BECOMING HUMAN: THE SIGNIFYING ELEMENTS OF 'ORGA' VS. 'MECHA' IN

JOHN WILLIAMS' SCORE TO *A.I.: ARTIFICIAL INTELLIGENCE* (2001)

by

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ABSTRACT OF THE DISSERTATION

Becoming Human: The Signifying Elements of 'Orga' vs. 'Mecha' in John Williams'

Score to *A.I.: Artificial Intelligence* (2001)

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Steven Spielberg's 2001 film *A.I.: Artificial Intelligence* is a futuristic reworking of the Pinocchio story that substitutes a robot boy (David) for the wooden puppet as the protagonist. David is given advanced artificial intelligence that enables him to love, but this causes him endless conflict in a human world. The film addresses complex themes about humanity, love, and creation, and the conflicts these themes create between *orga* (humans) and *mecha* (lifelike, human-created robots). One of the most important factors in this exploration is the score composed by John Williams. This paper shows how the music explores the dichotomy of 'human'-related subjects and 'artificial'-related subjects present in the story. Williams draws from a plethora of styles and techniques which are organized into signifier categories representing mecha and orga. These signifiers are then examined using in-depth music analysis focusing primarily on the major, recurring themes in the score.

## ACKNOWLEDGEMENTS

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## Chapter 1:

## Introduction

Steven Spielberg's 2001 film *A.I.: Artificial Intelligence* is a futuristic reworking of the Pinocchio story that substitutes a robot boy (David) for the wooden puppet as the protagonist. David is given advanced artificial intelligence that enables him to love, but this causes him endless conflict in a human world. The film addresses complex themes about humanity, love, and creation, and the conflicts these themes create between *orga* (humans) and *mecha* (lifelike, human-created robots). One of the most important factors in this exploration is the score composed by John Williams. This paper shows how the music explores the dichotomy of 'human'-related subjects (referred to as *orga* in this paper) and 'artificial'-related subjects (referred to as *mecha* in this paper) present in the story.

### *Signifier Dichotomy*

Because the score explores the dichotomy of orga and mecha elements in the film, this paper uses a semiotic methodology that differentiates between musical representations of orga and mecha. Figure 1.1 shows the main signifiers and their counterparts that will be explored in this paper. Each is explained in detail after the chart.

| Orga Signifiers<br>*Late-Romantic style* | Mecha Signifiers<br>*Avoidance of Romanticism* |
|---|---|
| Lyrical melody with long, sustained phrases | Overt use of repetition, including Minimalism |
| Khachaturian's "Adagio" | Ligeti's micropolyphony |
| Acoustic instrumentation | Electronic instrumentation |

**Fig. 1.1 – Signifier Dichotomy**

## Late-Romantic Style as Signifier of Orga

The late-Romantic style associated with Wagner and Strauss has been a primary influence on film music composers since Golden Age Hollywood, despite the style's being "several decades out of date in the concert hall."[1] Several reasons for this association have been offered including the immigration of European composers at that time,[2] the studios' assumption that "the public would refuse to tolerate any music more modern-sounding than Liszt symphonic poem,"[3] and film scoring's connection to opera. Prendergast writes, "When confronted with the kind of dramatic problems films presented to them, Steiner, Korngold, and Newman merely looked…to those composers who had, for the most part solved almost identical problems in their operas."[4] Christopher Palmer presents the connection as a product of musical escapism, with the marriage of such anachronistic music to modern story-telling stemming from Hollywood functioning as a "dream factory" and Romanticism being the music of fantasy, dream, and illusion.[5]

Caryl Flinn suggests the tradition of using Romantic styles in film music has to do with a "utopian function," or "an impression of perfection and integrity in an otherwise imperfect, unintegrated world," and that "has been assigned to…film music of the 1930s

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[1] Mervyn Cooke, *A History of Film Music* (New York: Cambridge University Press, 2008), 78.

[2] Ibid.

[3] Christopher Palmer, *The Composer in Hollywood* (New York: Marion Boyars, 1990), 25.

[4] Roy Prendergast, *Film music: A Neglected Art* (New York: Norton, 1992), 39.

[5] Palmer, *The Composer in Hollywood*, 23.

and 1940s in particular."[6] This music supplies something missing as "a result of a fundamental ontological deficiency of the cinema,"[7] or as Herrmann suggests, "a piece of film, by its nature, lacks a certain ability to convey emotional overtones."[8] Susan McClary critiques this relationship, stating, "Romanticism also offered spectators a means of escape into a mythologized and culturally elite past."[9]

Williams' connection to this Romantic style is deeply rooted in his own work. His main model for the music to *Star Wars*, the score that ushered in a "Modern" Hollywood Style, was the prominent Golden Age composer Erich Wolfgang Korngold.[10] Using Palmer's, Flinn's, and McClary's critiques of this association, this paper examines the usage of Romantic gestures in this score as critical signifiers of 'human' concepts. These range from pure emotions, to failures and shortcomings, to the 'utopian' function of David's need to be loved.

The usage of leitmotif in film comes from the same late-Romantic operatic tradition of Wagner and Strauss that Prendergast discussed before. Adorno critiques the early usage of leitmotif in film music when he says the sole function "is to announce heroes and situations so as to help the audience to orient itself more easily."[11] In Buhler's

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[6] Caryl Flinn, *Strains of Utopia: Gender, Nostalgia, and Hollywood Film Music* (Princeton: Princeton University Press, 1992), 9.

[7] Flinn, *Strains of Utopia: Gender, Nostalgia, and Hollywood Film Music,* 44

[8] Bernard Herrmann quoted in Roger Manvel and John Huntley. *The Technique of Film Music* (New York: Hasting House, 1957), 244.

[9] Susan McClary, "Minima Romantica," in *Beyond the Soundtrack: Representing Music in Cinema*, eds. Daniel Goldmark, Lawrence Kramer, and Richard Leppert (Berkeley: University of California Press, 2007), 50.

[10] Emilio Audissino, *John Williams's film music: Jaws, Star Wars, Raiders of the Lost Ark, and the return of the classical Hollywood music style* (Madison: The University of Wisconsin Press, 2014), 72.

[11] Theodore Adorno, *In Search of Wagner*, trans. Rodney Livingstone (London: Ahtlone Press, 1989), 36.

article "Star Wars, Music, and Myth," he counters Adorno's notion saying John Williams' use of leitmotifs in the original *Star Wars* trilogy "comes as close as any film music to the tone of Wagner,"[12] whose primary purpose "is the production of myth not signification."[13] This is important when looking at the usage of themes as leitmotifs in *A.I.* because themes are sometimes brought back in situations in which the obvious signification makes little sense.

*Lyrical melody with long, sustained phrases*

Williams' music often uses lyrical melodies with long, sustained phrases to signify orga. As demonstrated by Stefani, melody is a difficult term to define, but he proposes "'melody' is a notion belonging essentially to everyday culture, to popular culture."[14] In other words, its recognition stems from a gathered human experience. Stefani often uses the word 'singable' in his exploration for a definition of melody. According to Rowell, Wagner viewed melody as being able to "articulate expressions of inarticulate human feeling."[15] One of the many elements Williams utilizes in the score to *A.I.* is lyrical melody with long, sustained phrases, an approach to melody often associated with Romantic music.[16] These are in direct contrast with the other elements such as Minimalism and repetitive phrasing that feature so prominently in the score.

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[12] James Buhler, "Star Wars, Music, and Myth," *Music and Cinema*, ed. James Buhler, Caryl Flinn, and David Neumeyer, (Hanover: Weslyan University Press, 2000), 44.
[13] Ibid., 43.
[14] Gino Stefani, "Melody: A Popular Perspective," *Popular Music*, Vol. 6, No. 1 (Jan., 1987): 21.
[15] Lewis Rowell, "Time in the Romantic Philosophies of Music," *Indiana Theory Review*, Vol. 25 (Spring / Fall 2004): 28.
[16] Bence Szabolcsi, "The Decline of Romanticism: End of the Century, Turn of the Century – Introductory Sketch of an Essay," *Studia Musicologica Academiae Scientiarum Hungaricae*, T. 12, Fasc. 1/4 (1970): 278.

Furthermore the melodies are mostly associated with situations in the film relating to Monica, an orga subject.

<u>*Khachaturian's "Adagio"*</u>

*A.I.* was initially conceived by Stanley Kubrick and his influences on the final film are ever present. His impact on the music specifically is confirmed by Williams' comment that the quotation of *Der Rosenkavalier* was based on Kubrick's direction.[17] Because of this, I also draw from Kubrick's musical choices in his own films, most notably *2001: A Space Odyssey*. Christine Lee Gengaro notes that the use of Khachaturian's "Adagio" from *Gayane* in *2001*, "seems to represent our known world, perhaps even our humanity."[18] She continues, "These men certainly have emotions… [*Gayane*] reflects the astronauts' isolation but also the emotion that they cannot or do not show."[19] This 'isolation' or more specifically 'loneliness' is the primary reason Kubrick chose the Khachaturian piece, according to Jan Harlan, producer for many Kubrick films (and *A.I.* as well).[20] One of the fundamental recurring themes of the first act of *A.I.* is very reminiscent of this passage from *Gayane*. While this ballet was composed in 1939, its style is closer to Romantic than the modernism associated with that time period.[21] This theme is used most prominently in scenes involving discussion of Monica and Henry's son Martin, who is in a state of limbo as he remains frozen, waiting for a cure for his

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[17] John Williams, composer, "Sound and Music of A.I.," *A.I.: Artificial Intelligence - Disc 2, Special Features*. (2001; Dreamworks LLC and Warner Bros., 2002), DVD.

[18] Christine Lee Gengaro, *Listening to Stanley Kubrick: The Music in His Films* (Lanham: Scarecrow Press, Inc., 2013), 94.

[19] Ibid., 97.

[20] Ibid., 97-98.

[21] Svetlana Sarkisyan, "Aram Khachaturian," *Grove Music Online*, accessed August 28, 2016, http://ezproxy.library.nyu.edu:4211/subscriber/article/grove/music/14956?q=khachaturian&search=quick&pos=1&_start=1#firsthit.

affliction. *A.I.'s* Khachaturian-influenced music plays a similar role as it does in *2001*, a representation of the orga conditions.

*Acoustic Instrumentation*

Because Williams uses acoustic instrumentation in the music that represents both the orga and mecha, (e.g. minimalist styles and Ligeti influence), this is a less categorically defined signifier that relates more to its usage in conjunction with other signifiers. When it is used with other orga signifiers, it represents orga alone – see the string sections of (4 Introduction to David). When used with other signifiers of the 'artificial,' acoustic instrumentation either serves to enhance the artificial quality – see (30 Escape from Rouge City / Manhattan) – or mix in some measure of orga – see (14 Abandoned in the Woods).

## Avoidance of Late-Romantic Style as Signifier of Mecha

*Overt use of repetition, including Minimalism*

If late-Romantic associations signify orga elements, then the conspicuous use of styles and techniques not related to those found in late-Romantic music signifies mecha elements. Rebecca Eaton notes that the use of minimalism to signify the mechanical is common, and this association can be traced back to early reviews of minimalist works in the 70s.[22] She lists dozens of examples of multimedia works that all use minimalism in conjunction with machines or technology, including Glass' score to *Koyaanisqatsi* (1982), an Audi commercial whose music was so close to Glass stylistically that a lawsuit

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[22] Rebecca M. Doran Eaton, "Marking Minimalism: Minimal Music as a Sign of Machines and Mathematics in Multimedia," *Music and the Moving Image*, 7.1 (2014): 5.

ensued (1996), and Williams' score to *A.I.* Her reasoning for this connection is that minimalism "features a regular, steady pulse. It is not melodically based, but repetition-based. It typically displays limited dynamic contrast. All of these musical attributes are also characteristics of the working of machines, be they are manifested in sound, visually observed motion, or internal process."[23] This is in direct contrast with the Romantic idiom signifying human emotion. For instance, in cues dominated by minimalism, the emotion from the scene is controlled by Romantic procedures such as varying the dynamic range, expanding the range of the instruments, and frequent harmonic shifts – see (14 Abandoned in the Woods). This paper, in line with Eaton's analysis, concludes that the usage of minimalism is customarily a signifier of the mecha.

I further this notion to include several examples of conspicuous repetition on larger structural levels. For instance, while minimalism generally features a repeated pattern of just a few notes or measures, *A.I.* features examples of phrase and structural repetitions that are sometimes separated by several dozen measures. Arved Ashby discusses how the mechanical repetition in the context of recorded music changes the way we form musical memories since the listener is able to hear an exact replica of a given piece of music countless times.[24] While not as immediately obvious as repetitions of specific phrases/gestures (e.g. a four-note chordal arpeggio repeated twenty times in a row), these higher-level repetitions are still easily recognizable, and in the case of *A.I.* usually come in conflict with orga music such as lyrical melodies.

*Ligeti's micropolyphony*

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[23] Ibid., 6.

[24] Ashby, Arved Ashby, *Absolute Music, Mechanical Reproduction* (Berkeley: University of California Press, 2010), 62.

The aforementioned "Khachaturian 'Adagio' signaling orga" has a counterpart, also found in the musical choices of Kubrick's *2001*. Each time the monolith, a mysterious black shape that seemingly affects the course of human evolution, appears, Kubrick backs it with the unsettling vocal sound masses of Ligeti's *Requiem* (the "Kyrie"). As Gengaro notes, "Ligeti's music is so unique and so unlike anything else on the soundtrack that it begs interpretation. The music of the Strausses and Khachaturian seems to represent our known world, perhaps even our humanity. But when the characters on-screen are confronted with the monoliths, something alien, we hear this very different kind of music, representing another world."[25] In *A.I.* there are several passages of the score that reflect Ligeti's micropolyphony style and this paper argues this is a stylistic signifier of the mecha.

*Electronic instrumentation*

One obvious way music can evoke artificiality is through the use of electronics or synthesizers. Williams is mainly known for his orchestral scores, however, he has used synthesizers on several notable occasions, including a pivotal moment in *Empire Strikes Back* (1980) when Luke Skywalker ventures off to the Magic Tree to face his greatest fears, along with films depicting such inhuman acts as murder and rape, such as *Presumed Innocent* (1990), *Sleepers* (1996), and *Munich* (2005). Interestingly, the example that best matches his usage of electronics in *A.I.* actually comes from the lesser-known film *Heartbeeps* (1981) in which Williams uses a plethora of electronic sounds, in combination with the usual orchestra, to underscore the love story between two robots.

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[25] Gengaro, *Listening to Stanley Kubrick*, 93.

Because these signifiers are not always black and white in the score and often blend into each other, making a definitive statement is sometimes difficult. For instance, in (30 Escape from Rouge City / Manhattan), a pervasive minimalist style runs throughout, however it is scored with a large, Romantic-sized orchestra with little to no electronics. I will explore these issues and how their very existence augments Williams' musical exploration of the orga vs. the mecha.

*Chapters*

In chapter two, "Khachaturian vs. Ligeti: The Kubrickian Dichotomy as Shown in the 'Cryogenics' Theme," specific styles found in the music of Khachaturian and Ligeti present in the *A.I.* score are explored and compared to the usage of Khachaturian's and Ligeti's music in *2001*. The ideas presented in both films overlap and give insight into how the music functions in *A.I.* More specifically the music indicates the orga through the style found in Khachaturian's "Adagio" from *Gayane* and mecha through Ligeti's micropolyphony. The music also shows the ambiguity when the distinction between orga and mecha is less clear by blending the two styles.

Chapter three, "Curiosity Killed the Mecha" explores an important turning point in the film where Monica, David's adopted mother, begins to accept David. A comprehensive analysis of the cue (6 Hide and Seek) reveals this change in the interplay between the "Curiosity" theme and the "Bonding" theme. The usage of electronics along with ever-growing acoustic accompaniments further demonstrate Monica's orga acceptance of the mecha David. However, the subtle complexities and various interruptions scattered throughout the cue indicate Monica's uncertainty.

"Stopping Time: The Blue Fairy as Pastoral," chapter four, discusses how the construction of the "Blue Fairy" theme relates to 'pastoral' topics. Will's analysis of Beethoven's *Pastoral Symphony* examines how the 'pastoral' topic creates a sense of "timelessness."[26] An analysis of the "Blue Fairy" theme finds several familiar 'pastoral' topics as defined by Kirby. This chapter argues these topics are used in a similar function to those in the *Pastoral Symphony*, to slow down or even stop time.

Chapter five, "Happily Never After," examines how the music supports Tim Kreider's 2002 Film Quarterly review, which argues that Spielberg is ultimately manipulating the audience throughout the film and the seemingly saccharine final act is actually a grim conclusion to David's story. An analysis of the final act, emphasizing "Monica's" theme, demonstrates specifically how the music helps manipulate the audience. On the surface the film's conclusion appears to be a 'happy' reunion, but the music ultimately reveals a darker, more complicated truth. This chapter brings together most of the 'signifier dichotomies.' It concludes that Williams is musically setting up the ending as a tragic continuation of David's prior conflicts with humans and emotions.

The link between the music and the content of *A.I.* is paramount, therefore my analyses and reductions are based on the soundtrack found on the 2002 Dreamworks Video DVD release.[27] For his soundtracks, Williams records separate cues specifically written for the album and "tries to arrange the tracks in a more interesting way than just

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[26] Richard Will, "Time, Morality, and Humanity in Beethoven's 'Pastoral' Symphony," *Journal of the American Musicological Society*, Vol. 50, No. 2/3 (Summer - Autumn, 1997): 318.

[27] *A.I.: Artificial Intelligence*, directed by Steven Spielberg (2001; Universal City, CA: Dreamworks Video, 2002), DVD.

in the order they are heard in the film."[28] Because of this rearranging, soundtracks often differ from the material found in the final cut of the film. Even the cues written for the film are sometimes edited and rearranged after recording so the written score does not coincide with the music as heard in the finished film.[29] Any discrepancies between the music as presented in this paper and the music found on the original soundtrack album or the final versions of the scores as prepared by Conrad Pope and John Neufield will be due to changes made during the post-recording editing process. Because film music is a collaborative effort between the filmmaker and the composer, it is important to analyze the music in its final form.

## Appendix A: Prominent, Recurring Musical Themes

Transcriptions and brief descriptions of all major, recurring themes found in the score are included here in one concise grouping.

## Appendix B: Catalogue of Cues

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[28] Kenneth Wannberg, interview by Ford A. Thaxton, "Music Editor Ken Wannberg," originally published in *Soundtrack* Vol. 18 #70, accessed August 7, 2016, http://web.archive.org/web/200101290440/http://www.soundtrackmag.com/kwannberg.html.

[29] "Steven Spielberg advised George Lucas to change the edits of the combats at the end of the movie. John just said 'Oh. I think I will let Kenny handle that.' So it was up to Ken Wannberg to cut up everything." Conrad Pope, John Williams' orchestrator for *A.I.* in Chloé Huvet, "D'Un nouvel espoir (1977) à La Revanche des Sith (2005): transformations de l'écriture musicale de John Williams et du traitement de la partition au sein du complexe audio-visuel de la saga Star Wars", PhD in musicology under the supervision of Professors Gilles Mouëllic and Michel Duchesneau, Université Rennes 2 and Université de Montréal, started in 2013.

Appendix A is a comprehensive catalogue detailing each musical cue specifically as heard in the film, including both non-diegetic and diegetic music. Specific information about timings for each cue such as start and end times, along with overall cue length is included. Musical descriptions detailing instrumentation, textures, themes, etc., and other notes relating to dramatic/filmic features are also included. Throughout the paper, parenthetical references such as (30 Escape from Rouge City / Manhattan) and (4 Introduction to David) guide the reader to the specific cues in the Catalogue for more information. The purpose of this Catalogue is to provide a comprehensive overview of all music in the film and contextualize the music specifically discussed in the paper.

**Chapter 2:**

**Khachaturian vs. Ligeti:**

**The Kubrickian Dichotomy as Shown in the "Cryogenics" Theme**

*Related cues: (1 Cryogenics), (3 Henry/Doctor Discuss Monica), (10 Reading Pinocchio), (34 Into the Ice)*

As mentioned earlier, *A.I.: Artificial Intelligence* was originally Stanley Kubrick's project. He conceived of the idea after reading Brian Aldiss' 1968 short story *Super-Toys Last All Summer Long*. Struthers documents that Kubrick initially worked with Aldiss on a story treatment until 1990 when he turned to British screenwriter Ian Watson who wrote the first screen treatment.[30] After several versions, the project was ultimately given to Spielberg to finish, who "wrote the screenplay himself, basing it on Watson's treatment, Kubrick's archive material, and the discussions he and Kubrick had had over the previous fifteen years."[31] Although Spielberg was the writer of the screenplay and the director, *A.I.* was a joint effort from both filmmakers with Kubrick doing the majority of the pre-production work.

John Williams' score for the film draws much from the musical choices of Kubrick for *2001: A Space Odyssey*. While eschewing a traditional underscore for *2001*, Kubrick used previously composed concert works. Two of the composers most prominently featured in the film are Aram Khachaturian and Györgi Ligeti. In several scenes in *A.I.*, Williams' music strongly resembles these two composers' specific pieces Kubrick chose for *2001*.

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[30] Jane M. Struthers, "The Birth of *A.I.*," in *A.I.: Artificial Intelligence: From Stanley Kubrick to Steven Spielberg: The Vision Behind the Film*, ed. by Jan Harlan and Jane M. Struthers (London: Thames and Hudson, 2009), 12.
[31] Ibid., 25.

While there is no evidence of a deliberate connection between *A.I.* and *2001* the similarities are abundant. For instance, both center on the conflict between humans and artificial intelligence. Also, as Ebert notes in his revised review from 2011, "From [David's] mind [the advanced Mechas] download all of his memories, and they move him into an exact replica of his childhood home. This reminded me of the bedroom beyond Jupiter constructed for Dave by aliens in Kubrick's '2001.' It has the same purpose, to provide a familiar environment in an incomprehensible world. It allows these beings, like the unseen beings in '2001,' to observe and learn from behavior."[32] Spielberg even throws in a sly reference to Kubrick's penchant for uncomfortable bathroom scenes when David surprises Monica on the toilet.[33]

In his music for *A.I.*, Williams uses these references to Khachaturian and Ligeti to signify orga and mecha subjects respectively, reflecting how the music functions in *2001*. In Williams' "Cryogenics" theme one can find references to both composers and even a blending of the two. Because of this, the "Cryogenics" theme becomes the focal point in the discussion of how the Kubrickian influence helps Williams differentiate between the orga and the mecha.

*"Cryogenics" theme and Khachaturian's "Adagio"*

In *A.I.*, the music that references Khachaturian's "Adagio" from the ballet *Gayane* signifies orga subject matter, especially compared to how this piece is used in *2001*. According to Scheurer, in *2001* the Adagio "is used to underscore the everyday activities

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[32] Roger Ebert, "A.I.: Artificial Intelligence," *Roger Ebert.com*, accessed August 31, 2016, http://www.rogerebert.com/reviews/great-movie-ai-artificial-intelligence-2001.
[33] Tim Kreider, "A.I.: Artificial Intelligence," *Film Quarterly*, 56.2 (2002): 35.

of astronauts Dave Bowman and Frank Poole aboard *Discovery* on their way to

Jupiter."[34] Everyday activities such as these are not inherently 'human,' but as Paulus

notes, "the Adagio by Khachaturian expressed the main idea of Clarke's novel – the

isolation and loneliness of the passengers."[35] The gentle, soft, muted sound matches the

resignation and somber serenity of the human characters in the film as they carry on with

everyday activities.[36] Scheurer's statement that the Adagio "does not prepare us for the

impending chaos of HAL's actions and Bowman's solo journey into the infinite"[37] further

supports Gengaro's reading that this music "seems to represent our known world, perhaps

even our humanity."[38]

In *A.I.*, the first two statements of the "Cryogenics" theme occur during the

sequence where Monica is reading to her cryogenically frozen son Martin.[39] While one

can make the connection here between *A.I.* and *2001* using the idea of loneliness, the

more important aspect of the scenes is the general notion of humanity. The orga Monica

and Henry have to deal with the potential death of their orga child Martin. For instance,

after Martin is unexpectedly revived, the "Cryogenics" theme is briefly used to

underscore the scene where Monica reads *Pinocchio* to Martin and David (10 Reading

Pinocchio). This is significant because the book was specifically chosen by Martin for the

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[34] Timothy E. Scheurer, "The Score for 2001: A Space Odyssey," *Journal of Popular Film & Television* (Winter 1998): 180.

[35] Irena Paulus, "Stanley Kubrick's Revolution in the Usage of Film Music: 2001: A Space Odyssey (1968)," *International Review of the Aesthetics and Sociology of Music*, 40.1 (2009): 116.

[36] Scheurer, "The Score for 2001: A Space Odyssey," 180.

[37] Ibid.

[38] Gengaro, *Listening to Stanley Kubrick*, 94.

[39] Whether an intended relation or not, in both *2001* and *A.I.* the Khachaturian style is used over shots of cryogenically frozen humans, Bowman's crew in *2001* and Martin in *A.I.*

nefarious purpose of emphasizing David's uncomfortable situation. Manipulation of Mechas by humans is a very orga trait that is highlighted throughout the film including scenes where a female Mecha is told to undress, Joe is framed by humans for murder, and David's entire journey being revealed as a setup by Dr. Hobby. While an indictment on the humans in the film, this kind of manipulation is ultimately treated as a 'human' trait.

The most apparent similarity between these two early cues, (1 Cryogenics) and (3 Henry/Doctor Discuss Monica), and Khachaturian's "Adagio" is the instrumentation. Both begin with a lone, upper register cello line that is eventually accompanied by a higher violin line (fig. 2.1). Neither the *A.I.* cues nor the "Adagio" use any more than two lines or any other instruments besides strings throughout. Although the cello line briefly drops down lower in the first *A.I.* cue, the ranges for both lines are nearly identical between *A.I.* and the "Adagio" in *2001*.



**Fig. 2.1a – "Adagio" opening**
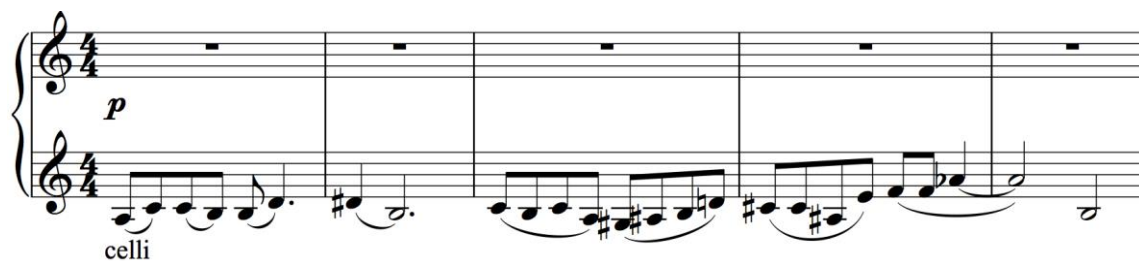


**Fig. 2.1b – (1 Cryogenics) opening**

The texture is also identical in that both rely entirely on quasi-fugal counterpoint. Neither treatment uses strict fugal procedures, but they are both structured on the

contrapuntal entrance of the second voice stating material related to material stated by the first voice (fig. 2.2). Both also make use of the sequence.



**Fig. 2.2a – "Adagio" 2nd voice entrance**
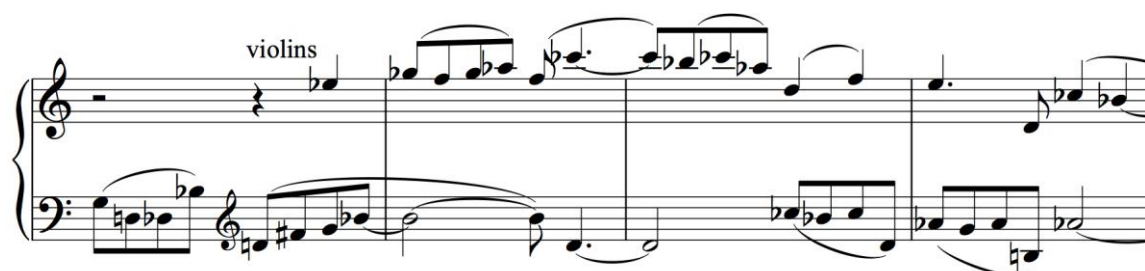


**Fig. 2.2b – (1 Cryogenics) 2nd voice entrance**

The most significant connection between the material in *A.I.* and the "Adagio" in *2001* is the usage of a similar four-note motive (fig. 2.3). The motive itself is nearly identical in both instances. Interestingly, both pieces use a similar approach in which the initial material stated by the opening cello line is not actually based on the motive. Instead the motive gradually emerges from the opening material, eventually dominating the music. In the case of *A.I.*, the motive is not stated until the third measure and does not actually dominate the music until the second cue. The Khachaturian likewise holds the motive off but for even longer where its first statement occurs eleven measures in.



**Fig. 2.3 – Motive**

Another similarity between *A.I.* and the "Adagio" in *2001* are their treatments of tonality and chromaticism. Both begin with a simple, tonal melody that is gradually

infused with increasing chromaticism until it is essentially atonal (fig. 2.4). Though the
"Adagio" holds off on the chromatic takeover for longer than *A.I.,* it stays mostly tonal
until the entrance of the second voice, whereas *A.I.* introduces it in the cello line itself.
They both eventually resolve this atonality at the end with simple, minor triads.



**Fig. 2.4a – "Adagio" chromaticism**
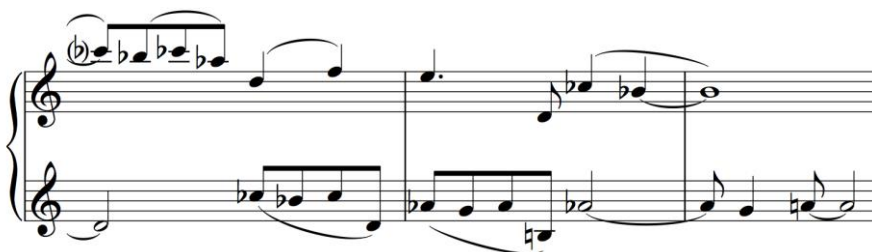


**Fig. 2.4b – (1 Cryogenics) chromaticism**

Lastly, a subtler connection can be found in the endings to both as they both
include exact repetition of a figure (fig. 2.5), dissolution of contrapuntal texture leading
to homophonic chords (fig. 2.6), and end on minor triads (fig. 2.7).
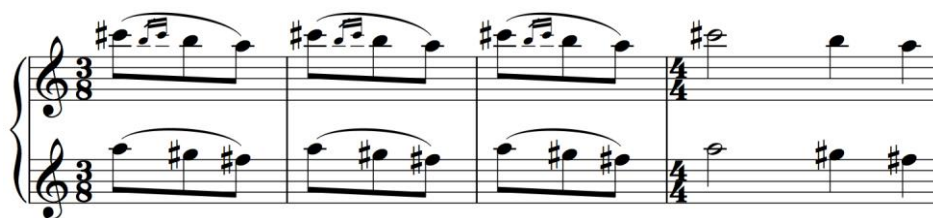


**Fig. 2.5a – "Adagio" exact repetition**



**Fig. 2.5b – (3 Henry/Doctor Discuss Monica) exact repetition**
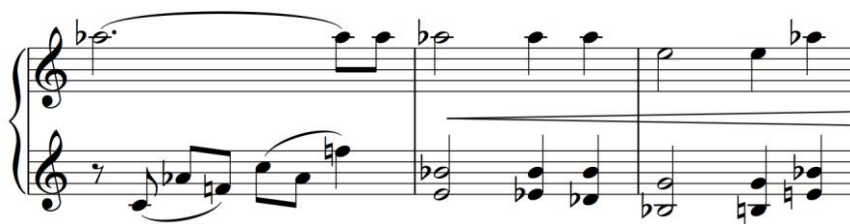
**Fig. 2.6a – "Adagio" contrapuntal to homophonic**



**Fig. 2.6b – (3 Henry/Doctor Discuss Monica) contrapuntal to homophonic**



**Fig. 2.7a – "Adagio" ending on minor triad**
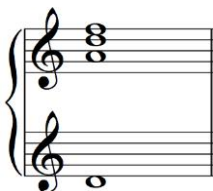


**Fig. 2.7b – (3 Henry/Doctor Discuss Monica) ending on minor triad**

*Ligeti's micropolophony*

Williams' use of music similar to Ligeti's from *2001* is best shown in the cue (32 Other Davids / Suicide). In this one cue, Williams references all three Ligeti pieces that are prominently featured in the *2001* soundtrack.[40] This is a pivotal moment in the film

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[40] The only Ligeti piece in *2001* not clearly referenced in this cue is *Aventures*. This piece only occurs once in *2001* and was electronically modified to such an extent that it was the

where David finally completes his journey back to where he was 'born.' He discovers not only his origin, but also that he is just one of hundreds of Mecha boys, all programmed for the same purpose. He loses both his identity and individuality in this scene.

After Professor Hobby explains the truth to him, David slowly gets up out of his chair and wanders into a room where he finds the replicas who look exactly like him, just waiting to be shipped out to customers [01:43:51]. Toward the beginning of the cue, a wordless female choir sustains the note E. The note gradually expands outward by steps until it rests on a cluster (fig. 2.8a). String harmonics and colorful fragmented harp and percussion sounds surround this expansion, but focusing on the chorus alone reveals Williams' first connection to Ligeti. The opening of Ligeti's *Lux Aeterna* likewise begins on a wordless female sustaining a note, just one half-step higher than the note in this cue. Similarly to *A.I.* this note gradually expands by steps over time, eventually creating a cluster (fig. 2.8b). Although Ligeti's cluster is denser than Williams', the range, the color, and therefore the effect are nearly identical.
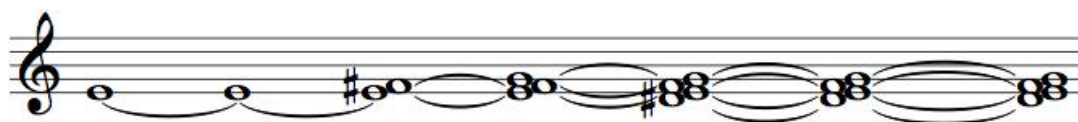
Fig. 2.8a – *A.I.* chromatic cluster expansion
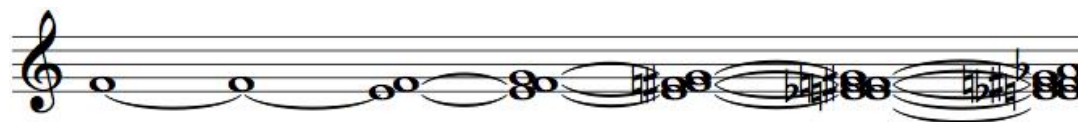
Fig. 2.8b – *Lux Aeterna* chromatic cluster expansion

The musical connection suggests a thematic connection between the two films. In *2001*, this music accompanies Floyd's trip and arrival at the Tycho crater where he studies the monolith. Just like David in the room full of replicas of himself, Floyd's

subject of a legal battle between Ligeti and MGM. (Gengaro, *Listening to Stanley Kubrick*, 95.)

perspective is irreversibly altered as he discovers humans are not the only intelligent life in the universe. Neither David nor Floyd are as unique as they once thought.

The second Ligeti piece Williams references in this cue is the "Kyrie" from *Requiem*. While not as obvious as the *Lux Aeterna*, much of the choral writing in this cue relies on dense, sustained clusters that steadily ascend to the upper registers of the voice. A clear example of this is heard as David walks through the rows of the hanging replicas [01:44:54]. Williams holds back here though and saves the most intense choral moment for the close-up of David's face after he is disturbed by the sound of the replica shifting in the box [01:46:32]. This moment is accompanied by a dramatic, ascending cluster sweep in the voices, marked by agitated, chromatic polyphony, a gesture found throughout Ligeti's "Kyrie."

Much of the scholarly literature about the use of Ligeti's "Kyrie" in *2001* can also be meaningfully applied to *A.I.* Ciment, among others, notes that the "Kyrie" acts as a leitmotif for the monolith itself.[41] He goes on that this "coincides with Arthur C. Clarke's idea that all technology, if sufficiently advanced, is touched with magic and a certain irrationality. Its choral accompaniment leads us onto the threshold of the unknown, just as Kubrick's use of the opening bars of *Also Sprach Zarathustra* prepared us for the profundity of his intentions."[42] Although it can be argued David has gone through the whole film on 'the threshold of the unknown,' it is this moment where he finally realizes this. He now knows he is not only artificial, but that he will never be able to become a

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[41] Michel Ciment, *Kubrick*, trans. Gilbert Adair (New York: Holt, Rinehart & Winston, 1980), 128.
[42] Ibid.

real boy, a realization that interestingly causes him to commit the very orga act of suicide.

Scheuer sees the monolith "as the object that leads us to find new technology, to create and invent ways to push beyond where we currently are."[43] In his detailed description of Ligeti's music as heard in the film, he notes that it "captures dramatically and in an unsettling manner the rush and commingling of the creative and the destructive… It is as though the singers' voices are rising out of a void, struggling to reach some sort of resolution but then butting up against another set of voices (i.e., new ideas, images, inspirations) struggling for the same."[44] Throughout the film, several characters let David know he is not made of the same organic material as Orgas, or humans, but it is in this cue that he for the first time comes to the realization that he was created with the same commercial purpose as countless other Davids. The same "vocal lines that suggest terror and screams"[45] in *2001* are found in *A.I.* suggesting a connection to Scheuer's comment that these voices "[remind] us that the discovery of that order is fraught with chaos, mistake, anxiety, and discontent as we peer into the vastness and the void of the infinite."[46] The voices here represent his inner chaos as he has to accept that he will always remain an artificial being.

What occurs after this seemingly ultimate realization is not the conclusion of the film, but a series of events that leads David to be essentially frozen in time until he is thawed out and restored thousands of years in the future by advanced Mechas. All humans have perished and David is the last Mecha to have had direct contact with them.

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[43] Scheurer, "The Score for 2001: A Space Odyssey," 177.

[44] Ibid.

[45] Ibid., 177-178.

[46] Ibid.

The advanced Mechas revive him in order to study him and learn about the humans from him.

The cue (34 Into the Ice) serves as a musical interlude, consisting entirely of wordless choir, between the second and third acts of the film. This is a noteworthy passage because Williams takes the "Cryogenics" theme (a signifier of the orga) and adapts it to incorporate elements of Ligeti and other mecha signifiers. The blending of orga and mecha signifiers creates a complex fusion of ideas that considering the advanced Mechas are about to revive David because he is the last link to the 'human,' is an appropriate accompaniment.

The overall harmonic language of the cue is tonal for the most part. The first half is dominated by F# minor while the second half slides smoothly into G# minor. Throughout, moments of intense chromaticism temporarily break up these tonalities leading to seeming dissolutions of the original tonic. For instance, in measure 6, the Ab and G in the tenor and alto lines respectively have no relation to the F# minor established at the beginning (fig. 2.9). In measure 8, the Eb on beat four in the bass line destroys the tonal context for the following chord. In both cases though, the tonality is quickly reestablished after these momentary diversions.



**Fig. 2.9 – Momentary tonal diversion**

Along with these diversions, Williams avoids cadences on tonic triads, holding off musical resting points. In measure 15, the voice leading from the previous chord

would be appropriate for a root position, tonic triad cadence, but by holding the D in the tenor line instead of letting it resolve to C#, the music does not allow the listener a resting point (fig. 2.10a). The strongest tonic triad statement occurs at measure 25, but even this is a second inversion whose bass voice (tenor line) is the recurring motive in the cue (fig. 2.10b). The cue is filled with these moments along with sustained non-chord tones, often just seconds away from chord tones. These all come together to blur the stability in a mostly tonal context.



**Fig. 2.10a – Avoiding resolution**



**Fig. 2.10b – 2nd inversion**

A connection can also be found to a film score, later turned symphony, by Ralph Vaughan Williams regarding the use of voices. For the entire two and a half minutes, three important factors remain the same: the timbre (wordless SATB choir), the texture (contrapuntal), and the range. Regarding timbre, the voices here recall, although in a different harmonic context, Ligeti's *Lux Aeterna* and "Kyrie," two pieces already referenced by Williams in the score. Lionel Pike points out that in the music for the film *Scott of the Antarctic* (1948), "[Vaughan Williams'] avoidance of the obvious Human presence in the Antarctic, for instance, might have been illustrated by a less imaginative composer…the human voices (the wordless female choir) do not depict the human

element of the story but rather the frozen wastes and a general white, timeless, unfeeling natural desolation."[47] Interestingly, in both films, the composer chose wordless voices for an icy landscape. In the case of *Scott*, humans do exist, but Vaughan Williams focuses on the non-human element of the desolate landscape. In *A.I.* the humans are no longer alive.

Finally, despite the music's late-Romantic harmonic language, the lack of change in texture and vocal range nullify much of the 'emotional expression' one would expect to hear from music in this style. The counterpoint, simple yet incessant, is mainly a result of the "Cryogenics" theme motive being passed between voices while accompanying sustained notes slowly shift around it. Instead the counterpoint serves to add some movement into a slowly shifting cloud of sound. The tessitura in each vocal line is restricted to the middle ranges for each voice, limiting the ensemble's expressive potential.

In a cue dominated by the orga "Cryogenics" theme Williams manages to add in enough ambiguity to obscure any obvious signifying intent. This sequence in the film (and what follows) is muddled and unsure in its thematic purpose and the music, while offering hints, does not commit to clearing it up. David is a Mecha being studied by other Mechas because he is the last connection to orga thought. The comingling of orga and mecha elements comes to a point in this scene and Williams' music allows the audience to make its own conclusions.

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[47] Lionel Pike, *Vaughan Williams and the Symphony* (London: Toccata Press, 2003), 257.

Gengaro calls Stanley Kubrick's *2001: A Space Odyssey* a watershed moment for film scores.[48] Kubrick's goal was "to find something that sounded unusual and distinctive but not so unusual as to be distracting."[49] While several film composers of the time sympathized with *2001*'s original composer Alex North "who was shattered to discover that Kubrick had discarded his score totally," and "…had been told nothing of the change,"[50] the music chosen by the director nonetheless became an iconic sonic accompaniment.

The film is a complicated look at the orga/mecha dichotomy and Williams' score appropriately supports this. Instead of creating just a surface homage to *2001*, they use this influence to further explore the relationship between humans and artificially intelligent machines. In setting up the dichotomy between orga and mecha, the score to *A.I.* is able to differentiate between these two subjects by using specific callbacks to the pieces found in *2001*. Furthermore, because this score is specifically composed for the film and not crafted from previously recorded music as in *2001*, Williams is able to create music that also blends the orga and mecha, blurring the line between the two. Because of the connections between *A.I.* and the films of Kubrick, most notable *2001*, Williams and Spielberg use the influence of Kubrick's musical choices to craft a score that blurs the line between orga and mecha. Using an otherwise 'non-Kubrickian' element, the score, Spielberg and Williams still manage a 'Kubrickian' approach to the music.

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[48] Gengaro, *Listening to Stanley Kubrick*, 69.
[49] Jeremy Bernstein, "How About a Little Game?," in *The Making of 2001: A Space Odyssey*, ed. Stephanie Schwam (New York: Modern Library, 2000), 86.
[50] John Baxter, *Stanley Kubrick: A Biography* (New York: Carroll & Graf Publishers, Inc., 1997), 229.

## Chapter 3:

## Curiosity Killed the Mecha

*Related cues: (4 Introduction to David), (6 Hide and Seek), (7 Programming David /*

*Perfume)*

(6 Hide and Seek) is an important turning point in the film because it shows the first time Monica bonds with David. However, it never eschews the conflict between the two characters and within Monica herself. In order for her to imprint him, she needs to bond with him and accept him as part of the family. Up to this point in the film, the only interactions between them are 1) her introduction to him, a confusing moment that ultimately led to a small argument with Henry, and 2) her awkward response to him asking her to dress him, abruptly leaving him alone in the room with Henry. This scene shows the beginnings of Monica's acceptance of David, albeit minimal and still surrounded by doubt and discomfort. Williams' music for the scene shows this gradual bond with his mixing of two primary themes, "Curiosity" and "Bonding," along with the mixing of both mecha and orga signifiers, while also suggesting the underlying conflicts.

This scene also marks the beginning of an important musical transition from Monica's point-of-view to David's. Up to this point in the film, the score has supported Monica's emotional state. The melancholy strings of the Khachaturian-esque "Cryogenics" theme capture the loneliness and sorrow of Monica as she futilely reads to her frozen son. When Monica is first introduced to David, the music moves through several distinct moods from the eerie, high electronic pads when she's unsure of him at their first meeting, to the warmer, but harmonically unsettled strings for Monica and

Henry's argument, to the lyrical English horn solo when she starts to reconsider. These shifting musical moods match Monica's own emotional uncertainty.

(6 Hide and Seek) is the first time the score offers hints at David's perspective. The scene starts with a shot of David peeking over the edge of the table, making him look almost alien-like [00:15:34]. He stares intently at the pouring of the coffee. Right from the beginning, Williams establishes two of the most important stylistic components of the whole cue: a persistent dotted quarter C drone in the pizzicato strings, and a repetitive figure in the harp consisting of wide leaps both ascending and descending, a precursor to the "Curiosity" theme (fig. 3.1). These are important because the C drone sets up what will ultimately be the near-constant devotion to the tonality of C, effectively devoid of any modulation over the course of three minutes.[51] With this the persistent harp figure introduces the idea of repetition that is so prominent throughout. While Monica is present, for the first time in the film, the music supports David's experience.



**Fig. 3.1 – "Curiosity" theme precursor**

The music does not however leave Monica's perspective for long. After four repetitions of the harp figure, the "Curiosity" theme is stated in a bell-like electronic sound with a tinny, artificial attack that contrasts greatly with the softer, warmer sustained notes of the surrounding acoustic instruments (fig. 3.2). The first two notes of the motive, C and D, coincide with the established C tonic. The next five notes, F#, G#,

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[51] The only other cues with such slavish devotion to one key for that long of time are (33 Finding the Blue Fairy) and the string/choir hymn-like section of (35 Stored Memorie*s*), both involving David talking to the 'Mecha-created' Blue Fairy.

B, G# and D#, break from that and suggest the key of E major, B major, or even A Lydian, creating what Royal Brown refers to as a "mildly unsettling bitonality."[52] Underneath the repeating motive, the strings never waver from their Lydian infused C Major chord. Already two seemingly clashing ideas, a "standing one's ground" tonic in C and an unrelated key with at least 4 accidentals, are simultaneously evident in the music. This might be David's first major experience, as presented in the film, but Monica has not warmed to him and his presence is noticeably clashing with her sensibilities.



**Fig. 3.2 – "Curiosity" theme**

The "Curiosity" theme throughout the film is notable for its lack of evolution. The first statement is in (4 Introduction to David) when Monica and Henry are discussing David. Despite her obvious reservations about the situation, Monica is somewhat taken by David's realism. Henry notes that although he seems real, David is in fact a Mecha child [00:12:22] and the "Curiosity" theme is heard repeated three times as the camera lingers on Monica's confused face. The music serves the dual purpose of reminding the audience that David is artificial and hinting that Monica herself is curious about the potential of adopting David. After the "Hide and Seek" scene, the only other instance of the theme is in (7 Programming David / Perfume) when David first notices Monica's favorite, and scarce, perfume [00:25:08]. When he sees this is her favorite fragrance, he

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[52] Royal S. Brown, "Soundtracks: Williams - 'A.I. Artificial Intelligence' Original Film Score," *Fanfare - The Magazine for Serious Collectors* (November-December, 2001): 330.

puts the rest of the bottle on himself, erroneously thinking this will make her happy. The theme's usage here reinforces David's inability to fit in with the humans, despite his best efforts. What is notable about all of these instances, including those in (6 Hide and Seek) is the similarity between them. The theme never grows or develops. Each statement is voiced in the same bell-like electronic sound in the same register and always repeats at least once, matching David's lack of 'human' understanding.

The cue initially focuses on the discord between Monica and David, but the music eventually offers hints at Monica's gradual acceptance of him. While other material (most notably the "Bonding" theme) is introduced and developed, the "Curiosity" theme constantly reappears in two to four literal repetitions, never varying or developing. Each time the "Curiosity" theme is presented, the orchestral accompaniment rises in prominence, as if the music is following Monica's orga approval of the mecha David. As figure 3.3 shows, what starts out as a simple quiet string tremolo accompaniment of the first statement, gradually adds instruments, reaching its zenith by the fourth statement with a fuller compliment of winds, harp, and piano along with more active string figures. While the fifth statement reduces down to a similar level as the first statement, this is only a temporary pause in the pattern to set up the dramatic sixth and final statement that reaches a similar height as the fourth statement. Because the "Curiosity" theme is always voiced in the same electronic sound, the constantly changing and growing accompaniment grab the attention and mirror Monica's drama unfolding on the screen. The scene starts with the unsettling appearance of David while she drinks coffee and progresses to them actually playing a game together.

| Statement | Accompaniment |
|---|---|
| 1 | - quiet violin, viola, cello tremolo chords<br>- light bass pizzicato |
| 2 | - quiet violin, viola, cello tremolo chords<br>- more prominent bass pizzicato<br>- harp accents |
| 3* | - violin, viola tremolo chords<br>- arpeggiated cello line<br>- bass pizzicato drone<br>- horns play a new melody |
| 4 | - active violin flourishes<br>- apreggiated cello line<br>- arco bass drone<br>- harp accents<br>- piano accents<br>- bassoon drones |
| 5 | - quiet violin tremolo chords<br>- viola pizzicato figure (doubled with harp)<br>- clarinet flourish |
| 6 | - active violin flourishes<br>- arpeggiated cello line<br>- arco bass drone<br>- harp glissandi<br>- piano accents |

* "Curiosity" theme becomes a counter theme to the "Bonding" theme

**Fig. 3.3 – Changing orchestration**

Along with the changing orchestration, Monica's bonding with David is also expressed through Williams' usage of the "Bonding" theme, however this theme suggests the bonding is more complicated than her simply progressing from 'not accepting' to 'accepting.' The theme itself starts firmly in C major but soon hints at bitonality with the Bb, Ab, and Eb in the third measure (also the Ab and Bb in the fifth measure), eventually settling back into C major. While the orchestration of flute and horn melody over C major triads in strings is warm and comforting, the deviations from C major in the theme show the underlying complexity of Monica's feelings toward this interaction with David.

Even the music that often leads into the "Bonding" theme, acting as its 'precursor,' has a mix of elements that similarly suggest Monica's internal conflict.

Played entirely on piano, it contains a simple, tonal melody that is firmly entrenched in C major, accompanied by a repeated middle C drone (fig. 3.4). While the melodic rhythm is comprised of only eighth notes, it dances between 6/8 and 5/8 meters, giving a subtly disjointed feel to the rhythm. Also of note is how the intervallic size gradually increases as the melody moves forward. The music is simultaneously grounded and disjointed.



**Fig. 3.4 – "Curiosity" theme precursor**

Similarly to the development of the accompaniment to the "Curiosity" theme, the development of the "Bonding" theme over the course of the cue shows the growth of Monica's acceptance to David. Its first statement occurs when David appears while Monica is making the bed [00:16:34]. Although she is mildly surprised, David is wearing a bright smile. This is also the first time the "Curiosity" theme is interwoven into the "Bonding" theme as a counter theme (fig. 3.5), showing how Monica's orga world and David's mecha world are starting to come together.



**Fig. 3.5 – "Curiosity" theme with "Bonding" theme**

The second statement occurs just before David playfully blocks Monica's way in an attempt to initiate a game with her. The accompanying string C major triad figures return, but the theme is now featured in flutes with a repeated response in horns (fig. 3.6). This expands the register by an octave from the first statement and also removes the "Curiosity" theme interruption. The "Bonding" theme has now nearly rid itself of the mecha elements, the electronics and the bitonality of the "Curiosity" theme, although the Bb, Ab, and Eb still occur in the theme itself, perhaps suggesting the 'artificiality' never fully disappears.
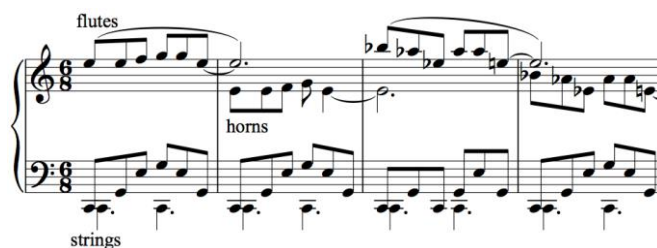

**Fig. 3.6 – "Bonding" theme alone**

The final statement of the "Bonding" theme is similar to the last statement, but now with full woodwinds, including bassoons, carrying the melody while the horns answer imitatively again (fig. 3.7). Monica is now watching David in his room [00:17:55]. Although she walks away and seems annoyed at her own inability to decide whether she has fully accepted David, the music, with its lack of electronics and fullest acoustic orchestration yet, suggests this is the warmest she has felt about him so far.

**Fig. 3.7 – "Bonding" theme final statement**

The playfulness, the optimism, and the gradual phasing out of the mecha musical elements certainly suggest Monica's developing acceptance, but the final sequence in the scene punctuates it with uncertainty. The violins play a steady sixteenth note pattern on the close up of the door handle turning [00:18:10] (fig. 3.8). The repetitiveness of the pattern clues the audience into who is opening the door. Indeed it turns out to be David, surprising Monica as she sits on the toilet, and with a noticeably cold smile he says, "I found you," [00:18:17]. Although the music does not take a conspicuously dark turn, it devolves into simple eighth note C's repeated in the vibraphone (fig. 3.9).



**Fig. 3.8 – String flourish**



**Fig. 3.9 – Repeated C's**

Interruptions play a significant role in this scene both on the screen and in the music. David's robotic nature has little regard or understanding for human habits and

etiquette. The scene includes five instances of David interrupting Monica and although the score plays most of them, it also offers its own interruptions, sometimes unrelated to the visual. In the first instance of the of the piano 'precursor' figure to the "Bonding" theme (see fig. 3.1), the piano plays what sounds like the consequent phrase but is abruptly cut off by the "Curiosity" theme before it can finish. This accompanies David's sudden appearance to Monica when she's drinking her coffee [00:16:09].

Williams even employs a recurring motive that acts as a musical 'reset' button to stop a certain passage in its tracks and allow for an often unrelated passage to take over. The first instance of this can be found when David studies Monica's cup of coffee. The 'precursor' to the "Bonding" theme plays two uninterrupted phrases, but just as it is about to conclude itself it breaks down harmonically and is interrupted by this 'reset' motive (fig. 3.10), allowing the "Curiosity" theme to take over. This motive, that explicitly occurs four times, is yet another way the music shows the robotic essence of David by breaking down and never resolving as he never actually figures out the meaning of the coffee.


**Fig. 3.10 – 'Reset' motive**

A subtler interruption can be found just before the first statement of the "Bonding" theme. Up to that point, there have been two occurrences of the "Curiosity" theme and each time the theme is stated four times. In this third occurrence, the theme is only stated twice before it is interrupted by the 'reset' motive and followed by the "Bonding" theme. Interestingly, the 'missing' two instances of the "Curiosity" theme are

found just a few measures later as the counter theme to the "Bonding" theme. Despite Monica's warming attitude, David is still an awkward interruption in her life at this point.

A notable interruption in the rhythm/meter/key occurs after Monica opens the closet door to let David out [00:17:34]. The music starts with the 'precursor' to the "Bonding" theme but is soon interfered with by a recurring, two sixteenth note figure in electronics with almost no relation to the underlying music. Harmonically this figure, an Eb triad to Db triad in quick succession, has no relation to C major. It also occurs in a register not occupied by any other voice. Finally, this figure, rhythmically speaking, operates on a separate Roederian pulse stream from the rest of the music (fig. 3.11).[53] The 6/8 to 5/8 back and forth along with the unexpected accents (the melodic peaks and the horn attacks) give the music an unsteady pulse. However, the figure in electronics operates on a regular pulse stream that has no relation to meter or pulse of the rest of the music. All of these aspects draw a great deal of attention to this little figure, emphasizing that once again David's artificiality is still on Monica's mind.



**Fig. 3.11 – Roederian pulse stream**

Over the course of the entire cue, there seems to be a battle between the "Curiosity" and "Bonding" themes. At times the two themes try to connect with each

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[53] John Roeder, "Rhythmic Process and Form in Bartók's 'Syncopation'," College Music Symposium, Vol. 44 (2004): 45.

other, but they always remain in conflict. Even the form itself, a mix of elements of a Rondo with blocked sections, suggests that although Monica is beginning to see David in a new light, she is still constantly wavering back and forth. In just a few minutes of music, this cue has outlined the growth of Monica's feelings toward David from near revulsion to genuine interest, along with showing how his artificiality is still both present and potentially detrimental to their relationship.

Ultimately, Monica's curiosity gets the best of her. Despite the "Curiosity" theme being associated with David's mecha curiosity, it is hers that starts them both on a path leading to her imprinting David and eventually abandoning him in the woods. Williams' score gives the audience the appropriate warmth on the surface but never allows the listener to forget the underlying conflict present in the drama. This use of leitmotifs in this cue goes deeper than Adorno's notion that the main purpose of the Hollywood leitmotif is to "help the audience to orient itself more easily."[54] If anything the usage here disorients the audience as the deeper relationships between the characters are slowly revealed. This scene is the turning point in Monica and David's relationship and Williams' intricately planned cue lets the audience in on its darker secrets.

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[54] Adorno, *In Search of Wagner*, 36.

## Chapter 4:

## Stopping Time: The "Blue Fairy" Theme as Pastoral

*Related cues: (33 Finding the Blue Fairy), (36 Explaining to David)*

The second act of *A.I.: Artificial Intelligence* is dominated by David's tireless search for the Blue Fairy. He narrowly escapes a brutal mass-destruction of Mechas known as the Flesh Fair. He travels to Rouge City where he narrowly averts capture by dramatically flying off in an amphibicopter. He flies a great distance to the city of Manhattan. The ceaseless action of the second act however comes to a sudden halt when David is trapped underwater, endlessly staring at and pleading with a statue he believes to be the Blue Fairy.

The role of the Blue Fairy in *A.I.* differs somewhat from the original *La Fata dai Capelli Turchini* (or the The Fairy with Turquoise Hair) in *The Adventures of Pinocchio*. In the original story, she is the character who has the power to turn Pinocchio into a real boy. In *A.I.* David searches for the Blue Fairy believing she is the one who can also turn him into a real boy. It is ultimately revealed though that she is a fantasy that Dr. Hobby, David's creator, has planted in him assuring David will return to him.

The Blue Fairy is given her own musical theme that only plays twice throughout the entire film, once when David's amphibicopter is pinned down, pointed towards the Blue Fairy statue, and also when the advanced Mecha explains to David how they can bring Monica back for one more day. This "Blue Fairy" theme offers a mix of mecha and orga signifying elements, along with calling on pastoral topics, showing both that she is not objectively real, but David believes she is.

*"Blue Fairy" Theme: Form and Structure*

The use of repetition in the style of Minimalism to signify mecha was explored in Chapter 3. In the "Blue Fairy" theme William exploits repetition on larger structural levels including phrases, sections, and even entire cues. The theme itself is made up of a succession of four-bar phrases. In the A section, these four-bar phrases consist of an initial two-bar fragment (F) followed by a two-bar fragment closely related to the previous one (RF), as is shown in figure 4.1:



**Fig. 4.1 – "Blue Fairy" theme as four-bar phrases**

In the first part of the B section, the 4-bar phrase structure continues but the 2-bar fragments are less related to each other. The second part of the B section is a six-bar

sequence (one F followed by two RFs) thus bringing the 2-bar unity to its climax. Although Williams expands the range of the melody in the second A section, he still repeats the pattern of the melodic structure of the first A section, without the 3-bar interruption. Though not in a repetitive, minimalist style, this structure demonstrates a repetition/regularity on a higher level. This, along with the fact that Williams seldom composes melodies adhering to strict two-bar relations, further draws attention to the mecha subject matter. Figure 4.2 summarizes the four-bar phrase (brackets), two-bar fragment structure:

*A section*

[F - - -RF]         [F - - -RF] *(int.)*  [F - - -RF]         [F - - -RF]

*B section*

[F     F]           [F     F]            [F     F]            F - - -RF- - -RF    F

*A section*

[F - - -RF]         [F - - -RF]          [F - - -RF]          [F - - -RF]

**Fig. 4.2 – Four-bar phrase, two-bar fragment structure**

Another clue into the implication of mecha in this scene is how the melody itself is repeated four times with little to no variation. In listening to the melody as heard in the film, this is especially noticeable in the second phrase of the recap of the A section. The opening three-note figure (F – E – F in eighth notes) has been heard six times in the music and even the first three notes of the B section are a transposed prolongation of this figure. Although the theme does switch between the solo soprano voice and the English horn, the starting note and range are always the same.

Finally, the cue (36 Explaining to David) contains a nearly identical repetition of the material found in (33 Finding the Blue Fairy), the first instance of the "Blue Fairy"

theme. The melody is transposed up a major third and the instrumentation is more intimate (mostly harp with solo cello joining in the last section compared to solo voice and English horn over strings), but the form and melody are almost exactly the same. Both cues use ABA form with almost exactly the same treatment of the melody.

### *"Blue Fairy" Theme: Melody and Harmony*

If the form and structure of the cue signify the mecha, the melody is where Williams begins to add some orga elements. The melody itself is lyrical, with long sustained phrases, its connections to a late-Romantic style suggesting something orga in this scene. The construction of the melody includes a gradual ascent to well-defined highpoints. The melody, and accompanying harmony, does however offer subtle hints of mecha as well. As will be seen in the following analysis, the "Blue Fairy" theme contains a constant battle of orga and mecha elements.

Similarly to (6 Hide and Seek), this theme mostly remains in one key (D minor) save one momentary diversion to B minor when the Ferris wheel traps the amphibicopter [01:52:58], and a more extended sojourn into E minor when David pleads with the Blue Fairy. The harmonies themselves move slowly as the first four measures center on a D minor 9 with shades of A minor. The last triad in measure four, G major, offers the first major harmonic change and leads directly the Bb major triad found in measure five. Even the melody itself is simply a series of ornamented ascending steps over the first four measures (fig 4.3).

**Fig. 4.3 – Ascending steps**

The next four measures contain more harmonic movement (Bb major to C major to Bb major to G minor 7) than the previous four. This increased movement, coupled with the melody reaching its climax, suggest a diversion from the artificiality presented thus far. The melodies and harmonies simultaneously open up, creating a dramatic highpoint hinting that orga feelings are being explored. However, the near exact repetition of the ascending melodic line along with the harmonic regression (predominant, to dominant, back to predominant, then to a different predominant) demonstrate David can mimic human emotional reactions, but cannot feel them the same way a human can. Also, the second appearance of the melodic highpoint D retroactively diminishes the drama found in measure five, as if the melody is trying to reach a dramatic 'human' moment, but cannot.

After the brief 3-bar interruption in B minor, the first eight measures are repeated, this time with English horn on melody instead of solo soprano voice. Both the melodic and harmonic content are identical. Also of note, no smooth musical transition is made between the B minor section and this reiteration of the D minor material. The music just settles back into D minor. In the film, the B minor section starts when the Ferris wheel traps the amphibicopter under water [01:52:58]. This is a very dramatic moment, as suggested by the visuals and the music (strings expanding out to the upper registers and the addition of horns), but David's only recognition of the moment is when he says, "The Blue Fairy is all right." Even Teddy appears to be more worried than David ("What

happened? We are in a cage."), and Teddy is a far inferior Mecha technologically speaking. David continues to robotically stare on at the Blue Fairy's face [01:53:06]. Instead of a transition from this dramatic moment (essentially amounting to David's "death"), the music simply starts the repetition with little to no regard of the previous three measures.

The B section begins in D minor with an emphasis on a Bb major triad and this holds over the first four measures. In the film, this is when David begins to plead with the Blue Fairy to turn him into a real boy [01:53:36]. As noted before, the melody is motivically related to the A section, but here obtains a more regular rhythm of dotted quarter notes. These durations ceaselessly carry the music on over slowly moving harmonies (even the harmonic changes themselves fall into a repetitive G minor 7, C major, G minor 7, C major pattern) as David perpetually repeats his petition to the Blue Fairy statue.

The most dramatic change in the cue occurs nine measures into the B section when the music suddenly moves to E minor. Even this section though contains a similar struggle between orga and mecha to the A section. The melody in this section uses simpler, more repetitive rhythms than the A section. It does reach a dramatic highpoint on E that exceeds the D highpoint in the A section. The C major harmony along with this melodic apex suggest the dramatic climax to this point, but just as the drama of the the 3-bar B minor interruption toward the beginning of the cue was ultimately unfulfilled, a similar incomplete conclusion takes place here. The B section closes out with a melodic sequence whose predictable nature, along with the lack of exploration of the potential harmonic shifts, give the B section an ultimately unfulfilled drama.

Once again, the music falls back to the original theme in D minor. The melody is exactly the same as the beginning and the harmonies, albeit with slightly altered voicings, are nearly identical. As mentioned before, the repetitive nature of the theme becomes noticeable at this point in the music, and considering the nature of the narration at this recap this is appropriate. The emphasis on the timelessness of David's plea in the narration is unavoidable and the music captures this even when using the more Romantic or orga instrumentation like the solo voice and the solo English horn:

> "And David continued to pray to the Blue Fairy there before him, she who smiled softly forever, she who welcomed forever. Eventually the flood lights dimmed and died, but David could still see her palely by day, and he still addressed her in hope. He prayed until all the sea anemones had shriveled and died. He prayed as the ocean froze and the ice encased the caged amphibicopter and the Blue Fairy too, locking them together where he could still make her out, a blue ghost in ice, always there, always smiling, always awaiting him. Eventually he never moved at all, but his eyes always stayed open staring ahead forever all through the darkness of each night, and the next day, and the next day." [01:54:32]

## *Timelessness and the Pastoral*

When discussing 'timelessness' in music, Mikhail Bakhtin notes "the special relationship that time has to space in the [literary] idyll: an organic fastening-down, a grafting of life and its events to a place…where the fathers and grandfathers lived and where one's children and their children will live…This unity of place in the life of generations weakens and renders less distinct all the temporal boundaries between individual lives and between various phases of one and the same life."[55] This pertains directly to what David is doing as he has 'grafted' his life and events to this mythical concept of the Blue Fairy, the one who can free him from his 'artificiality.' In doing so he frees himself of the 'human' perspective of time as he endlessly pleads to the Blue Fairy.

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[55] Mikhail Bakhtin, "Forms of Time and Chronotope in the Novel," trans. by Michael Holquist and Caryl Emerson, in *The Dialogic Imagination: Four Essays*, ed. Michael Holquist (Austin: University of Texas Press, 1981): 225.

The subject of the "timelessness" of David's plea recalls a musical 'topic' found often throughout Western music: the pastoral. Drawing from Adolf Sandberger's chapter on pastoralism, Kirby narrows the principal elements in the pastoral style to "bird-call themes, hunting horn themes, shepherds' pipes (pifa or pifferari), and shepherds' calls (ranz des vaches or yodeling), country dances, the representation of flowing water and of bleating sheep, and the imitation of that characteristic instrument of country life, the bagpipe with its drone bass. In the eighteenth century the lilting dotted rhythm of the siciliano was frequently associated with the representation of the pastoral, as were flutes, oboes, and horns."[56]

The musical content in the "Blue Fairy" theme incorporates several of these elements, first and foremost the "drone bass" notes that start each of the B section phrases (Bb, E, and C). The solo English horn throughout recalls the "shepherds' pipes."[57] Although no explicit "country dance" rhythms are found, the 9/8 meter is related to the compound meters often found in pastorals. This is not to say Williams is explicitly referencing a pastoral topic, but that elements of the pastoral are more noticeable in this theme and its treatments than any of the other themes.

In his analysis of Beethoven's *Pastoral Symphony*, Richard Will discusses how the idea of perceived passage of time changes from movement to movement. He writes "the way in which time seems to pass more quickly or more slowly, or continuously or discontinuously, contributes as much to the composers' representations of pastoral life as

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[56] F.E. Kirby, "Beethoven's Pastoral Symphony as a 'Sinfonia caracteristica,'" *The Musical Quarterly*, Vol. 56, No. 4 (Oct., 1970): 612-613.

[57] Monelle likens the shepherds' pipes to a sturdier, heartier oboe than a flute as is often referenced. Raymond Monelle, *The Musical Topic: Hunt, Military, and Pastoral*, (Bloomington: Indiana University Press, 2006), 207.

their references to shepherd's horns, storms, and feelings of happiness or gratefulness do."[58] For instance the fourth movement, or 'storm' movement, "seem(s) literally to rush by," while the other movements revel in a cyclic form that "[juxtaposes] the 'timelessness' of the idyll with the 'historicity' of the real world."[59] Up to this point in *A.I.*, the musical cues have dealt with scenes that operate in a real-world time scale. This is the first cue in which time, at least to David, literally stops. Regardless of Williams' pastoral intentions, the qualities his music shares with the pastoral topic are fitting to David's timeless begging here in the film.

This scene is particularly heartbreaking in that David thinks he has finally found the answer to his becoming a real boy, and yet the audience is fully aware that he is only pleading to a statue. He is trapped in perpetuity with essentially no hope of leaving. By scoring this with the most orga of all sounds, a solo voice, Williams' music recognizes the perspective of David. But with an uncharacteristic lack of variation or development and reliance on regular recapitulations of the main theme, Williams also emphasizes the robotic quality to David's actions.

The interplay of orga and mecha elements in (33 Finding the Blue Fairy) sets a dramatically different tone than the interplay in (6 Hide and Seek). In the latter, the mixing of elements is playful and amusing. On the contrary, the former uses this mixing to show a tragic lack of understanding of David's part. As Kreider notes, "It's impossible to imagine, at this point, that Spielberg intends David's literal-minded idée fixe, repeated

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[58] Will, "Time, Morality, and Humanity in Beethoven's 'Pastoral' Symphony," 317.
[59] Ibid., 318.

like a stuck record for millennia, to be anything other than pitiful."[60] This point is further supported by the 'pastoral' topics in the music. The music here fits in with both Flinn's idea of the "utopian function"[61] and McClary's "escape"[62] as David in his Mecha mind is earnestly begging to something he believes is real, but is just a myth created to manipulate him. The music is signaling a 'timelessness' that perfectly matches the pathetic timeless pleas of David. As much as the melody draws us into being sympathetic with David, the other elements never let us forget the reality of his misunderstanding.

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[60] Tim Kreider, "A.I.: Artificial Intelligence," *Film Quarterly*, 56.2 (2002): 37.

[61] Flinn, *Strains of Utopia*, 9.

[62] McClary, "Minima Romantica," 50.

## Chapter 5:

## Happily Never After

*Related cues: (7 Programming David / Perfume), (35 Stored Memories), (37 David's Final Day with Monica)*

*A.I.: Artificial Intelligence* received mixed reviews upon its release in 2001, and the most criticized element was certainly the third act, the "disappointing, needlessly cathartic ending [Spielberg] thrusts upon us."[63] Roger Ebert's review of *A.I.* was largely positive but even he called the ending "too facile and sentimental, given what has gone before."[64] Brian Aldiss, who wrote the original short story *A.I.* was loosely inspired by, said the ending "is one of the 'ifs' of film history - at least the ending indicates Spielberg adding some sugar to Kubrick's wine. The actual ending is overly sympathetic and moreover rather overtly engineered by a plot device that does not really bear credence."[65]

As demonstrated by the Aldiss quote, Spielberg himself is often blamed for the sentimentality of the third act. Thomas Morrissey says, "it is so very clear where Kubrick's dark vision gives way to Spielberg's attempt at a rosy ending," continuing that "[David's] schmaltzy perfect day with Mommy sugar coats the bitter core of the film."[66] Throughout his career, Spielberg has been criticized for the insertion of 'overly sentimental' moments in his films from Oscar Schindler's emotional breakdown at the

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[63] Michael Reid, "Boy, Robot: Spielberg's take on artificial intelligence an homage to Kubrick," *Times Colonist* (Victoria, British Columbia, Canada), Dec. 11, 2001: D7.

[64] Roger Ebert, "A.I.: Artificial Intelligence," *Roger Ebert.com*, accessed July 19, 2015, http://www.rogerebert.com/reviews/ai-artificial-intelligence-2001.

[65] Brian Aldiss. "The Mind Behind A.I.," *BBC News*, accessed July 19, 2015, http://news.bbc.co.uk/2/hi/in_depth/sci_tech/2001/artificial_intelligence/1542794.stm.

[66] Thomas Morrissey, "Growing Nowhere: Pinocchio Subverted in Spielberg's A.I. Artificial Intelligence," *Extrapolation*, Vol. 45 Issue 3 (Fall 2004): 257.

end of *Schindler's List* (1993) to Captain Miller's "Earn this," in *Saving Private Ryan*

(1998) to the 'happy ending' in the otherwise bleak *Minority Report* (2002). Royal

Brown says, "Spielberg films are a sucker punch: The director sets you up with all sorts

of things that you just *have* to love—childhood, motherhood, cuddly aliens, patriotism,

even paranoid adults and great white sharks (not much difference there, eh?)—and then,

not unlike Sally Field at the Academy Awards ceremonies a few years back, just stands

there and begs you to love him."[67]

Throughout this final act, Williams' music, dominated by "Monica's" theme,

mixes orga and mecha elements in ways that suggest the ending is perhaps darker than it

appears, just an illusion created for David's comfort.[68] While blaming *A.I.*'s conclusion

on Spielberg's penchant for sentimentality is understandable, according to Spielberg, this

is a misunderstanding:

> People assume that Stanley ended *A.I.* with David and Teddy underwater trapped by the
> Ferris wheel and then end credits roll, and they're going to be down there until their
> batteries run out. That's where they assume Stanley ended it, and I of course get
> criticized for carrying the film 2000 years into an advanced future where the robots that
> were created have replaced us and super-mechas rule the world. They become a silicon
> based society, no longer a carbon based society, and they certainly assume that's how I
> wrecked Stanley's movie, when in fact Stanley's treatment, along with Ian Watson, went
> right into the 2000 year future. And this was where Stanley was going to take the movie
> had he lived to direct it, and this is where I was obligated to take the picture.[69]

This is further supported by Kubrick's own notes from 1993.[70] If the ending comes from

Kubrick, whose finales include nuclear doomsday in *Dr. Strangelove* (1964), the 'curing'

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[67] Royal S. Brown, "Soundtracks: Williams - 'A.I. Artificial Intelligence' Original Film Score," *Fanfare - The Magazine for Serious Collectors* (November-December, 2001): 330.

[68] Kreider, "A.I.: Artificial Intelligence," 39.

[69] Spielberg, Steven Spielberg, interview by Richard Schickel, "Age & Innocence," *DGA.org*, accessed July 13, 2016, https://www.dga.org/Craft/DGAQ/All-Articles/0604-Winter2006-07/DGA-Interview-Steven-Spielberg.aspx.

[70] Struthers, "The Birth of *A.I.*," 23.

of Alex in *A Clockwork Orange* (1971), and the mercy kill in *Full Metal Jacket* (1987), perhaps the interpretation that *A.I*'s ending is 'happy' is not entirely accurate.

### *"Monica's" Theme*

In the composer's words, "Monica's" theme is a cantilena, with associations to lullabies, that "although both simple and direct, has its complexities."[71] The first statement of this theme, albeit just a fragment, actually occurs at a very pivotal moment in the first of act of the film when David calls Monica "Mommy" after she completes the imprinting process. The usage of the theme is telling as it implies David's love for Monica is immediate and programmed. The solo piano foreshadows the treatment of "Monica's" theme when it dominates David's 'ultimate day' at the end of the film. Up to this point, Monica's interactions with David have been largely negative: 1) She yells at her husband for bringing him home. 2) She is so upset when he asks to be dressed for bed (he of course does not need to sleep), that she has to urgently leave the room. 3) Their game of hide and seek, while appearing for a moment to be the turning point where Monica starts to accept him, ends awkwardly when David finds her on the toilet. 4) During dinner, David laughs to an inappropriately exaggerated degree during dinner. 5) When Monica finally does dress David for bed, she still flashes back to her frozen son Martin. Williams' use of her theme after the imprinting process tells us that David now loves Monica, but these interactions offer no evidence that she loves him back, or that he even has reason to love her. His immediate love is simply programmed. Neither party has earned it.

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[71] John Williams, composer, "Sound and Music of A.I.," DVD.

Outside of an additional small statement of the theme when Monica reads

*Pinocchio* to Martin, Monica's theme does not come back until the third act, when the

advanced Mechas awaken David from his 2000-year 'slumber' (35 Stored Memories).

The theme starts out in solo piano with a mechanical, repetitive alternation between B

and D eighth notes (fig. 5.1), implying a robotic quality to David's searching. This

implication is further supported by the fact that the eighth note rhythm in the left hand

does not cease until he hears the woman's voice later in the scene.



**Fig. 5.1 – Repetitive alternation**

After two measures of this pattern, the melody finally arrives and establishes G

major as the tonic. The construction of the melody itself, when taken on its own, also

supports the drama unfolding on screen as David is searching throughout the house

calling for his mother. The first two notes heard are an ascending, octave leap from the

lower dominant to the upper dominant. This is followed by another ascending leap up to

the tonic.

The first six measures alone serve as a representation of the David character to

this point in the film (fig. 5.2). The first two measures, with their empty harmonic content

and unwavering repetition (**a.**), signify David's cold, robotic beginnings, constantly

watching and calculating his surrounding environment, but never quite fitting into the

orga world. Measures three and four, with the wide leaps and early melodic peak on tonic

(**b.**), mirror the tragedy of Monica imprinting David before she is truly ready, changing

him from a simple machine to a more complex being trapped in between the worlds of

orga and mecha. He is cursed with an unattainable goal of getting his orga mother to love his mecha self. Measures five and six are seemingly heading for "home," but with a break in the ascending pattern (F# moving down to E instead of up to G), the final arrival on tonic being displaced by an octave (**c.**), and the settling on the relative minor harmony instead of the tonic fit with the current scene as David believes he is home ("Teddy, we're home!") but is soon to find out that is false.



**Fig. 5.2 – "Monica's" theme as David's character**

A dominant pickup in the melody begins a descending stepwise pattern (simple inversion of the ascending pattern from before) down to E, followed by slow alternations between A and E. Unlike the ascending steps before, the "goal" of the melody here is not clear. The accompanying harmony (implied A minor with a pedal G) remains static for two bars, which along with the lack of direction in the melody create a sense of musical 'stalling out.' Listeners may expect an unexpected turn, either melodically or harmonically, or the A minor harmony serving as a 'typical' pre-dominant leading to a final PAC. The result is less climactic (fig. 5.3).

**Fig. 5.3 – Avoiding the PAC**

What follows is a resting point that feels forced or artificial, almost as a formality. The melody drops down a fifth to the dominant D while a full, rich tonic triad is played underneath. Very little has paved the way for this resolution. The key of G major has been present from the beginning, leading listeners to the idea that the resolution should eventually come back there. Simply moving from Am/G to G, especially when considering how dramatic the false resolution on E minor felt a few measures earlier, feels hollow. A Schenker graph (fig. 5.4) of the first melodic phrase shows that the melody is clearly descending stepwise from the dominant to the tonic, however the tonic arrival never comes. When looking at the tenor line, it appears another descending stepwise line from dominant to tonic is forming, but just as with the melody, it never arrives on the tonic.[72]
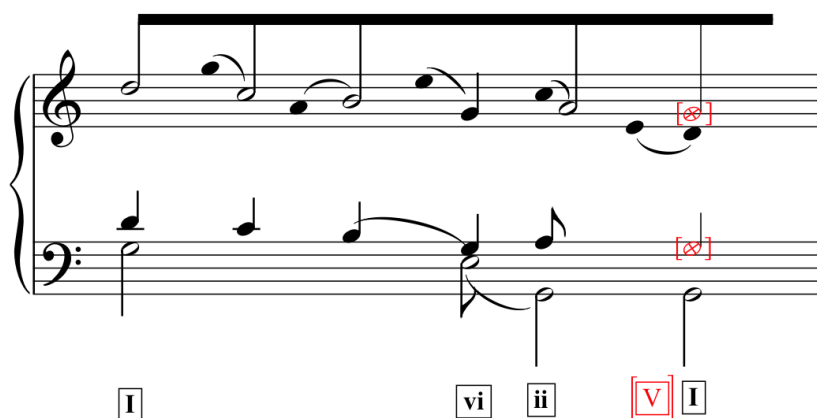


**Fig. 5.4 – "Monica's" theme Schenker graph**

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[72] These "expected" but never fulfilled musical events are included in the graph and colored in red.

This also reinforces the previous thought regarding this melody as a representation of the David character throughout the film. The film ends with David falling asleep with his mother one final time after she tells him she loves him. Although the conclusion works in a thematic sense, David's journey is over and now he gets the happy ending he worked so hard for, something about it rings forced. It is ambiguous if this is his real mother, or just a vision of David's desire implanted by the Mechas. Even the narration over this final scene is not explicit as to whether this is real or not: "And as the day wore on, David thought it was the happiest day of his life. All the problems seem to have disappeared from his Mommy's mind. There was no Henry. There was no Martin. There was no grief. It was only David." The inclusion of the words "thought" and "seem" focus the narration on David's point-of-view, or at least what believes whether this is 'objectively' true. Also, the wording of this passage heavily implies Monica's grief was caused by Henry and Martin, her husband and son, an interpretation that can only be true in David's mind. In reality they were the cause of David's grief.

Eventually David's ultimate wish comes true when Monica says to him, "I love you. I always loved you." While this might be, as the final narration states, "the everlasting moment [David] had been waiting for," the audience is left unfulfilled. From an orga perspective, David has not earned his mother's love. As mentioned before, most of their interactions surrounding the imprinting process were unsettling for Monica.[73] Their last contact was Monica abandoning him in the woods and instead of David feeling any resentment or anger towards her, or Monica showing any regret towards him, they

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[73] These interactions include David spilling her favorite perfume, his creeping her out with his phone trick, his damaging himself eating the spinach, his not being phased while receiving 'surgery,' his attempt at cutting her hair while she's sleeping and scratching her eye, and his almost drowning her son.

both offer a blissful, blind (perhaps 'robotic') acceptance, as if nothing had happened. As a dramatic conclusion to a story this can be suitable, however the lack of genuine, 'human' emotions and interactions leaves the audience unfulfilled. It mimics orga behavior, but never truly replicates it.

In the film, as David searches for his mother in this illusory house, an unexpected sonic moment occurs, blurring the line between diegesis and underscore. A woman's voice calls out to David [02:03:13], singing his name on E and C#, in perfect consonance with the underlying harmony of the non-diegetic underscore (fig. 5.5). The voicing of the A major arpeggio here is the fullest and richest voicing of a triad thus far in the cue. Seldom does a root position fully voiced triad occur. The look on David's face and the warmth of this chord suggests he feels this could be his mother calling to him. The piano eventually settles on a lone D as David is fixated on this voice and moves toward it. Harmonically speaking this could set up the next iteration of "Monica's" theme in the original, tonic key. Instead the music moves to a completely different direction in both timbre and key.



**Fig. 5.5 – Woman's voice**

As David starts to enter the room where the voice is coming from [02:03:21], "Monica's" theme disappears and instead a slow moving, homophonic, almost hymnal set of chords are stated in quiet, but full strings (fig. 5.6). This creates a religious-like atmosphere as the source of the voice is slowly revealed to be the Blue Fairy, the figure

David was last seen praying to in seeming perpetuity. Once again the woman's voice sings David's name on E and C# [02:03:31], but the strings resolve to an F# minor chord on the latter note, reflecting the disappointment as David realizes this is not Monica.



**Fig. 5.6 – Slow moving, homophonic chords**

The hymnal chords in the strings continue over the next several minutes of David's conversation with the Blue Fairy, constantly wavering between related major and minor chords. This, along with the addition of added notes just a second away from chord tones and a soft, women's chorus, creates a still atmosphere, somewhere between major and minor (fig. 5.7). The lack of musical change and material throughout this section is noteworthy because while David attentively listens to the Blue Fairy, he never fully understands the implications of what she is telling him. He is blindly focused on Monica's reincarnation, even though that means she will have to die all over again.
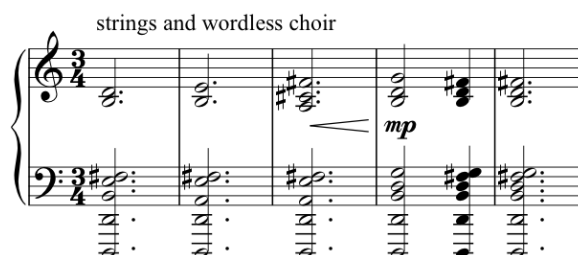


**Fig. 5.7 – Between major and minor**

Seemingly unfazed by the Blue Fairy's warnings, David wonders how he will be able to bring Monica back. A stubborn eighth note pattern in the lower electronics (fig. 5.8) concludes this scene as David looks at the Blue Fairy and coldly declares, "Now you

can bring her back," [02:06:41]. This is followed by the entrance of the hymnal chords in the strings while the lower electronic ostinato continues undeterred. After ten literal repetitions of the ostinato, the music slows to a quiet close. David's mecha mind has been made up and he will not accept anything less than one more day with Monica, emphasized by the incessantly repeated ostinato and the use of the electronics.

**Fig. 5.8 – Synth ostinato**

The aforementioned concluding scene, when David and Monica finally have their moment (37 David's Day with Monica), initially follows a near identical iteration of "Monica's" theme in solo piano [02:11:50]. The first major change in the music comes after the Eb major, G major, A major, D major progression. In (35 Stored Memories) David thinks the female voice calling to him is his mother, but ultimately discovers otherwise. Her voice calls to him over the A major triad in the score. In this final cue, when the same A major triad sounds, David says to what he thinks is his real mother, "I found you," recalling his unfulfilled moment from before.

What follows is the first statement of the refrain to "Monica's" theme. While it begins with new material, a simple held supertonic resolving to tonic (fig. 5.9a), it quickly settles back to material nearly identical to the second phrase of the initial verse of "Monica's" theme (fig. 5.9b). The refrain finishes with varied sequences of this material and even ends with a similar Eb, G, A, D progression (this time the G triad is minor). What started out as a promising change from the theme that has been heard several times already, ultimately falls back to the same patterns found before. This suggests that while appearing to be the conclusion David has been waiting for (along with the audience),

nothing has really changed. David has merely completed the mission he was programmed to do.



**Fig. 5.9a – "Monica's" theme refrain**



**Fig. 5.9b – Material related to verse**

Further support for the idea that this is merely a 'programmed' conclusion for David can be found in how Williams repeats "Monica's" theme four times in its full iteration with little change in the accompanying figures during this finale. While the key does change from G major to Ab major to A major, the harmonic progressions in relation to the melody remain mostly the same, and the eighth-note arpeggio rhythms continue in near perpetuity. There is one noticeable interruption of this theme when the "Bonding" theme takes over as David is showing Monica his paintings [02:14:55], here tossed between oboe and synth with 16th note chords wavering back and forth in strings. Ultimately, though, the music settles back to "Monica's" theme for good when he guides her to her room [02:16:07]. Here the refrain is stated in woodwinds and strings in the key of Ab major and settles down for Monica to say "I love you, David."

What follows is a very jarring modulation from Ab major to A major. Because the new key has little to no relation to the preceding key, nor was it set up, the entrance of "Monica's" theme here (in the same piano arrangement that has been heard three times in this cue alone) sounds more like a programmed formality musically speaking. Monica says, "I love you, David," so the only proper solution is to score it with this theme, again. Even for Williams this is a very literal usage of themes.[74]

All throughout both of these cues, the use of electronics in "Monica's" theme is minimal. Almost every statement of the theme involves piano, sometimes accompanied by strings, harp, or woodwinds. While electronics are present behind these statements, creating a soft, hazy background ambiance, they are never brought to the forefront like they are in (6 Hide and Seek) and (7 Programming David / Perfume). This, along with the usage of long, lyrical melodies suggest the music is playing to the orga qualities. It may be David has learned to become orga and this is a 'happy' ending after all.

Perhaps it is difficult for an audience "conditioned by decades of pandering and manipulation"[75] in Spielberg films to see anything but empty 'fluff' in the ending to *A.I.* It could be just another happy ending in a long line of Spielbergian happy endings. But the uncertainty presented in the narration along with the hazy visuals suggests this is all an illusion. Williams' score, "Monica's" theme in particular, supports this reading with the amount of repetition on both the large and small scale and the unfulfilled melodic and harmonic promises the music sets up. It indicates a more complicated look at the ending

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[74] Note the famous moment in Williams' score to *Star Wars* (1977) when Luke looks at the binary sunset and the "Force theme" plays in sweeping strings. There is no mention of the Force to this point, but the aesthetic match of the visual to and the music takes primary importance.

[75] Kreider, "A.I.: Artificial Intelligence," 32.

as forced and unfulfilled, superficially 'real' but ultimately 'artificial,' at least from our human perspective. As Kreider says, "David has been given a comforting illusion, like the one Spielberg's narrator offers us in this ending, if, like children, we choose to believe it."[76]

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[76] Ibid., 39.

**Conclusion**

The film *A.I.: Artificial Intelligence* is filled with complex ideas that aren't always answered or resolved. The ending exemplifies this as "David's Oedipal fixation remains utterly static throughout two thousand years, in spite of the fact that no human being— including his mother—ever shows him any reciprocal affection. The fact that his devotion is fixed, helpless, and arbitrary ultimately makes his heroism empty and the happy ending hollow."[77] Even the fate of Gigolo Joe, who was last seen being slowly drawn away from David towards the police aircraft, is never revealed to the audience, despite his being David's closest companion throughout the film.

Williams' score helps drive this as the music draws from a wide variety of influences and styles, from the Khachaturian "Adagio," to Ligeti's micropolyphony, to Minimalism, even to a techno/rock hybrid. All of these various styles help explore the subjects of orga and mecha in the film, and moreover how those subjects separate from each other and come together. From these subjects come the musical signifiers this paper uses to explore each theme and scene.

Right from the beginning of the film, the music evokes orga with the loneliness of the Khachaturian-esque "Cryogenics" theme. As the film progresses this theme absorbs the Ligeti-esque influences in (32 Other Davids / Suicide) and transforms into a mix of signifiers that sets up the ambiguity of the final act. Other cues such as (6 Hide and Seek) also combine the signifiers but in more humorously jarring ways to show the development of the orga Monica's acceptance of the mecha David. Even melody, designated as one of the orga signifiers, is blended with subtler mecha signifiers such as

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[77] Kreider, "A.I.: Artificial Intelligence," 33-34.

large-scale repetition. Just as further exploration of the film itself can reveal deeper meanings that sometimes break from the initial interpretation, so too does Williams' score.

*Further Examination – A.I.*

This paper focuses primarily on five specific themes ("Cryogenics," "Bonding," "Curiosity," "Blue Fairy," and "Monica's") and how they relate to the orga and mecha subjects in the film. This leaves room for further examination of the other major recurring themes in the film that are not covered in this paper. For instance, the "Nostalgia" theme is one of the most important themes and can be found in four cues. It is a delicate theme, almost always played in solo piano (once in harp), that accompanies scenes where the adults are remembering their lost children. The first instance of this theme occurs when Monica initially meets David [00:11:07] and gives the audience its first clue as to why she will eventually make the misguided decision to imprint David. Although she's uncomfortable with this meeting, the music tells us the nostalgia for her dying son is there already.

The "Abandonment" theme is the other major recurring theme that would benefit from further exploration. The end of the first act is punctuated by a heart-breaking scene where Monica, who can no longer deal with David's presence, tearfully abandons him in the woods. Being one of the most dramatic moments in the film, Williams uses some of his most dramatic gestures in the score. He unleashes the orchestra in full force as the strings play rolling, repetitive arpeggios underneath the melody in woodwinds, brass, and upper strings. The rhythm of the theme itself consists of mostly quarter notes, only

pausing briefly at phrase endings. Again, Williams is combining both orga and mecha elements in the music, allowing the audience to feel genuine sympathy and fear for the mecha David.

A similar three-note motive can be found in most of the major, recurring themes. The motive consists of a descending step (almost always a half-step) followed by a large descending leap. This also warrants further attention because while this similarity could be chance, a moment occurs in (7 Programming David / Perfume) in which Williams uses the motive to seamlessly connect the "Nostalgia" theme to the "Abandonment" theme. This both foreshadows what Monica will soon do to David (abandoning him in the woods) along with the underlying reason (he does not fit in the family with her real son). Further analysis could yield similar connections, thus showing this motive to be as important as any of the main themes.



**Fig. 6.1a: Motive in "Bonding" theme**



**Fig. 6.1b: Motive in "Monica's" theme**



**Fig. 6.1c: Motive in "Nostalgia" theme**



**Fig. 6.1d: Motive in "Abandonment" theme**

*Further Examination – Methodology*

Owing a great deal to Ronald Sadoff's "eclectic methodology,"[78] the deep-level music theory analysis found in this paper is a valuable approach when breaking down film music because it balances the compositional technique with its effect on the film. Sadoff took many elements of Lawrence Ferrara's *Philosophy and the Analysis of Music: Bridges to Musical Sound, Form and Reference* and adapted them for usage for music specifically for film,[79] thus creating what could be the most complete methodology for analyzing film music at the time. Sadoff uses a seven-level system ("Levels of Inquiry") to break down the opening scene of the film *Avalon* (1990) into a comprehensive look at everything from music theory to semiotics,[80] while always keeping the focus on how all these musical elements relate to the image on the screen, whether it be the immediate image, or the underlying filmic theme of the scene/film.

The methodology in this paper uses Sadoff's approach as a starting point but goes deeper into the detailed music analysis. While his methodology does offer detailed analyses, it relies more on cultural and historical relations found in the music than this paper does. The methodology in this paper also analyzes several scenes and themes from the same film and makes connections between them, whereas the Sadoff only explores one scene. This is not to imply his methodology cannot be used for more than one scene, but only that its use has been thus far limited to one scene.

Because of its deep-level analysis, the methodology in this paper works just as successfully for scores from the 'Golden Age' (1930-1950) as it does for scores today.

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[78] Ronald Sadoff, "An Eclectic Methodology for Analyzing Film Music," *Music and the Moving Image*, 5.2 (2012): 71-72.

[79] Ferrara, *Philosophy and Analysis of Music*."

[80] Sadoff uses Claudia Gorbman's term "codes," but this is directly related to "topoi."

This gives the critic a wealth of compositional styles, techniques, and approaches to choose from, whether it be the slippery chromaticism of the first European émigrés who arrived in United States in the '30s, to the synthesizer-dominant scores of the the '70s and '80s, to the hyperorchestra[81] hybrid scores so prominent today.

With that in mind, this methodology could be used to explore scores and musical choices from films dealing with similar subject matter. *Heartbeeps* (1981), a film briefly mentioned earlier, has many parallels with *A.I.* It is about two robots who fall in love and escape their jobs to run away together. The fundamental notion of robots learning to love is common to both films, although *Heartbeeps*, being a romantic comedy, treats this subject in a lighter manner. More importantly both film are scored by John Williams. As mentioned before, the music in *Heartbeeps* involves heavy usage of synthesizers mixed in with traditional orchestral sounds. Often the synthesizers are used for comedic sounds, but frequently they are used for dramatic themes and melodies as well. While the tone is different from *A.I.*, the subject matter and composer of *Heartbeeps* suit this methodology.

A film that matches and actually exceeds the darkness of *A.I.* when exploring the implications of artificial beings becoming self-aware is *Blade Runner* (1982). While not focusing on the child's perspective as in *A.I.*, *Blade Runner* does equal the violence against life-like machines (called replicants). The music in *Blade Runner*, composed by Vangelis, "might be said to have marked a regressive stylistic step in scoring practice".[82] It is noticeably less complicated than Williams' *A.I.* score, therefore the appropriateness

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[81] Sergi Casanelles Abella, "The Hyperorchestra: A Study of a Virtual Ensemble in Film Music that Transcends Reality," (PhD Thesis, New York University, 2015): 8.
[82] Jeremy Barham, "Scoring Incredible Futures: Science-Fiction Screen Music, and 'Postmodernism' as Romantic Epiphany," *The Musical Quarterly*, Vol. 91, No. 3/4 (Fall - Winter, 2008): 253.

of the methodology is most likely limited for it. However, its heavy usage of synthesizers along with its "unabashed romanticism…and heartbreaking melancholy"[83] might allow the methodology to draw valuable conclusions.

While the original *Terminator* (1984) film touches on the idea of artificial intelligence, a more interesting approach might be to look at how the music changes throughout the *Terminator* franchise. Barham describes the change in music throughout the franchise from "the metallic, synthesized sound aesthetic of the postapocalyptic industrial or corporate wasteland" of the first film to the "lapses into romanticism" of the rest of the series that "largely eschews the bleak dystopian industrial aesthetic of its predecessors in favor of a humanized thriller format with familiar romanticized orchestral scoring".[84] The tone of the films also changes throughout the series and this methodology could offer insight into the relationship between the films and music.

Perhaps the film that most closely parallels *A.I.* in both narrative content and musical style is *Bicentennial Man* (1999). This score by James Horner also uses Minimalism and electronics in context with 'artificially' created robots, but relies more on traditional dramatic scoring. Both films deal with a robot becoming self-aware and learning human emotions, but *Bicentennial Man* makes a clearer statement that Andrew, the protagonist, does learn to love and therefore 'becomes human.' A comparative analysis of this film and *A.I.* could potentially offer interesting insight into how the approaches of each composer tackle similar subject matter.

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[83] Paul M. Sammon, *Future Noir: The Making of Blade Runner* (London: Orion, 1996), 273.
[84] Barham, "Scoring Incredible Futures," 251.

APPENDIX A:

PROMINENT, RECURRING THEMES

### "Cryogenics" theme



*Description*: A long, flowing melody in celli, often accompanying scenes of loneliness.

*Cues*: (1 Cryogenics), (3 Henry / Doctor Discuss Monica), (10 Reading Pinocchio), (32 Other Davids / Suicide), (34 Into the Ice)

### "Curiosity" theme



*Description*: A short, bitonal motive played solely in electronics, often accompanying David's curiosity.

*Cues*: (4 Introduction to David), (6 Hide and Seek), (7 Programming David / Perfume)

### "Bonding" theme



*Description*: First introduced in flutes and horns, this theme represents Monica's gradual acceptance of David.

*Cues*: (6 Hide and Seek), (9 David Draws the "Bird"), (11 Eating Spinach / Scissors), (29 Joe's Warning About Humans), (31 Meeting David / Hobby), (37 David's Day with Monica)

**"Monica's" theme**

*Description*: The most traditional melody in the film and stated almost exclusively in piano, this represents Monica's love for David from his perspective.

*Cues*: (7 Programming David / Perfume), (10 Reading Pinocchio), (35 Stored Memories / Blue Fairy), (37 David's Day With Monica)

**"Blue Fairy" theme**

*Description*: A long, flowing melody sung by a solo female voice, this accompanies David's discussion with the Blue Fairy and the advanced Mechas.

*Cues*: (7 Programming David / Perfume), (33 Finding the Blue Fairy), (36 Explaining to David)

**"Nostalgia" theme**

*Description*: A soft, piano melody that almost always accompanies parents' remembrances of their lost children.

*Cues*: (4 Introduction to David), (7 Programming David / Perfume), (14 Abandoned in the Woods), (23 Hobby's Pictures of David)

**"Abandonment" theme**

*Description*: This theme grows throughout the first act and culminates in a full orchestral statement when Monica abandons David in the woods.

*Cues*: (7 Programming David / Perfume), (8 Martin Comes Home), (14 Abandoned in the Woods)

**"Searching" theme**



*Description*: A simple three-note motive that comes to prominence when David is searching for the Blue Fairy.

*Cues*: (7 Programming David / Perfume), (30 Escape from Rouge City / Manhattan), (32 Other Davids / Suicide), (33 Finding the Blue Fairy), (34 Into the Ice)

**"Teddy's" theme**



*Description*: A bouncing theme in oboe, this accompanies Teddy's introduction and later when he hands David Monica's lock of hair.

*Cues*: (7 Programming David / Perfume), (35 Stored Memories)

APPENDIX B:

CATALOGUE OF CUES

This Catalogue of Cues was created using the Dreamworks Video 2002 DVD release of *A.I.: Artificial Intelligence*.[85] It includes all music in the film including both diegetic (grey background) and non-diegetic (white background). The organization and designation of the cues was derived solely from the music as heard in the DVD version of the film and therefore is not related to the official soundtrack album or the written score.

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[85] *A.I.: Artificial Intelligence*, directed by Steven Spielberg (2001; Universal City, CA: Dreamworks Video, 2002), DVD.

| cue | scene | time | length | musical description | themes | spotting notes | reduction | musical perspective |
|---|---|---|---|---|---|---|---|---|
| 1 | Cryogenics | 6:50 - 8:02 | 1:12 | - single mid/high cell line playing Cryogenics theme<br>*** Khachaturian - Gayaneh's "Adagio" (same key/instruments)<br>- vins come in when parents enter Cryogenics (7:35)<br>- starts on shot of Robin Hood book (dm chord) | Cryogenics | - begins after "But in the beginning, didn't God create Adam to love him?"<br>- ends when Monica takes speaker out of purse | Y | Monica |
| 2 | Son Cryo-ed | 8:10 - 8:55 | :45 | - "Garland Waltz" from Sleeping Beauty | | - heavily reverbed/muffled<br>- diegetic, what Monica plays for cryo-ed son | | |
| 3 | Henry/Doctor Discuss Monica | 8:55 - 10:14 | 1:19 | - related cell line from cue 1<br>- vln chords accompany<br>- changes to single line at "Martin is merely 'pending'" (9:13)<br>- vln counterline comes in "all her grief goes undigested" (9:21)<br>- back to chords over celli line at cut to Hobby's office (9:38)<br>- dm chord on shot of dad's pic | Cryogenics | - begins right after "I can still hear you."<br>- ends when Henry comes home | Y | Monica |
| 4 | Introduction to David | 10:35 - 14:16 | 3:41 | - high electronic pads<br>- brings in violin note when he touches floor (10:52)<br>- mid string sustains, w/ harp when Monica is arguing (11:21)<br>*"almost warm, Romantic"<br>- EH when she starts to rethink (11:47)<br>- piano version of the Nostalgia theme when David looks at pictures (12:33)<br>- colder strings when Henry explains to Monica (13:05)<br>- synth celesta after Monica says, "Of course, I'm not sure." (14:07) | Nostalgia<br>Curiosity | - begins on alien-like shot/reveal of David<br>- ends on shot of mobile in David's room | Y | Monica |
| 5 | David Changes | 14:58 - 15:34 | :36 | - low electronic pad followed by higher pads<br>- piano/harp atonal arpeggio | Curiosity | - begins when Monica shuts door<br>- ends at coffee the next morning | | Monica |
| 6 | Hide and Seek | 15:34 - 18:28 | 2:54 | - repetitive harp figure<br>- Curiosity theme in electronics when Monica takes coffee (15:41)<br>- repetitive, meandering piano theme when David studies coffee (15:49)<br>- Curiosity theme in electronics when Monica notices David (16:09)<br>- piano theme again when David studies her cup (16:18)<br>- Curiosity theme in electronics when he startles her making bed (16:29)<br>- horn/celli when he's smiling at her (16:34)<br>*"Curiosity theme continues over top<br>- repetitive harp figure when she walks away (16:48)<br>- music pauses when she's startled by him (16:54)<br>- filled out version of harp figure, mixing strings, harp, electronics (16:57)<br>- horn theme from before now in WWs, gluck when she continues her business (17:03)<br>*"canonic treatment, like it's chasing itself<br>- repetitive harp figure (17:19)<br>- Curiosity theme in electronics when she remembers David in closet (17:34)<br>- horn theme from before now in piano/flute when he finds him from closet (17:38)<br>- string filigree when he finds her in bathroom. (18:10)<br>*"one quiet statement of horn theme in piano | | - begins on "double" shot of David's eyes<br>- ends when he shuts door to bathroom (Monica on toilet) | Y | Monica<br>(David?) |
| 7 | Programming David/Perfume | 20:35 - 28:40 | 8:05 | - harp playing Nostalgia theme when she's tucking David in<br>*"although warm, synth celesta sound creates unsettled feeling when Monica is staring at him<br>- electronic pads on shot of Monica picturing frozen Martin (21:17)<br>- pads continue when Monica sets David up to be imprinted<br>*"repeated pno/harp notes added<br>*"very quiet harp octaves on Searching theme<br>- strings take over when Monica starts explaining (22:16)<br>- a touch of the Blue Fairy theme when she touches his neck to start the imprinting (22:35)<br>- electronic pads back in when she starts the imprinting (22:48)<br>*"another quiet statement of Searching theme in pno<br>- synth celesta when David's face changes (23:29)<br>- Monica's Theme in pno when David asks if Monica will die (23:53)<br>- synth celesta when David calls her "Mommy" (23:53)<br>*"scene curiously ends with synth celesta after "touching moment"<br>*"gradually becomes more unsettled as he puts his head in her lap<br>- Nostalgia in solo piano when David whispers "I love you, Mommy; I hope you never die." (26:41)<br>*"reliance on THE MOTIVE connects this to Abandonment<br>- playful becomes more unsettled when David appears (24:50)<br>- solo English Horn when David appears (24:50)<br>- two statements of Curiosity theme in electronics when David notices perfume (25:08)<br>- solo oboe right before David appears again (25:25)<br>- Curiosity theme again on shot of spilled perfume (25:49)<br>- synth celesta continues into scene with synth celesta after "touching moment"<br>*"reliance on THE MOTIVE connects this to Abandonment<br>- sustained violins when Monica leaves (26:18)<br>- Abandonment theme in oboe (28:39) for Martin's awake | Nostalgia<br>Searching<br>Monica<br>Blue Fairy<br>Curiosity<br>Abandonment<br>Teddy | - begins on Monica preparing David for bed (after the awkward dinner)<br>- ends on shot of David and Teddy in doorway when Monica and Henry leave | Y | Monica<br>then David |
| 8 | Martin Comes Home | 29:33 - 30:22 | :49 | - soft, dissonant brass chords with atonal piano when David looks at Martin (30:05) | Abandonment | - begins when Monica listens on phone<br>- ends after shot of David starring at Martin in wheelchair | Y | Monica<br>(foreshadowing)<br>then David |
| 9 | David Draws the "Bird" | 32:54 - 33:59 | 1:05 | - high strings<br>- oboe solo when he draws the bird (33:30)<br>*"snippet of Bonding theme?<br>- electronics on close-up of drawing (33:38) | Bonding? | - begins after Martin asks when his "build day" was<br>- ends on shot of spinning pills | Y | David |
| 10 | Reading Pinocchio | 34:24 - 35:53 | 1:29 | - starts with repetitive variation of Cryogenics theme in violins<br>- solo piano plays Monica's theme when she starts reading about the Blue Fairy (35:17) | Cryogenics<br>Monica | - begins when Martin asks Monica to read Pinocchio<br>- ends on first shot of table | Y | Monica<br>then David |
| 11 | Eating Spinach/Scissors | 36:36 - 41:44 | 4:43 | - nearly inaudible vln or via entrance<br>- slowly grows to unsettled chords<br>- brass/electronics punctuate the drooping face<br>- barely perceptible electronic high pitch for surgery (37:21)<br>- piano comes in on shot of Martin looking at Monica holding David's hand (38:27)<br>- dark strings when Martin attempts to deceive David (38:34)<br>*"soft music box notes, oboe notes sporadically<br>- mix of short string washes, sustained brass, and dark electronic pads when David appears with scissors (40:07)<br>*"Bonding theme?<br>- two sustained oboe notes when he leans in to cut (40:52)<br>- back to string washes when he snips (41:07) | Bonding? | - begins on close-up of David eating spinach<br>- ends on them setting up for birthday party | Y | Monica<br>then David |

| cue | scene | time | length | musical description | themes | spotting notes | reduction | musical perspective |
|---|---|---|---|---|---|---|---|---|
| 13 | Near Drowning | 44:02 - 45:31 | 1:29 | - low rumble on look of fear<br>- mix of soft, atonal string tremolo chords and brass<br>- more pronounced electronics on shot of David in pool (44:50)<br>- no musical release when Martin is revived<br>  * more string chords and horn<br>- harp/pno arpeggio and synth voices on overhead shot of David (45:16) | | - begins right when David is poked<br>- ends on David coloring in his room | | David |
| 14 | Abandoned in the Woods | 45:32 - 52:29 | 6:57 | - * "Only Have Eyes for You" sung by Dick Powell<br>- starts out as tinny, radio music<br>- broadens (both arrangement and stereo space) when he puts her down<br>  * very Glass-like<br>- soft repetitive pno figure<br>- Nostalgia theme in pno figure<br>- back to pno figure when she looks back to him (46:53)<br>- warm strings when she sits next to him (47:11)<br>- oboe and synth celesta play Abandonment theme when Monica looks at David's paintings (46:12)<br>- beginning of pno and string arpeggios on cut to car ride (47:52)<br>- more urgent version of the repetitive pno figure when David asks her questions in the car (48:06)<br>- Abandonment theme in pno when Monica sees Cybertronics sign (48:36)<br>- long "vamp" in strings and piano while Monica stops and decides to turn car (48:47)<br>- music dies down to a few sporadic, repetitive rumbles when David exits car (49:14)<br>- dissonant string figures when Monica approaches David (49:34)<br>- pno playing Abandonment theme when David asks if he'll be alone (50:25)<br>  * each phrase punctuated by Glass-like piano arpeggio<br>- music escalates when David pleads (51:04)<br>- back to fuller, Glass-like arpeggios in strings when she runs to car (51:11)<br>- Abandonment theme in horns when she explains to him where not to go (51:19)<br>- music increases in urgency after Monica pushes David down (51:55)<br>- full, dramatic statement of Abandonment theme in strings over Glass-like arpeggio (52:02)<br>- dissonant piano crashes on shot of David as car drives away (52:13) | Nostalgia<br>Abandonment | - begins on shot of David coloring in his room<br>- ends on black | Y | Monica<br>then both? |
| 15 | Joe Convincing Client | 53:59 - 54:59 | 1:00 | - * "Only Have Eyes for You" sung by Dick Powell | | - begins when Joe snaps his head<br>- ends on Joe outside walking down street | | N/A |
| 16 | Street Music | 54:49 - 56:13 | 1:24 | - diegetic music playing from street | | - begins when Joe's outside walking down street<br>- ends when he turns on his hand mirror | | |
| 17 | Stairs to Client | 55:57 - 56:32 | :35 | - ambient, soundscape | | - begins when he holds up room key<br>- ends just before he snaps on "Guys and Dolls" | | N/A |
| 18 | Joe's Second Client | 56:33 - 57:20 | :47 | - * "Guys and Dolls" sung by Stubby Kaye and Johnny Silver | | - begins when Joe answers the guy's question<br>- when Joe snaps his head | | N/A |
| 19 | Joe Cuts Off Barcode | 57:44 - 58:25 | :41 | - ambient, soundscape | | - begins when Joe and Teddy are walking in woods at night | | |
| 20 | Scrounging for Parts/Rounding Up | 59:15 - 1:05:50 | 6:35 | - low, dark, strings, piano, brass, perc when the parts are dumped | David | - begins on shot of pile of mecha parts<br>- ends on shot of Teddy watching moon fly away | | David |
| 21 | Nanny's Lullaby | 1:05:06 - 1:05:50 | :44 | - Debussy-like (traditional French lullaby)<br>- mixes with score | | - begins when the mecha are being hauled away<br>- ends on shot of Teddy watching moon fly away | | |
| 22 | Flesh Fair | 1:05:50 - 1:14:40 | 8:50* | - "What About Us" by Ministry<br>- heavy metal | | - begins at Flesh Fair<br>- ends when Johnson-Johnson drags David out into open<br>- "it comes as goes throughout scene" | | |
| 23 | Hobby's Pictures of David | 1:17:35 - 1:19:43 | 2:08 | - harp/strings/oboe music of excitement<br>- small section of strong comforting horns/strings when Joe and David are set free<br>- solo piano playing Nostalgia theme over sustained strings on shot of pictures (1:17:50)<br>  * playful, also excitement<br>- strings swell on shot of Hobby (1:18:15)<br>- minimalist gestures continue, brass more prevalent when employees tell Hobby they found David (1:18:29)<br>- solo clarinet with Nostalgia theme when (1:18:15)<br>- repetitive harp (electronics?) figure on cut to David and Joe in woods (1:18:59)<br>- solo taken up by solo flute<br>- figure intensifies on shot of moon (1:19:10)<br>- strings play ominous chords when David decides to go the other way (1:19:28) | Nostalgia | - begins when David and Joe escape the Flesh Fair<br>- ends with shot of Teddy being hauled away | Y | Hobby<br>then David |
| 24 | Joe Knows Women | 1:20:21 - 1:20:51 | :30 | - "Cheek to Cheek" sung by Fred Astaire | | - begins when the mecha snaps head again<br>- ends when he snaps head | | |
| 25 | Road to Rouge City | 1:20:59 - 1:23:46 | 2:47 | - harp/strings/oboe music of excitement<br>- minimalist marimba/strings start when Joe and David start walking (1:21:23)<br>  * playful, also excitement<br>- sustained notes over repetitive marimba figure<br>- minimalist gestures continue, brass more prevalent (1:23:15)<br>- ** Strauss - Der Rosenkavalier quotation (1:23:15)<br>  * minimalist gestures still continue underneath | | - begins when Joe points to moon<br>- ends when they're on escalator | Y | David |
| 26 | Rouge City Streets | 1:23:43 - 1:25:40 | 1:57 | - diegetic music playing from street | | - begins when they're on escalator<br>- ends when they're in Dr. Know's place | | |
| 27 | Joe's Radio Music | 1:25:13 - 1:25:17 | :04 | - * "Only Have Eyes for You" sung by Dick Powell | | - begins when they're in Dr. Know's place | | |
| 28 | Dr. Know | 1:25:37 - 1:30:10 | 4:33 | - blurs the line at times between diegetic and non-diegetic<br>- barely perceptible pad | | - begins when they're in Dr. Know's place<br>- ends after David asks how the Blue Fairy can make a robot into a real boy | | |
| 29 | Joe's Warning About Humans | 1:31:03 - 1:33:56 | 2:53 | - no change when David starts back at Joe<br>- more electronics added when Joe responds (1:32:00)<br>- harp comes in when Joe says, "She cannot love you." (1:32:18)<br>- dark strings/brass chords when Joe explains why humans hate them (1:32:22)<br>- brass/percussion pno when they exit to the street (1:33:07)<br>  * snippet of Bonding? | Bonding? | - begins when David leaves Dr. Know<br>- ends when David starts the amphibicopter | | David |
| 30 | Escape from Rouge City/Manhattan | 1:33:58 - 1:39:05 | 5:07 | - electronic beats (similar to "rounding up" music) when David starts amphibicopter<br>- minimalist marimba/strings music, similar to "road to Rouge City," when they start flying (01:34:52)<br>  * Searching theme<br>- another Searching theme statement in strings<br>  ** Strauss - Der Rosenkavalier quotation (01:34:28)<br>  * Searching theme in strings<br>  * Gershwin-esque?<br>- more urgent trumpet repeated notes when Manhattan border is reached (01:35:49)<br>  * Searching theme statement in strings<br>  * another Searching theme in strings<br>- what seems to be the Searching theme becomes that "motive"<br>- texture thickens with strings and more brass when they see the weeping lions (01:36:45)<br>- more dramatic with flute/pic arpeggios on close up of lion's face<br>- synth pads and strings when they enter the building (01:37:59)<br>- harp while Joe reads door (01:38:10)<br>- solo horn as Joe guides David to enter room (01:37:59)<br>  * Nostalgia theme when?<br>- Bonding theme???<br>- synth celesta and strings when David enters room (01:38:36)<br>  * Bonding theme???<br>- repeated harp note when David approaches chair (01:38:51) | Searching | - starts when David moves amphibicopter<br>- ends after Hobby sits David down | Y | David |

| cue | scene | time | length | musical description | themes | spotting notes | reduction | musical perspective |
|---|---|---|---|---|---|---|---|---|
| 31 | Meeting David/Hobby | 1:39:06 - 1:41:54 | 2:48 | · dark, electronic rumblings, dissonant strings/brass when other David appears<br>· eerie synth pad, string sustains when David talks to David (01:39:16)<br>· string sustains as Hobby approaches David (01:40:03)<br>· bowed cymbal, tam-tam as David starts to threaten David (01:40:03)<br>· harsh, violent string, piccolo, brass gestures when David starts swinging the lamp (01:40:12)<br>· oboe with Bonding theme when David asks about Blue Fairy (01:41:57)<br>  * unsettled harmony underneath | Bonding | · starts when David meets David in chair<br>· ends after Hobby sits David down | | David |
| 32 | Other Davids/Suicide | 1:43:51 - 1:49:20 | 5:29 | · voiceless choir note sustains when David starts to get out of chair (01:43:51)<br>  * other voices, string harmonics, electronics layer<br>  * strange, electronic flourish when camera pans past Hobby's son's picture (01:44:11)<br>· layers thicken, darken on shot of hanging David robots (01:44:24)<br>· everything cuts out except two choral lines at shot David through the eye holes (01:45:19)<br>  * low synth, string, brass, and upper woodwinds swell when he looks through the eyes<br>· Searching theme in cello/horns when Cryogenics statue is revealed(01:45:45)<br>· dramatic, cluster of orchestral and choral sounds builds with zoom in on David's empty face (01:46:32)<br>  *** Ligeti - Lux Aeterna, "Kyrie" from Requiem, and Atmospheres<br>· texture thins out to choral and string sustains as David sits on ledge (01:46:55)<br>  * Searching theme in oboe or EH and synth celesta (01:46:51)<br>· string sustains, bubbling harp/piano figure as David is underwater (01:47:34)<br>  * Cryogenics theme in vla? (01:48:08)<br>  * pronounced Cryogenics theme statement in vlns (01:48:27)<br>· solo oboe when David starts to see something (01:48:59) | Searching, Cryogenics | · starts when David starts to see something<br>· ends when David is pulled away underwater | | David |
| 33 | Finding the Blue Fairy | 1:50:12 - 1:55:38 | 5:26 | · dark brass and string chords as the amphibicopter enters the water<br>  * Searching theme?<br>· synth celesta playing murky figure over wavering strings on shot of Pinocchio (1:51:20)<br>  * oom-pah figure in synth calliope<br>· repeated piano note as amphibicopter climbs stairs (1:51:54)<br>· Blue Fairy theme in voice and synth celesta on shot of Blue Fairy (1:52:30)<br>  * several repetitions (similar to David's repeated pleas to her?)<br>  * ends on Dm chord | Searching, Blue Fairy | · starts when David's amphibicopter goes underwater<br>· ends when it cuts to the ice | Y | David |
| 34 | Into the Ice | 1:55:37 - 2:01:33 | 5:56 | · voiceless chorus with a contrapuntal variation of the Cryogenics theme<br>· atonal piano arpeggios over synth pads, strings, choir, and perc when David is activated (1:58:02)<br>· sustained vlns on shot of Blue Fairy (1:59:10)<br>  * previous eerie music continues underneath<br>· Searching theme in oboe when Blue Fairy crumbles? (2:00:01)<br>· synth pads and quiet vln flourishes as David wakes up<br>· repetitive piano accompaniment figure when David gets up (2:02:00)<br>· Monica's theme in solo piano when David thinks he's home (2:02:06)<br>  * quiet synth pads underneath<br>  * not actually his home<br>  * modulates to match woman's voice singing "David" (02:03:11)<br>· religious-like, warm string chords as David talks to the Blue Fairy (02:03:21)<br>  * women's voices join | Cryogenics, Searching | · starts on cut to ice<br>· ends when David "wakes up" | Y (up to activation) | Mechas then David |
| 35 | Stored Memories/Blue Fairy | 2:01:33 - 2:07:07 | 5:34 | · solo piano and harp join when Teddy approaches David (2:06:00)<br>· Monica's theme in synth celesta when Teddy pulls out lock of hair (2:06:17)<br>· repetitive harp figure as David implores the Blue Fairy (2:06:38)<br>· silence, then excited strings when David hears door knock<br>· excited strings flourishes when David goes to answer door (02:07:41)<br>· synth pads when advanced mecha comes in room (02:07:59)<br>· solo oboe when they hold hands (02:08:12)<br>· harp plays Blue Fairy theme when advanced mecha say resurrectees die (02:08:20)<br>  * F#m chord when advanced mecha say resurrectees die | Monica | · starts when David "wakes up"<br>· ends after Blue Fairy says, "Your wish is my command." | Y | David (Mechas?) |
| 36 | Explaining to David | 2:07:08 - 2:11:03 | 3:55 | · solo cello when advanced mecha explains David is the living memory of humans (02:10:24)<br>· F#m chord when advanced mecha agrees to bring Monica back (02:10:57)<br>· "awakening" music in strings and clarinets<br>· repetitive lead in to Monica's theme in piano as David opens her bedroom door (2:11:50)<br>· Monica's theme in solo piano when he enters her room (2:11:56)<br>  * full version, even to the refrain<br>  * repeated several times<br>  * often accompanied by light strings, EH counter line<br>· whimsical strings and harp when David shows paintings (2:14:53)<br>  * Bonding theme in oboe | Blue Fairy | · starts on shot of mobile<br>· ends when day breaks | | David (Mechas?) |
| 37 | David's Day with Monica | 2:11:03 - 2:18:47 | 7:44 | · repetitive piano lead in when Monica shows her to her bed (2:16:05)<br>· refrain of Monica's theme in strings and horn when David walks her to her bed (2:16:57)<br>· repetitive piano lead in when Monica voice over comes in (2:17:04)<br>· Monica's theme in solo piano when voice over comes in (2:17:04) | Monica, Bonding | · starts when day breaks<br>· ends at end | Y | David (Mechas?) |

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