Creating the Music of the Na'vi in James Cameron's Avatar: An Ethnomusicologist's Role

Invited essay by Dr. Wanda Bryant, introduction by Jon Landau

Our goal with the musical score for Avatar was to resonate traditional film sensibilities, but also to introduce a new culture, ‹the Na'vi of Pandora›, and to make it part of the score. To create that new musical culture, one that was logical within the scope of the film, we sought out an ethnomusicologist with a wide knowledge of many diverse cultures to work with composer James Horner. Dr. Wanda Bryant from California Institute of the Arts brought a new perspective to our work and with her input, we were able to flesh out the musical voice of the Na'vi and marry it into the general score. - Jon Landau, Avatar producer, Lightstorm Entertainment

On January 25, 2010, James Cameron's *Avatar* became the highest grossing film in history. I was privileged to be part of *Avatar's* creative team as ethnomusicology consultant to film composer James Horner. In *Global Soundtracks*, Mark Slobin states that the job of a film composer is "to construct an integrated and logical society, music and all" (2008:4). In this case, Horner and I constructed the musical culture for the imaginary Na'vi of Pandora.

I was contacted about the opportunity to work on *Avatar* in the spring of 2007. Lightstorm Productions reached out to the Music Office at the California Institute of the Arts where I was teaching, looking for an ethnomusicologist with a broad knowledge of many diverse music cultures.[1] Unlike many ethnomusicologists who focus on one primary musical tradition or cultural area, my teaching positions at CalArts and also at Pasadena City College required that I teach not only the typical world music survey course but also courses on contemporary western art music, music and film, the history of rock, and (at CalArts) a six-semester series of world music courses featuring an in-depth look at a different musical culture each semester. The preparations that I undertook for those courses, as well as during my education at UCLA, served me well in my work with Horner.

Aaron Copland stated that the first purpose of film music is to "create a more convincing atmosphere of time and place" (in Prendergast 1992:213). Since no Na'vi culture exists, we had to create a convincing atmosphere in the absence of the two principal sources for achieving musical color in film: indigenous musical material and culturally identifiable musical devices (ibid.:214). The film composer's job is also, according to composer Leonard Rosenman, "to help 'sell' the film" (Rosenman 1968:127). *Avatar's* huge budget—a reported $310 million—meant that marketability was a key concern (Fritz 2009). The old vaudeville query, "Will it play in Peoria?" was always in the back of our minds. How could we create an alien music without alienating film audiences?

In our initial phone conversation, Horner asked me to find unusual musical sounds that "no one has heard before," by which he really meant sounds not readily recognizable by the average American movie-goer as belonging to a specific culture, time period, or geographical location (Horner 2007a). Our new sounds would represent the music culture of Cameron's Na'vi race. At our first face-to-face meeting, Horner, music editor Jim Henrikson and I were guided to the moon of Pandora by producer Jon Landau. We saw images of the Na'vi for the first time and began to ponder the types of music that these big blue creatures would produce. Landau told me, "It was important that James' score evoke that sense of music belonging as part of a culture." My job as an ethnomusicologist was to help create an integrated and logical music culture for these creatures. Prior to our demo recording sessions, Horner and I considered the nature of the Na'vi and their world from an ethnomusicological perspective. He usually chooses the instrumentation first and then lets the melodic material evolve from there. "For me, what comes first is what the colors are, what my palette of orchestral instruments is going to be. . . . Then I'll decide what the melodic lines are going to be" (Adams 1998:40). So one of our first decisions was the instrumentation of the Na'vi soundscape. We felt that it would be appropriate in this aboriginal culture to utilize voices, idiophones and membranophones as the primary instruments, with ornamentation and atmosphere added by aerophones.

Horner and I pondered such aspects as the physical nature of the people, their environment, spiritual beliefs, social structure, important cultural traditions, and the function of their music. For example, the creatures' four digits had suggested a pentatonic scale to *Avatar's* artists and production designers, but Horner and I immediately vetoed that concept as being too recognizable as Asian, African, or Native American, and too limiting for him in terms of developing a full film score. Several other aspects of production design also raised our concerns. The artist's rendering of the Blue Flute (the clan totem) was not a flute, but organologically speaking, a trumpet. Another sketch showed a chordophone reminiscent of Harry Partch's kithara. A drawing of a drum mentioned a "complex rhythmic

structure which features multi-layered elliptical time signatures derived from the orbital patterns of their solar system." I realized that there was a disconnect between the artistic concept and the ethnomusicological/organological perspective. They were drawing interesting pictures; I was looking for musical logic. Months after the film was released, I discovered that Cameron himself was aware of similar issues. He justified these concerns by explaining that on occasion, a detail or two may have been overlooked or consciously ignored in the interest of storytelling.[2]

At our first meeting, I played about 20 brief sound samples for Horner and we discussed their suitability for our purposes. Over the next few weeks, I brought him approximately 250 additional samples. He is quite well versed in non-Western music, so I had to dig deep to find "new sounds" for him. The samples I chose ranged from ten seconds to a minute long. They came from cultures all around the world, illustrating different musical devices, vocal and instrumental timbres, vocal performance techniques and textures, extended instrumental techniques, and song structures. In some cases, the samples were from relatively well known cultures such as India or Sweden. But I also delved into field recordings and the repertoires of lesser known minority cultures. The stranger and more obscure sounds I found, the better. According to Landau, "James was never about accepting the ordinary when the movie called for the extraordinary," so it was a challenging assignment.

Through a process of elimination we came up with 25 workable possibilities, including examples of Swedish cattle herding calls, folk dance songs from the Naga people of Northeast India, Vietnamese and Chinese traditional work songs, greeting songs from Burundi, Celtic and Norwegian medieval laments, Central African vocal polyphony, Persian *tahrir*, microtonal works by Scelsi, the Finnish women's group Vârttinä, personal songs from the Central Arctic Inuit, and brush dances from northern California. None was an exact blueprint of what we were seeking, but each had at least one interesting musical device or characteristic that we could utilize. In some cases, it was a timbre that we might hope to mimic; in other cases, it may have been a song structure, an ornamentational style, or interesting intonation.

Horner then met with Jim Cameron for his input on our musical ideas. Cameron is a very hands-on director and wants to be kept in the loop about all major decisions. Most of the ideas we presented were dismissed by Cameron out of hand, rejected with appropriately blue language as either too recognizable ("Oh, that's Bulgarian") or just "too fucking weird!" Half a dozen examples were approved as possibilities. Our next step was to begin creating alien music that was informed by the timbres, structures, textures, and styles of those samples. In today's world, there are few musical cultures that have not been heard by outsiders. Musically uneducated ears can now readily identify Bulgarian singing or Indonesian gamelan. Faced with this increasing awareness of global cultures, we realized that no *one* musical culture would work. Instead, we created a library of musical elements and performance techniques that would eventually be melded into a global mash-up, fusing musical elements from the numerous world cultures we had explored into one hybrid Na'vi style. Combining unrelated musical elements could evoke the "otherness" of the Na'vi without bringing to mind any specific Earth culture, time period or geographical location.

Whether consciously or not, Horner was thinking along the same lines as was Cameron. Attributes reminiscent of many of earth's cultures can be seen throughout *Avatar's* story. Screenwriter Alan Kishbaugh commented on many similarities: "The Na'vi phrase 'I see you' is not unlike the Hopi saying 'I manifest you.' The glottal stops [of the Na'vi language] reminded me of the Quechua language and Navajo. The tree of life from the Norse legend of Yggdrasil, the various emergence myths, the blue skin (Krishna) of those who are holy—so many disparate cultural truths brought together in service to a message for our age" (Kishbaugh 2010). Cameron's story evokes numerous familiar if unrelated images and concepts. The Na'vi music likewise would eventually exhibit characteristics of several earth cultures.

Cameron and his team had created the astonishing physicality and the science of the moon and its people. According to Horner, though, without our work, the film "would have been a masterpiece of 'fan-boy' technology, but empty emotionally" (Horner 2009e). Film composer Mark Mancina made a similar observation about his work on the movie *Speed* (1994). Despite all its intense action scenes, "the music needed to be about heart and it needed to be about emotion," specifically about the connection between the boy and the girl (from Mancina 2001). Similarly, Horner was intent upon emphasizing *Avatar's* love story.[3]

In the 1995 documentary *The Hollywood Soundtrack Story* (Simon 1995), composer Leonard Rosenman says "an audience can recognize emotional content even if they don't understand music." Producer Landau notes, "A flute has a very specific sound, and it conjures up something specific. Why do composers use a flute for that specific thing all the time? Because it works" (Landau 2010) and audiences understand the emotions conjured up. But

Hayward states, "Extremely radical departures in musical style risk alienating audiences" (Hayward 2000:25). Similarly, Horner noted: "I couldn't go off into some weird world and present a whole new scale system or a whole new theme system; I had to try to glue everything together. . . . No matter how dense it is on the screen or how alien it might be, there is a thread in the music that keeps it grounded for the audience so they know what is going on and how to feel" (Boucher 2009a).

Initially, Cameron had asked Horner to write music for some songs that would be sung by the Na'vi in the film. The idea was "to use music both to resonate traditional cinematic sensibilities but also to introduce a new culture and make that culture of the Na'vis part of our score" (Landau 2010). Cameron recognized the importance of music in Na'vi culture; he named the Omaticaya the Clan of the Blue Flute. In the film, the character Neytiri refers to the ancient history of the people as the "time of the First Songs." And when it is time for Jake to choose a woman, the first one suggested by Neytiri is Ninat, "the best singer."

Horner and I discussed song structures that might logically arise out of the Na'vi lifestyle and environment. Monophonic and heterophonic vocal textures made the most sense to us. Cameron's ideas for Na'vi musical genres were very much in keeping with the organic life ways he had envisioned for them: a weaving song, a hunting song, a funeral lament, a Spiral Song (referring to the interconnectivity of Eywa, Pandora, Hometree and the Na'vi). Cameron had very specific ideas about his songs, describing them in terms of musical traditions and styles with which he was familiar. The "Weaving Song" was to be a happy "rhythm-of-life type of feeling," a song to accompany daily work. The "Tree Song" was conceived as a hymn, "a Gregorian chant, a rhythmic meditative progression," that could be used in multiple scenes: at "the funeral, as a chant at the Well of Souls scene . . . even in the final scene where Jake is transmigrated."[4] The "Hunt Song" was also to be used for multiple scenes: the hunt festival, the hunt, and in preparation for the big final battle. Cameron described it as "rhythmic, with strong percussion" to accompany a trance-inducing dance "like African and voodoo/santeria dancing" (Horner 2008b). Horner obliged with *taiko*-style drumming. Cameron also thought to include some simple chants along the lines of Buddhist meditational chants (*nam-myoho-renge-kyo*), a means to enable all people to put their lives in harmony or rhythm with the law of life, *dharma* – or in this case, Eywa. Again we see Cameron's fusion of many earthly cultural concepts.

For our demo recording sessions, Horner asked me to find singers with different timbres and very flexible voices who could imitate, improvise, ornament, and sing microtonally without vibrato.[5] I contacted the vocal coaches at the California Institute of the Arts in Valencia, California, for leads. CalArts is widely known for its involvement in contemporary music. Singers and instrumentalists there receive training in contemporary performance techniques and improvisation, so I knew that these singers would be perfect for our R&D sessions. In addition to the singers from CalArts, I hired studio session singers, voice-over artists, and character actors from the Los Angeles area to experiment with different musical sounds and styles. We also worked with a few non-Western singers (Bulgarian, Israeli, Indian, North African).[6]

Horner was leery of the song concept right from the start. He told me: "I'm so afraid of it seeming so corny, like an old western where you see some old Navajo woman weaving a basket and singing an ancient Navajo prayer to herself. That's what a Na'vi weaving song would sound like to an audience watching *Avatar*. No matter what weaving-type song I wrote it would sound like an ancient NavahopiAfricanAmericanhearditsomewherebefore type weaving song" (Horner 2008a). Nevertheless, Cameron wanted songs, so Horner and I set about to record demo versions that we hoped would meet with his approval.

Cameron had written English lyrics for his songs that were translated into the Na'vi language by its creator, USC linguist Paul Frommer. Na'vi is a constructed language of approximately 500 terms that follows its own set of linguistic rules. It contains many ejectives, affricates, fricatives, and glottal stops that, when spoken correctly, create a rather choppy sound and make it a very difficult language in which to sing. Frommer and dialect coach Carla Meyer attended our initial recording sessions to help our singers with the language, and for practice, we were given CDs of Frommer reciting the lyrics with correct pronunciation. Cameron asked that the lyrics not include too many "ee's," as that created too shrill a timbre—"ahs" and "ohs" were okay. There were several occasions when we had to manipulate the lyrics to maintain a more mellow quality.

Our first recording session centered on two sound samples, one from Sweden and one from Burundi. We decided to use those two examples to inspire our "Tree Song" and "Weaving Song." For the "Tree Song," Horner was especially fond of a piece based on Swedish cattle herding calls, written by Karin Rehnqvist and sung by Susanne Rosenberg[7]—the very first example I had played for him—and wanted to find a way to incorporate something along those lines. He envisioned starting the film that way, with these beautiful cascading heterophonic vocal lines

echoing throughout the forest, as the viewer is first introduced to Pandora. I agreed that the sounds would be appropriate for their culture; they imply group awareness and individuality at the same time, something that seems very Na'vi-like. Over a synthesized drone, our singers recorded a demo track mimicking the tumbling quality of the calls using the Na'vi words *Utralä (a)Nawm* ("the Great Tree"), entering when cued by Horner. To my great surprise and delight, two and a half years later, the first musical sounds heard in *Avatar* are very reminiscent of those calls, using the primary musical instruments of the Na'vi: voice and drums. [8]

Horner and I considered also various tuning systems. The pentatonic scale envisioned by *Avatar*'s artists was out: too recognizable, too limiting, too simple. We discussed microtonality, an element that both of us were eager to incorporate. One concept that we tried involved the men singing a microtonally fluctuating drone while the women improvised overlapping diatonic descending melodies á la Rehnqvist's herding call. [9] As we were deciding on the musical elements of the Na'vi, I was also creating their cosmology and relating it to the music. I decided that the drone represented Eywa, the supreme deity of Pandora, a quasi-sentient energy that flows through and links all life forms on Pandora.[10]

While this melody-and-moving-drone texture was interesting theoretically, it would not work as part of the score. Once the men entered and began fluctuating the drone pitch, the sound began to get muddy. Initial responses to the track indicated that the unusual fluctuating microtonality sounded "wrong" and "out of tune." Also, at that point in the process, there did not appear to be any place in the score where this example could be heard on its own without interfering with the western orchestral score. And finally, we had to be mindful of the fact that the Na'vi music would eventually have to be married to the western orchestral score in some coherent manner. The decision was made to separate the two vocal lines, with the women's part remaining as originally conceived. The microtonality of the men's drone eventually informed both vocal and instrumental styling in the score.

Shades of microtonality are heard throughout the film, especially in the intertwining voices, and particularly at times of great distress or sorrow. Two clear examples of microtonality can be heard toward the end of the scene when Dr. Grace Augustine's lab is shut down and also at the destruction of Hometree. Of special note is the "falling off" of the pitch at the end of a phrase, which is heard throughout the score, both from voices and aerophones. Horner was reminded of it in some of song examples I played for him and in improvisations by some of our singers, Radka Varimezova and Kate Conklin, both of whom sing in Bulgarian style, and Tehila Lauder, an Israeli singer. We recorded a demo version mimicking the microtonality and adding a sense of sorrow.

Our next demo track was inspired by an interesting recording of girls' greeting songs from Burundi in southern Africa,[11] which has a wonderful bubbling, warbling quality with interlocking between two voices. We played this example for the singers and asked, "Can you sing something like that?" Some of them turned pale, but we gave them some time to first imitate and then improvise in that style. Then Horner tried different textures and different song structures using the sounds that the singers created. Eventually, we gave them some Na'vi words to play around with (*Tompayä kato, tsawkeyä kato, Trrä sì txonä* — "rain's rhythm, sun's rhythm, day and night") and Horner cued each singer when to come in. This "song" was never heard in the score. In January 2009, Horner emailed me: "[Cameron] rejected most of [our demo recordings] saying one thing sounded like something from Japan, another from China, another was too weird, etc., etc." (Horner 2009a). So it was back to the drawing board.

Only one of our songs made it intact into the film: the lament at the Tree of Souls.[12] It was also the only song for which music was written ahead of time. In August 2007, Horner told me: "Jim [Cameron] wants to break with Na'vi tradition and use a very beautiful, stirring, soulful, melody sung by all and understood by all from Oklahoma to South Dakota. A Na'vi 'Amazing Grace,' so to speak" (Horner 2007e).[13] Horner obliged Cameron's request, and our singers recorded a lovely melody with Na'vi lyrics so that the actors could sing along.

Utralä (a)Nawm	We are all seeds
ayrina' l(u) ayoeng,	of the Great Tree,
a peyä tìtxur mì hinam awngeyä	whose strength is in our legs
n(a) aysangek afkeu,	like mighty trunks
mì pun	in our arms
n(a) ayvul ahusawnu	as sheltering branches,

mì aynari	in our eye
na seze	the blue-flower
a 'ong ne tsawkey	which unfolds to the sun.
Utralä (a)Nawm	We are all seeds
ayrina' l(u) ayoeng,	of the Great Tree
a peyä tìrol m(ì) awnga.	whose song is within us.

The melody, although western in its orientation, had been developed from some of our previous experimental recordings. But even this was not as simple as it might sound. When we recorded the song originally, we utilized a heterophonic texture similar to the voices in the film's opening sequence, mixed with some microtonality, and we allowed the singers to ornament at will. Cameron's response was that the ornamentation took away from the pureness of the melody. So we re-recorded it in a simpler style. Horner featured Bulgarian singer Radka Varimezova, singing a re-envisioned melody and including limited improvisation and ornamentation. Although Horner and I loved it (and it is included on the soundtrack recording), Cameron considered it too Bulgarian and still too highly ornamented. So we stripped it down, simplified the melody again and recorded a group of us singing in unison. This two-minute long version met with approval. The recording was taken to the set where all cast members sang along. All of that work resulted in approximately 30 seconds of music onscreen.

The Na'vi "Amazing Grace" episode forced us to realize that our dreams of creating a truly unique and unusual musical sound for the Na'vi would be tempered by the fact that this was not *our* movie. We were not working on some small avant-garde art house film. This was a James Cameron movie, a big-budget mainstream blockbuster. Even though our experiments were sonically interesting for Horner and me, we risked distracting the audience, pulling them out of Cameron's glorious world. In Horner's words, "I had to be a wee bit more conservative…so as to match Jim's visuals in a very quiet way. Always just under what he was doing. Never in the foreground" (Horner 2009d). And that is precisely where one finds the majority of the Na'vi music.

In June of 2007, Horner was trying to convince Cameron to forget the idea of "a song" as a performance element: instead of "standing and 'performing' before an audience," now "songs will narrate their lives" (Horner 2007c). Still, he wanted to represent the Na'vi in the score. So we used Cameron's song concepts as a starting point but they soon evolved into a separate score that would be layered on to or fused with the traditional orchestral score that Horner was writing for the earth interlopers. Eventually, Horner realized the musical culture of the Na'vi using what Cooke calls a "generalized timbral exoticism" (Cooke 2008:505) inspired by the sound samples I presented and the demo recordings we made. Hayward notes that, often, "alienness and otherworldliness are expressed through selective 'othering' of cultural conventions" (Hayward 2000:25). *Avatar*'s final score evokes that otherness.

After Cameron had rejected most of the Na'vi songs, Horner told me: "My ONLY hope at beautiful colours is with vocals at this point" (Horner 2009a). Horner often says that he starts his scores with a black-and-white sketch or a charcoal drawing and fills in the colors later. The vocal colors in *Avatar* come primarily from mixing and manipulating timbres. For our demo recordings, he specifically requested singers with diverse vocal qualities so that he could combine them for interesting sounds. For the final score, he asked his singers to manipulate their voices to produce a timbre that was "half African, half Na'vi, children/adults" ("Capturing *Avatar,*" 2010).

Na'vi vocals function as another instrument in Horner's orchestra, but without any specific lexical meaning. Horner chose random "good-sounding" Na'vi words that would "cut through whatever the orchestra or sound effects were doing . . . and I used those more as authentic colours than as actual text" (Horner 2010a). Horner also added color with instrumental timbres through "exotic colorations," "organic orchestrations," and digitally enhanced sounds (both vocal and instrumental). Cooke could have been writing about *Avatar's* score when he discussed "the pervasive use of ethnic instruments and voices, sometimes lending authenticity to a film's cultural or geographical milieu, but at other times perpetuating a generalized timbral exoticism that suggested Hollywood stereotyping was still a guiding spirit" (2008:504–5). That is *Avatar's* score in a nutshell.

Prendergast notes that "color is associative—bagpipes call up images of Scotland, the oboes easily suggest a pastoral scene, muted brass connotes something sinister, rock music may imply a youthful theme, and so on," all

musical conventions that film audiences comprehend. Another method of achieving musical color "is to use musical material indigenous to the locale of the film" (Prendergast 1992:214). In Horner's *Avatar* score, aerophones connote exoticism. On some of the recording sessions, instrumentalist Tony Hinnigan played various panpipes, whistles, and "interesting flutes, for instance, from South America and Finland" (Horner 2009). In some cases, Hinnigan played instruments such as *kena* (*quena*), ocarinas, and panpipes. But Horner told me that in several instances, the pitch of the ethnic instruments was unreliable during recording, so Horner himself added many of the swirls of color later using electronic keyboard samples of these wind instruments (Horner 2011a). Horner also used "instruments invented from scratch. They were programmed" (Boucher 2009a). Many of the drum timbres, for example, were created from a combination of two, three, or even four different drums. During one demo recording session, I watched as Horner and synthesizer specialist Aaron Martin combined sampled sounds to realize Horner's quest for a "really, really big taiko drum." For Horner, the score is "a very pretty fusion of different worlds that gives the place itself a quality that is magical" (Boucher 2009a). Because we could not use recognizable musical elements from any one earth culture, we created a library of musical elements for the Na'vi from a conglomeration of non-western sounds and styles. Horner, a western composer, listened to non-western sounds and then wrote music that was based on the culture's imagined musical profile.

The final score layers sounds representing both the Na'vi and the earthlings. Horner has described the process as actually writing two separate scores, one to represent the Na'vi soundscape, the other a traditional cinematic score "to drive the film" (Horner 2009c; Landau 2009). Throughout the process of creating the score, the choices that we made always kept the average filmgoer in mind. "Had I been more avant-garde in my musical choices, I believe I would have pushed the audience further away from an emotional centre. . . . I chose beauty, heart, and emotion over trying to radically expand the audience's musical capacities" (Horner 2009e). "Audiences seem to be much more capable of absorbing new visuals and things that are much more outrageous or avant garde [sic] visually – aurally, audiences are much more conservative," Horner says. "If I went as far as Jim [Cameron] did visually, and started to use all kinds of weird scales for the music and made it too avant garde [sic] or too out-of-the-box, I would be ungrounding the film. . . . Obviously I'm still writing film music, so it still has to appeal to a film audience in a conventional way" (Horner 2009c).

The colors of the Na'vi are almost always present in the score, sometimes vibrant and alive in the musical foreground, partially hidden within the forest of Pandora, or sometimes nearly overwhelmed by the western musical representation of the Sky People. In the 2001 documentary *Behind the Scenes: The Chase,* director and sound engineer Walter Murch explicated his theory that a film audience can only "process or understand 2.5 things at a time. So the key to integrating all of this…is making sure that all of these various elements [music, sound effects, dialogue] work together with each other and don't step on each other's toes." In *Avatar,* Cameron also appears to work consistently with three streams, adjusting the volume of whichever stream needs to be prominent. Sometimes the Na'vi musical voice is in the background, sometimes in the foreground, but almost always there. Horner acted, in essence, as sound designer by foregrounding certain musical sounds within the score.

Each decision concerning *Avatar's* score was influenced by both artistic and economic considerations. While we would prefer that our artistic choices supersede all others, that is often not the case. The late critic and impresario Lawrence Morton pointed out that quality has little to do with film music's success: "[film music] has nothing to do with art . . . it has everything to do with commerce. Above all it must be successful—that is, it must do something for the picture, please whoever is paying for it, and, if possible, win an Oscar" (McCarty 2001). While I feel that this claim that film music has nothing to do with art is overstated, it is undeniable that commerce is a very influential force in today's film world. Decisions regarding *Avatar's* score—whether about number of performers, instrumentation, timbre, structure, length of cues, volume, acoustic or electronic sources—affected the overall character and tenor of the picture. Even though we were dealing with an imaginary culture, the score still needed it to be a logical one.

James Cameron's *Avatar* introduced film audiences to the Na'vi and their world using a revolutionary 3-D performance capture technology; this groundbreaking technique required a score that would keep the viewers rooted in a comfortable sonic world while still conveying the essence of Na'vi culture. By blending musical devices and stylistic characteristics from various earth cultures, James Horner and I created a score which complements the beauty of Cameron's visuals, instills emotion and pulls out the love story, and narrates this huge epic.

My role in the development and creation of *Avatar's* score was a truly remarkable experience, the icing on the cake of my ethnomusicological career. I had been a film buff for most of my life and I actually taught a unit on Horner's film scores. So the chance to work with him and James Cameron, putting my knowledge, academic training, and educational skills to use in such a creative endeavor, was a thrill, probably a once-in-a-lifetime opportunity. Though

it was not a position that I ever envisioned as part of an ethnomusicologist's career, I jumped at the chance to participate in the creation of a major film score. And as is so often the case, once I accepted the challenge, my role expanded into some very interesting activities and projects. As mentioned previously, it also afforded me the benefit of working side by side with Cameron and other scientific writers in the creation of the Na'vi "bible." I also learned hands-on about facets of film making and film score composing that I had only read about. I met dozens of fascinating people and attended a fancy Hollywood cast-and-crew screening and party. I realized that my experience also illuminates another avenue beyond academia that ethnomusicologists might keep in mind, one that might lead to a broadening of the musical awareness and cultural sensitivity of both the American film audience and film composers alike.

My experience with this film was not unique, but it is rather rare for an ethnomusicologist to consult on a film score, and this was certainly never in my sights as a job opportunity. When I earned my doctorate in ethnomusicology from UCLA, my goal was to become a professor. I had been a teacher prior to entering graduate school and with my passion for education, it seemed the logical next step. And for me, a career in academia was just the right fit. But I thank my lucky stars that I was presented the opportunity, accepted the challenge, and was up to the task of putting ethnomusicology to work in an applied setting.

References

Adams, Doug. 1998. "A Score to Remember? James Horner's Technique Critiqued." *Film Score Monthly* March/April 1998:38–43.

Boucher, Geoff. 2009a. "James Horner Searches for the Sound of Pandora [1]." *Los Angeles Times* online, 30 November. Accessed January 29, 2010.

———. 2009b. "Oscarwinning Composer James Horner Says Michael Bay Wouldn't Understand the Soul of Avatar. [2]" *Los Angeles Times* online, 2 December. Accessed January 29, 2010.

Bowen, Jonathan [Paul Bouthillier]. 2010a. "Ethnomusicologist Wanda Bryant: An Avatar Adventure." *Film Score Monthly* online, 15 January.

———. 2010b. Email communication with the author, 10 August.

"Capturing *Avatar*." 2010. In *Avatar* Extended Collector's Edition DVD. Twentieth Century Fox Home Entertainment.

Creating the World of Pandora. 2010. Twentieth Century Fox Film Corporation.

Cooke, Mervyn. 2008. *A History of Film Music.* Cambridge: Cambridge University Press.

"The Dream Merchants." 2010. In *The History of Hollywood: Moguls and Movie Stars,* Episode 3. Turner Classic Movies.

Fritz, Ben. 2009. "First Look: 'Avatar' Slowed by Snow in U.S., Explodes Overseas for $232.2-Million Worldwide Opening [3]." *Los Angeles Times* Online, 20 December:Business.

Hayward, Philip, editor. 2004. *Off the Planet: Music, Sound and Science Fiction Cinema.* Eastleigh, UK: John Libbey Publishing.

Horner, James. 2007a. Personal communication with the author, 15 May.

———. 2007b. Personal communication with the author, 10 June.

———. 2007c. Personal communication with the author, 22 June.

———. 2007d. Personal communication with the author, 23 July.

———. 2007e. Personal communication with the author, 24 August.

———. 2008a. Personal communication with the author, 12 April.

———. 2008b. Personal communication with the author, 3 June.

———. 2009a. Personal communication with the author, 12 January.

———. 2009b. Personal communication with the author, 4 April.

———. 2009c. "James Horner 'Avatar' Radio Interview [4]," 28 November.

———. 2009d. Personal communication with the author, 6 December.

———. 2009e. Personal communication with the author, 16 December.

———. 2010a. Personal communication with the author, 11 May.

———. 2010b. Personal communication with the author, 20 September.

———. 2011a. Personal communication with the author, 12 January.

———. 2011b. Lecture, UCLA film composers class, 17 March.

Landau, Jon. 2009. *Avatar: Creating the World of Pandora,* directed by Thomas C. Grane. Twentieth Century Fox Film Corporation.

———. 2010. Interview with the author, 26 August.

———. 2011. Personal communication with the author, 15 January.

Kishbaugh, Alan. 2010. Personal communication with the author, 11 March.

Mancina, Mark. 2001. *Music Behind the Scenes: The Chase,* directed by Howard Hill. CreaTVty Ltd. and Take 2 TV Partnerships. DVD.

McCarty, Clifford. 2000. *Film Composers in America: A Filmography, 1911–1970*. Oxford: Oxford University Press.

Murch, Walter. 2001. *Music Behind the Scenes: The Chase,* directed by Howard Hill. CreaTVty Ltd. and Take 2 TV Partnerships. DVD.

"Director Cameron Speaks at Caltech: Roundtable Discussion of the Science of Pandora called 'Is Pandora Possible?'" 2010. *Pasadena City College Courier* 101(9):6.

Prendergast, Roy M. 1992. *Film Music: A Neglected Art.* Second edition. New York and London: W.W. Norton & Company.

Rosenman, Leonard. 1968. "Notes from a Sub-Culture." *Perspectives of New Music* 7(1):122–135.

Simon, Barry. 1995. *The Hollywood Soundtrack Story*. American Movie Classics.

Slobin, Mark, ed. 2008. *Global Soundtracks: Worlds of Film Music.* Middletown, CT: Wesleyan University Press.

Notes

1 Their initial correspondence landed in my junk email folder, to be discovered several days later.

2 For example, the Hallelujah Mountains, the legendary floating mountains of Pandora, were able to float because their primary element, unobtanium, was envisioned as a room temperature superconductor. Later Cameron admitted that the magnetic field generated to lift the mountains "would have to be strong enough to rip the

hemoglobin out of your blood" (Pasadena City College Courier 2010:6).

3 In fact, the first version of the screenplay that I read, in June of 2007, had loads of action but almost no love story at all. But James was insistent that the emotional connection between Jake and Neytiri be emphasized, and as the screenplay and score evolved, so did the love story.

4 From an ethnomusicological perspective, many of Cameron's ideas made sense. However, it was also apparent that he was thinking in terms of "selling the film" by using standard film scoring techniques when he suggested that these songs could be non-context specific so that they could be used in different scenes. He also suggested that some of the song melodies might arise from the score itself (Horner personal communication 2007b) but that the thematic material should be eliminated from certain action sequences in the film to make them more atmospheric (2011b). It is likely that, based on their previous work together (*Aliens, Titanic*), Cameron understands the thematic nature of Horner's writing and was giving a suggestion that was in keeping with Horner's style.

5 This was an unexpected responsibility which I willingly accepted. When James asked if I knew singers who could do what we were seeking, I said yes, and then set out to find them. As our work progressed, my role expanded from ethnomusicological consulting to include finding, contracting, scheduling, and wrangling performers; acting as music librarian; teaching the music to performers (including the correct pronounciation of the Na'vi language); dealing with SAG and other union contracts; playing piano on a track; and generalized supervision of our demo recording sessions. My deep thanks to seasoned session singer Rob Trowe for his guidance in these uncharted waters.

6 Interestingly, the only time we ran into any difficulties with our experiments was with some non-western singers whose traditions were so deeply ingrained that they could not break out and sing other styles.

7 From *Wizard Women of the North* (Northside Records, 1999), track 1.

8 Much use was made of membranophones (real and sampled) in Horner's score, but that was outside the scope of my responsibilities. Several large drums were built, music was written, dances were choreographed and filmed, but none of it was retained in the final cut, primarily for the sake of expediency. All the drumming and dance sequences were removed because "the film became too long to show anybody playing anything!" (Horner personal communication 01/12/09). However, unfinished scenes of music making are included in the 2011 Extended Collector's Edition DVD.

9 I obtained permission from Twentieth Century Fox to present a few of these demo recordings during a presentation at SEM's annual conference in Los Angeles in 2010, but the recordings are not available to the public. My thanks to James Cameron, James Horner, Jon Landau, Simon Rhodes of EMI London, and Rebecca Morellato of Twentieth Century Fox Entertainment for their help in locating our experimental recordings and securing the rights for me to use them in my research.

10 This and other Na'vi ethnomusicological concepts were fleshed out in an associated project I worked on; see *James Cameron's Avatar: A Confidential Report on the Biological and Social History of Pandora*, eds. Maria Wilhelm and Dirk Mathison. 2009. NY: HarperCollins.

11 *Burundi: Musiques Traditionnelles* (Paris: Ocora, 1982), tracks 9 and 10.

12 My work with Horner was the subject of much lively online speculation prior to the film's release in December 2009. Film score enthusiasts (Horner fans and detractors alike) wondered what I would bring to the table and were curious and in some cases scornful when the score did not openly illustrate a more unusual sound palette (Bowen

2010a). Hopefully this paper will answer some of their questions.

13 The most interesting aspect of this email to me was the fact that they recognized that there was a "Na'vi tradition," even if none of us could actually describe it yet!

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