasting approaches in more recent film music such as the representative scores of Thomas Newman (*Wall-E* (Stanton, 2008)) and Stephen Price (*Gravity*, (Cuarun, 2013)) to fully examine the role of orchestration in film today (Part III).

Part I: Influences and context

Bernard Herrmann's (1911-1975) distinctive voice in film orchestration developed out of a varied career in film scoring spanning the 1940s to the 1970s. His score for the pivotal film *The Day The Earth Stood Still* sits in a transition point, as the composer moved out of his period of collaboration with Orson Welles and before he arrived at the period of famous Hitchcock-Herrmann collaborations. Breaking away from the lush film scores of the 1940s, typified by Franz Waxman, Enrich Korngold, Alfred Newman and Max Steiner, *The Day The Earth Stood Still* reveals the development of Herrmann's compositional voice as a modernistic counter-current that contrasts with the lush and conservative 'classical' Hollywood scores of the 1940s and 50s (Platte, 2011). *The Day The Earth Stood Still* is typical of Herrmann's distinctive orchestration and compositional methods, and is an informative example because it is one of the earliest films in which the composer utilised ultra-specific instrumentation and great attention to timbre and colour. This distinctive 'Herrmannesque' style can be traced through films such as *Journey To The Center Of The Earth* (Levin, 1959), which used five unique organs, ranging from cathedral organs to Hammond organs, and *Fahrenheit 451* (Truffaut, 1966), which featured a specific ensemble of strings, harp and percussion (*Gramophone Magazine*, 2016). Herrmann maximises the unique possibilities for orchestral and timbral colour available in film, stating "such an opportunity to shift the complete spectrum of sound within one piece has never before been given to us in the history of music. ... Each film can create its own variety of musical color" (Cooke, 2010, p. 114). Herrmann broke away from and sternly criticised the large studio system of film composition and orchestration, stating that "most film music is created by assembly line: one fellow sketches it, another fellow completes it, another one orchestrates it, and yet another adapts it. Consequently the music is dissipated; it has no direction" (cited in Cooke, 2010, p. 115). In contrast to this mechanical approach, Bernard Herrmann is unique in film music history as a composer who maintained total control over all of his orchestration, writing extensively as an individual composer (see Examples 1 and 2).

From this context, Bernard Herrmann uses a cellular and colouristic approach to orchestrating film music that significantly impacts on dramatic elements in film. Precise choices are made regarding orchestral voices that emphasise specific dramatic elements of mood, subtext, atmosphere and character. Herrmann developed an experimental, chamber-style orchestration whereby unique combinations of instruments were chosen for specific film scores, departing from using established instrumentation of the traditional Hollywood studio orchestra. Herrmann tailored his orchestrations to fit the oeuvre of the dramatic material at hand rather than applying a traditional lush symphonic approach to each film. Herrmann's sonic canvas is made up of subtle detail, with the composer often using close-mic recording and electronic manipulations, allowing for experimentation with subtle timbral textures (Deutsch, 2010). This focus on timbre at a 'micro' level is a defining feature of Herrmann's unique and inventive orchestral approach. This level of subtle, precise and distinct timbral detail is central to his compositional voice and the impact of his most successful film scores, including *The Day the Earth Stood Still*. Herrmann's

approach to orchestration and film composition also focuses on mood and ambience over large-scale thematic developments. A more restricted approach in Herrmann's orchestration gives each new instrumental entry heightened impact as viewers receive a new timbral message and associate that with new dramatic information.

John Williams' (1932-present) lush orchestral film voice developed later. *Close Encounters Of The Third Kind* (1977) sits in the period in which Williams was establishing his reputation, as the 1970s saw him propelled into international acclaim through the high-profile film scores that form the basis of his famous legacy today. The film in question came not long after Williams' break in *The Poseidon Adventure* (Neame, 1972), and subsequent disaster-films *Earthquake* (Robson, 1974), *The Towering Inferno* (Goldstone, 1974) and *Jaws* (Scorcese, 1975), which was the beginning of his lifelong collaboration with Steven Spielberg (Darby & Du Bois, 1990). In each of these films, the large budgets, heightened dramatic material and high-stakes action all allowed Williams to continue using a large symphonic palette. Williams' famous collaborations with Spielberg on *Close Encounters* (1977) and George Lucas on *Star Wars* (1977) were the two high-profile critical and commercial successes that solidified his place in film-music history. *Close Encounters* sits in a highly important and formative period in Williams' career, and its film score typifies Williams' distinctive voice in film orchestration. This film's historical significance, combined with its musical and orchestral richness, makes it ideal as a score of focus in identifying Williams' approach to using orchestration. Williams' score for *Close Encounters* stands out as one of the leading blockbuster scores of that decade from a composer who decided not to embrace jazz and popular styles, in comparison with other composers including Marvin Hamlisch, Lalo Schifrin and even Bernard Herrmann who did in the commercially successful 1977 films *The Spy Who Loved Me* (Gilbert), *Rollercoaster* (Goldstone), *Taxi Driver* (Scorcese) and *Saturday Night Fever* (Badham). The orchestral approach that Williams solidified during this period became synonymous with his name, central to his compositional style, and influenced a generation in terms of orchestral expectations and timbral possibilities in film. *Close Encounters* is a leading case study of Williams' formative orchestral approach at the height of his early career, and it informs much of his later work.

In this context, John Williams uses a predominantly linear approach to orchestration by weaving and building gestural and melodic threads through symphonic forces, to develop horizontal themes with a life of their own. Williams utilises, without hesitation, the full sonic spectrum of the traditional symphonic orchestra to create his own orchestral-musical narrative that complements and elevates Spielberg's cinematic vision, one which reaches an orchestral "apotheosis" that anchors the plot resolution (Example 13) (Schneller, 2014, p. 98). This approach has led Williams to be known among contemporary film composers as "the most traditional in terms of the orchestral forces he employs and the dramatic uses to which he puts his music" (Darby & Du Bois, 2010, p. 521). Williams' adherence to and promulgation of the symphonic idiom in film scoring meant he was the "major force in returning the classical score to its late-romantic roots and adapting the symphony orchestra of Steiner and Korngold for the modern recording studio" (Kalinak, 1992, p. 188).

Cooke describes the ‘Golden Age’ of classical Hollywood film scoring that Williams referenced as “essentially a leitmotif-based symphonic romanticism with narrative orientation” (Grove, 2016, p. 1). This naturally involved lush instrumentation of full symphonic forces (fully utilising strings, woodwinds, brass and percussion) and an embrace of neo-romantic harmonic and diatonic gestures (Orosz, 2015). This certainly parallels the characteristics of Williams’ work such as in *Close Encounters* (see Examples 13, 14).

Despite playing in New York jazz clubs in his early years, the composer is known for eschewing the popular styles of the 1950s and 60s including jazz, limited ensembles and the song score, instead choosing to emphasise large symphonic sounds. The composer’s symphonic proclivities clearly stem from his classical training as a pianist at Juilliard and as a studio-orchestra member at 20th Century Fox under Alfred and Lionel Newman. The composer notes in a lecture that in this position as a young professional he “absorbed by osmosis” the conventions of that era (Burlingame, 2012). Williams had firsthand experience as a studio pianist and orchestrator, helping to realise the previous generation of film composers’ works including those of Franz Waxman, Dimitri Tiomkin and Alfred Newman (Darby & Du Bois, 1990). This involvement clearly had a lingering influence in his adherence to continuing an orchestral-symphonic film music tradition to this day. Williams’ work reveals an embrace of a “traditionalist aesthetic” (Darby & Du Bois, 1990, p. 524).

It is important to note that Williams, unlike Herrmann, does not work alone in orchestrating his film scores. This is unsurprising given the large-scale projects and frequency of work that Williams has been involved in since the 1970s. For example, Williams and his team of orchestrators were once faced with composing ninety minutes of music for *Star Wars* in six weeks. With such deadlines, it is unsurprising Williams worked on the orchestrations along with Herbert Spencer, Arthur Morton, Angela Morley and Al Woodbury (Darby & Du Bois, 1990). Spencer is Williams’ most frequent orchestrator and worked with him on *Close Encounters*. Williams, however, does maintain creative control over orchestration in his film scores, supplying orchestrators (when he is not orchestrating himself) with an “elaborated idea” giving precise instructions on instrumental groupings, and clearly laid out development of themes and which instrumental sections these will flow between (Darby & Du Bois, 1990, p. 523). Williams also takes on orchestration entirely himself for smaller films. This creative control and personal involvement in orchestration illustrates that Williams has decisive control over his orchestral approach.

Part II: Contrasts

To fully understand these two leading composers’ orchestral and compositional approaches, the contrasts between the two need to be examined. Fundamental contrasts are seen in Herrmann and Williams’ differing use of colour and line, phrase structure, thematic development and their distinctive styles of instrumentation. Both

Herrmann and Williams achieve similar dramatic results consistent with film scoring theories such as expressive effect, narrative emphasis, affecting viewers' perceptions and heightening drama and action (Rosar, 1994; Forde, 1994). The way in which each composer achieves this through differing orchestral approaches is where illustrative contrasts are found. Examining the two science-fiction films *The Day The Earth Stood Still* and *Close Encounters* is important as, despite being thirty years apart in film history, they contain similar science-fiction narratives based on benevolent and friendly extra-terrestrial visitations. Herrmann and Williams approach this similar dramatic material with differing approaches, and from this basis contrasts can be discussed.

Colour and line

A key contrast in orchestral approaches of these composers is their differing uses of the orchestra for colour versus the use of orchestra for line (motivic themes). Herrmann is a musical colourist who writes in cells, while Williams is a musical dramatist who writes in lines. This historical distinction between line and colour in film music was noted as early as 1946 by musicologist Robert U. Nelson:

In the broad sense, musical color may be taken to represent the sensuous or exotic side of music, in distinction to musical structure and line, which may be looked upon as representing the intellectual side ... There are many reasons why current film music is dominated by color. For one thing, color is associative ... color plays an important role in heightening mood. Then, too, color is not intrusive, it does not compete with the dramatic action. Again, color is immediate in its effect, unlike thematic development, which makes definite time demands; infinitely flexible, color can be turned on and off as easily as water from a tap. Moreover, color is easier to achieve than musical design – an important consideration when a composer writes against time. Finally, color is readily understood by even the least musically trained film audience. (p. 57)

This statement points to the heart of the distinction between Herrmann and Williams' orchestral approaches, in that one emphasises color and the other line. This difference, however, cannot be rigidly enforced upon Herrmann and Williams, as neither composer entirely stayed on one side of this distinction in their work. To impose this on either composer would be to oversimplify, as there is a spectrum between music driven totally by colour versus that driven totally by structure and line; these are not mutually exclusive. Herrmann and Williams undoubtedly drew upon many places on this spectrum in their work. The key contrast, however, is that these composers clearly sit at different points on this spectrum. with Herrmann's cellular approach favouring instrumental colour and William's linear approach favouring thematic development and extended musical structures, as seen in the contrast between the highly colouristic Example 1 and the much more linear Example

11.

A defining feature of Herrmann's compositional and orchestral approach is his role as musical colourist. His pioneering use of orchestration and timbre in film to maximise distinct musical colour is central to the success of his scores artistically and dramatically. *The Day The Earth Stood Still* is the epitome of Herrmann's colouristic approach to orchestration; it was the first film in the composer's career where he broke from film scoring tradition and embraced an unconventional orchestration approach with unique instrumental colours. This breakthrough became the spawning ground for the unique sound and colours of his later scores such as *Psycho* (Hitchcock, 1960), *Torn Curtain* (Hitchcock, 1966), *Fahrenheit 451* (1966) and *The Twilight Zone* (1959-1964). The opening prelude of *The Day The Earth Stood Still* is emblematic of Herrmann's decidedly colouristic approach and establishes this voice for the rest of the film. As seen in the original score (Example 1), lasting only 6.33 seconds and accompanying the title credit, the prelude is made up of three musical phrases (X, Y and Z). Herrmann's handwritten score shows vibraphone clusters and a quartet of cymbals are played as written, while the piano and chimes polychord of E-flat minor over F major is faded in backwards. Three elements of this pioneering cue establish a colourist approach. The first is the unique instrumentation and choice of doubled instruments (theremins, pianos, chimes, vibraphones and cymbals), the second is the use of the polychord E-flat minor over F major, which is more colouristic than functional. The third is the specificity of electronic manipulation by Herrmann, whose decision to reverse some of the tracks makes a truly unique opening that would have captured 1950s audiences from the outset with its 'alien' sound.

Phrase structure and thematic development – cellular versus linear

A defining element of Herrmann's distinct approach to orchestration and timbre is that his film music is cellular. Cellular elements in Herrmann's film scores include building key material out of small motivic phrases, often of only one to four bars. Example 17 shows the composer's cellular approach utilising small phrases that are "susceptible to being placed in different musical contexts" (Fiegel, 2003, p. 195). These differing musical contexts often involve differing placement within the orchestration. Deutsch has suggested "Herrmann's cells often present themselves as *ostinato* ... repetitive phrases that 'loop' over time" and has linked Herrmann's cell motifs and ostinatos to Igor Stravinsky's pioneering use of that same technique in symphonic orchestration, citing Stravinsky's *Petrushka* as a key example (Fiegel, 2003). Indeed Stravinsky's pioneering modern approach to orchestration and composition can be seen as a predecessor to the film technique of jump cutting, where one theme (A) is abruptly cut by another (B). Stravinsky's *Symphonies Of Wind Instruments* is emblematic of this pioneering filmic technique in art music. Herrmann implemented such a technique in his own way, to emphasise dramatic and expressive elements in film. His use of cellular themes that abruptly cut against each other often emphasises elements of the psychological or supernatural, as in *The*

Day The Earth Stood Still. This cellularisation of orchestration and motivic themes is effective as it works well with the editing process, allowing for music to be flexible due to its less linear, drawn-out structure and architecture. Evidence of these cellular features can be seen throughout *The Day The Earth Stood Still*, for example, with the interweaving chromaticisms and interlocking timbres in the opening harp-piano theme in Example 2. This passage oscillates in a cellular, looping manner between two chords, creating an ambiguous tonality in the overlapping of these harmonies. This form of ‘chord shuttle’ creates an uncertain polarity, where the music ‘hovers’ between two poles (Tagg, 2016). Such a chord shuttle can be resolved in any number of ways, and this parallels the way audiences of this 1950s science fiction film are unsure of the nature of characters Klaatu and Gort, and this in turn plays into the backdrop of an uncertain and polarised Cold War period (Bushad, 2009). Herrmann’s score is not completely atonal but each cellular passage is tonally ambiguous (Example 5). This technique is central to this film score and Herrmann would later utilise it in the thriller genre in his work with Hitchcock.

Essential to the cellular nature of Herrmann’s orchestral and compositional approach is his use of small-phrase structure. Herrmann’s ostinato cells can be seen throughout his most famous scores, including *North by Northwest* (Hitchcock, 1959), and *Fahrenheit 451* and are evident throughout *The Day The Earth Stood Still* – notably the opening one-bar arpeggiated harp and piano motif which repeats in a loop (Example 2 – see piano and harps) and the repeated descending chromatic chords in Example 3 (trombones) and also the repeating tritone-bass relational theme in Example 3. Herrmann’s decisive choice to build his scores out of cellular and looping themes is central to his distinctive voice, and stands out against a tradition of conventional phrasing and classical thematic development.

This contrasts with Williams’ common phrase structure, which consists of longer and/or cadential melodic themes. In music theory, this is often described as ‘A’ and ‘B’ themes or as an ABA ternary structure. An example of this linear ternary development is the extension of the ‘Mountain’ theme in Example 9, used to bring out the dramatic importance of the mountain as the place of visitation of the extra-terrestrial ships, and in Examples 18 and 19. This traditional phrasing occurs on a micro level with Williams’ basic themes (Example 8) but also appears commonly in his orchestral writing, where the composer will maximise the dramatic impact of certain points of epic film narratives but extending his orchestral writing both vertically (utilising the full tessitura across the orchestra) and horizontally by writing extended passages that envelop the viewer in sound and build significantly out of previous musical materials. Example 13 is prime example, as it occurs at a climactic plot point in *Close Encounters*, the revelation of the mothership. This linear approach to phrasing and thematic development is employed throughout all of Williams’ most famous scores.

While both composers certainly did use various phrase structures throughout their careers, they clearly approach phrase structure differently, and this influences the broader orchestral and compositional approaches that shape their film scores. A key

similarity, however, is that although the orchestral approach differs, both Herrmann and Williams' work reflect Brown's theory that film music can "narrativize, help[ing] lead 'readers' of cinema's iconic language(s) ... towards story" (Brown, 1994, pp. 16-17).

Each composer approaches this 'narrativising' differently. Williams is clearly a musical dramatist who utilises traditional musical phrasing structures in his largest film scores, while Herrmann is a symbolist who is willing to subvert, shorten and adapt traditional concepts of musical grammar and phrase structure to create his own unique and atmospheric film language. Take, for example, each composer's most famous film scoring themes, in *Star Wars* and *Psycho* respectively (Examples 17 and 19). The contrast is stark. The musical grammar of the first is a traditional motivic, narrative-based, cadential structure, and the second subverts any such convention with its concentrated, sharp, dissonant and colour-based flavour devoid of any harmonic, diatonic or cadential expectations, as seen in the musical cells in Example 13. Each example is a clear illustration of each composer's differing approach to music as a narrative device.

Harmonic languages: romantic versus modernistic

Williams' orchestral and compositional voice for film music is clearly grounded in a conscious embrace of the diatonic harmonic language stemming from the romantic period of classical music. Central to this is the cadential basis for Williams' motivic themes. In all of his classic themes, and *Close Encounters* is the clearest example of this, Williams favours a more conventional approach to harmony than Herrmann's cellular approach. The five-note 'communciation motif' in *Close Encounters* could not be a better example of the diatonic and cadential basis upon which Williams builds his themes (Example 8). This diatonic foundation allows extended linear development in epic film narratives, as opposed to colouristic or atonal textures more suited to psychological atmospheres. Williams combines this diatonic-cadential approach with chromaticism and pivoting modulations for development, propelling his musical narration forward (see Examples 7 and 9).

These features have meant Williams' traditional sonic canvas has been noted for its paraphrasing of the melodic and orchestral gestures of nineteenth- and twentieth-century composers such as Dvorak, Strauss and Tchaikovsky (Orosz, 2015). Schurer has also noted parallels to Stravinsky and Debussy in the contrasting musical passages in *Jaws* (Schurer, 1997). Williams' traditional symphonic approach was "newly fashioned" for the Hollywood blockbuster in the 1970s and has remained a staple of film music vernacular ever since (Schurer, 1997, p. 67). This is epitomised in *Close Encounters*, a central example of Williams' more traditional symphonic approach to orchestration, based on diatonic harmony inspired by Romantic conventions.

Herrmann's harmonic language has similar influences to Williams' but contrasts in its use of avant-garde and modern musical principles. Herrmann's approach to film

scoring has been described as “inspired predominantly by nineteenth-century film music with a sprinkling of avant-garde techniques” (Waxman, 2010, p. 21). Herrmann himself said of his musical inspirations that:

I might class myself as a Neo-Romantic, in as much as I have always regarded music as a highly personal and emotional form of expression ... although I am in sympathy with modern idioms, I abhor music which attempts nothing more than an illustration of a stylistic fad. And in using modern techniques, I have tried at all times to subjugate them to a larger idea or a grander human feeling. (Biar & Biancolli, 1947, p. 335)

Herrmann’s quote emphasises his proclivity for neo-romanticism as an aesthetic philosophy, utilising music for expression and emotion rather than trying to write music in the neo-romantic genre or style. While Herrmann’s aesthetic views align with neo-romantic ideas of emotion and expression, his musical techniques and orchestral approach can be seen as a more progressive modern approach to film scoring that diverges from the classical ‘Hollywood’ symphonic orchestral approach developed in the ‘Golden Age’ of Hollywood film scoring (c. 1935-55) (Cooke, 2016). Herrmann’s association with modern composers, including Charles Ives, is evidence of this. Writing of his admiration for Ives, Herrmann notes that Ives’ eschewing of traditional melodic counterpoint in favour of a “harmonic haze of sound” in works such as the Fourth Symphony creates an “indescribably beautiful effect” (Herrmann, 1937, p. 14). The modern approach to sound, texture, orchestration evoking hazes of sound is a technique found in Herrmann’s works, including *The Day the Earth Stood Still*. Herrmann blurs musical lines through orchestration to highlight various alien scenes and phenomena (Examples 1 and 3). Herrmann adopted Ives’ layering of fragmented melodies with accompanying harmonic and rhythmic clusters creating a mass of sound and the juxtaposition of dissonance and consonance. This is illustrated in the passage ‘The Day the Earth Stood Still’, with shifts from harmonic blurring to diatonic swells (Example 2), the shifts between diatonic major sonorities and harmonically ambiguous bass/brass in ‘Klaatu’ (Example 5), and the noble hymn-like militaristic themes in the ‘Arlington’ and ‘Lincoln Memorial’ passages (Example 4), which contrast with the more harmonically ambiguous passages that dominate Herrmann’s score. While it is a gross generalisation to say that either Williams or Herrmann are purely romantic or modernist, it can be seen that romantic gestures and harmonic language play a stronger role in Williams’ large symphonic scores, while Herrmann was more eager to embrace modernist techniques in his film scores, while maintaining a romantic philosophy of expression which is in line with the dramatic and expressive purpose of film scoring.

Instrumentation: lush versus compact

In terms of instrumentation itself, the composers also differ. As explored above, Herrmann’s musical oeuvre is a more modernistic one, and as a classical conductor

Herrmann chose to champion modern composers such as Charles Ives. In contrast, Williams' style harks back to romantic and neo-romantic techniques. This applies not only to their harmonic and melodic techniques, but also to their use of instrumentation itself. Herrmann proved time and time again that he was willing to subvert traditional Hollywood orchestration in exchange for especially tailored instrumentation, clearly evident in *The Day The Earth Stood Still* but also throughout his career in *The Journey To The Center Of The Earth*, *Psycho*, *Taxi Driver* and others. This self-restraining element to Herrmann's instrumentation may have been influenced by his earlier career writing for radio plays, efficiently sourcing sounds from a small range of instruments, and Herrmann clearly transported this unique approach into his film writing too, to create unique sonic palettes within the dramatic context of each film.

In contrast, Williams' name is synonymous with large symphonic works and his most famous film scores embrace the sound world of the symphony orchestra. The composer's own conducting favoured the symphonic world, most famously as leader of the Boston Pops Orchestra from 1980-95. Williams' work followed a period in film scores that, turning away from the style of Steiner and Korngold, was moving towards embracing popular styles including jazz, pop and rock by composers such as Henry Mancini and Lalo Schiffrin. Williams' work bucked this trend, directly referencing former 'classical' Hollywood studio composers such as Steiner, Korngold, Newman and Waxman. Out of a period that had moved away from large orchestras in film scoring, Williams' orchestral approach helped solidify the symphonic orchestra's continued "position of preeminence" in modern film scoring (Kalinak, 1997, p. 68). His orchestral approach is informed by the developments and techniques of the late romantic and early twentieth-century orchestral tradition, with scholars noting his role as a "paraphraser" of the techniques, gestural and even melodic devices of Strauss, Dvorak, Stravinsky, Hanson and Copland (Orosz, 2015, p. 299). His large-scale symphonic approach has an "intertextual" relationship with these composers and the conventions of these earlier orchestral eras (Orosz, 2015, p. 300).

Part III – Modern legacy

Clearly, Bernard Herrmann and John Williams have distinctive and contrasting approaches to orchestration and film. As leading film composers of their respective generations and eras, it is important to consider the influence that their pioneering orchestral approaches have had on more contemporary film composers, particularly in the twenty-first century.

Steven Price, a hybrid-electronic film composer, uses repeating cells in his Oscar-winning score for *Gravity* (2013) in a similar way to Herrmann's cellular orchestral approach. Example 16, *Debris* shows a repeating descending string line that is layered underneath electronic soundscapes to provide anticipation and momentum as the astronaut's shuttle is stuck in an inevitable orbit set to crash with fatal space debris

heading its way. The ostinato strings, like Herrmann's ostinatos in *The Day The Earth Stood Still* and *Psycho*, create a strong sense of momentum, and highlight the impending doom and fatal consequences on screen. Herrmann's introduction of a cellular approach to film scoring and orchestration has given modern film composers an added tool in writing for and highlighting dramatic elements in twenty-first century films. Price shows a cellular approach to melodic and timbral considerations, often looping electronics in his score for *Gravity* and introducing layers such as those in the string example in *Debris*.

Herrmann's cellular approach has been adopted by other new, hybrid film composers working with electronic and orchestral voices. These include Trent Reznor (*Gone Girl* (Fincher, 2014), *The Girl With The Dragon Tattoo* (Fincher, 2011)) and Hans Zimmer (*The Dark Knight* (Nolan, 2005)). The ability of Herrmann's cellular and looping approach to orchestration and sound to be easily applied to the heavily edited moviemaking process and electronic music has meant his approach has proven useful to a wide range of contemporary film composers now working with hybrid scores of both orchestral and electronic elements. Electronic film-scoring software and the explosion of technology in modern film studios has allowed for the exponential growth of colouristic possibilities in film scoring. Therefore, Herrmann's heavily colouristic approach to scoring is seen living on in composers such as Price and Zimmer, who can now greatly manipulate electronic and acoustic timbres (Morricone & Miceli, 2013). There is no doubt Herrmann would champion the colouristic possibilities now available through new technology in film scoring today, just as he worked on early recording manipulations in *The Day The Earth Stood Still*. Herrmann was one of the first musical colourists in film scoring and orchestration, and this legacy of colour in film scoring clearly continues to live on in the twenty-first century in the work of composers such as Steven Price.

Thomas Newman, the most recent composer in the Newman dynasty, is another contemporary composer showing a duality of influences in his film scoring. His more recent projects, especially in animation, have shown a continued embrace of the studio orchestra and a proclivity towards linear themes restated. Often more modal than Williams' romantic and lush developments, Newman's music is certainly the work of a modern composer using the symphonic foundation that Williams championed, but also showing harmonic and modal influences of minimalists such as Philip Glass. Others working in this vein include Harry Gregson-Williams, Howard Shore, Patrick Doyle and John Powell. Newman has a rich familial and professional history in film scoring, and his score for the Pixar animation *Wall-E* (2008) is a prime example of a modern film composer building on and referencing the vast cultural and musical allusions in film. His opening theme '2815 AD' (example 15) begins with harp arpeggiations and string swells, a direct reference to the science fiction scores of the filmic past. Throughout the film, Newman toys with the diegetic material that the titular lonely, anthropomorphic robot Wall-E encounters in his quest for company on a deserted planet Earth, including the songs 'Hello Dolly' and 'La Vie en Rose.' This motivic allusion is reminiscent of Williams' allusions and treatment of 'When You Wish Upon A Star' in *Close Encounters*, a similar family-friendly science-

fiction blockbuster. It is of note that *Bridge of Spies* (2015) was Steven Spielberg's first collaboration without John Williams since 1985, and Newman was chosen to work with Spielberg, producing a brooding orchestral score. This inheritance of Williams' legacy of collaboration with Spielberg shows Newman's place as a modern film composer continuing to embrace the orchestral resources available in film scoring and the continued effectiveness of linear development and diatonic harmonic processes in popular Hollywood film narratives.

Clearly both Williams' and Herrmann's respective legacies are now being drawn together in the hybrid compositional methods of modern film scoring. New technologies, particularly in film scoring, have forced older composers and allowed new film composers to "adapt established practices based on control and standardization to a new reality of flexibility and adaptation" (Kerins, 2015, p. 150). As filmmakers have continued to embrace wide ranges of musical styles and approaches, film scoring has become, in its own postmodern way, less limited to generational trends or periodic styles as it has been in the past. Modern film composers such as Newman and Price embrace elements of both Herrmann and Williams' legacies to maximise the dramatic possibilities of their music in film.

Conclusion

Bernard Herrmann and John Williams clearly forged distinctive voices through their differing approaches to orchestration, timbre and composition in film. The two acclaimed science-fiction films, *The Day The Earth Stood Still* (1951) and *Close Encounters Of The Third Kind* (1977), serve as signposts in the vast careers of each composer that illustrate their unique approach to orchestration, sound and timbre as a tool for influencing dramatic elements in film. Their distinctive approaches were informed by the musical and cultural context in which they wrote their respective scores, and analysing each approach through two closely-read film scores reveals key contrasts in the orchestral and compositional areas of colour, line, thematic development, phrasing, harmony and instrumentation. Both Herrmann and Williams utilised these aspects of orchestration differently to compose dramatically effective, musically satisfying and culturally enriching film scores that have influenced film composers and audiences alike. By pushing and setting the boundaries of music in film, these composers have contributed to the sonic expectations of generations of film viewers. This legacy is evident in the hybrid approach of contemporary twenty-first century film composers such as Steven Price and Thomas Newman, who utilise Herrmann's colouristic and Williams' linear approaches to orchestration and sound more broadly to create their own film scores in a twenty-first century technological setting, applying previous composer's approaches to sound and timbre to create new sonic results.

Example 1: "Prelude" by Bernard Herrmann, from *The Day the Earth Stood Still*, dir. Robert Wise.

Showing a colouristic opening title sequence, made up of three distinct and carefully orchestrated cells X, Y and Z. Herrmann uses polychords and carefully prescribes the instrumental voices maximizing the Prelude's colour.

The Day the earth stood still

PreLude

Bernard Herrmann
June 25 1951
S.D. Cal.

Reel I p. 1

①

Piano I
Piano II
Chimes I
Chimes II
Chimes III
Large Gymbal

②

Vib I
Vib II
Vib III

③

Large Gymbal (triangle)
Small Gymbal (triangle)
Large Gymbal (triangle)
Small Gymbal (triangle)

④

Therminx
Therminx

List as follows.

Reel p. 1	①	2 Pianos	4 Oct.
" "	②		3 Oct.
" "	③		4 Oct.
" "	④	2 Therminx	

① id. 1 + 5 + 9

② id. 1 + 11

③ id. 12 + 13

④ id. 14 + 7

The tracks should be played in at 0 - as follows. Track ① - forward
Track ② - backwards
Track ③ - backwards
Track ④ - forward

1 + Reel I p. 1A

Example 3: "Danger" by Bernard Herrmann, from *The Day the Earth Stood Still*, dir. Robert Wise.

Showing cyclical pattern of looping descending chromatic triads in trombones. Polychords and

bitonality between parallel triads layered between Trombones 1-2 and 3-4. Tritone bass relationship in Hammond organ and electric bass creates colouristic rather than functional harmonic tension.

Allegro Mod.

The musical score is divided into two systems. The first system includes parts for Vibraphones 1-2, Trumpets in B♭ 1-3, Trombones 1-3, Hammond Organ, and Electric Bass. The second system includes parts for B♭ Trumpets 1-3, Trombones 1-3, Hammond Organ, and Electric Bass. The score features complex harmonic textures with polychords and bitonality. The Trombone part is characterized by a cyclical pattern of looping descending chromatic triads. The Hammond Organ and Electric Bass parts feature a tritone bass relationship, creating a coloristic harmonic tension. Dynamics range from *ff* to *pp*. Performance instructions include 'Cup mutes' for the trumpets and 'Pedal (Web Stop)' for the Hammond Organ. The Electric Bass part begins with a pizzicato (*pizz.*) instruction.

Example 4: "Arlington" (or 'Lincoln Memorial' theme), by Bernard Herrmann from *The Day the Earth Stood Still*, dir. Robert Wise.

Showing plaintive Trumpet melody, and simple Hammond organ sustained accompaniment as a rare moment of diatonic harmony used in one of the most human scenes in the film. This theme stands out in terms of its familiar

militaristic colour and tonal familiarity, highlighting in its orchestration the humanity of this scene between Bobby and Klaatu against the more 'alien' sections of the score.

Lento-(molto tranquillo)

Trumpet in C

(muted)

pp dolce

Hammond Organ

pp

The score for Example 4 consists of two staves. The top staff is for the Trumpet in C, marked '(muted)' and '*pp dolce*'. It features a plaintive melody of quarter notes: G4, A4, B4, C5, B4, A4, G4. The bottom staff is for the Hammond Organ, marked '*pp*', and provides a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4.

Example 5: "Klaatu" by Bernard Herrmann, from *The Day the Earth Stood Still*, dir. Robert Wise.

Showing polychord based on bitonal relationship between Ab and Bb major, another colouristic approach to film orchestration subtly balancing electronic ('alien') and acoustic ('human') instrumental voices. A form of chord shuttling between two juxtaposed harmonic poles also creates ambiguity in the introduction of Klaatu.

Theremins, 1-2

(non Vibrato in Theremins)

(web stop)

pp

Hammond Organs, 1-2

pp

Trumpets in Bb, 1-3

Cup mutes

pp

Vibraphones, 1-2

ppp

Tamtam

pppp

Electric Violin

(non Vibrato)

pp

Electric Cello, Electric Bass

(non Vibrato)

pp

Studio Organ

15^{ms} mutation stop

ppp

ppp

8^{vb} (deep diapason)

The score for Example 5 is a complex polychord texture involving multiple instruments. The Theremins (1-2) play a melody of quarter notes: G4, A4, B4, C5, B4, A4, G4, marked '(non Vibrato in Theremins)' and '(web stop)' with '*pp*'. The Hammond Organs (1-2) provide a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4, marked '*pp*'. The Trumpets in Bb (1-3) play a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4, marked 'Cup mutes' and '*pp*'. The Vibraphones (1-2) play a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4, marked '*ppp*'. The Tamtam plays a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4, marked '*pppp*'. The Electric Violin plays a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4, marked '(non Vibrato)' and '*pp*'. The Electric Cello and Electric Bass play a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4, marked '(non Vibrato)' and '*pp*'. The Studio Organ plays a sustained accompaniment with a series of chords: G4-B4, A4-C5, G4-B4, and G4-B4, marked '15^{ms} mutation stop' and '*ppp*'. The deep diapason is marked '*ppp*' and '8^{vb} (deep diapason)'.

Example 6: "Gort" by Bernard Herrmann, from *The Day the Earth Stood Still*, dir. Robert Wise.

An atmospheric and ominous cue written by Herrmann to evoke uncertainty and fear in response to the uncertain nature of the alien robot intelligence of 'Gort'. Tritone relationship loops repeatedly in an eerie

fashion, highlighting Herrmann's modernistic approach to harmonic functions and carefully chosen theremins and organs show his attention to specific instrumental colours in compact orchestration.

Grave

The musical score is arranged in a multi-staff format. The top two staves are for Theremins 1-2, featuring melodic lines with dynamic markings of *p* and *f*, and glissando effects. Below them are two staves for Hammond Organ 1, including a Studio Organ Pedal and a 64ft. Stop (Studio Organ Only). The organ parts consist of sustained chords with dynamic markings of *ff*. The Trombones 1-3 part is marked *Con Sord (Hand Mutes)* and *pesante*, with dynamics ranging from *pp* to *ff*. The Tubas 1-2 and Contrabass Tubas 1-2 play sustained chords with *ff* dynamics. The Tamtam provides a rhythmic accompaniment with *f* dynamics. Bass Drum 1 has a rhythmic pattern with *f* and *ff* dynamics, while Bass Drum 2 plays sustained chords with *ff* dynamics. The Pianos 1-2 part is marked *pesante* and features sustained chords with *ff* dynamics. A dashed line is drawn across the bottom of the piano part.

Example 7: "Opening: Let There be Light" by John Williams, from *Close Encounters of the Third Kind*, dir. Steven Spielberg.
 Full symphonic texture utilized from opening, setting up the canvas.

The score is organized into five measures, with key performance markings at the top: *c. 7"*, *c. 14"*, *c. 21" (j = circa 30)*, *div. a1*, and *div. a2*. The instruments and their parts are as follows:

- Flute:** 1, 2 (2. dpls. on Picc.)
- Piccolo (Flute):** 1
- Oboe (English Hn.):** 1, 2
- B^b Clarinet (B^b Bs. Cl.):** 1, 2
- Bassoon:** 1, 2
- Contra Bassoon:** 1, 2
- F Horn:** 1, 2, 3, 4
- B^b Trumpet:** 1, 2, 3, 4
- Trombone:** 1, 2, 3, 4
- Tuba:** 1, 2
- Timpani:** 1, 2
- Percussion:** 1, 2 (Piani, Bass Drum)
- Harp:** 1, 2
- Piano/Celeste (Organ opt.):** 1, 2
- Violin 1:** *div. a1*, *div. a2*
- Violin 2:** *div. a1*, *div. a2*
- Viola:** *div. a1*, *div. a2*
- Violoncello:** *div. a1*, *div. a2*
- Contrabass:** *div. a1*, *div. a2*

Dynamic markings include *pp*, *mp*, *molto*, *ffz*, *ppp*, *mf*, and *fff*. Performance instructions include *div. a1*, *div. a2*, *to Flute*, *to Bs. Cl.*, *to Organ*, and *Piani*. The score is marked with measure numbers 1 through 5 at the bottom.

Example 8:
 “Communication” theme by
 John Williams, from *Close
 Encounters of the Third
 Kind*, dir. Steven Spielberg.

One of Williams’ most
 famous melodic themes,
 based on a simple diatonic
 framework with strong
 cadential movement which
 is ripe for orchestral
 development across the
 various symphonic voices
 at play in Williams score.
 Throughout the film

this theme is sequenced
 and imitated in various
 instrumental families
 including horns, brass and
 bell percussion. Williams’
 orchestration imitates the
 actual diegesis of the film,
 as Gillian’s child plays it
 on a toy xylophone it is
 chanted by an Indian tribe

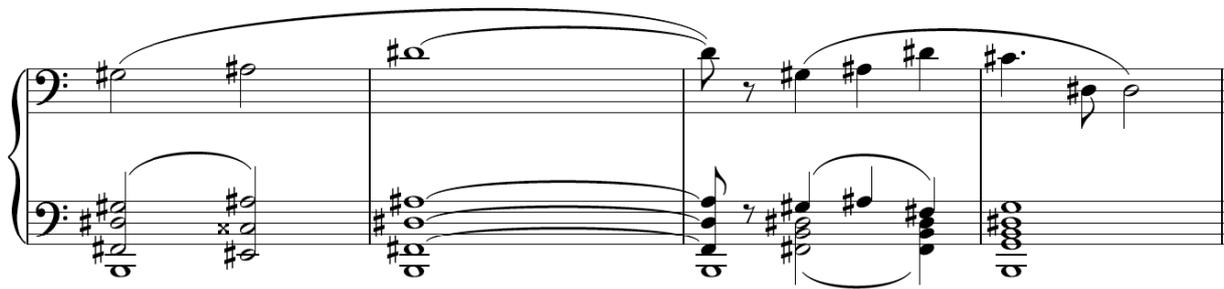
and then blasted from the
 Mothership in the final
 communication theme.
 Williams’s simple diatonic
 theme is the basis of the
 “close encounter” between
 the extra-terrestrial ship
 and the humans, as their
 communication is aural.



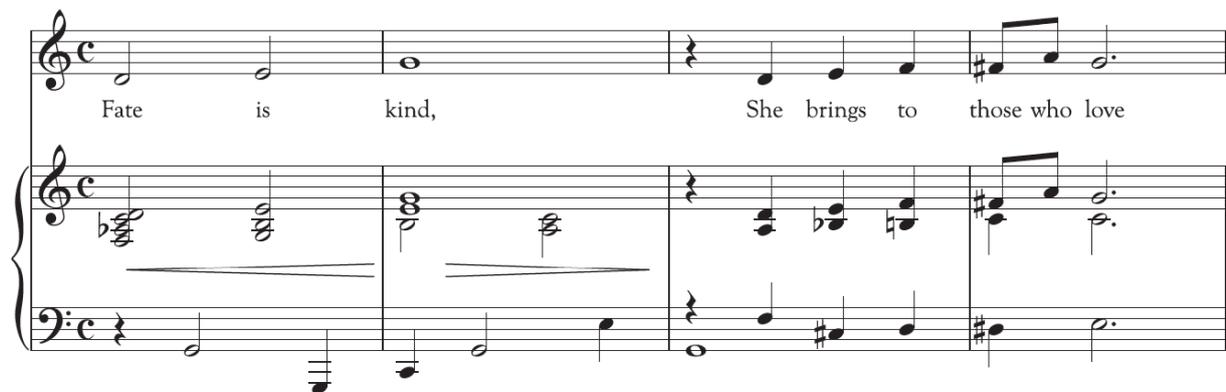
Example 9: “The Mountain”
 theme by John Williams,
 from *Close Encounters of
 the Third Kind*, dir. Steven
 Spielberg.

Built out of the bridge of
 ‘When You Wish Upon a
 Star’ and the melodic line
 from the lyric “fate is kind”,
 this becomes a central
 theme in the plot climax of
 ‘Close Encounters.’ After
 initial statement in cellos,

Williams interchanges
 this throughout the winds
 and strings, often soaring
 in a high tessitura at the
 point where Ron begins to
 understand more about the
 extra-terrestrial events he
 has been experience.



Example 13. Williams, *Close Encounters*, “Fate Is Kind” motive (“The Visitors”).



Example 14. Leigh Harline, “When You Wish Upon a Star,” bridge.

Example 11: "The Visitors" by John Williams, from *Close Encounters of the Third Kind*, dir. Steven Spielberg.

Shows clear thematic development and sequencing of earlier theme, reflecting the traditional phrase structure, motivic allusion and sequencing pattern Williams utilizes to build his musical themes through an epic narrative.

STATEMENT

RESTATEMENT

CONTINUATION

mp

Example 12: "Roy and Gillian on the Road" by John Williams, from *Close Encounters of the Third Kind*, dir. Steven Spielberg.

Built out of motivic allusion to the traditional 'dies irae' latin theme, this theme forms the basis for much of the anticipatory action sequences in the orchestration and this is the first statement of this.

Later used in 'The Escape' sequence as Roy and Gillian seek to find out what is behind the military cordon around the Mountain. Williams' use of the 'dies irae' theme has been dr

Example 13: "The Mothership" by John Williams, from *Close Encounters of the Third Kind*, dir. Steven Spielberg.

Extended phrasing and layering of sustained woodwind and brass over swirling string sextuplets elevates the revelation of the mothership, reaching a climax at bar 50. This

is a form of orchestral "apotheosis" at the top of the film's dramatic arch as audience and characters see the large alien ship at the end of the film.

A little broader

The score is divided into two systems. The first system includes woodwinds (Flute, Piccolo, Oboe, Clarinet, Bassoon, Contrabassoon), brass (Horn, Trumpet, Trombone, Tuba), percussion (Tympani, Percussion), Harp, and Organ. The second system includes strings (Violin I, Violin II, Viola, Violoncello, Contrabass). The score features sustained woodwind and brass parts with dynamic markings like 'dim.' and 'ff', and swirling string sextuplets. Bar numbers 49, 50, 51, and 52 are indicated at the bottom of the string staves.

Continue slowing

FL. 2 *f* *dim.* 2 to Picc. 2

Picc. *f* *dim.*

Ob. 1 *f* *dim.*

Ob. 2 *f* *dim.*

Cl. 1 *f* *dim.*

Cl. 2 *f* *dim.*

Bsn. 1 *f* *dim.*

Bsn. 2 *f* *dim.*

C. Bn. *f* *dim.*

Hr. 2 *f* *dim.* *p*

Hr. 3 *f* *dim.* *p*

Hr. 4 *f* *dim.* *p*

Tpt. 1 *f* *dim.*

Tpt. 2 *f* *dim.*

Tpt. 3 *f* *dim.*

Tpt. 4 *f* *dim.*

Tbn. 1 *f* *dim.* *p* *dim.* *a niente*

Tbn. 2 *f* *dim.* *p* *dim.* *a niente*

Tuba *f* *dim.* *p* *dim.* *a niente* *pp*

Timp. *f* *dim.* *p* *dim.* *a niente*

Perc. 1 *f* *dim.* *p* *dim.* *a niente*

Perc. 2 *f* *dim.* *p* *dim.* *a niente*

Hp. *f* *dim.* *p* *dim.* *a niente*

Organ *f* *dim.* *p* *dim.* *pp* *to Celeste*

Continue slowing

Vin. 1 *f* *dim.*

Vin. 2 *f* *dim.* *dim. ad* *very slow descending gliss.* *v*

Va. *f* *dim.* *mp* *dim. ad* *very slow descending gliss.* *v* *a niente*

Vc. *f* *dim.* *p* *dim. ad* *very slow descending gliss.* *mf* *a niente*

Cb. *f* *dim.* *p* *dim. ad* *very slow descending gliss.* *mf* *a niente*

Example 15: "2815 AD" by Thomas Newman, from *WALL-E*, dir. Andrew Stanton.

Arpeggiated Harp gesture from chord i to a borrowed flat vi chord accompanied by looming strings reminiscent of science fiction gestures used by Herrmann and

Williams earlier in film scoring history. This is a prime example of the modern legacy of the approaches of Herrmann and Williams in action.

'2815 AD'
WALL-E opening theme Thomas Newman

♩ = 70

Harp

Violins/Violas

Violoncello

Double Bass

Example 16: "Debris" by Steven Price, from *Gravity*, dir. Alfonso Cuaron.

This looping string cell is layered underneath a complex metallic soundscape compiled by Price, and the Herrmannesque looping strings creates growing anticipation as the astronauts (Sandra

Bullock and George Clooney) are about to be hit by oncoming space debris stuck due to gravitational forces an inescapable orbit on the edge of earth's atmosphere.

'Debris'
repeating string cell

♩ = 150

Violin 1

Violoncello

Example 17: 'Prelude'
 motivic material by
 Bernard Herrmann,
 from *Psycho*, dir. Alfred
 Hitchcock.

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Opening Music:

cell 1

cell 2

cell 2a

cell 3

Example 18: 'The
 Magic of Halloween:
 Flying Theme' by John
 Williams, from *E.T. The
 Extra-Terrestrial*, dir.
 Steven Spielberg.

Example 19: 'Star Wars:
 Main Title' by John
 Williams, from *Star
 Wars*, dir. George Lucas.

Star Wars: Main Title

Maestoso

John Williams

A C: V I IV I IV I bVII V I

Horns/Percussion

7 IV I IV I bVII V **B** IV V

... to Strings

12 IV bIII V IV V iv

+ Brass

17 V7 V7sus V7 V7sus **A** I IV I IV I

Restatement: Strings AND Brass

22 bVII V I IV I IV I bVII V I

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Course information

MUSA380 – undergraduate research essay paper – at the University of Canterbury School of Music involves an extended essay on a musicological subject under individual supervision. This paper was supervised by Dr Francis Yapp and Jim Gardner, and was submitted in June 2016.