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Scoring Alien Worlds: World Music Mashups in 21st Century Sci-Fi and Fantasy TV, Film and Video Games

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Abstract

This article provides three case studies of the use of world music resources to build alien worlds in mainstream screen media with Sci-Fi or Fantasy settings. The case studies—the TV series *Battlestar Galactica: Blood and Chrome*, the film *Avatar* and the Massively Multiplayer Online Role-Playing Game (MMORPG) video game *World of Warcraft*—show how composers and associated music professionals in the early twenty-first century increasingly draw on such sonic materials to generate a rich sense of sonic otherness and note the means they employ to sidestep such music's existing geographical and cultural references. Each case study explores a contrasting subject position—composer, music consultant and consumer—to better trace not only the creation of such soundtracks but also what senses disparate groups of ordinary listeners subsequently make of them. The examples suggest that outside the sphere of big-budget cinema there is a growing confidence in both the creation and reception of such sonic projections, and that, when sufficiently attracted by what they hear, listeners may actively seek out ways to follow-up on the expressive characterisations put forward in such soundtracks. Three broad types of mashup are uncovered, those that work with world music ingredients by insinuation, integration and creolisation.

Keywords: film, gaming, mashups, TV, world music

Introduction

Over the last decade or a little longer, musicians from across the broad area of Sci-Fi and Fantasy screen media have increasingly turned to world music resources in their fabrication of hitherto unimagined worlds. Such musical sounds and sonorities had hitherto been deployed in a wide set of screen media productions to summon up specific (and sometimes stereotypic) geographical and societal settings, furnishing the viewer with clues as to the nature and qualities of the environment in question. In a smaller number of instances, some such sound resources had additionally found use beyond a scene-building role as a distinctive feature in a film's wider soundtrack: as film music historian Mervyn Cooke (2008) notes, employment of world music sounds was "one of the very few fresh scoring trends to emerge since the 1980s" (p. 504). But the very propensity with which such resources ground its subjects in the specificities of the world around us may also explain why, in Philip Hayward's (2004) words, "SF cinema has [seen] minimal use of non-Western musical styles and instrumentations" (p. 24). Indeed, many of those usages that did occur in Sci-Fi settings up to that time exoticised and orientalised their subjects.[1]

In assessing this new trend, then, my aims are, first, to examine how those working within these entertainment formats are turning to music associated with global locales and traditions, and how they strive in their new soundtracks to overcome or repurpose pre-existing geographical and cultural references; and, second, to see what sense audiences are making of the resulting musical representations. Doing so requires

evaluation of selected soundtracks, research of composer intentions, contexts and practices, and also study of viewer responses to this new creative work.

The term "world music" is, of course, an inherently problematic one, even while it has become widely used. It refers—from a specifically Western subjectivity—to an aggregative category of musics old and new, embracing the traditional music of all continents along with newer hybrid genres that speak of diaspora, culture contact, cosmopolitanism and, sometimes, not-so-benign acts of cultural appropriation. Yet it also sets aside many Westernised styles of popular, experimental and art music, which are also globally distributed and are often produced in distinctive ways in locales around the globe. While Western folk traditions are incorporated, they remain somewhat to the back of the concept, present but often not sonically exotic enough to be immediately brought to mind in many contexts where the term is employed.[2] I use it here (typically in constructions like "world music resources") because it appears to retain some currency (alongside even less appealing terms like "ethnic music") in the screen media settings that I analyse. As will become clear, my primary reference is not to the genres that are regularly marketed under that label so much as to screen music composers' use of instruments or vocal styles sourced from traditions other than those of Western art, popular or experimental music.

The article makes reference to soundtracks in the *Battlestar Galactica* TV series, the film *Avatar*, and the online video game *World of Warcraft*. The space allocated to world music resources (and so the length of treatment required) is not identical in each, but they collectively represent a fluid contemporaneous cross-section of screen media types.[3] The three case studies further contrast in providing perspectives from a composer, from a world music consultant and from ordinary listeners respectively. The result is a set of complementary understandings of world music usages from across the breadth of contemporary screen media. After presenting each case study, I discuss what each contributes to an understanding of broader trends (and voids) in the deployment of world music sounds across this area.

Case Study 1: *Battlestar Galactica: Blood and Chrome*

The 1970s TV series *Battlestar Galactica* has diversified over time into a franchise including films, action figures, books, comics and an online game. Its main narrative concerns ongoing conflict between human colonies in space and their robotic foes, the Cylons. Its 2012 iteration, subtitled *Blood and Chrome*, is a 91-minute prequel featuring the exploits of William Adama, a major character well established in previously published content. The prequel was originally disseminated via machinima.com in ten segments in November and December 2012. It was subsequently broadcast in complete form, published on DVD and remains available online by subscription at the moment of writing.

My concentration in this case study is on the approach to world music resources taken by *Blood and Chrome*'s composer, Bear McCreary (b. 1979), a focus made possible by McCreary's detailed and extensive blog.[4] Having worked on earlier iterations of the *Battlestar Galactica* franchise (Papanikolaou, 2008), McCreary had pre-existing music (his own and that of musicians contributing to the series since to its origins) and pre-established sound world elements to draw on. Reflecting in interview on his initial work for the franchise in the mid-2000s, McCreary states:

> The idea was to use the oldest instruments we could possibly use—a lot of voice and percussion, obviously, but also primitive woodwind instruments. We didn't want refined and polished; we wanted primal … [I]t became the defining sound of the series. (cited in Fear, 2014)

McCreary specifies that he wanted to step outside the then-dominant trope of large orchestral and brass-led fanfares, which he felt had become overused in science fiction soundtracks and even disruptive to a sense of realism: this scoring technique, typified by the music of *Star Wars*, is what he dubs "refined and polished." Meanwhile, "primal" sounds are acoustic, and include the timbres of instruments and voices from beyond the spheres of Western art, experimental or popular music. His music for *Blood and Chrome* provides prominent roles for Japanese *taiko* drums and the Armenian double-reed pipe named *duduk*, as well as less prominent writing for *gamelan*. McCreary is actually on shaky ground in identifying these instruments as primordial as compared to those of the European orchestral tradition: the *taiko* ensembles familiar today emerged only after World War 2, and researchers believe present day *gamelan* styles to be markedly distinct from those of only a couple of centuries earlier.[5] But it is McCreary's compositional strategy that matters, not his musicology—he is, after all, writing new music for the instruments. And if his ready equation of sonic otherness with ethnicity and primitiveness (in its sense of rooted authenticity) sounds orientalist, it certainly matches widely shared assumptions in Western society more generally.

Setting out to sustain aspects of the earlier *Battlestar Galactica* soundworld while accommodating the new prequel's emphasis on "action, adventure, sex and aerial dogfights,"[6] McCreary recruited musicians who had contributed to the earlier soundtracks. He also arranged instrumentations that contributed an impression of liveness in the compositional mix. In the same blog entry just cited, he links this sense of liveness to the instrumental timbres in question, beginning with a list of notable contributing musicians:

> Chris Bleth (woodwinds), MB Gordy (*taikos* and percussion), Paul Cartwright (electric violin), Steve Bartek (electric guitars), Brendan McCreary (vocals) and Raya Yarbrough (vocals). These performers had a profound impact on my earlier scores and had much to offer *Blood & Chrome*. Though my two previous scores [the *Battlestar Galactica* TV series and a prequel series entitled *Caprica*, 2009–2010] drew influences from around the world and throughout history, their sounds all shared a single trait: every instrument was performed by live musicians. The *taikos* sound powerful because heavy sticks struck thick hide drumheads. Air escapes from primitive wind instruments and bows creak during screaming electric violin solos. These sounds are acoustic, organic and raw.

What this all means in musical practice can now be explored in a representative passage, the opening of Episode 1, which introduces the main character and follows him up to the start of his active service on the Battlestar Galactica. Figure 1 provides a summary of the music in this passage, its counterpart visuals and its non-musical soundtrack. Segments follow my own division of the episode (arguably, one might extend the third to embrace Adama's assignment to a freighter and first encounter with co-pilot Coker Fasjovic, which also occurs in the hangar space, but this is a similar length again in duration and a significant new step in the drama). Timings follow the Machinima broadcast.

Table 1

Summary of Opening of Episode 1, Battlestar Galactica: Blood and Chrome
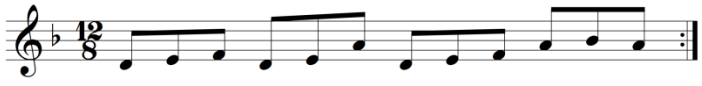
Segment	**Music Track**	**Speech and Other Sounds**	**Visuals**
1: Prologue 0:00-0:09		whooshes, sound pan	Machinima channel logos flash on screen
0:10-1:12	slow-paced, 12-note *gamelan* motif continues throughout segment, layered under each new entry	[Throughout] Adama narrates letter to father justifying enlistment by summarising Cylon threat and stark realities of ongoing war	0:10 Earth-like planet seen from space, its sun rising behind: white clouds over blue oceans, green land masses (clearly not those of Earth)
		0:18 sea birds, waves	0:18 zoom across sea onto somewhat futuristic city: text on building and shuttle craft show letters from roman alphabet and Chinese characters
		0:26 assembly of high-tech equipment	0:26 robots under construction
		0:31 industrial labour and then robot walking	0:31 robots carrying out labour and domestic roles
	0:34 string drone, synced to "friends"; gradually string parts overlaid to form sustained, gradually shifting	0:38 engine and tracks of heavy military vehicle	0:38 robots in armed revolt

	chords [continues throughout segment] 0:50 reverberating chord: maybe distorted *gamelan* or synthesiser 1:02 *taiko* strike as spaceships appear	0:50 Adama asks, "Does it really matter?" 1:04 fighter engine, distant weapons fire	0:46 Cylon Centurion coming to "life"; close up of its face 0:52 city, now at war 0:55 city devastated, spaceships overhead and flying by 1:00 fade out to spacecraft in orbit 1:04 camera follows fighter craft, gradually moving inside cockpit, finally turning to show pilot's face (synced to Adama giving his name as he signs off)
2: Flight Simulator 1:13-3:17	1:13-14 climactic crescendo; woodwinds added 1:15 [no music] 1:25 *taiko* and *dumbek* (Middle Eastern hand drum) tattoos fade in, gradually becoming more extended as segment continues; synthesised sounds added 2:02-2:11 alert sound taken up and then sustained in filtered form 2:06 *bansuri* (Indian bamboo flute) melody with slow ascent like opening *gamelan* pattern and florid ornamentations overlaid [continues in remainder of segment]	1:15 emphasised sounds of fighter engines, weapons fire and occasional explosions [throughout segment]; comments to self from Adama and dialogue between him and compressed flight controller's voice, as if heard by radio [on and off throughout] 1:55-2:01 cockpit alerts 2:12-15 cockpit alert 2:15-18 new repeated bleeping signal as canopy jettisoned with eruption of air	1.13-14 series title 1:15 dogfight: Adama takes series of ever-increasing risks to shoot down his opponents 1:55 cockpit canopy struck by debris from Adama's first kill 2:15 canopy jettisoned by Adama

	2:18 distorted electric bass fed in; orchestral texture builds 2:38 high-pitched distorted wail from electric guitar and mid-pitched rock guitar texture added 2:43-47 most of music track drops out until 2:47; *bansuri* 3:00 orchestral strings with ascending melody on same overall contour as *bansuri* 3:17 music fades out	2:43 new cockpit alarm; flight controller's voice increasingly distorted; 2:58-59 gunshots 3:12-3:16 automated voice notes end of flight simulation 3:17 Adama laughs	2:43 weapons panel shows "Warning MECS cannon malfunction" 2:50-59 Adama turns his fighter over; flying above his target, he destroys it using his sidearm 3:12 Adama turns off fighter 3:17 Adama removes holographic helmet
3: The Galactica 3:17-5:37	3:17-4:09 no music 4:09 soft *taiko* strike and tremolo strings drone fades in 04:11-24 rhythmic tattoo from *taiko*, reiterated; drone strings crescendo 04:24-5:10 as ship's nameplate is revealed, string orchestra plays main theme from 1970s *Battlestar Galactica* series, accompanied by *taiko*, *duduk*, *bansuri*, electric guitar, synthesiser	3:17-4:09 Adama boasts, engaging fellow pilot in sexual banter; background flight engine noises: low drone, higher pitched airy whine, remote military radio 4:09 Adama falls silent 5:05 electric engine from passing vehicle; hydraulics as landing gear extends;	3:17-4:09 Adama discovered seated among other pilots on transport 04:11-59 Adama moves to window; camera swings to his face from outside, then slowly around to reveal Battlestar Galactica, first partial nameplate, then seen close up and in part, and finally zoomed out, but still too massive to fit fully within shot; other space ships pass by; transport, now dwarfed, seen entering Galactica 5:00 cut to inside hangar 05:09 transport lands

		metallic clunk as ship lands; 1970s theme continues	
	5:10 strings sustain theme's cadence; high female voice enters in *mawwāl* style (Arabic genre of improvised, exclamatory singing); strings and *taiko* accompany, based on preceding patterns 05:35 music ceases	05:10-37 background voices, sounds of machine repair	05:10-23 cut to pilots leaving shuttle by lift; their view of bustling hangar, fighters, shuttles, maintenance crews 05:23-27 close up of Adama's face as he takes in scene 05:27-37 pilots proceed into Galactica followed by awe-struck Adama

The single noteworthy world music usage in the Prologue is that which McCreary identifies as the *gamelan*, without specifying an exact type. It occurs at the very start, as we see the dim outline of a planet emerging from darkness. As listeners and viewers, we may interpret the limited clues presented as suggesting a world much like but not necessarily our own. The *gamelan* recorded here is, in fact, just a single instrument, perhaps the high-pitched metallophone *saron*, rather than the heterogeneous full ensemble with interlocking parts that ethnomusicologists (and Indonesians) might associate with the term *gamelan*. The *saron* plays a stately reiterated twelve-note cycle based on the traditional *sléndro* scale (Figure 1). This breaks down into two units of six (and then four units of three), a characteristic quite unlike that of the usually foursquare metre of traditional Javanese music. The notes are allowed some of their characteristic reverberation, and while its tuning is not aligned to Western notions of equal temperament, the resulting tonalities are not so unusual as to be challenging. The choice of music can be heard as an aural analogue to the cityscape in the visuals—the home planet evidently is not Earth but the city is rather like one on Earth, at once familiar yet foreign. We hear the *saron* passage twice before other instruments are layered in, so we have ample opportunity to recognise its cyclic nature. These sonic features in combination invest the Prologue with a trancelike or recollective quality, an impression reinforced by the addition of string drones and then discreetly shifting sustained chords. The spoken track and images confirm this sense of looking backward in time: Adama's narration provides his father with a summary of events leading up to the outbreak of war, and we witness the well-appointed cityscape as it is quickly reduced to smouldering ruins, presumably its present form in the onscreen narrative. The *gamelan*-led passage thus avoids emplacing this Prologue as one that might occur in Indonesia or even in a specifically Javanese space colony.
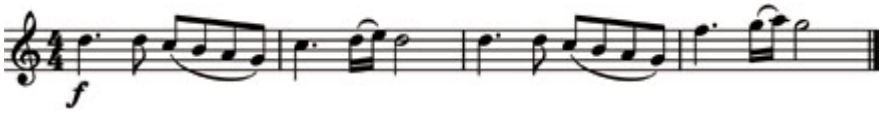


Note: *sléndro* intervals can be up to 50 cents (half a semitone) sharper or flatter than their Western equal-tempered counterparts; transcription into staff notation hides this important characteristic.

Figure 1. Battlestar Galactica: Blood and Chrome, Episode 1, Prologue cycle played on *saron*

After the climactic Series Title, the musical component of the Flight Simulator segment of Episode 1 comprises a long crescendo, new parts gradually thickening out the texture as Adama's conflict becomes ever more frenetic. In world music resource terms, the primary constituent is a single Japanese *taiko* drum. The *taiko*, like the *dumbek* and *bansuri*, endows the scene with raw energy, and points loyal *Battlestar Galactica* listeners back to earlier episodes in the franchise which similarly equate such instrumentation with moments of galactic conflict. Again, there is no attempt to compose music characteristic of that for this particular Japanese drum ensemble (as noted, it sounds as if a single *taiko* drum is employed, not a

group) or any of the other world instruments—this is screen music using global instruments, rather than the explicit citation of the traditional musical styles of those instruments.

The building crescendo is interrupted by Adama's taking off of his virtual reality headpiece and his cocky interactions with a female pilot at the start of the third segment. But the music rebuilds swiftly once his attention is directed to the Battlestar itself, and several previously heard musical elements are reintroduced as the score swells up to cite the pre-existing *Battlestar Galactica* main theme. Here is McCreary's own blog explanation:

> The next cue of the film is possibly my favorite. Adama peers out the window of his transport and sees the Battlestar Galactica for [the first] time. For fans of the show, this is a nearly religious experience. I wanted to write a cue that would strike a nerve with fans of the 2004 series and the classic 1970s series as well. So, as I did for the ship's farewell in "Daybreak" [the finale of season 4], I quoted Stu Phillips' classic "Theme from Battlestar Galactica" for this stunning reveal.
>
> 
>
>
> I've used Stu's classic theme on several occasions now, but I must admit I think this is the most rousing rendition yet. The full string orchestra, pounding *taiko* drums and ethnic soloists are all there, but augmented further by heavy synths and soaring electric guitars. Sound designer Daniel Colman told me at the final mix that this cue made him want to stand up and salute. I couldn't imagine a better review.

McCreary sustains this notion of near-religious experience (and perusal of online fan commentary suggests he is not wrong to label it thus) into the final musical part of segment 3, now ascribing it to Adama (and so linking habitual viewers with the lead character at this point—a significant gesture given Adama's onscreen attitude up to now, which presents him as immature, overconfident and perhaps even sexually predatory). McCreary does this through the addition of a vocal line that I liken in Table 1 to a Middle Eastern *mawwāl*, a form known for its virtuosic display, elongated vowel sounds and free-time extemporisations. McCreary's blog provides the lyrics: "*Domini ducem dederunt agmen qui ducat caelorum* (And the Lords anointed a leader to guide the Caravan of the Heavens)". To my listening, this exact text is not intended to be clearly audible in the overall mix; as listeners we are only expected to become aware of its broader stylistic characteristics. McCreary adds: "Throughout 'BSG,' Raya [Yarbrough, the vocalist] frequently represented the voice of the divine, foreshadowing or prophesying events before they were to unfold." If so, the dominance of the grain of the voice over the comprehensibility of specific lyrics makes sense: Adama is awe-struck, not receiving a personal Messianic instruction. Now, it is worth emphasising that if this passage is inspired by *mawwāl*-type vocality, it is like one in terms of its vocal timbre and proposition of emotional ecstasy, not in its language, verse structure or instrumental accompaniment. Again, a highly characteristic music element from another part of the world is deployed to build another world—a mystic and unworldly world, in this case—by being treated in a way that reduces its conventional ability to reference a specific region on planet Earth.

Case Study 2: Avatar

Avatar (2009) is a film directed by James Cameron, much of which is set on a distant moon (Pandora). Scientists there have devised a means by which a human can temporarily take on the persona and form of a native Na'vi, the better to learn their ways and communicate with them, this in the face of pressure from human mining interests that covet rich natural resources occurring in Na'vi-occupied territory. The composer with primary credit for this film is James Horner, whose previous work includes writing the music for such films as *Aliens* (1986), *Titanic* (1997) and *A Beautiful Mind* (2001).

Cameron took a systematic approach to building both the Pandoran ecosystem and Na'vi culture, with assistants working to formalise aspects as diverse as the physics of the planet and the language of its denizens. This same ethos was applied to the generation of the music track. Wanda Bryant acted as the ethnomusicology consultant, responsible for furnishing Horner with world music materials that might provide inspire his representations of Na'vi music culture. Her account of her work in this role sheds light more generally on the appearance (or otherwise) of world music in larger-scale contemporary screen entertainments. Bryant located 270 musical excerpts to discuss with Horner. Some she thought potentially suitable for direct imitation; others had a single stylistic trait that might be portable to Pandora. She writes:

> 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 ...
>
> 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 … 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. (Bryant, 2012)

Later, Bryant worked with Horner as he experimented with vocalists, including Western-trained session players and experienced world music artists, in the hope of realising Cameron's desire for songs reflecting elements of Na'vi life: "a weaving song, a hunting song, a funeral lament" (Bryan, 2012). But this material was pretty much all rejected in the end or replaced with sounds far closer to Western film-score norms. Almost the only item that was incorporated finally is an extract for female voices and *taiko* described in Table 2.[7] Here is Bryant's account once again:

> Horner was especially fond of a piece based on Swedish cattle herding calls, written by Karin Rehnqvist and sung by Susanne Rosenberg ... 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.... 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. (Bryant, 2012)

Table 2

Avatar*, Opening Soundtrack and Visuals*

Timing	**Music Track**	**Speech and Other Sounds**	**Visuals**
0:00-0:20	drum roll, fanfare		20th Century Fox logo, spot lit over Hollywood skyline]
0:21-0:24	silence	silence	black screen
0:24-0:36	two female voices: call and echo (sounds digitally manipulated)—step up, sustained note, short fall; low, soft drone underneath; single-strike *taiko* punctuations		0:33 flying fast over rain forest
0:37-0:51	*taiko*: fast, pounding pattern in 12/8 metre—gradually denser; voices drop down in mix	0:38-0:48 Jake Sully narrates his dream	
0:52	silence	silence, then narration resumes	black screen
0:54	synthesised drone		

0:58 1:01		Sully breathes	close-up: Sully's eye bathed in blue light as he awakens in cryogenic suspension zoom out and round to full face

The *taiko* usage does not last very long (just 30 seconds) but, as in the preceding example, it is marked for attention by being presented first: an extra-terrestrial setting is constructed through conspicuous use of the sonic "otherness" of a world music resource, in this case even before we see the world in question. In fact, this deployment is unusual in *Avatar.* Although world music sounds are blended into larger mixes throughout the film's soundtrack, the film has very few other such prominent deployments of world music sounds overall. This is despite the fact that the narrative remains in an alien setting almost entirely throughout its whole duration, the initial desire to generate a plausible music culture for the Na'vi, and the energetic resourcing of research and development of such cultural components. In a radio interview, Horner provides his own explanation:

> Audiences seem to be much more capable of absorbing new visuals and things that are much more outrageous or avant-garde visually—aurally, audiences are much more conservative … 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 or too out-of-the-box, I would be ungrounding the film. (Radio interview, 28 November 2009; cited in Bryant, 2012)

It's surely true that we're more conservative aurally than visually (a point I return to below). Nevertheless, we saw that a considerably richer diet of world music components did not appear to alienate audiences for *Battlestar Galactica*. The comparison thus raises questions about the personal attitudes toward stylistic innovation of those involved (and of those who act as their financial gatekeepers). The scale of funding risk in highly commercialised film projects like *Avatar* may lead to a conservative stance and a concomitant projection of that sense of caution onto imagined audiences in turn. As Slobin (2008b) notes (in relation to *Star Wars*), "[it] was designed for a vast, all-purpose global audience, so it is hardly surprising that it leans on tried-and-true sets of identifications and musical conventions" (p. 57).

Case Study 3: *World of Warcraft*

World of Warcraft is a Massively Multiplayer Online Role-Playing Game (MMORPG) created in 2004 and regularly updated through expansions since then. Its world extends outward into books and associated merchandise, a film (2016), online databases and guides, and cosplay contests, among many other formats. In-game, players take such a role as a human warrior, gnomish mage or orc shaman to battle dragons, demons and other creatures for loot. Divided into two factions, players may also combat one another while exploring, gathering resources and undertaking quests across a map of several planets, each of which is divided into numerous zones with distinctive environments, denizens, back story and background music. Or they can combine into groups to face up to harder challenges: in most of these latter cases, the players then enter an "instance"—a zone temporarily created for them alone so that no other player can interrupt the group's play. Each such instance features its own background music track, and in a few cases fighting a "boss" (an individually designed opponent intended to be especially hard to overcome) cues a special music track. Further music occurs on login and loading screens and in occasional cut scenes that provide narrative development. When I counted in 2014, there were already over 100 different zones and a similar number again of potential instances in the game world; after further expansions, there may now be twice that number. This means there's not only a need for diverse music to characterise each location but also that the setting is decidedly multiracial and multicultural (in 2021 there are two-dozen distinct playable races and peoples, plus still further life-forms present as non-player characters).

MMORPG soundtracks are thus considerably larger than those of TV or film contexts, but they are also both inherently multileveled and personally malleable. Players chat with one another through one or

another of various forms of multi-user chat software to coordinate their efforts in group-based encounters or simply to hang out. They may turn off or alter the relative level of the backing music, ambient sounds, other sound effects or even mute the game sound as a whole. Some players turn off in-game music to enjoy music of their own choice instead. They select their own pathways through each gameplay session, cueing different soundtrack events as those choices unfold. A few even create machinima that combine new or pre-existing music tracks with game video images.

In this case study, I focus on player reactions to a distinctive usage of a world musical instrument in the *World of Warcraft*. The passage in question is part of the background music from the Grizzly Hills zone, part of the Northrend region introduced in the "Wrath of the Lich King" expansion (2008; lead composer Russell Brower). This zone has been widely praised by players for its characteristic music, as we'll see shortly. It is described in an online guide as "a stunning but sinister pine forest in eastern Northrend" populated by wolf packs, bears, trappers and werewolf-lumberjacks.[8] More widely, the Northrend region features further subpolar archetypes, including ice trolls, undead Viking-giants, talking walruses, bison, mammoths, and even penguins.

Player commentary on such topics is widely available through the many online forums that accompany games like *World of Warcraft*. McGonigal (2011) records that more than 65,000 players contributed comments and guides to a website named WoWWiki, which she describes as then "the world's second largest wiki after Wikipedia" (p. 232). That is just one of a number of prominent sites that cater to the gathering of what McGonigal labels "collective intelligence", which she describes as an essential part of gaming culture (p. 233). With so many active contributors and a culture that encourages such participation, a researcher gains access to a broad cross-section of participants' views on numerous in-game topics, including their musical preferences. Here is an extract from a representative online forum where players describe the real-world geographical associations the Grizzly Hills zone brings to their minds:

> ForestEye: The homey feel of the Canadian logging North. Feels good man.
>
> [deleted]: This is exactly why I love Grizzly Hills and Howling Fjord. I grew up in the foothills of the Rocky Mountains and Grizzly Hills is almost a spitting image of home.
>
> wetsauce: For me, this song, especially the second half's use of fiddle and accordion, has reminded me of Nordic folk music. I picture traveling through the mountains of Norway, or boating through the iceberg filled waters of Iceland.
>
> CForre12: That's the exact same feeling I get only only for the second part, the first part of the song definitely makes me think of being in the canadian frontier. for the atmosphere blizz was trying to create the music in grizzly hills is absolutely perfect, favorite music in the game by miles even in spite of the nostalgia I have for vanilla and tbc.
>
> anangrybanana: The first thing I said when I first entered Grizzly Hills was "This place looks just like Colorado."
>
> [deleted]: Well Colorado has the Rocky Mountaind as well, so I assume it is the same. I was referring to Alberta, but both places have a similar landscape.[9]

These statements reveal that Grizzly Hills's visual design activates essentially similar geographical associations from among the various commentators even as their particular points of reference differ, but let us look now in more depth into the zone's musical design, which was briefly raised by two contributors here. Table 3 provides a summary of musical components from the start of one of the backing tracks to the zone.[10] Two passages from this extract are transcribed as Figure 2. Note use of a Swedish folk instrument named *nyckelharpa*, a folk fiddle somewhat akin to a hurdy gurdy, with three bowed strings stopped by keys, a drone string (normally only sparingly sounded) and 12 sympathetic strings.

Table 3

World of Warcraft, Grizzly Hills Zone Music (Opening)

Timing	Music Track	Other Sounds (excluding those of specific gameplay choices)
0:00		fade in; high ambient noise, suggestive of leaves in wind, distant streams; distant bird calls
0:12		lower-pitched noise fed in (very soft)
0:20-1:45	*nyckelharpa* solo (see Figure 2a); unmetred feel, although flowing, regular pulse; more double-stops and ornamentation as music progresses, leading to thickening of texture	
1:03	soft chordal accompaniment added; gradual addition of further orchestral instruments, e.g., 1:36: harp runs, low D pedal in cellos	
1:46-1:59	violin left sustaining high D harmonic as other parts drop out; clarinet enters on same pitch that *nyckelharpa* began on and takes simplified form of opening phrase as reiterated cadential pattern with string accompaniment	
2:00-2:49	bassoon solo (Figure 2b), again starting on same F# of *nyckelharpa* and clarinet; bassoon closely tracks the melodic outline of the *nyckelharpa* passage; violin high D sustained still	wind audible once again
2:49-3:57	clarinet and strings re-enter to round-off bassoon solo; development of theme by *nyckelharpa*, horn and string orchestra	
3:57-4.10		ambient sound only

Like the examples discussed in Case Studies 1-2, this extract exemplifies a mashup technique that can be likened to the game's combination of multiple pre-existing "northern" tropes in its visual constructions. In Fig. 2, the sonority and playing style of the *nyckelharpa* are blended into an orchestral scoring reminiscent of nineteenth-century nationalist tone poems—the bassoon writing, for instance, recalls the solos one might find in an early Stravinsky ballet score such as the *Firebird* Suite. Web forum commentaries further reveal that some gamers are interested in discovering more about the prominently used sounds and instruments in extracts like the present one, using game-related networks to seek information or discuss the sounds they encounter in-game. Here are extracts from representative forum conversations, the first from players on US servers and the second from those in China, *World of Warcraft*'s largest customer base:

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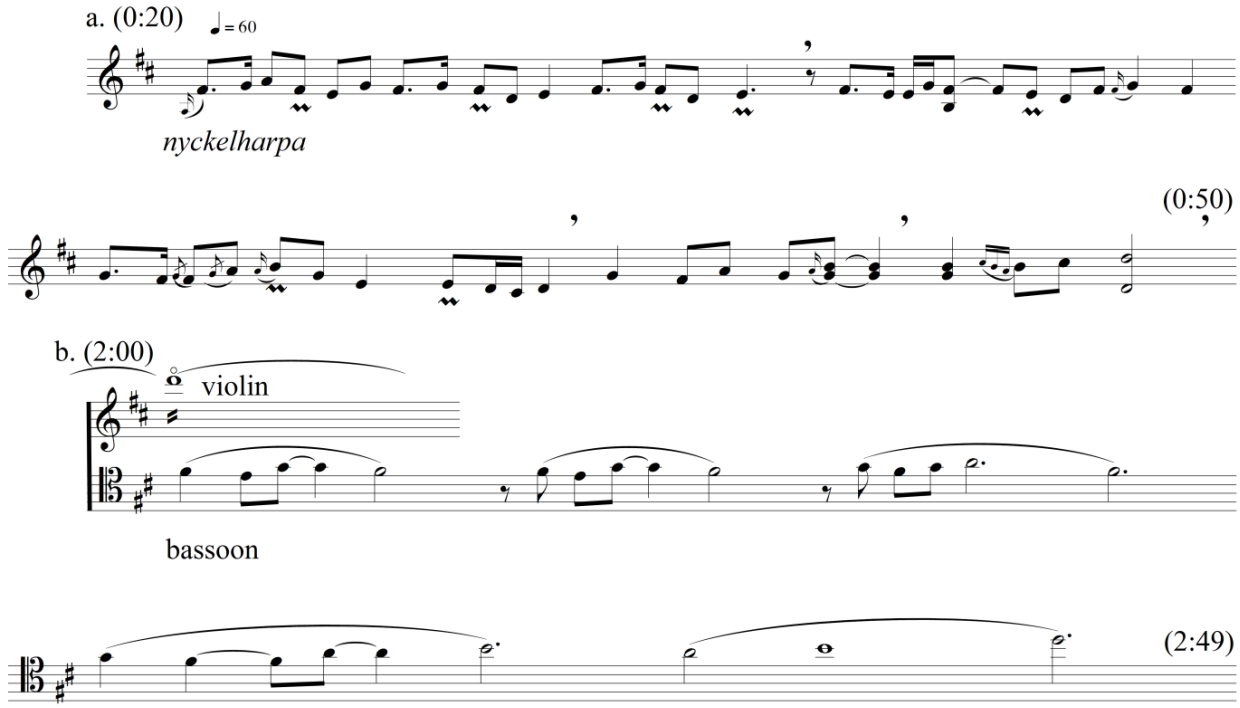


Figure 2. World of Warcraft, Grizzly Hills Zone Music (Opening), a. *Nyckelharpa* (Extract) and b. Bassoon Version of the Same Passage

A. Grizzly Hills Music[11]

Paudson (85 Human Paladin): For the love of all things holy, somebody please tell me where i can find music from either the ppl who did it for grizzly hills or a similar band. i cannot get enough and i needs moar

Varius (85 Troll Shaman): Youtube Wesley Willis, he's the artist you are looking for

Àeus (85 Night Elf Druid): It is good musics.

B. Warcraft Grizzly Hills Bagpipe Background Music; Bambina Easter Egg[12]

Gentle dreamer (16 Feb. 2014): Do you still remember Wrath's story where Bambina kills a hunter and…the elegant bagpipe sound?

[links video extract with background music]

PS: I can't remember if it's a Scots or an Irish bagpipe.

libra19951012: It's a typical Scots bagpipe. Irish pipes aren't as melodic as this; they're crisper in sound.

WoW Henan Province Webmate: There's someone with the same tastes as me! I like the Grizzly Hills BGM [background music] most of all.

WoW Zhuzhou Webmate: I have both Irish uilleann pipes and Scots highland pipes at home. I can tell you for sure this isn't a bagpipe. It must be a bass penny whistle or clarinet-type instrument…. The background music for the Howling Fjord [zone] is the Irish uilleann pipes.

WoW Ji'nan Webmate: You're right!!!!

Gamerlife_zx: Grizzly Hills was my favourite place to go at level 80.

> Western-Forest Windsong: This.… I like this extract too, but OP, can you really not hear the difference between a bowed instrument and a wind instrument,,,. A bagpipe doesn't sound like this….
>
> WoW Wenzhou Webmate: that year I played Wrath of the Lich King on a Taiwanese server. In my free time I loved going to Grizzly Hills to listen to the music.
> WoW Zhengzhou Webmate: Swedish *nyckelharpa*….
>
> Caper-Always: Suddenly, it was like being taken back to that world

In fact, some players seek out areas of the game world simply to pause to listen to their favourite elements of the music track. Listening becomes part of their play.[13] When clips of such music are placed online, they can function as a powerful cue to nostalgia once the content in question is no longer that of the latest expansion, and so irregularly visited in the course of usual gameplay, if at all. The music track reaches out of the game at moments like this. Writing about world music in coffeehouses, Kassabian (2012) says it can "entangle" the listener such that they are temporarily both here and there (pp. 102-105); if this is so, when gamers are caught up in the flows of nostalgic reminiscing, they are here (wherever they are while reminiscing), doubly there (inside the game zone and where they were in real life when playing that game expansion), as well as then suspended between senses of now and then.

Conclusions

Composer, consultant and audience standpoints provide contrasting but complementary kinds of data. McCreary's blog identifies his creative intentions, and the fact that he uploaded content so close to the composing itself allowed him to reflect on experience that was still fresh, illustrating how his enthusiasms and intuitions became specific moments of sonic practice. His inclusion of short videos of work in progress from recording sessions adds further richness to the account. Bryant's account of her groundwork for Horner as he worked through world music samples in preparation for writing the music of *Avatar* captures the hidden labour underpinning the making of film music, reminding us that both composition and film-making are processes not only of creation and selection but also of selective exclusion (Horner and Cameron might prefer the term refinement). *World of Warcraft* players' online comments underscore the multifaceted impacts of screen music, even in a game setting where the player's focus is ostensibly on the direction of their in-game avatar, not on viewing a preshaped narrative provided by a recorded film or TV show. Collectively, these perspectives offer a cross-section of overlapping experiences that help us trace what is at play when such music is created and consumed.[14]

The three case studies collectively illustrate wider trends in the rise of use of world music resources in Western Sci-Fi and Fantasy screen media contexts over the last decade and a little more. Soundtracks in these genres of screen media represent an increasingly diverse site for our extra-worldly imaginings, even while some of this work also reinvigorates exoticist stereotypes. Taken together, the examples show a growing interest in the possibilities of the sound resources offered by disparate global musical traditions and growing confidence in their adoption. They share some commonalities of practice and also differ in certain respects. The resulting distribution of characteristics suggests an initial typology for mashups that is proposed below in a moment, but first I draw together the key similarities as revealed in these case studies.

First, each case study prominently deploys sounds from music that stems from outside the broad category of Western art, popular or experimental music in order to construct for its assumed listeners the alterity of the alien setting in question (or minimally its initial unfamiliarity, as in case study 2). Perhaps this seems almost inevitable in a Sci-Fi or Fantasy setting—the music track has to work alongside the on-screen visuals, after all—but it is ironic to note that this process involves the strategic referencing of potentially recognisable attributes from non-Western or Western folk traditions, a point that is also salient insofar as all these screen media are intended to be marketed to listeners worldwide, including those for whom the sound resources in question might be already quite familiar. Musical orientalism definitely remains at play in such constructions, notwithstanding the considerations added in the paragraphs directly below.

Second, the case studies show an emerging tendency among the US composers in question to draw on a particular subset of instrumental and vocal sonorities in their alien world-making: folk fiddles (especially those with sympathetic strings) and bamboo flutes, *duduk*, *taiko* and *gamelan*—what we might call the familiar unfamiliar. The makeup of this list surely reflects the roster of experienced musicians

available and equipped for soundtrack recording session work in California where all three soundtracks were produced, but there are also commonalities here in terms of conceptualisations that interrelate alterity with certain qualities of timbre, a point McCreary hints at above when he talks of using organic, raw and primal sounds.

Third, and despite the use of somewhat unfamiliar sonic ingredients (or potentially stereotypical ones, depending on a listener's standpoint), such encounters can establish chains of musically infused nostalgia, whether strategically planned by a composer to add depth to a telling onscreen reveal (case study 1) or activated by players, whose aural encounters with distinctive musical material led them back to in-game vistas they and their on-screen avatars had long since departed (case study 3). Some listeners even build sustained affiliations with the "alien" sounds, tracing them back to their real-world roots.

Fourth, in each case the world sound resources are mashedup to avoid too clearly over-writing the medium's constructions of alienness through presentation of strong ties leading to each sound's respective global point of origin. The three examples handle the mashup process in different ways, and analysis of them above suggests a typology of mashing-up that may have utility for future studies, including those beyond the genre of Sci-Fi and Fantasy.

Starting with the most conservative soundtrack, Horner in *Avatar*, primarily took up some of the timbral effects of certain world music traditions, using them to modify or re-colour certain aspects of his otherwise conventional, Western-sounding film score. It would take very close listening indeed to hear the source timbres in the majority of his world music usages without the guiding insight of Bryant's behind-the-scenes observations. This kind of mashup can be labelled a "mashup by insinuation".

Meanwhile, in *World of Warcraft*'s Grizzly Hills score, the music starts out citing the Swedish *nyckelharpa* which acts as a specific sonic index to real-world pine forest folk cultures. The solo is then blended into an orchestral mix, leading to a symphonic treatment rich in its references to the Western romantic tradition, one widely used in film music much more generally to depict moments of intense emotion and passion. If the Horner example is mashup by insinuation, this example represents a model of "mashup by phased integration".

Finally, in *Battlestar Galactica: Blood and Chrome* McCreary's gamelan usage does not point toward a quintessentially Indonesian ambience or support visuals of a tropical archipelago. Similarly, his *taiko* passages do not cross-reference Japanese characters or accompany broader East Asian visual tropes. Most of all, the world music elements remain prominent throughout much of the soundtrack: they do not become absorbed into familiar Western idioms, whether at once or after an exotically coloured initial statement. This might be labelled a "creolised mashup".

The existence of these three types of mashup is evidence that, despite the fact that the composers in each case study have relied on a particular subset of world music resources, we are not seeing the rise of an "assumed alterior", that is, an industry creation that can stand as the backing track for any and all alien societies.[15] Notably, musical currents in this regard are moving more swiftly and inventively in TV and gaming than in the larger-budget films, suggesting that it is to TV and gaming that we should look first to discover the most energetic musical projections of life beyond this planet.

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Endnotes

[1] Summers (2013) offers a case study of several such orientalisms across the *Star Trek* franchise; Halfyard (2012) provides an introduction to music in Fantasy cinema more widely; Donnelly and Hayward (2012) is an equivalent source for music in Sci-Fi TV.

[2] Stokes (2012) offers a key entry point to the large literature on this topic; see also Gallope (2020) for a richly referenced recent consideration.

[3] Notably, successful franchises today spread across multiple media, transferring audio initially composed for one medium onto the stylistic and technical pallet of the next. The streaming of TV and film on subscription or demand via the Internet collapses pre-existing distinctions between TV and film reception and replay. Meanwhile, the emergence of live performances of game music, the live broadcasting of e-sports contests and the making of films as part of a video game franchise realigns video gaming music in this larger, thoroughly multivalent whole. Yet some important distinctions remain (Cheng, 2012; Collins, 2007; Hart, 2014).

[4] McCreary's compositional credits include *Battlestar Galactica* (Seasons 1-4, 2005–2009), *Terminator: The Sarah Connor Chronicles* (2008–2009) and *The Walking Dead* (Seasons 1-5, 2010–2015) among other TV series, films and video games. A biography appears on his blog at https://www.bearmccreary.com, retrieved 25 February 2021.
[5] For further on the recent history of *taiko* ensembles, see Alaszewska (2014) and Fujie (2001). For histories of *gamelan* in Java and Bali, see Sumarsam (1995) and Tenzer (2000, pp. 86–108).
[6] http://www.bearmccreary.com/#blog/blog/battlestar-galactica-3/battlestar-galactica-blood-chrome/, retrieved 20 April 2014. Subsequent blog quotes in this case study are from this entry also.
[7] In a study of world music in advertisements, Taylor (2007) notes how often women's or children's voices are used, rather than those of men, arguing that they are most readily "convertible to exotic otherness" (p. 185).
[8] http://www.wowhead.com/zone=394/grizzly-hills, retrieved 24 April 2014.
[9] http://www.reddit.com/r/wow/comments/1696nx/when_im_in_grizzly_hills/, retrieved 24 April 2014. "blizz" in CForre12's comment refers to Blizzard, game company behind the *World of Warcraft*, and "vanilla and tbc" to the initial game release and its first expansion pack, "The Burning Crusade". In citing these forum extracts, I leave variants of spelling, punctuation etc. as they appear on the original source. Some of these pages have since moved or disappeared.
[10] The track is available at "WotLK Grizzly Hills Day Music". http://www.youtube.com/watch?v=mpyInx0ldfo.
[11] http://us.battle.net/wow/en/forum/topic/1104140537?page=1, retrieved 24 February 2014. "85" here represents the player character's level. Don't expect too much in the way of Swedish tradition if you look up Wesley Willis; Varius aptly plays a troll.
[12] http://wow.duowan.com/1402/256485980936.html, retrieved 21 April 2014, my translation.
[13] See, for example, Taliesin and Evitel, "What is the Best Music in World of Warcraft? The Top 5" (24 September 2016). https://www.youtube.com/watch?v=ChyS2WHxmQc.
[14] Ideally, performer testimonies would add further insights here.
[15] In this construction I refer to Mark Slobin's work on the "assumed vernacular" that represented foreign and indigenous cultures in early Hollywood film (Slobin, 2008a, pp. 6–7).

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Biography

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