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Abstract:

There is a trend that has been steadily taking place in Hollywood film music—the deteriorating occurrence of expressive melody and leitmotifs. It seems that musical theme in many Hollywood films is no longer a recognizable melody but instead, it is a more of a feeling, a groove, an atmosphere, rhythmic pattern, or some kind of soundscape. The film audiences seem to increasingly consider melodies to be old-fashioned and dated. There is a perception that if a film score contains strong and memorable leitmotifs, those may undermine the drama while being experienced as sounding rather archaic. It is understandable that film industry has a conscious objective to create an appeal to a "younger" demographic. This audience is already accustomed to enjoying groove and rhythmic-pattern-based music, so the film scores naturally reflect the popular commercial music tendencies. In addition, the film storytelling narrative has become increasingly fragmented which also has significantly contributed to fragmentation of melody and weakening of the musical leitmotif concept. It is quite apparent that the approach to Hollywood film scoring has moved away from use of expressive

THE END OF OPERATIC APPROACH IN HOLLYWOOD FILM MUSIC

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melodies and leitmotifs. The Wagnerian operatic principle which relies on leitmotifs appears to be steadily going by the wayside. This might be due to multiple factors such as the extensive reliance on temp tracks and MIDI mockup demos. In addition, there is noticeable influence of musical trends and genres such as rap, hip-hop, and EDM, as well as the use of music in video games. Finally, many Hollywood films increasingly exploit fragmented storytelling rather than the linear one. The fragmented storytelling is less conducive when it comes to effective use of expressive leitmotifs, the practice which has been successfully utilized in the film scores composed throughout the "Golden Age of Hollywood" movies. Today's Hollywood film scores tend to sound more like sound design projects which establish a mood and feeling through all other musical means rather than the use of melody. In this article I will examine some of the main trends which in my opinion contribute to these changes.

Keywords: film music, leitmotif, melody, Hollywood, scoring

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Sažetak:

Postoji stalan uzlazni trend u hollywoodskoj filmskoj glazbi—sve slabija pojava izražajnih melodija i lajtmotiva. Čini se da glazbena tema u mnogim holivudskim filmovima više nije prepoznatljiva melodija, već je to više osjećaj, *groove*, atmosfera, ritmički uzorak ili neka vrsta zvučne kulise. Čini se da filmska publika sve više smatra melodije staromodnim i zastarjelim. Postoji percepcija da, ako filmska glazba sadrži snažne i nezaboravne lajtmotive, oni mogu potkopati dramu i biti doživljeni kao nešto arhaično. Razumljivo je da se filmska industrija svjesno nastoji približiti "mlađoj" demografskoj skupini. Ova publika već je navikla uživati u glazbi koja se temelji na *grooveu* i ritmičkom uzorku, tako da filmske partiture prirodno odražavaju popularne komercijalne glazbene tendencije. Osim toga, narativ filmske priče postaje sve fragmentiraniji, što je također značajno pridonijelo fragmentaciji melodije i slabljenju koncepta glazbenog lajtmotiva. Sasvim je očito da se pristup snimanju holivudskih filmova udaljio od upotrebe izražajnih melodija i lajtmotiva. Čini se da wagnerovsko operno načelo koje se oslanja na lajtmotive

KRAJ OPERNOG PRISTUPA U HOLLYWOODSKOJ FILMSKOJ GLAZBI

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uporno biva ostavljeno po strani. Tomu može biti više razloga, poput čvrstog oslanjanja na privremene zapise i MIDI *mockup demo*. Osim toga, primjetan je utjecaj glazbenih trendova i žanrova kao što su rap, hip-hop i EDM, kao i korištenje glazbe u video igrama. Konačno, mnogi holivudski filmovi sve više se koriste fragmentiranim, a ne linearnim, pripovijedanjem. Fragmentirano pripovijedanje manje je pogodno ako se želi uvesti ekspresivne lajtmotive—praksa koja je uspješno korištena u filmskim partiturama komponiranima za filmove tijekom "Zlatnog doba Hollywooda". Današnje hollywoodske filmske partiture više nalikuju projektima dizajna zvuka koji stvaraju raspoloženje i osjećaj svim drugim glazbenim sredstvima, a ne upotrebom melodije. U ovom tekstu ću razmotriti neke od glavnih trendova koji po mom mišljenju doprinose tim promjenama.

Ključne riječi: filmska glazba, lajtmotiv, melodija, Hollywood, filmska partitura

THE END OF OPERATIC APPROACH IN HOLLYWOOD FILM MUSIC

Mladen Milićević

A Starting Point: Operatic Approach

In the early days of Hollywood film industry, film composers who contributed to the film score had to be by default traditionally musically trained. This would assume that both film composers and musicians who performed film scores went through the classical music schooling and education. Such composers were able to write music for a classically staffed orchestra as that was being pretty much the only available music-performing tool they had on their disposal. So, the sound of an orchestra was used to achieve all those emotional effects that are usually expected from the most originally composed music scores, such as: to establish atmosphere, time and place, to move the action forward, to describe character, to accompany scene changes, to add to the dramatic impact, and to provide continuity across edits, just to name a few. Examples of this approach to creating film music may be heard in the films of the 1930s and 40s where composers like Erich Korngold, Franz Waxman, and Max Steiner wrote the music scores. Being classically trained musicians, their approach to film music was heavily based on the practice of using leitmotifs; a method of music composition extensively employed by Richard Wagner in his operas, and later widely adopted by film composers.

> As in most of Hollywood's derived Wagnerian practice, these motives slip usefully and interestingly around one another, acquiring additional connotations as the drama progresses by the way they are combined and the way their settings are transformed (Darby and Du Bois 1990, 430–6).

The leitmotif is a reoccurring melody that relates to a certain film character(s), object, place, emotion, or idea. Justin London pointed out that a leitmotif generally has three main features: it is short, distinctive, and consistent (Buhler et al. 2000, 14). Having leitmotifs of relatively short length makes them more malleable for all kinds of musical uses and manipulations. Needless to say that, as such, the leitmotifs are much easier for the film audience to recognize since shorter musical ideas, that are quite distinctive and memorable, can be consistently and effectively used throughout the film. However, this was the matter of the Hollywood's film scoring practice, but on the theoretical level the use of leitmotifs was deemed as rather "cheap" music tool:

> [T]he function of the leitmotif has been reduced to the level of a musical lackey, who announces his master with an important air even though the eminent personage is clearly recognizable to everyone. The effective technique of the past thus becomes a mere duplication, ineffective and uneconomical. At the same time, since it cannot be developed to its full musical significance in the motion picture, its use leads to extreme poverty of composition (Adorno and Eisler 1994, 5f.).

Composing for the Films begins with a critique of the leitmotif technique. In the task of "composition under pressure," this technique enables the composer to "quote where he otherwise would have to invent" (Adorno and Eisler, 4). Leitmotifs are said to be "the most elementary means of elucidation, the thread by which the musically inexperienced find their way about" (Neumeyer 2014, 168).
Nevertheless, the operatic technique of exploiting leitmotifs has been predominant approach in the early Hollywood film music, but it somewhat lost its importance during the sixties and seventies when more funk-jazz styles in the manner of Lalo Schifrin started becoming very trendy. Think of Schifrin's score for *Dirty Harry* (1971) for example (Fig.

Fig. 1. During the sixties and seventies funk-jazz styles became trendy, especially with Lalo Schifrin score for *Dirty Harry* (played by Clint Eastwood, 1971) (screenshot, fair use)

1), where the music composed for the funk-jazz combo rendered (at that time) a more commercial type of musical sound. Drums, bass, electric guitar, vibraphone, sax, and flute, plus all kinds of hand percussion were widely used instead of the big symphonic orchestral sound. Years later, John Williams most definitely revived the use of orchestral film music sound and the use leitmotifs in *Jaws* (1975) for which he received an Oscar. Around that time, many other film composers followed, and the use of leitmotifs and lush orchestral film sound culminated from the eighties though the end of the 20th century. To name a few most representative examples, think of many film scores by John Williams, Jerry Goldsmith, Howard Shore, James Horner, James Newton Howard; in which they extensively utilized leitmotifs in a manner of the Wagnerian *Gesamtkunstwerk* approach to film scoring.

Today, things have drastically changed, and it seems that anything goes and works in film music, from the big symphonic orchestration to the synthesized sounds and any kind of imaginable hybrid combinations. The normative formula for film scoring, especially the one that relies on operatic use of leitmotifs established during the "Golden Days of Hollywood," has significantly diminished.

The Temp Tracks Significance

In the film industry a temp track is understood to be an existing piece of music that is temporarily placed into the "rough cut" during the picture editing process. The main purpose of this music is to serve as a guideline for a director and producer to characterize certain style or

emotion that is appropriate for a given scene and/or the entire film. Temp music may be assembled from a variety of sources, but the most logical first choice would be from the film composer's own preexisting catalogue. However, any piece of music that fits the temporary need may be used. Temp music has been utilized in Hollywood films in variety of ways since the 1930s; though the most sophisticated use of the temp music is definitely linked to the introduction of digital music technology such as *Pro Tools* that allowed extensive music editing manipulations. Temp music today is generally assumed to serve as part of the communication between director and composer. Furthermore, movie producers may test-screen a film in front of different audiences, followed by surveys and focus groups. Let us not forget that Hollywood films are part of the entertainment industry, and as such, vetting the "products" before test audiences is nothing but healthy business practice. As not artistic as this practice may appear to be, it is a common part of the commercial feature-filmmaking process. Daniel Schweiger, a Hollywood music editor who has temp tracked dozens of films, concedes, "When a film tests badly, the temp track is the first thing to be blamed" (Black 1998).

In many instances the test-audience rating of the film can determine how much of the postproduction resources the studio or producers may allocate towards the finishing the film. In a way, the temp score is almost as influential toward the film's success as the final score may be. Many composers quite often get uncomfortable with temp tracks because as much as those can help in indicating the director's vision and musical direction to composers, they can be a real nightmare. Frequent hearings of the temp track by the director and editorial crew, often make them to fall in love with the temp music. For that, there is an official term used in Hollywood known as "temp love". If the temp music is perfect, the director may ask the composer to emulate a piece of music that is virtually indistinguishable from the temp track. This is not a big problem if the temp track got compiled from the composer's own archive of previously scored music. However, if the temp track is a well-known piece of music, the composer may be asked to strain the limits of copyright infringement while attempting to get "as close as possible" to the temp. If "as close as possible" is not close enough, despite initial intention of having temp tracks to actually be temporary, the temp may stay in the final version of the film. The

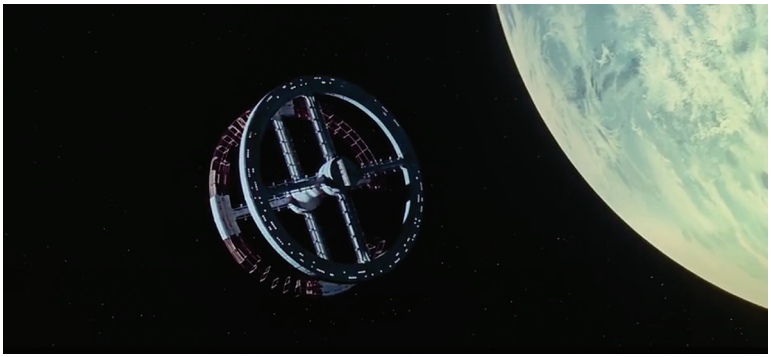

Fig. 2. A movie still from Stanley Kubrick *2001: A Space Odyssey* (1968). Hollywod composer Alex North scored the film using classical music pieces (screenshot, fair use)

best-known example of this is *2001: A Space Odyssey* (1968) for which Stanley Kubrick hired a well-known Hollywood composer Alex North to score the film (Fig. 2). Here is how Kubrick describes it in an interview with Michel Ciment:

> However good our best film composers may be, they are not a Beethoven, a Mozart or a Brahms. Why use music which is less good when there is such a multitude of great orchestral music available from the past and from our own time? When you're editing a film, it's very helpful to be able to try out different pieces of music to see how they work with the scene. This is not at all an uncommon practice. Well, with a little more care and thought, these temporary music tracks can become the final score. When I had completed the editing of *2001: A Space Odyssey*, I had laid in temporary music tracks for almost all of the music which was eventually used in the film. Then, in the normal way, I engaged the services of a distinguished film composer to write the score. Although he and I went over the picture very carefully, and he listened to these temporary tracks (Strauss, Ligeti, Khatchaturian) and agreed that they worked fine and would serve as a guide to the musical objectives of each sequence he, nevertheless, wrote and recorded a score which could not have been more alien to the music we had listened to, and much more serious than that, a score which, in my opinion, was completely inadequate for the film (Ciment and Kubrick 1982).

There are many examples where the temp track music ended up in the final movie release. Sometimes, only certain cues from the temp score might be kept while the largest part of the originally composed music would be still retained in the final version of the film. An example of this practice may be heard in *The Truman Show* (1998) by Peter Weir. In this case Burkhard Dallwitz composed the original score, but certain cues got licensed from Philip Glass's music for the film *Mishima: A Life in Four Chapters* (1985) by Paul Schrader.

Having temp music discarded at the end of film making process, there is very little available information about it, which makes it a very difficult subject to study. However, temp track music use in creating music for films is an important creative practice in the Hollywood film industry. Since it is used to test the audience, it also must be appealing and follow the current musical trends of popular music to a significant extent. Many times, music that is popular in the world of "outside of the film" ends up as a temp score, being a guide and a point of reference toward the creation of final score. However, once the film goes through the audience testing phase, it eventually gets approved by the "powers to be" (usually the director but most significantly the studio executives and producers). This means that the temp score got approved as well, and thus a film composer is ready to finally write the music. However, before the originally written score for the movie becomes ready to be recorded in the studio, it must be approved as well. Here lies one more hurdle to be resolved.

MIDI Mockups Significance

After the film score gets composed it must go through the MIDI mockup process, which is another skill that modern film composers need to master. A MIDI mockup is a sophisticated recorded demo of the composed film score, which is produced by using electronic samples to stand in for acoustic instruments. The main purpose of this is to get the "powers to be" to hear as close as possible how the recorded and finished film score is going to sound. To get the full orchestra into recording studio requires large budgets which, in the words of the music editor and my former student Alex Leavy, approximately costs $1000 per minute of recorded music. Before the film studio and producers get ready to release the funds for such expense, they need to approve or alter the project

before the budget gets committed to record live musicians. Therefore, a MIDI mockup of the orchestral arrangement first must be created, which in some cases (mostly on the very low budget films) becomes all the film will use.

MIDI mockups first came into wide use in the 1980s, when synthesizer and sampler technology developed to the point where it could make approximate replicas of acoustic instruments. The quality of this approximation is inexorably linked to the technology involved in creation of electronic MIDI mockup score. To illustrate the technological leap that took place over the last 40 years, one might think of the mobile phone technology and how much it changed during that time span. The same holds true for the MIDI technology which is required to create a MIDI mockup of the film score. These became extremely important, because there are directors who might use the quality of the mockup as direct indication of how the actual soundtrack will sound. A composer may write out a brilliant arrangement on paper (sheet music), but if there is no great sounding mockup, it may not cut it at all.

Up until 2001, when Nemesys released *Gigastudio*, and its predecessor *Gigasampler*, creating a convincing MIDI mockup with music samplers, which are electronic instruments that use sound recordings (or "samples") of real instrument sounds (e.g. a piano, violin, or trumpet), was an extremely difficult and tedious process. So, back in the eighties and nineties, prior to the release of *Gigastudio*, the best samplers were still tremendously limited in their performing capabilities. The key with music samplers is to create a "playable" instrument, but sample libraries were not performance friendly at that time. For example, if one loads a sound sample of a trumpet playing a long sustained legato note, that is the only articulation that can be played at a time. Consequently, a musical phrase such as the Indiana Jones theme, which involves different articulations and to a large extent varying note durations, becomes very awkward and nearly impossible to be played with MIDI sampler. Fortunately for him, John Williams was a much respected film composer who did not have to make a MIDI mockup. He could simply play the main leitmotifs on a piano to Steven Spielberg and get approval for the orchestral studio recording of the film score (Spielberg and Williams, [1981?]).

However, most film composers did not have the "luxury" which John Williams enjoyed, and thus they needed to create MIDI mockups with whatever technology they had at their disposal at the time. So, to make a

convincing demo with limited resources, having a music sample which can play only long or only short notes, composers needed to resort to writing leitmotifs with only long (or short) notes involved. In most cases, those tend to be long sustained notes played on individual instruments but, in many instances, those might also be sustained orchestral chords. Back in the late nineties, I personally had access and the opportunity to play the samples which Hans Zimmer used in his *Media Ventures* music studio at the time. Those samples were by today's standards extremely inadequate to render any complex melodic tune. Rather, those were much better for creation of long drawn sounds and general orchestral atmospheres. This limitation inevitably affected the types of melodies many film composers were able to write. The prevalent practice was that composers would actually be writing the score directly into a computer by entering MIDI information via their music keyboard, thus immediately creating a mockup demo by completely skipping the phase of first writing the music on paper. Instead, the reverse process would take place. Once the MIDI mockup got approved, then the MIDI information would be transcribed and converted into sheet music which will be playable by live musicians. This practice rendered music that was not fully utilizing the expressive capabilities of orchestral instruments, but rather the limited capabilities of the musical samples which composer had available. For that reason, many film scores gradually started to rely more and more on atmosphere-based soundscapes by shying away from creation of elaborate melodies.

Let me offer an example from Lisa Gerrard's and Hans Zimmer's score for the movie *Gladiator* (2000). It is quite unusual that a MIDI mockup demo gets released on the soundtrack CD, however there is *Gladiator Waltz* from the 2001 Decca soundtrack release entitled *More Music from the Motion Picture Gladiator* (Fig. 3). This provides us with the perfect opportunity to compare the demo cue with the orchestral recording which got released with the film. The melodic lines consist mostly of the notes having equal duration and articulation, which is pretty much what the music samplers around year 2000 could do. Though, the realism of electronically generated sound is quite impressive, it is apparent that this music was not originally written on a piece of paper, but rather directly played on a computer by utilizing MIDI music samplers. Compared with any of John Williams' scores at the time, such as *Star Wars: Episode I – The Phantom Menace* (1999), *The Patriot* (2000), and *Harry Pot-*

Fig. 3. In Gerrard's and Zimmer's score for *Gladiator* (2000) one can notice significant "traces" of Holst's *Mars, the Bringer of War* from *The Planets* (1918) (screenshot, fair use)

ter and the Sorcerer's Stone (2001), one may notice pretty significant difference in melodic refinement, so to say. While Williams's centers the emotional strength of his scores around elegant leitmotif melodies, Gerrard and Zimmer on the other hand build their muscle by adrenalin-propelled orchestral tutti sound, which is often driven by pulsating ostinatos. This general aesthetic inclination of the film composers could be undoubtedly sensed in many film scores due to the extensive use of MIDI sound samplers when crafting the mockup score.

As a side note, in Gerrard's and Zimmer's score for *Gladiator* one cannot escape but to notice significant "traces" of Holst's *Mars, the Bringer of War* from *The Planets* (1918). For this, Zimmer has been sued for copyright infringement by the Holst Foundation in 2006 (Schweitzer 2006). In addition, there is as well some obvious recycling of Zimmer's previous scores (for which he cannot be sued) such as *The Rock* (1996), but also the future ones such as *Pirates of the Caribbean: The Curse of the Black Pearl* (2003). This could possibly be due to the temp tracks that relied on Zimmer's own work, as explained earlier.

After the release of Nemesys' *Gigastudio*, which revolutionized the music sampling world, the further development of faster computers, and better software allowed the replication of acoustic instruments to progress steadily to the point where MIDI mockups are occasionally utilized in part, or in their entirety, in the final scores. As mentioned earlier, there are low budget films which due to budget constraints never intend to use live instruments altogether, but instead, completely rely on the best sounding MIDI sampled virtual orchestra for their final score. In any

case, the influence of sampling technology has significantly affected the aesthetics of Hollywood film music, especially when it comes to creation of elaborate and emotionally expressive melodies. Even though the quality and playability of music sample libraries have enormously advanced over the last 40 years, the aesthetics created as byproduct of their use in MIDI mockups is here to stay. The sample libraries' creators like Native Instruments seized the opportunity in this situation and started producing prefabricated sound phrases like *Action Strings* and *Action Strikes* and made them into an ostinato sounding preset. Instead of trying to emulate the complete instrument, they have taken just one (action) aspect of performance. In addition, the entire division or line of music samples has massively grown to encompass numerous arrays of cinematic atmospheres, textures, rhythms, and harmonic patterns. None of which are melodically driven (https://www.native-instruments.com/en/catalog/komplete/cinematic/).

With all the complexity and power of these sample libraries, today's film composer in addition to musical training (if any in some cases) has to also acquire an entirely new skillset for crafting convincing and good sounding MIDI mockup demos. Even with all the newest technology, it still comes down to composer's talent and hard work as the film scoring paradigm is continually being shifted. Thus, one must adapt, and with the rampant pace of technological development, one must adapt rather quickly.

Significance of Hip-Hop

Quantitative analysis published online in *Scientific Reports* (Serrà et al. 2012) of nearly half a million popular songs by 45,000 artists between 1955 and 2010, focused on changes in music's character of timbre, pitch, and loudness. The findings show that timbral variety went down and that songs were becoming more and more homogeneous. The pitch content had diminished which indicates that the number of harmonic changes and distinctive melodies has also gone down (Eveleth 2012). Interestingly, for some unknown reasons, one aspect of music that this study did not address is the rhythm.

If we take a closer look at how the technology in the past 40 years has impacted the music parameters stated above, it becomes clear that certain things were not just mere accidents. In the early hip-hop days, Dee-

jays used two turntables and a sound mixer playing two vinyl records simultaneously to extend the "beats" and music breaks. By doing so they realized that these sections of a song usually created strong response from dancers (breakdancing). In the early 1980s, followed by the advent of the increasingly popular drum machines such as *Roland 808* and *909*, hip-hop music producers were able to create their own drum loops. The evolution of the sampling technology permitted the hip-hop music makers to produce unique sounds from scratch, as well as being able to record and manipulate any other existing sounds. This was done through the use of the music workstations such as the *Ensoniq ASR-10* and very popular *Akai MPC*, as these music-making tools became widely available and affordable. One of the hip-hop producers, DJ Premier, explains it this way:

> Everything I do comes from DJing, because using samples is one of the ways in which we create music in the hip-hop world. It goes back to not having an instrument and not being able to afford to put a band together. So we used music that fits our atmosphere, and you have to understand how to convert samples into a format that works for our culture (Tingen 2007).

Later, personal computers with "digital audio workstations" (DAW), and powerful software applications became the norm, and nowadays all these tools are readily available in some form or another as mobile applications. For the simplicity of the argument, let me concentrate for a while on the *Akai MPC*, one of the most important pieces of technology when it comes to pivotal days of hip-hop music. *Akai MPC*s (MIDI Production Center) were designed in the late eighties with an intention of being very powerful drum machines, but they could do much more. Beyond the regular drum machine and sequencing features, the *MPC*s were equipped with sampling capability that allowed imaginative kinds of sound manipulation. Thus, one of the main approaches to producing hip-hop music became much more focused on sound manipulation, not only sonically playing with timbre, but primarily in the new ways of approaching the musical structure. Hip-hop producer's main goal was to construct a repeating figure that can be transformed through the addition or subtraction of different but predominantly rhythm-based musical elements at specific places in the song. The *MPC*s allowed for sound samples of those rhythm-based musical elements to be independently

and instantaneously played by simply pressing a keypad; therefore, using it did not require traditional music performing skills, such as playing a guitar or piano. If one were to manipulate sound in such a way, just by pressing a keypad and triggering a sample, then these operations get restricted to a very limited melodic and especially harmonic kind of manipulations. The main reason for that lies in the fact that melody and consequently the harmony conform to a rather sophisticated set of music rules, even if reduced to the simplest three or four chord structures. In other words, one must know something about music theory to create melodies and harmonies. However, learning music theory generally does not come in a vacuum and it is more than likely linked to knowing how to play an instrument, such as guitar, piano, or another string or wind instrument. Now, if one is confined to simply triggering "sonic events," the most important musical element becomes the rhythm rather than the melody. In fact, melody and harmony, in such case, become nothing but a major constraints and impediments of musical pliability. To "play" with loops and beats, one must only possess a basic sense of time (meter) and to be able to count. Play one kind of a rhythmic loop for four measures by pressing a keypad, then play another rhythmic loop by pressing another keypad. From the musical point of view, this seems like quite simple approach, but over the time of several decades it developed into a very sophisticated performance craft that is primarily based on rhythmic manipulations. The primary structure of hip-hop music is expressed through a cyclic loop-based form. This music making approach is exemplified in many beat-based hip-hop songs that influenced the music taste on a global scale.

Looking beyond all the social aspects of hip-hop and concentrating solely on what influence it made to the creative musical elements, it becomes apparent that it produced very significant shift from melody to rhythm. Repeating drum loops and beats while "rapping" on top of them could be perceived as the neglect of melody and harmony. Rapping itself, despite being expressed through the vocal parts, is primarily rhythmic in its nature, contrary to the predominant melodic use of singing vocals in musical cultures around the globe. There is an inevitable link between popularity of hip-hop and what was reported in the *Measuring the Evolution of Contemporary Western Popular Music* study that claims how pitch content has diminished and the number of harmonic changes and distinctive melodies has gone down (Serrà et al. 2012).

> Thus, beyond the global perspective, we observe a number of trends in the evolution of contemporary popular music. These point towards less variety in pitch transitions, towards a consistent homogenization of the timbral palette and towards louder and, in the end, potentially poorer volume dynamics (Serrà at al. 2012).

As stated earlier, in rap or hip-hop the performer doesn't sing much of elaborate melodic content, while the accompanying music is often just a beat with an endlessly repeated hook. There is also the use of the remix, where a singer, or better to say a vocalist, would perform over a 10 second or even five second sonic snippets taken from an already existing popular song. That way transformation of older more melodic music into a new catchy hook would be created, containing very little melody in it. Consequently, the general music taste has changed as well, giving preference to these trends. Therefore, not only that the temp score must reflect some of these wide audiences' musical preferences, but the final score must adhere to them as well.

EDM Significance

EDM (Electronic Dance Music) too, in addition to hip-hop, has been another significant musical development that "depleted" the melodic content of popular music. EDM is essentially a dance-based music largely based on a wide variety of percussive electronic music types used predominantly in nightclubs, raves, and festivals. EDM is a generic term not referring to a particular music style, but it rather covers many genres such as techno, house, trance, drum and bass, dubstep, etc. EDM music makers use repetitive 4/4 beats and rhythms that are electronic and minimalistic in their nature, where the rhythm is generally more significant than the song itself. In many cases, the vocals are not emphasized or used prominently. Here is an example of a possible dubstep song structure:

> 4/4 at 140bpm measures
> 1–32 = intro (keep it simple, and easy to follow rhythmically so DJs will want to match it up in the heat of a mix, or while performing)
> 33–64 = bass and drums – main meat of the tune
> 65–96 = add something (like a pad or slight change in bassline, some congas, or a ARP synth)

> 97–112 = break (take out most) (put your little voice sample in here, and a riser or a buildup take out the drums maybe the bass too.)
> 113–160 = All in (bass, drums, pads)—climax of the tune.
> 161–176 = subtract something (take out the congas, or the synthy ARP thing)
> 177–208 = outro (take out more stuff, get minimal here)
> 209 = ending (a little sound, or a delay echoing off into the distance, or your little voice thing you used in the break) (Cotec 2015).

EDM being created on the computer enabled virtually anyone with the necessary tools to become a "music" composer. There are software applications, such as *Fruity Loops* and many others, that concentrated on EDM's repetitive nature which allows for the algorithmic generative procedures to be used in creation of musical structure that is based on beats and patterns. Probabilistic algorithms could easily be applied to virtually all music parameters in order generate novel dance music. Recently "one knob" software approaches to simple and easy creation of the EDM-like music can be readily found as free download apps for mobile devices. Democratization of the music making tools empowered almost anyone to get a computer and setup a simple home-project recording studio, record some EDM music, and put it out into cyberspace. This has exceedingly surpassed those home-project recording studios in which people still act as performers of their own music, playing an instrument and singing. EDM music-making tools are open to the widest consumer demographic, which probably significantly contributed to enormous popularity of EDM music genres. One cannot but conclude that "a music-making tool" which can be easily used by the largest demographic, must be in its essence fairly simple. This simplification has been primarily achieved by diminishing the melodic and harmonic elements of music while compensating on increased rhythmic complexity. At the same time, the EDM genre massively explores the possibilities of sound design rather than melody, showing some amazing feats of sound design and catchy hooks with little or no melody at all. The popularity of EDM around the world is undeniably enormous and it had significantly reshaped the musical preferences of large demographics who are the moviegoers as well.

Video Game Music Significance

Another interesting field that incidentally contributed to the rise in rhythmic "complexity" at the expense of melody and harmonic development is music for video games. In video games the story unfolds in non-linear unscripted and open-ended fashion, with unpredictable chain of events that are driven by player's interactivity. This kind of "environment" mandates a type of music that must be able to change quickly and erratically. Therefore, video game musical elements must be adaptive and must match the visual events that occur on screen. While in film music, matching it to the events on the screen, is absolutely defined by the linear storyline, in video games there are virtually infinite numbers of possible events and scenarios. In addition, it is nearly impossible to determine for how long a player may stay within a given section of the game. Thus, in the early video games, the emphasis was on repetition of music patterns, which were predominantly of rhythmic nature.
Today, even with soundtracks being assembled of the fixed length pieces of music, there are greater possibilities for music-loop variation due to considerably better technology. A rhythmically simple pattern can become a complex one where the game engine can automatically, using an algorithm, process and transform many musical elements of the score. These transformations, such as freeze, scrub, scratch, and shuffle, for example, would get synchronized to the common tempo of the original beat pattern. The temporal alterations, no matter how much they fluctuate from the original beat grid, would always result in having consistent rhythmic patterns. However, manipulating the rhythm is far much easier than manipulating the melody. For example, composing in a minimalist style and staying away from any memorable melody will make any "sudden" changes (which happen quite often in many video games) much smother and less obvious. On the other hand, the challenge with repetitive music is that it must somehow be meaningful and emotionally engage the player, which is quite difficult to achieve by repeatedly playing ostinato-style melodic and rhythmic loops. Nonetheless, the general sense of video game music is repetitiveness where melodic development is still second to rhythmic manipulation. Needless to say, video game industry affects millions of people in all corners of the world. In 2019, the digital gaming industry generated $104.4bn in revenue, revealed the Statista survey. After the pandemic struck, rev-

enues surged by 23% YoY to $128.3bn in 2020. Statistics show this figure is expected to increase by $17.6bn in 2021, and by 2025, the unified market is set to reach $207.6bn value (Harris 2021). Thus, melodically depleted video game music reaches the audiences in an oblique but rather substantial way.

Fragmented Film Narrative Significance

Most of the movies, which employed the operatic approach in their film scores, were based on traditional narratives that tell a story in a straightforward, linear, and easy-to-follow fashion. Filmmaking in the last two decades often inclines to stick to the more fragmented narratives, shuffling up the sequencing of a story, and challenging the movie-goer to piece together the different components of the story to make sense of it. This kind of storytelling is not the most conducive when it comes to utilizing leitmotifs. The use of leitmotifs, among other things, is there to associate a tune to film characters throughout the movie, so that leitmotifs become recognized as a symbol for that person. The leitmotif is often played when the protagonist is experiencing an emotional moment, such as love or fear. They can also be used as a pivotal way of understanding how specific characters feel about certain things. All these uses of leitmotifs do not function well with the fragmented way of storytelling. Think of the way the story unfolds in Indiana Jones films versus the storyline in *Dune* (2021), for example. With Indiana Jones there

Fig. 4. In *Dune*, the central character (played by Timothée Chalamet) does not go through situations that might need use of the leitmotifs and melodies (screenshot, fair use)

is a distinctly defined film character who has clear physical intentions and emotions. Naturally, it is rather easy to attach a leitmotif to Indiana Jones. On the other hand, in *Dune*, the way this rather convoluted story is told, Paul Atreides as the central character does not go through such situations (scenes) that land themselves for any effective use of the leitmotifs and melodies (Fig. 4).
A study published in *Plos One* in December 2015 may bolster the assumption above. This study concentrates on narrative transportation which is described as a state of detachment that arises when one becomes immersed in the narrative of a story.

> Participants viewed either an intact version of an engaging 20 min film, "Bang You're Dead!," (1961) by Alfred Hitchcock (contiguous condition), or a version of the same film with scenes presented out of order (noncontiguous condition). In this latter condition, the individual scenes were intact but were presented out of chronological order. Participants were told a cover story that we were interested in the amount of gun violence depicted in films. Both groups were given the goal to remember to lift their hand every time they heard the word "gun" spoken during the film. Results revealed that participants were significantly less likely to remember to execute their goal in the contiguous condition, presumably because this narrative transported viewers' attention and thereby "hijacked" processing resources away from internal goals (Cohen et al. 2015).

Researchers gave the subjects a goal that they had to maintain throughout the duration of a highly engaging film. Even though the audience viewed the exact same content, the fact that the order of the scenes got disrupted meant they were more disengaged from the film as opposed to the situation when they watched the film in the intact form. In the latter the audience members were drawn in, and they completely forgot what they were doing. The results of that study illustrate human innate preference for linear narrative. In disrupting the storyline to that extent, the audience could count the references of the word "gun" because that is how they maintained interest in what is happening. They just gave up the whole idea of trying to figure out the story and could easily concentrate to listening for word "gun."

It is quite plausible that today's audiences when watching a movie with fragmented narrative are not that much engaged with the movie characters and their emotional states which usually get "amplified" with the use of expressive leitmotifs. What really makes a good melody and makes it expressive, is the musical line which has motion. It goes up and down, high and low while rising and falling. A traditional expressive musical line has movement as it pushes up and then falls back down again, in most cases. We hear a melody as having some sort of internal logic, not just one note after another. We do not hear music and think of independent notes in a row. We hear it as one line of notes which are connected together as one thought. That way, they make more sense being together than they would on their own, as the basic Gestalt theory would support. This is what defined all those memorable melodic leitmotifs during the "Golden Age of the Hollywood" filmmaking. Think of the movies such as *Gone with the Wind* (1939) or *Lawrence of Arabia* (1962) as great examples. Or think of those numerous leitmotifs in the scores of John Williams, who resurrected the practice of operatic approach in Hollywood film scoring in the seventies. One can easily sing the melodies of *Superman* (1978), *Indiana Jones* (1981–2008), *E.T.* (1982), *Star Wars* (1977–2019), and many more, as one can strongly identify the main characters and their intentions in these films. Consequently, I dare to say that the characters of *Dunkirk* (2017) or *Dune* (2021) are not that clearly defined, thus it would be hard to find any inklings of expressive melodies in these films. Just to stick with Hans Zimmer's scores, but there are many others. Filmmaking has stylistically changed and so did the music for the movies, for good or for bad.

Conclusion

As a stretch the following might be pondered. The loss of melody might be even associated with the digital age of texting, tweeting, Snapchat-ing, and TikTok-ing the bite-sized information. Perhaps the public does not subscribe to longer streams of thought anymore. Possibly something bite-sized and immediately digestible which satiates and numbs people's minds immediately, is nowadays far more desirable. These new trends inevitably affect the music where melody now seems to be one of the least engaging elements in contemporary music.

Therefore, it might be safe to assume that on the popular music scene, melody and harmony are "under attack" from the rhythm and sound design, as backed up by before-mentioned scientific study (Serrà et al. 2012). Then, it logically follows that film industry also must embrace these contemporary musical trends which appeal to a "younger" box office ticket paying demographic. If audiences are already comfortable listening to groove and rhythmic-pattern-based music, the film scores understandably ought to reflect these trends.
Days when music in the films was considered as important as the construction of the movie plot have been gone for long time. Hans Eisler had advised back in 1936:

> A new way of using vocal and instrumental music is above all to set the music against the action in the film. That means that the music is not employed to "illustrate" the film, but to explain it and comment on it.... The material prerequisites for a good film are that in preparing the scenario, the composer should be drawn in as music consultant from the beginning so that the music has the right function in the construction of the plot and the working out of the scenes.... It is high time that directors consider the quality of film music with the same seriousness they give to the [other] problems of the sound film (Eisler 1936, 124).

The thinking expressed in the above quote is archaic and outdated. The music in many of today's Hollywood films does not endeavor to help the storyline by explaining it or commenting on it. To the contrary, it rather illustrates the mood of the film. Take for example Hans Zimmer's scores for *Dunkirk* (2017) or *Dune* (2021) which shun any traditional approach, choosing a sound-design-heavy sonic palette that evokes the characters' emotions. The ears of the modern audiences are quite accustomed to these intense sounds Zimmer used throughout these films. Therefore, they are incredibly effective in musically illustrating the feelings that the movie characters are experiencing, as Zimmer explains in relation to his score for *Dune* (2021):

> The resulting soundtrack might be one of Zimmer's most unorthodox and most provocative. Along with synthesizers, you can hear scraping metal, Indian bamboo flutes, Irish whistles, a jud-

> dering drum phrase that Zimmer calls an "anti-groove," seismic rumbles of distorted guitar, a war horn that is actually a cello and singing that defies Western musical notation—just to name a few of its disparate elements.
> [...]
> Stylistically, Cotler [Loire Cotler is a featured vocal soloists from *Dune's* soundtrack, author's remark] drew on everything from Jewish niggun (wordless song) to South Indian vocal percussion, Celtic lament to Tuvan overtone singing. Even the sound of John Coltrane's saxophone was an influence, she said. "When you start to hybridize these far-flung influences and techniques, interesting sounds start to happen," she said. "It's a vocal technique called 'Hans Zimmer'" (King 2021).

Obviously, traditional western music melody concept which is used as an expressive tool in film scoring has not been Zimmer's focus while he was working on these projects. He has not created anything we can sing along with, but rather produced some intense soundscapes that go for an overall emotional feeling of the entire film. This might be the reason why film audiences increasingly consider strong melodies and memorable leitmotifs to be old fashioned and passé. Even if there are notes that one can follow and sing along with, these no longer have the expressive emotional quality like the melodies of the past. Apparently, Hollywood film music has significantly shifted away from the paradigm of Wagnerian operatic leitmotif-driven film scores.

Regardless of the approach to film scoring, either by abiding to the established conventions or going against them, the common challenge of the composer and the director is ultimately manipulating the audience's emotions in a way that lures them to "stick" with the movie and watch it. This might not necessarily be to draw audiences into the story and deepen their connection to the movie characters, but rather to keep their attention by any means available.

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