



Creating «the Ultimate Retro-Future»: Music, Nostalgia and Futurity in «Tron» (1982) and «Tron: Legacy» (2010)

ACADEMIC
TEXT

by [Elizabeth Clendinning](#)

Two humanoid figures stand facing each other across a sparse geometric plane. Both are dressed in full body suits and helmets encrusted in lines of light – one man's orange, the other, blue. Each holds a Roman-style discus with matching glowing electric patterns. The men stare each other down. The larger, orange-clad man moves, launching his disc at the smaller figure in blue. The disc whizzes through the air. The man in blue blocks, dodges, and then hurls his disc in one swift motion at his adversary. His disc flies through the air, a blue beam of neon light against the darkness of The Grid. The man in orange is too slow. The disc hits him squarely in the chest, and he explodes into a blaze of orange light, his particles dissolving into the air – «derezzed». The figure in

blue sighs, then holds up his disc in triumph. It is yet another pyrrhic victory for Tron, a computer program champion who fights for the human Users against the megalomaniacal Master Control Program of the ENCOM computer mainframe.

Released at the dawn of the personal computing era, *Tron* (1982) brings its programmer protagonist Kevin Flynn (Jeff Bridges) and its viewers into a dystopian world inside a computer mainframe. *Tron* quickly became a cult classic and has been cited by animation pioneers as vastly influential on the development of subsequent animation technology and style (Thompson 2010), despite being overshadowed at the box office by other science fiction classics released in the same year, such as *Blade Runner* and *E.T.: The Extra-Terrestrial*. While some critics were underwhelmed by the cohesion of *Tron*'s plot, critics and viewers alike were dazzled by the film's costumes, special effects, and score – an orchestral/choral/synthesized composition from American electronic music composer Wendy Carlos.

Twenty years later, when Walt Disney Pictures began work on the long-anticipated sequel *Tron: Legacy* (film released in the United States in 2010, DVD in 2011) in the mid-2000s, the score was also of utmost concern: one handed to the French electronic dance musician duo Daft Punk. The sequel's soundtrack achieved critical attention and also mainstream popularity, attaining a high position of number four on the Billboard 200 charts during its fifth week of release (Billboard Chart Archives 2012) and a nomination for Best Score Soundtrack Album for Visual Media at the 54th Grammy Awards (54th Annual Grammy Awards and Winners 2012).

The two *Tron* films lie among a long literary history of science fictional dystopias – worlds in which human attempts to create a perfect society (utopias) have instead ended in society's degradation. While the concept of «utopia» was coined by Sir Thomas More in his book of the same name in 1516 and has been explored since that time in numerous artistic works, dystopia as an idea primarily emerged in the literature of the twentieth century. This dark side of utopia has been discussed theoretically by a number of cultural critics, each focusing on a different root cause of societal disjunction: Friedrich Nietzsche on the relationship of science and religion, Theodor Adorno and Walter Benjamin on the relationship between popular culture and the degradation of society, and a number post-Marxist writers who approach dystopia as a critique of capitalism, among other individuals and approaches.

There is also a rich literature that explores narrative literary and cinematic works featuring dystopias (Booker 1994, Baccolini and Moylan 2003, among others). The cinematic dystopia is often treated as its own category within

both dystopian and broader science fiction literature, in particular for its thematic focus on the dehumanization of society through technology, or difficulty in accommodating technologically-based, post-human individuals. Dystopian themes were particularly popular in American film of the 1980s as conservative social politics mixed with the rise of new technology (Baccolini and Moylan 2003, 2-4), which is seen in *Blade Runner* (1982), the cinematic adaptation of *1984* (1984), *Brazil* (1985), and the Arnold Schwarzenegger films *The Terminator* (1984) and *The Running Man* (1987), among others.

Musical analysis of these other 1980s dystopian films might yield fruitful understandings of the relationship between then – current conceptions of society and musical choice – in fact there are several articles on the music of *Blade Runner* that explore these themes (Hannan and Carey 2004, Stiller 1997). However, the comparison of *Tron* and *Tron: Legacy* presents a unique opportunity to examine two different generational understandings of the same dystopian world as evoked through musical compositional choices: as an innovative 1980s-grounded dystopian alternate reality and as a nostalgic re-evocation and re-visioning of the same world – the building of «the ultimate retro-future» thirty years later (Stanley 2010).¹ While both films present their audiences with a futuristic computer world, they are also both artifacts of their times. Nostalgic views of the past, engagement with the problems of the present, and possibilities for the future echo throughout each film; their comparison allows insight into thirty years' of social, technological, and musical change.

This article examines the compositional processes and results of both of the films' electronic-orchestral scores. Through theoretical and cultural analysis, the article suggests that in conjunction with narrative structure, the role of the electronic versus orchestral musical idioms as important cultural signifiers undergoes a profound shift from the first film to the second. By exploring the relationship of dystopia, nostalgia, presentism, and futurism found in the sonic world of *Tron*, this article illuminates how the two *Trons* represent changing attitudes towards the broader relationship of humans and technology over the past thirty years.

Science Fiction, Music, and *Tron*

*Does a Solar Sailer glide silently, propelled only by music?
Does it whoosh like a glider? Or whine like a Mach 3
fighter? Or roar like the interior of a power plant?*

Robert Moog (Moog 1982: 53)

Science fiction as a genre can envelop a vast array of narrative possibilities and the definitions offered for the genre by its creators and fans have been just as broad.² However, the stories of science fiction generally include several key characteristics:

1. A setting in an imaginary world – in the future, an alternative version of our own present or past, or in another dimension/world
2. A focus on science or technology as opposed to the supernatural as the origin of differences from our own reality
3. An exploration of social, cultural, or political values based upon these alternative possible realities

While other genres of fiction may incorporate these elements, their centrality to the narratives and world-building of science fiction distinguishes these stories from others. Because of these distinct characteristics, the genre presents a particularly fruitful environment for examining the relationship between sound, visuals, and plot within a filmic medium. While realistic films can rely on a full array of real-world sounds and music to populate its soundscapes, the science fiction film must evoke an alternate past, present, or future through sound, one that is by necessity grounded in the sonic possibilities and histories of the «real world», but is sufficiently different enough to communicate its otherness.

Since the birth of modern filmic science fiction with George Méliès's *Le Voyage dans la Lune* (1902), thousands of science fictions films have flooded the silver screen, all with different narrative worlds to be evoked by their respective sonic environments. In *Off the Planet: Music, Sound, and Science Fiction Cinema* (Hayward 2004), Philip Hayward traces this lineage over the course of the twentieth century, from the development and coalescence of live and synched filmic orchestral styles through the 1940s, the electronic experimentalism of the 1950s, the merging of these past two styles of the 1960s and 1970s, and what he calls the «Science Fiction Cinema Revival» of the late 1970s to the present. Drawing on orchestral technique, electronic experimentalism, and popular music structures, the *Tron* films fit squarely in the final category; the films strive for homage, pastiche, and innovation, all at once.

It is perhaps unsurprising that Hayward's conception of the development of music in science fiction film is not predicated upon the type of alternative world each composer aims to evoke, but rather a social-technical take on film as history. The music of science fiction, like its stories, can be described as what science fiction author Corey Doctorow calls «radical presentism». He argues that «what is crucial to the formation of good science fiction is not the problems of the future, but instead the concerns of the present, or even the past – not only because those are the trends that we *can* predict, but because that is what concerns us». (Doctorow 2009) What is exciting about examining the *Tron* films and their music is what the relationship of compositional narrative choices between the two represents, both in terms of current trends in thinking about music as a representations of humanity within society and also how the reinterpretation of an older imaginary world reflects musical and social change between the ideals of the 1980s and those of the present.

Entering «the Grid»: Dystopia and Other Narrative Themes in *Tron* (1982)

Despite its later popularity, *Tron* was originally almost canned before production. Inspired by the animation of the video game *Pong*, Steven Lisberger and business partner Donald Kushner pitched their storyboards and sample animated sequences to Warner Bros., MGM, and Columbia. They were rejected by each studio before being given a chance to produce a test reel for Walt Disney Pictures. The test reel, depicting a flying disc battle, impressed Disney executives and after a re-write of the script, *Tron* was born.

In the original *Tron*, the main character, Kevin Flynn (Jeff Bridges), is a software engineer at ENCOM whose innovative code has been stolen by Ed Dillinger (David Warner). After being fired by Dillinger, Flynn physically enters his company's computer system through quantum teleportation at the encouragement of Alan Bradley, Flynn's friend and fellow ENCOM employee. To his surprise, Flynn finds himself in a dystopian world – the Grid – where Programs take the form of humans and the true humans are called the Users. The Programs are enslaved to the Master Control Program (MCP) and have almost lost their faith in Users – all except for Tron (Bruce Boxleitner), Bradley's Program counterpart, who aids Flynn in his journeys through the computerized world. After much struggle, Flynn is able to destroy the MCP, return to the human world, and discredit Dillinger, becoming the CEO of ENCOM.

A dystopian world – an imaginary place in which everything is as bad as possible, usually built upon a corruption or decline of society – can be built from a number of different premises. However, one common theme in the construction of cinematic dystopias is a dehumanization of society through technology, or difficulty in accommodating technologically-based, post-human individuals. Found in film as early as *Metropolis* (1927), similar themes emerge in *Blade Runner* (1982), *The Matrix* (1999), and *Minority Report* (2002), among others. In these films (as in *Tron*), it is the pursuit of a more perfect world – a utopia – through advances in technology that results in the dystopian conditions, thus playing on both the optimism and fear felt by individuals as technology increasingly gains a foothold into their daily lives.

Tron's exploration of human versus posthuman identities within the unique context of the computer world is distinctly both humanistic and moralistic – the Programs, with interpersonal and societal responsibilities analogous to their human counterparts, function in a distinct world that mirrors our own in terms of having its own geography, social structures, and belief in higher powers – the Users. However, unlike in the noir world of its filmic dystopian contemporary, *Blade Runner*, the conclusion of *Tron* is more optimistic. Through allying with Tron and other Programs, Flynn is able to restore freedom to the Grid, preemptively save his own world, and – as we discover in *Tron: Legacy* – spend years working directly with the Programs towards

developing a utopian world in which humanity and technology mix freely. Wendy Carlos's score for *Tron*, a smooth and syncretic blend of orchestral and electronic, constructs its aural world in this vein.

Wendy Carlos and *Tron*

As the first feature film to be set both in the real world and cyberspace and one of the first full-length films using computer-generated imagery (CGI),³ the visionary visuals of *Tron* required an equally visionary soundtrack to accompany them. The sound supervisor for the film, Michael Fremer, originally envisioned orchestral scoring for the «real world» and electronic scoring for the «computer world». Fremer enlisted Wendy Carlos to complete the electronic portion of the task. Wendy Carlos (previously Walter Carlos, 1939-) is an American composer of electronic and orchestral music who first came into public prominence for her work *Switched-On Bach* (1968), which earned three Grammys in 1969. She is perhaps best known to the general public as a composer of film scores: *A Clockwork Orange* (1971), *The Shining* (1980), and *Tron* (1982). An early adapter of Moog synthesizer technology, Carlos is cited by many composers and musicians as one of the most influential electronic composers of her generation.

When approached by Fremer, Carlos did not want to be pigeonholed as a composer of purely electronic music, especially considering her extensive orchestral composition training. She instead took on the whole project with the idea of fusing the orchestral and synthesized elements, stating «I heard the score as a blending of colors, with no harsh, artificial separation of timbres» (Moog 1982, 54).

Carlos's vision for a completely blended score was new and required a complex process to complete. Recording, synchronizing the different audio lines to each other, and synching the audio with the visuals required a complicated setup of multitrack tape recorders, playback machines, synchronizing units, and eventually the help of a computerized music cue locator program that Carlos wrote herself (Moog 1982, 54-55). After live recording sessions for the soundtrack with The London Philharmonic and the UCLA Chorus, Carlos discovered that many of the orchestral recordings in particular suffered from poor microphone placement; thus, she supplemented the orchestral lines in places with synthesizers. However, according to Fremer (Moog 1982), the final mix for the film tended to foreground sound effects and minimize the relative volume of the composed score in the mix of the soundtrack, creating substantial differences between the sound of Carlos's soundtrack (the one later released to LP and CD) and that heard in the film.⁴

Though diverse and complex, much of Carlos's soundtrack centers around two major melodic themes. The first—what Carlos calls the «emotional, romantic theme» (Carlos 1982) – emerges in the title credits. As the title

screens appear, the first sounds are tremolo strings that slowly fade downward in pitch. They are then interrupted by a tone cluster created by accented attacks from across the orchestral and synthesized spectrum of instruments, which appear simultaneously with lines of light. The sonic and visual confusion resolves: a man in a light suit appears and bursts into a ball of lightning which becomes the word «TRON» as the first melodic fragment appears—an ascending stepwise motive. It will eventually expand into the core of the first theme, a shifting melodic fragment best represented over a seven-beat meter:

Figure 1: *Tron* «Romantic» Theme (B Major version)^{5 6}



The harmonic and instrumental setting of this melodic theme varies greatly throughout the film. Often presented in the strings, the theme is generally balanced by a counter-melody played by an instrument with contrasting timbre, such as oboe. The phrase may be concluded with equally varied ascending phrases that provide contour near-mirrors of the original. This theme reappears at what might be commonly considered the most emotional points in the plot – the fatal wounding of Ram, a Program that had been assisting Flynn; Tron encoding his data disc with the ability to reconnect to the real world; and the lines of light sweeping across the cyberspace world as the Programs are reconnected with their users. While the texture of this theme is generally dominated by the strings, a close listen reveals that at moments of highest emotional tension – such as the film's ending – they are bolstered by human voices in the higher registers and occasionally synthesizer, heard most prominently in the lower registers.

The second theme, described by Carlos as a «rhythmic, quasi-military idea» (Carlos 1982) first appears in the inside of the computer when Flynn is attempting to retrieve evidence of his creation of the games with the help of a digitized likeness of himself, CLU (Codified Likeness Utility). The primary motive for this theme is once again in a shifting seven-beat meter, composed primarily of a call-and-response in the upper voices supported by a countermelody in the lower voices:

Figure 2: *Tron* «Military» Theme



This theme is also frequently scored with synthesizer replacing the bass counter-melody. Generally appearing at its fullest during moments of dramatic tension, such as the escape of Tron, Ram, and Flynn from the games, the stress on electronic texture in this part of the score emphasizes the mechanized nature of their surroundings as opposed to the humanized nature of the Users and the Programs.

The reappearance of these transposable themes in seven-based meters creates a sense of continuity throughout the film, and while not quite leitmotif, they provide a familiar framework for the listener. For the most part, Carlos's melodic motives are simple and short, yet their development takes place over sweeping lines involving a large string of modulations and underlying suspensions. Although generally lacking functional harmonic development, the expansion of musical themes through harmonization and modulation throughout the score has much in common with previous Western orchestral scoring traditions. Synthesized lines serve as a futuristic timbral elaboration of the score's subtle, stylistically orchestral sonic palette. While electronic noises in supplement of the score are still commonplace throughout the film to signify the «alienness» of the world, the scored elements are a synthesis of both orchestral and electronic compositional styles.

Tron, Revisited: Narrative Themes in *Tron: Legacy* (2010)

Despite talk of a sequel since the original film's release, *Tron: Legacy* was also a project that almost never came to fruition, only entering production after another visually-stunning test film – a race between the *Tron* universe's electronic light cycles – was presented to Disney executives in 2005. The film's plot mirrored the fans' wait – the plot is primarily set almost thirty years after the original *Tron*. Kevin Flynn (still Jeff Bridges) worked for several successful years as the CEO of ENCOM, but then disappeared. Twenty years later, Kevin's son, Sam Flynn (Garrett Hedlund), has neglected his responsibilities toward his father's company until he accidentally transports himself into the Grid while investigating a mysterious message originating from his father's old video game arcade. He discovers that his father had been working within the Grid for years with Tron (still Bruce Boxleitner) as well as CLU in order to create a perfect computerized system.

When a new set of Programs called isomorphic algorithms (ISOs) spontaneously evolved in the system, the relationship between the elder Flynn, CLU, and Tron disintegrated. CLU purged the ISOs as imperfections in the system, enslaved Tron, and trapped the elder Flynn in the computer system along with the last remaining ISO, Quorra (Olivia Wilde). With the arrival of Sam and the aid of Quorra, both Flynns must work together to destroy CLU before he finds a way to exit the Grid and attempt to «perfect» the outside world.

Visually, the two films are light years apart in terms of animation style – *Tron*'s sparse, block-color landscapes are vastly different from the elaborate digital city- and country-scapes presented in *Tron: Legacy* – reflecting the vast strides that «cutting edge» technology had made over the last thirty years. However, the inclusion of iconic Tron-world elements from the first film in the second—the light suits, the light cycles, and the identity disc battles – creates an updated feel for the original world. Aurally the films are also quite different, with no substantial borrowing of musical material from the first to the second. However, while the compositional effects too differ, these differences work in similar ways with the narrative of the story, working to create both a sense of continuity within each film and an evocation of the computerized world of *Tron*.

Daft Punk and *Tron*'s Legacy

The duo of Guy-Manuel de Homem-Christo (1974-) and Thomas Bangalter (1975-) rose to popularity as Daft Punk in the French rave scene in the mid-1990s with their instrumental track «Da Funk» (1996). They achieved international popularity both through the electronic dance music (EDM) scene and having their music sampled in several prominent hip-hop recordings, including Kanye West's «Stronger» (2007). Although both artists have pursued short cinematic works, *Tron: Legacy* was their first feature film score.

Music director Joseph Kosinsiki brought Guy-Manuel and Bangalter onto the scene near the beginning of the conception of *Tron: Legacy*. After he arranged a meeting through mutual acquaintances, it became clear that all parties were interested in the collaboration – among other things, Guy-Manuel and Bangalter had valued the original *Tron* film soundtrack as an early musical influence (Schütz 2008). Guy-Manuel and Bangalter initially worked by passing musical themes back and forth with Kosinsiki through iTunes (Tron Legacy Soundtrack Preview 2010), thus establishing some of the film's major musical themes from the beginning. Despite having no prior formal orchestral compositional experience, the two musicians chose not to collaborate with an established film composer, and instead were assisted by orchestrator Joseph Trapanese, dictating the orchestral lines to him using the synthesizer keyboard to explain how the lines should function (Stanley 2010). Because of their unconventional early entry into the project two years before

the film's release, Daft Punk's music became an integral part in developing *Tron* as a film visually, aurally, and thematically, from providing a «tuning fork» for the noise the light cycles make to aiding the actors in understanding the yet-to-be-realized digital world and its characters, to influencing the pacing and timing of cuts within the film (Tron Legacy Soundtrack Preview 2010).

The final result was a combination of Daft Punk's original electronic samples, orchestral recordings at Air Lyndhurst in London, and post-production at Skywalker Sound. The resulting aural atmosphere for *Tron: Legacy* is equal parts orchestral and electronic and features blending of electronic and orchestral layers in a way that is reminiscent of Carlos's soundtrack. However, the overall construction of the soundtrack draws its legacy from electronic dance music traditions, shaping both the aural atmosphere of the new *Tron* and how the film's viewers perceive and interpret – or re-perceive and re-interpret – the *Tron* universe as a whole.

The composition of individual cues within *Tron: Legacy* ranges from purely electronic («Derezzed», found in the End of Line night club scene in which Zuse, CLU's David Bowie-like toady, presides over a throng of gyrating Programs – [cf. youtube video below](#) to hear the sound track, out of the film's context) to completely orchestral («Adagio for Tron», the arpeggiated string theme underscoring the tale of Tron's self-sacrifice.) Like in Carlos's score, then, the most orchestral moments are reserved for the most humanistic scene whereas the most electronic are for those most deeply embedded inside the Grid. Additionally, like in the Carlos score, most of the cues in *Tron: Legacy* are a blend of electronic and orchestral layers that are built on reoccurring musical themes.

Figure 3: Tron: Legacy Trailer, featuring «Derezzed»

The musical themes present in «The Grid» are a typical example of this compositional style. First heard during the opening sequence, this cue guides the audience into the *Tron* universe as the camera travels first through the digitalized world then to our real world, flying across digital space through a city, across the water, and then to Kevin Flynn's house, where he is telling his story to his son. This excerpt was mixed using six distinct tracks: two synthesized tracks and one each containing a full orchestra, (sub)bass, percussion, and voice.⁷ The form of «The Grid» is based upon the slow layering and re-layering of the different tracks throughout the duration of the excerpt. The first to enter is a synthesized layer, a low hum that is barely audible. It exits as soon as the next set of instruments enter, a quadruple ostinato created from a composite of drum and the first synthesizer. Then another layer is added: arpeggiated triads in the low strings that suggest the key of A_b minor.⁸ After eight further iterations, the lower strings are joined by the upper strings, which echo the third of the arpeggiated chord:

Figure 4a: *Tron: Legacy*, «The Grid», Ostinato Expanded



This motive was also reused in the film's trailer:

Figure 4b: *Tron: Legacy* Trailer featuring "The Grid"

Following another eight iterations of these combined ostinato patterns (full strings, percussion, and Synth 1), Flynn finishes his story («I got in»). The camera sweeps over the city and the music gains more layers. Here the sub-bass is palpable, but practically inaudible as it accents every beat. At the same time, the «Tron melody» (the single reoccurring melodic element in the film) enters in Synthesizer 2. The second half of the melody is doubled by the strings (their entry is indicated with an asterisk):

Figure 4c: *Tron: Legacy*, «Tron Melody»



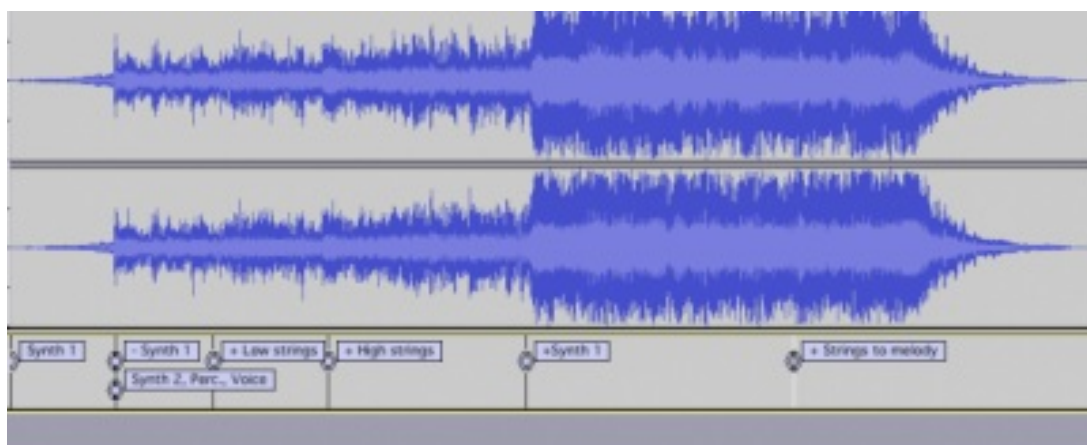
The melody maintains some diatonic qualities; the harmonization of this melody, however, gives the excerpt an overall feeling of modal mixture. Through harmonic planing that follows the descending melodic line in the strings and the sparing doubling of non-melodic chord tones, the essence of the melody becomes more couched in the textural combination of synthesizer and string orchestra than in harmonic function, the use of neighboring tones or 4-3 suspensions in the strings at nearly every chord change evoking a sense of harmonic lushness without providing further functional harmonic elaboration.

Taken together, these important aspects of «The Grid» illustrate the oft-shared musical lineage of both EDM and minimalist orchestral composition. Although the underlying beat of the excerpt (104 bpm) is slower than most electronic dance music, the quadruple composite beat of the percussion and Synth 1 are reminiscent of a basic EDM rhythmic structure. This feel is amplified by the entry of the (sub)bass a common EDM musical element that is only recently and rarely explored by film music composers (Keller 2003).

Perhaps the most important characteristic of this excerpt common to both minimalist orchestral and electronic dance music is its accumulative form. In the article «(Ac)cumulative form in Pop-Rock Music», music theorist Mark Spicer defines the form as «...various interlocking riffs...are introduced one by one until the groove is complete». (Spicer 2004, 33) Although Spicer notes that this form was present throughout the Western classical music tradition as far back as the nineteenth century in works by such composers as Charles Ives, he emphasizes that this format came to the fore in Western pop and rock music of the twentieth century, and that «with the rise of synthesizers, sequencers, and (a little later) drum machines in the 1970s and early 1980s, pop-rock composers were able to control the layering process with ever-increasing precision, resulting in accumulative beginnings that are often musically complex and challenging to analyse» (Spicer 2004, 34).

While Carlos's score also used the layering effects of what could be considered accumulative form, her goal was to blend synthesizer and orchestra. Daft Punk, reflecting EDM aesthetics (Keller 2003, 37-39), seeks to draw attention to the textural relationship between synthesizer and orchestra and create dramatic tension throughout each scene – an aural transformation clearly visible in the waveform of «The Grid» as the music and visuals of the film move literally from the two-dimensional world of a basic computer to the real-world city:

Figure 4d: *Tron: Legacy*, Waveform of «The Grid»



Although the strings and synthesizers are still used to double melodic line, the accumulative form – that most typical for cues in *Tron: Legacy* – demonstrates a significant shift in the positioning of electronic and

orchestral score elements; instead of electronic elements entering an orchestral world, it is now the orchestra that builds itself from popular music forms.

Orchestral and Electronic: Encoding Temporality, Nostalgia, Presentism, and Futurism

After rumors began to spread of the making of a second *Tron*, fans asked Wendy Carlos whether or not she had been asked to score the second film as well. Replying in the negative, she responded:

I simply assume they will go with one of the well known people in LA, that would be the «obvious» decision, wouldn't it? Too bad, because it could be fun, and lead to a unified new score containing familiar elements, another blend of acoustic and electronic, not so likely if someone else does it (Carlos 2002).

Although Daft Punk did not use familiar elements from the old score, they did indeed write a score that was «another blend of acoustic and electronic», one that even used some techniques similar to Carlos's. However, the objectives in combining the two types of musical material are completely different. While Carlos blends the electronic textures into the orchestra, building long, sweeping, metrically and harmonically-complex material, Daft Punk keeps the orchestral and electronic timbres distinct, layering and remixing them in 4/4 ostinati that, while embracing orchestral compositional traditions, encodes it within a predominantly EDM-style framework. While both are trying to portray another world within the computer, each combines orchestral and electronic sounds in a format that, unlike mid-century science fiction film scores, does not posit a one-to-one correlation between «electronic» and «future».

A cynic could suggest that it was each composers' limits – Carlos's more classical, pre-EDM musical training and Daft Punk's lack of classical orchestral training – that yielded the resulting soundtracks. However, they also came to the project with different objectives. In the 1980s, it was part of Carlos's vision to combine the synthesizers and orchestra to unify the computerized and the real – «It was a natural, *simpatico* idea that exactly complemented the way the film combined live action and video graphics» (Moog 1982, 54) – thus positively combining human and machine. Yet, for Daft Punk, the challenge was to create «the ultimate retro-future» (Stanley 2010) – a different goal, one that would bring to the forefront the inevitable play on the fans' longing for a revived the *Tron* franchise.

To avoid pigeonholing their score into a certain historical period, Daft Punk looked backwards to create the future. They «thought it was very important that the score not sound like real world music. It could not feel 2010 in any aspect» (Lee 2010). In this context, the acoustic orchestra in the score was in part used to counteract this dated effect: according to Thomas Bangalter, «The violin was there 400 years ago and will remain in 400 years. But the synthesizers that were invented 20 years ago will probably disappear in 20 years» (Lee 2010). The orchestral past thus becomes the orchestral future.

However, their blend of orchestral timbres with the accumulative structure and EDM components suggests that the relationship of electronic and orchestral sound, historicity and futurism, nostalgia and forward-thinking is more complicated. While the simple encoding of electronic/futuristic and orchestral/past still has a role in creating narrative, the orchestral timbres coded primarily within EDM aesthetics both harkens back to the Carlos score but also draws on the viewers' sonic frames of reference to create aural nostalgia. The EDM-like compositional structures refer more broadly to the birth and golden age of electronic dance music during the early 1980s – sonic allusions that shaped the work of Daft Punk and the musical interests of their fans. The present and future of the 1980s have now shifted to become the past and the present, and the sound of the future a remix of the two eras. In the digital age where spatial and temporal difference fades away, the past and the future both become one: the present.

More broadly, historicity and the relationship of past, present, and future is a crucial element of science fiction. Even before Doctorow's idea of radical presentism, prominent science fiction authors such as Ursula K. LeGuin called science fiction «thought-experiments», «not predictive, but descriptive» (LeGuin 1969, n.p.). She states that:

All fiction is metaphor. Science fiction is metaphor. What sets it apart from older forms of fiction seems to be its use of new metaphors drawn from certain great dominants of our contemporary life – science, all the sciences, and technology, and the relativistic and the historical outlook, among them (LeGuin 1969, n.p.).

The *Tron* films emerge as metaphor not only from the ideas in their narratives, but in their very existence, their similarities and differences as a cultural pair. What does the second film signify in reference to the first? *Tron: Legacy* presents the viewer (and listener) with a constant commentary on how the *Tron* world and our world have changed; its visuals, music, and narrative were designed specifically to bring the viewers into a reincarnation of the mental place that they inhabited in viewing the original *Tron*. Picking up the word «retro» from Daft Punk's description of their own work, it might be tempting to write off the second film as a sort of retroism of the type that

is presently popular, a shallow evocation of the past in an almost kitschy manner. Alternatively, it could be viewed as representing a very serious longing for a time or place no longer in existence as evoked through pastiche, the prototype of Jamesonian nostalgia that has commonly been portrayed as a move towards assembling meaning in the relatively meaningless time of late capitalism (Jameson 1991).

The element of «mashup» of historical eras and thematic material is certainly prevalent in a large portion of science fiction film, cloaked in terms both futuristic and historic. For example, the *Star Wars* narrative, which occurred «a long, long time ago, in a galaxy far, far away», has been described by both contemporary and current critics as a film built on nostalgia – a myth in technological clothing that reinforces historical fantasies of power, gender, and race encoded through the setting of the future (Brode and Deyneka 2012, Rubey 1978) through familiar elements of the past. This objective is augmented through John Williams' score that, through drawing back to orchestral timbres and other conventions of early twentieth-century cinematic scoring, harkens the listener back to this earlier time in their social history (Lerner 2004). The *Tron* films, however, differ from the *Star Wars* model in that they are explicitly grounded in our real modern history; if it is pastiche they offer, it is to assuage a direct longing for a time that in some sense did exist.

The growth of the digital age in particular adds a twist to Jameson's argument and to interpretations of science fiction film music merely as referential nostalgic pastiche. Film, as Anne Friedberg argues, was already a medium inherently ahistoric in its very method of construction (Friedberg 1991, 419–31); with the dawn of the computer era, the entire concept of historicity changes as individuals can simultaneously access intact isolated, intact cultural artifacts from multiple historical periods. As Andreas Huyssen suggests,

The more memory we store on data banks, the more the past is sucked into the orbit of the present, ready to be called up on the screen. A sense of historical continuity, or, for that matter, discontinuity, both of which depend on a before and an after, gives way to the simultaneity of all times and spaces readily accessible in the present. The perception of spatial and temporal difference is being erased (Huyssen 1994, 253).

The simultaneous availability of both the original and new *Tron* films, in physical copy and held contemporaneously in the viewer's memory, thus may reflect a modern audience's aspatial and atemporal conceptions of popular culture. However, what the *Tron* films seem to offer is a combination of all of the above: a fun remembrance of past decades, a somewhat serious longing

for the technological optimism for the 1980s, and an ahistorical memory of how the 1980s were and should be remembered. The film's critical dystopian leanings additionally suggest a more complex relationship between present and past: while referents to the 1980s and the original *Tron* film are prevalent and some elements (the lightcycles, for example) are certainly in place to please fans, *Tron: Legacy* provides a not uncritical take both on its predecessor and overall technological change over the past thirty years.

In *The Future of Nostalgia*, Svetlana Boym posits the idea of different types of nostalgia (Boym 2001, 49-55) which can capture all of these distinctive facets of the narrative and musical portions of the *Tron* films and their place within our current society. The *Tron* franchise could fit in with her description of «restorative nostalgia» – a serious evocation of collective snapshots of a shared past—and indeed, the public memory of *Tron* as a cultural icon is still as strong one. However, the narrative and musical themes of the second film are suggestive also of her idea of reflective nostalgia: a type of nostalgia that «cherishes shattered fragments of memory and temporalizes space» (Boym 2001, 49), one in which individuals are able to use referents to the past to construct their own personal-within-shared cultural memory and meaning. This type of nostalgia's role perhaps is not so much an attempt to recreate the self from physical referents of the past, but a longing for past thoughts and philosophies – «less the memory of what actually was than of what was once thought possible» (Lowenthal 1985, 8). Thus, the musical and narrative nostalgia in *Tron: Legacy* strengthens the overall themes of the film that demonstrate longing not so much for the social and narrative constructions of another time, but both a longing for what the 1982 *Tron* had and continued to symbolized to its fans – earlier dreams of technological innovation, technological optimism, the potential for *collaboration* between humans and machines, musically and otherwise – and a reflection on certain failings of individuals and society to achieve those dreams.

«The Game Has Changed»: Science Fiction, Electronic Music, and «The User»

Correspondingly, perhaps what is most interesting is not what *Tron: Legacy* and its soundtracks have to say about the past or the future per se, but how we presently envision our own musical and societal changes over the past thirty years. Although technical excellence of *Tron: Legacy* celebrate three decades of advancement in film production, its themes embody what might be perceived as critical failings in the last thirty-years of human-machine (and human-human) social development within our real world. While the original film focused primarily on world-building and demonstrating how human and post-human moralities could eventually work together within a blended world, the initial outlook in *Tron: Legacy* is bleaker. The rejection of technological discovery, genocide, failure of isolationist governing policies (all in reference to the ISOs) and ennoblement of a warlike culture built on

superficiality, power, and prestige (in reference to the light battles, Zuse and, the End of Line club scenes) all speak to the failures of Western capitalist political-economic policies of the 1990s and 2000s. Worst of all is Sam Flynn's initial attitude towards the problems of his own world: his complacent disinterest towards his father's technological legacy and his own potential agency in both the «real world» and the Grid.

Sam's initial failings could be seen as a critique of our real-world attitudes towards technology – a quantum leap in the technological capabilities of the average consumer, but without a corresponding leap in attention to and responsibility towards how technology is used. Thirty years ago, for most people controlling the operations of a computer to a substantive extent was merely a dream; the creation of its visual and aural effects far beyond the reach of laymen.⁹ Today, home computer users can delve into creating and manipulating their own visual and aural worlds. While many users still interact with their machines to only minimal degrees, some individuals have embraced these opportunities. In the spring of 2011, Indaba Music – a online music networking and promotion site—co-sponsored a remix contest for the soundtrack to *Tron: Legacy* in an official, Disney-sponsored contest («Tron: Legacy Reconfigured» 2012).¹⁰ Supplied with the individual «stems», or sub-tracks, of three cues from the film, the world at large was invited to recreate the soundtrack to their sensibilities, competing for prizes including the opportunity to have the winning track released by Disney. Almost 900 mixes were subsequently published on the site during the three-week contest period, which opened at the same time as the film was release on DVD. Although this is a small number when compared to the millions of viewers who had seen the film to that point, it reflects a growing trend towards both online fan engagement with cinematic worlds outside of the theater and growing agency in terms of producing and manipulating musical content. The viewer – the User – can now become more than a passive receiver of information, but rather actively engage with popular culture through their machines. It is simply the task of the User to take up this power and responsibility to forge their own paths in the technological present.

Although entering a computer *Tron*-style is still a fantasy, the technological revolution has brought control over computers into our daily lives in ways which seemed impossible only several decades ago. Looking back at the technological hopes and fears of the 1980s as encapsulated in *Tron* and their historical re-framing in *Tron: Legacy*, one can not help but marvel, but to identify with Kevin Flynn as he states in the narration over «The Grid»:

I kept dreaming of a world

I thought I'd never see

And then, one day

I got in.

Although our society might not yet have light cycles, we have witnessed the growth of computers from simple machines to cyber spaces – a world we thought we'd never see realized, one that is now within our power to shape and control. The future might be a utopia or a dystopia; it is our choice as Users to shape this future. As for the two Tron films, their legacy is in the power to draw their audience backwards to go forwards. While the films evoke the fondly-remembered 1980s for modern audience, both through the presence of the original film and the subsequent referential qualities of the second, the audiences are invited to examine the development of the Grid as a paradigm for understanding our own real world – to remember those technological dreams of the 1980s, assess their failings, and revisit and reinvent them within our own decade. By examining how Daft Punk sonically reframed the technological world of the original *Tron* and reshaped it for our present era, we can better understand not only the musical-technological outlook of the early 1980s but also how we have adopted elements of this usable past to shape our own current visions of the future.

→ footnotes

1. While there are a number of other science fiction filmic «universes» that have had continuing narrative development through a series of installments over time, analysis of the Tron universe provides several benefits. For one, since there are only two films and those films are separated in conception by almost thirty years, the comparison can show a direct contrast in changing viewpoints rather than a gradual development over time. Additionally, that the two films share the creative direction of Steven Lisberger and the interpretations of several actors but not the composers allows the story to be reframed within a truly different sonic context. Finally, the concurrent, dialectic, creative processes that underscored the sonic realizations of both Tron films is vastly different in approach and practice than the subsequent re-scoring of older films – for example, the numerous newer musical creations for *Metropolis* (1927).
2. As molecular immunologist and science fiction researcher Mark C. Glassy put it, «Over the years I have come across several definitions of what makes a film science fiction, and all of them, for one reason or another, have been unsatisfactory. The science in SF cinema, either bluntly stated or subtly implied, covers a lot of ground, thereby making any plausible definition difficult and sometimes cumbersome. This is very much like the definition of pornography: You don't know what it is but you know it when you see it» (Glassy 2001: 2).
3. There are several competitors for «the first» film to use full computer-generated imagery (CGI), depending on the criteria for what constitutes true CGI and how much of the film must be CGI-based to «count». Some early examples of CGI-based films are *Metadata* (1971), *Westworld* (1973), *Tron* (1982), and *The Last Starfighter* (1984).
4. In this article, I refer to appearances of musical material primarily when they appear in the film and how they correspond to the plot, not by given soundtrack title, because the two versions are at points so divergent in sound.

5. All transcriptions and audio realizations of these transcriptions are the author's own work and are provided here for pedagogical purposes only. Tron, Tron: Legacy, and the soundtracks of the two films remain the property of Walt Disney Pictures, and the author encourages the readers to access legal copies of the full audio tracks or films only.
6. The following figures and audio examples were created in Finale 2012, using sound samples meant to provide the closest equivalent to the instrumentation of the original score. They are intended to demonstrate overall melodic and harmonic structure only, and due to their nature cannot capture the micro-timings or timbre of the original.
7. The distinct musical stems analyzed were drawn from the Indaba Remix Contest. These individual tracks are no longer publicly available.
8. Kevin Flynn's voice also enters at this point; however, since its function is primarily narrative, it will not be discussed as an integral part of this composition.
9. Although electronic instruments, synthesizers, mixers, samplers, etc., were in widespread use by musicians throughout the 1970s, the first computer-based amateur composition groups only emerged in the late 1970s and 1980s, and the very early precursors to sites like Indaba in the 1990s (Duckworth 65–88).
10. Throughout the length of the contest, site members could download the mixed-down tracks from three album numbers «The Grid», «Derezzed», and «End of Line» in .wav format. Using their own software of choice, the users were invited to remix the materials and post the finished products to the websites for the opportunity to win prizes. These tracks, no longer available on Indaba, were in part used for the analysis presented here.

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