Chapter Five
Isaac’s Silence: purposive aesthetics in *Dead Space*

This chapter is concerned with a particular set of relationships between videogame music, film music, and modernist avant-garde music. In a case study of Jason Graves’s soundtrack for the third-person science fiction survival horror game series, *Dead Space* (EA, 2008, 2011, 2013), I delineate a particular soundworld and trace its origins back, via Hollywood, to the aleatory avant-garde music prevalent since the 1950s.¹ Graves unsurprisingly drew on the rich heritage of science fiction and horror film scores. However, rather than simply imitating a received caricature of modernist music as used in horror films, he also studied the works of Polish avant-garde composers Krzysztof Penderecki, Witold Lutosławski and Henryk Górecki. Throughout its disparate history, this particular soundworld has always been defined as “other” to the security provided by the western tonal tradition as characterized/caricatured in neo-romantic film scores—to which two of these composers nevertheless significantly “reverted”.² While it was in the context of Hollywood’s science fiction and horror films that this aesthetic solidified its “scary” semantic associations, I argue that games like *Dead Space* and its sequels have more in common with the aesthetic paradigm’s original intentions. This situation is particularly ironic given the wider avant-garde’s often-dismissive attitude towards mass culture.

¹ The term ‘soundworld’ is related to R. Murray Schafer’s concept of a ‘soundscape’. However, Schafer’s term is all encompassing whereas soundworld tends to refer to a particular musical “style”. See ‘The Music of the Environment’, in *Audio Culture: Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (New York: Continuum, 2004), pp. 29–39.
² Take, for examples, Penderecki’s Second ‘Christmas’ Symphony, and Górecki’s Third Symphony.
In the first *Dead Space*, the player’s character, Isaac Clarke, is a silent protagonist—he does not speak. Given the widespread acknowledgement of the importance of “immersion” as a primary goal for the videogame medium, this narrative device is of particular interest as it supports a symbiotic relationship between player and avatar. The acoustic void left by Isaac’s silence is filled by both music and sound effects—sonically, sometimes indistinguishable from one another. The blurriness of this distinction problematizes the distance between sound effects and music, and goes hand-in-hand with Graves’s research into avant-garde aleatory experimentation. Furthermore, the use of a dynamic music system that (re-)composes the soundtrack in real-time to fit the action on screen both supports and negates various aleatory principles.

Isaac’s Silence

When his vessel crash-lands into the spaceship it was sent to assist, the protagonist of *Dead Space*, Isaac Clarke, becomes separated from his two colleagues and finds himself a lone engineer on the USG *Ishimura* (a huge mining ship orbiting the planet Aegis VII), fending off ‘necromorphs’ (alien-infected zombies) whilst attempting to repair the ship’s systems and find a way to escape to safety. Isaac is given the dangerous and difficult repair tasks, while his friends offer profuse guidance over the intercom. Throughout the game, attention is drawn to the symbiosis of the protagonist with the player, but in the most peculiar way: each time Isaac is spoken to by other characters, he never replies. Ordinarily, if the protagonist does not simply

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3 Named after science fiction writers Isaac Asimov and Arthur C. Clarke.
4 ‘石村’, a Japanese surname which translates literally to ‘Stone Village’, the implication perhaps being that the ‘Planet Cracker’ class ship is now home to the dead.
speak for the player (with the voice of a pre-recorded voice actor), games often invoke some form of multiple-choice response system, whereby the player can express a degree of control over what the character says. Alternatively, the script can be composed in such a way as to minimize the risk of drawing attention to what must surely be considered the most fundamental point of illusory immersion—the subject positioning of the player and protagonist. But whenever Isaac is asked a question in *Dead Space*, there is nothing but an eerie silence. It seems to be a deliberate strategy, as there are plentiful solutions to avoiding such awkward self-consciousness, as demonstrated in the numerous narrative strategies of other games. With “immersion” as a primary goal, most games lay emphasis on the mimetic (showing/enacting) rather than diegetic (telling/explaining) qualities of the narrative, but in *Dead Space*, fundamental story-telling devices are laid bare, and the subsequent alienation arguably endangers the suspension of disbelief.

Silent protagonists are not uncommon in the first and third-person action or role-playing games, perhaps because the question of identity is particularly difficult to manage when the player and protagonist—often literally worlds apart—have to unite as one. Most often, as exemplified by the silent protagonist Gordon Freeman, of the influential *Half Life* (Sierra Entertainment, 1998), these characters are defined by detailed yet generic hints offered through the comments of NPCs, various (and often otherwise irrelevant) props, and extra-game information, such as accompanying artwork. This framework permits the player to fill in some character details for themselves, whilst simultaneously providing the player with those important details that locate and define the character in the game world. This way, the bond between player and protagonist is made stronger, and the character’s journey through the narrative becomes the player’s. Throughout *Dead Space*, Isaac boasts a mechanical suit similar to that worn by the comic book character Iron Man, and subsequently he is masked for the duration of the game.⁶ Although the suit was obviously designed for engineering tasks (the mask protects Isaac’s

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⁶ Except to those eagle-eyed gamers who moved the camera round to look at his face before he stood up with his mask in the prologue.
face from his blowtorch, for example), it also acts as armour against the necromorphs and helps
to downplay Isaac’s own identity as separate from the player. Most of the weapons Isaac employs
in the game are repair tools, although ironically, the player is explicitly encouraged to use them to
dismember. 7

A key difference between Gordon Freeman and Isaac is that the player is not particularly
struck by Gordon’s silence because the carefully constructed dialogue—any logical response to
another character would amount to no more than a redundant ‘okay’ or ‘thanks’. At the very start
of Dead Space, the camera zooms out of the white-noise static that concluded a video
transmission from Isaac’s girlfriend, Nicole, to reveal that Isaac is replaying the video before
arriving at the Ishimura. Overhearing, Kendra, his technologist colleague, asks (or rather
comments):

Kendra: How many times you watched that thing?

Isaac: [Pause]

Kendra: Guess you really miss her. [Short pause.] Don’t worry, we’re almost there. You’ll
be able to look her up once we’re on board. Sounds like you two have a lot of catching
up to do.

[On arrival near Aegis VII—the planet orbited by the Ishimura—music is cued in an ‘epic’
‘neo-romantic’ style (see Figures 5.8 and 5.9). 8]

The pause is not very long, but Kendra certainly waits for a response before continuing. As this is
the first instance in the game, it may not strike the player as especially odd. Kendra’s question is
left satisfactorily rhetorical, and although the subsequent pauses in the game’s dialogue are
hardly Pinteresque, they do nevertheless hold a latent tension that perhaps foreshadows the
ensuing violence. Given Isaac’s other frequent vocalisations (moans, screams and grunts), the lack
of direct communication or even occasional private monologue is a noticeable omission.

7 The fastest and most efficient way to take down the Necromorphs, the game tutorial tells us, is to shoot
off their limbs. This is to help contrast the game with the more usual approach of aiming for the head or
vital organs.
8 These are my labels.
In *Dead Space*, the only hints provided about Isaac’s backstory are the brief and relatively vague allusions to Nicole working on board the *Ishimura* as a medical officer prior to his arrival. Her presence provides an additional motivation for Isaac’s actions on board, as well as a pretext for his participation on the trip. As the story progresses, Isaac receives messages from Nicole, helping him uncover two conspiracies involving the mystical Church of Unitology and the government, for whom Kendra turns out to be an undercover agent. These “factions” were both using the *Ishimura* as a vehicle for obtaining a powerful artefact—the “Marker”—from the planet colony Aegis VII. It transpires that the Marker pacifies the ‘hive mind’ of the necromorphs, and keeps them under control, but it also can manipulate Isaac’s state of mind with powerful hallucinogenic effects. By the end of game, Isaac discovers that Nicole committed suicide prior to his arrival, and that the transmissions he thought were coming from her were actually from the Marker. The personal and evidently deep relationship with Nicole provides an important emotional element to Isaac’s adventure, although if anything, attention during normal gameplay is drawn away from any sort of empathy or attachment to this plot feature. Indeed, Isaac is a man of action and seems surprisingly “at home” for an engineer (as opposed to a marine, perhaps) under such extreme circumstances. His slow, cumbersome movements and stooped posture give him an ambiguous appearance that is neither gung-ho, nor petrified, but ironically actually rather alien-like.
While Isaac quietly “gets the job done”, his counterparts are very vocal and eventually reveal their true colours as unreliable plot manipulators. Isaac’s actions are left to stand alone as evidence of his/the player’s agency. Although he is at the heart of the game’s drama, Isaac’s expressionlessness leaves a communicative vacuum that begs to be filled.

Selecting Soundworlds

Isaac’s role loosely parallels Ellen Ripley’s character in Ridley Scott’s sci-fi horror, Alien (1979), although, direct comparison makes the taciturn Ripley (played by Sigourney Weaver) appear loquacious. The antagonistic relationship between Scott and the film’s composer, Jerry Goldsmith was, despite their own misgivings, a productive one, as it resulted in an interesting dialectic of musical styles: the essentially neo-romantic vision preferred by Goldsmith for the film in
juxtaposition with (or perhaps, complementary to) the extended instrumental techniques borrowed from the avant-garde, or what he referred to as ‘the obvious thing: weird and strange, and which everybody loved.’ In other words, Scott believed that ‘scary’ and ‘weird’ sound effects would sell but was willing to meet Goldsmith half way. (The idea of this music being a functional “sound effect” is particularly relevant.) The resultant synthesis can nevertheless be thought of as an opposition because, as we shall see, each distinct soundworld serves a particular emotional function within the film: the neo-romantic music coming to the fore to support the epic narrative, and the modernist music taking over in tension-building or violent sequences. Consciously or not, this duality was carried over by Jason Graves, who had worked with Goldsmith in the past. However, Graves conducted an unusual amount of research in preparation for creating his score, looking back to modernist avant-garde music just as Goldsmith himself had done for the pioneering score to *Planet of the Apes* (1968) (see below). For Penderecki, Lutoslawski and Gorecki—three composers Graves paid particular attention to—the resultant soundworld was a by-product of a technical, aesthetic and, in the end, philosophical process. As we shall see later, more often than not it was the “means” of sonically assembling the score, rather than the “ends” of the particular musical outputs that are significant. The music to *Dead Space* has more in common with the modernist art music experiments than *Alien*’s score, although surface similarities are often specious. In *Dead Space*, the means are functional, but also, for that very reason, means to ends and not ends in themselves.

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9 See David McIntee, *Beautiful Monsters: The Unofficial and Unauthorized Guide to the Alien and Predator Films* (Surrey: Telos Publishing Ltd., 2005), p.38. Ironically, the credits of Alien were re-scored by Scott, who replaced Goldsmith’s original cue with an excerpt from Howard Hanson’s Symphony No. 2, which has the telling subtitle of ‘Romantic’. Goldsmith’s cue was not entirely dissimilar, although its atmosphere is darker than the Hanson, and its reference to the opening theme Scott had already cut made it somewhat redundant.

10 The biography on Jason Grave’s official website appears to have changed in recent years and no longer provides much detail about the composer’s background. However, some of the missing elements are referenced at <http://en.wikipedia.org/wiki/Jason_Graves>, accessed 21/03/2013. In an interview, Graves refers to ‘studying under’ Goldsmith and Christopher Young. See Michael Naumenko, ‘Jason Graves Interview: Brutal, Visceral, Musical,’ on game-ost.com (November 2008), retrieved from <http://www.game-ost.com/articles.php?action=view&id=45>, accessed 21/03/2013.

11 See Naumenko, ‘Jason Graves Interview: Brutal, Visceral, Musical.’
Tim Summers has developed some useful terminology for describing the process by which music can use intertextual and semiotic referents from other media and cultural touchstones that are already well-established to enhance the game experience.¹² This, he calls, ‘texturing’, ‘since it has the result of creating depth, implied detail and rounded context to the surface level of gameplay activity.’¹³ Another key term, prevalent in its broader sense across the film and videogame industry, is ‘epic’.¹⁴ With this, Summers refers primarily to the macro-level narratives and contexts in which a videogame takes place—those elements that do not usually have a direct impact on the gameplay, but are crucial to immersing the player in their avatar’s world, usually by grounding the action with a sense of purpose. Indeed, the term is clearly an apt description of the majority of first-person action games where the stakes are invariably high.

While the basic plot arc of Dead Space echoes that of Alien, there are further parallels to be made between the sequels, Dead Space 2 (EA, 2011) and Aliens (James Cameron, 1986). Both move away from the personal, internalized focus in the originals toward a more general action-orientated group dynamic where the protagonists return, but this time, backed up by a squad of marines. This shifts the emotional and psychological elements of the horror significantly, and goes hand-in-hand with the Dead Space 2 writers’ decision to unmask Isaac, give him a voice, and more explicitly “characterize” him. The change of heart certainly generated a great deal of debate.¹⁵ Graves, who was re-employed as the composer for both sequels, was left with a dilemma in how

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¹³ Summers, ‘The Aesthetics of Video Game Music,’ p. 3.

¹⁴ Ibid., pp. 3–5.

to write for this newly balanced narrative. In the first instance, he inevitably had to reflect the larger stakes (society as opposed to individual):

The original Dead Space was very claustrophobic, and the music had a very chaotic, out-of-control sound to it. I wanted the music for Dead Space 2 to sound bigger and more focused than the original. So the score makes use of more instruments in the orchestra to convey that larger-than-life feeling.\(^\text{16}\)

But simultaneously, he had to maintain and further develop Isaac’s internal struggle:

Isaac definitely has a more identifiable character arc in the sequel. I used a string quartet, which is the antithesis of the huge, churning orchestra, to portray Isaac’s vulnerability and character arc as he progresses through the game.\(^\text{17}\)

Graves developed new material for the sequel, such as Isaac’s leitmotif (D-E-A-D), but maintained much that made the original soundworld distinctive—a form of musical branding essential to preserving the identity of the series. His final press release clarifies the two distinctive musical areas that characterize the individual within the epic narrative:

The score really runs the gamut as you play through the game. There are much bigger and scarier pieces along with quieter, more personal moments to counterbalance them. I wrote for string quartet to portray Isaac’s vulnerable side. It’s quite the emotional arc, but of course still done in a very ‘Dead Space’ way.\(^\text{18}\)

This is reminiscent of the duality found in the Goldsmith score between the Romantic “epic” and the modern “horror”, although neither the game nor the film treat orchestration or style as exclusive categories. Both attempt to unify the opposing soundworlds into a particular stylistic fusion.

*Dead Space [1]’s* narrative structure provides the game’s overall macro form, summarized in the chapter titles that combine to produce the acrostic “spoiler”, ‘N.I.C.O.L.E. I.S. D.E.A.D.’:

- Chapter 1: New Arrivals
- Chapter 2: Intensive Care
- Chapter 3: Course Correction
- Chapter 4: Obliteration Imminent
- Chapter 5: Lethal Devotion

\(^\text{17}\) Ibid.
\(^\text{18}\) Ibid.
Chapter 6: Environmental Hazard (Boss: The Leviathan)

Chapter 7: Into the Void
Chapter 8: Search and Rescue (Boss: The Slug)

Chapter 9: Dead on Arrival
Chapter 10: End of Days
Chapter 11: Alternate Solutions
Chapter 12: Dead Space (Boss: The Hive Mind)

The end of each complete word in the acrostic is a chapter that culminates in a boss fight: ‘The Leviathan’ appears at the E of ‘Nicole’, the ‘Slug’ at the S of ‘is’, and the ‘Hive Mind’ at the end of ‘dead’. With the obvious exception of Isaac (and Nicole), all of the main cast of characters are killed in the final four chapters, Hammond in ‘Dead on Arrival’, Challus Mercer in ‘End of Days’, Dr Terrence Kyne in ‘Alternate Solutions’ and Kendra in ‘Dead Space’. The narrative structure is conditioned by the pendulum effect of non-interactive cutscenes that punctuate gameplay. The interactive gameplay sequences are themselves carefully paced between moments of intense combat action and tension-building exploration. The two types of music (neo-romantic and modernist) map onto this form, the neo-romantic music featuring predominantly in cutscenes and pre-scripted sequences, and the dynamic modernist music underscoring gameplay. However, this opposition is not a simple aural distinction as both soundworlds are frequently integrated together to produce a coherent style (see below).

In Dead Space 2, Graves readopts the Romantic dichotomy between public and private musical spheres, embodied in orchestral and chamber music respectively. Indeed, although some players preferred the music to the first game, others found that the greater weight on the more familiar neo-romantic music in the sequel(s) provided relief from the unrelenting modernist music.\(^\text{19}\) Furthermore, it seems while many players were content with the modernist music as an underscore to violent gameplay, some said they felt that it was not as enjoyable to listen to outside the context of gameplay and so preferred the more obviously “epic” music. These

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opinions indicate that while there were some disagreements, it is clear that a balance was sought and largely achieved: the “inward turn” to Isaac’s subjective psyche is balanced with an epic texturing of neo-romantic music—the outside world and larger social struggles of the narrative. This provides aesthetic relief and moral security, grounding the game around values that attempt to stabilize its otherwise precarious, uncertain and violent character.

The third—and perhaps final—game in the series, Dead Space 3, continues the trajectory from private to public spheres, expanding the original remit to include more action. However, it has received mixed reviews, primarily because the action comes at the expense of the suspense and horror promised by the genre. This conflict of interests seems to have been brought about because the developers or publishers attempted to expand the target audience by making the game more action-orientated than suspenseful, and in doing so they have jeopardized the loyalty of their original fan-base. Additionally, Dead Space 3 was heavily “monetized” in game, reflecting recent trends in free-to-play MMO games that make their money through “microtransactions” instead of subscription fees. Players are encouraged to purchase additional items to help them within the game world (such as supplies or upgrades), but with real money rather than gameplay earned credits. Despite the fact that it has become common in other genres, it is not common in expensive AAA titles like Dead Space, and many players and reviewers expressed such animosity towards the setup that the developers felt the need to defend their decision, suggesting that microtransactions would encourage the mobile gaming demographic (smaller, simpler games produced on social networking websites or for less powerful mobile devices) to try other sorts of games. This is a little dubious, since that demographic exists

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21 See, for instance, Imran, ‘ImRage: Dead Space 3’s Micro-Transactions Goes Too Far,’ on egamer.co.za (21/02/2013), retrieved from <http://egamer.co.za/2013/02/imrage-dead-space-3s-micro-transactions-goes-too-far/>, accessed 16/09/2013; and Shaun Prescott, ‘Interview: Dead Space 3 producer on micro-
precisely for casual gamers who tend not to be interested in more traditional videogames of this type.

These conflicting pressures are particularly interesting for the present case study, since they explicitly pit economic against creative values. Electronic Arts (EA), the largest videogame publisher in the world, own the intellectual property (IP) of the series. Referring to AAA titles in general (games developed for popular platforms with enormous marketing budgets), but with the Dead Space IP in mind, the President of EA Games Label, Frank Gibeau, has stated that an audience size of ‘anything less than [five million] becomes quite difficult financially given how expensive it is to make games and market them.’ 22 The sales figures for the three games are graphed in Figures 5.2 (PC) and 5.3 (Xbox 360). 23

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Across the three platforms the games were released on (PC, Xbox360 and PlayStation 3), it is clear that *Dead Space* 3 is unlikely to meet Gibeau’s target and it was speculated in the media that development on *Dead Space* 4 was shelved due to disappointing sales figures.\(^{24}\) In addition,

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\(^{24}\) See David Scammell, ‘*Dead Space* 4 canned, series in trouble following poor sales of *Dead Space* 3,’ on videogamer.com (05/03/2013), retrieved from <http://www.videogamer.com/xbox360/dead_space_3/news/dead_space_4_canned_series_in_trouble_fo
players’ reviews of the soundtrack for *Dead Space 3* were mixed, some missing the tension and unrelenting violence of the first game, others preferring the more ‘epically balanced’ score (as mentioned above).\(^\text{25}\) The slight dip in reception ratings according to critic aggregator website, MetaCritic, are reflective of the sales:

<table>
<thead>
<tr>
<th></th>
<th><em>Dead Space (2008)</em></th>
<th><em>Dead Space 2 (2011)</em></th>
<th><em>Dead Space 3 (2013)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MetaCritic Rating</strong></td>
<td>(X360) 89/100</td>
<td>(X360) 90/100</td>
<td>(PC) 79/100</td>
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<tr>
<td></td>
<td>(PS3) 88/100</td>
<td>(PS3) 89/100</td>
<td>(X360) 78/100</td>
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<tr>
<td></td>
<td>(PC) 86/100</td>
<td>(PC) 87/100</td>
<td>(PS3) 76/100</td>
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Table 5.1: *Dead Space* series MetaCritic Ratings

Nevertheless, there is no doubt that the three games produced were largely successful economically, reaching the large audience figures expected of a mass-market product of this type. However, new sales models have aggravated many gamers, some of whom, according to Peter Moore, EA’s Chief Operating Officer, believe that games should not even be ‘a profitable enterprise’.\(^\text{27}\) On the one hand, with gamers demanding greater artistic integrity and a diverse range of aesthetic experiences from videogame developers, and on the other, the publishers’ need to make games commercially viable, debates like this have tended to polarize art and mass culture. That this well-worn question of commercial and creative (or artistic) value is so topical across the industry (and in the music industry too, of course) is perhaps more useful and

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\(^\text{25}\) In order to provide standardized comparisons of “how good” individual games are, MetaCritic compiles the ratings attached to reviews from many sources and normalizes them into an average out of 100, 0 being the worst, and 100 being the best rating a game could receive. See their explanation at <http://www.metacritic.com/about-metascores>, accessed 06/02/2014. The ratings for the games discussed here can also be found on their respective Wikipedia pages: <http://en.wikipedia.org/wiki/Dead_Space_(video_game)>, <http://en.wikipedia.org/wiki/Dead_Space_2>, and <http://en.wikipedia.org/wiki/Dead_Space_3>, all accessed 03/04/2013.

interesting than the debate itself, as it may indicate the perception that videogames have, taken as a whole, narrowed the gap between polarized conceptions of high and low art. The diversity of gaming experiences points to a more integrated and interconnected conception of these binary constructs.

The Sound of Avant-Garde Modernism: ‘Who Cares if You Listen?’

While the neo-romantic soundworld employed by Graves across the series is familiar from Goldsmith’s score, the modernist soundworld he utilizes for the internal psychological narrative and for the horror aspect of the genre, is perhaps less so. Given Graves himself studied certain aleatory avant-garde works, an understanding of the contexts in which they were written is crucial to a proper contextualization of *Dead Space*. Two works often cited as pioneering examples of aleatory music are Stockhausen’s *Klavierstück XI* (1956) and Pierre Boulez’s Third Piano Sonata (1958), both generally categorized as modernist and avant-garde. The structure of the first of these is relatively simple and reflects Stockhausen’s interest in experimenting with sound itself. The pianist is instructed to glance randomly between the nineteen different sections of music to determine the order in which they should be played as he/she goes along, only finishing if one group is reached three times. Tempo and dynamic indications are given at the end of each section, to be employed in the next, whichever it may be, ensuring a degree of musical continuity. Stockhausen deliberately sets his project aside from earlier experiments with mobile form, such as Henry Cowell’s ‘Mosaic’ Quartet (1934), or the indeterminate chance pieces by John Cage28, instead, claiming that the work

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is nothing but a sound in which certain partials, components, are behaving statistically... As soon as I compose a noise... then the wave structure of this sound is aleatory. If I make a whole piece similar to the ways in which this sound is organized, then naturally the individual components of this piece could also be exchanged, permutated, without changing is basic quality.29

Stockhausen’s use of aleatorism on the structural plane—as mobile form—is supposed to be a mirror of the statistical randomness he finds in individual noises. *Klavierstück XI* is therefore to be thought of as a metaphor for sound itself. This is a modernist project as its quasi-scientific experimental aim is an investigation of the objective qualities of sound. Temporally, the experience of form is partially contingent on the listener’s knowledge of the score. While all experience is linear in an immediate sense, and the final product of a mobile-structure will be too, multiple performances reveal the work’s non-linear structure. By applying aleatory procedures to both form and soundworld, Stockhausen ensures that the musical experience is consistent with his experimental intentions.

Boulez’s Third Piano Sonata offered a critique of Stockhausen’s experiment. Crucially, Boulez recognized the trap of assuming that chance—and the musical forms that relied on it (indeterminate and aleatory music)—was antithetical to the ‘automatisms’ of total serialism. He discovered that, as Paul Griffiths puts it, ‘leaving any aspect to chance produced exactly the same effect as being forced by some scheme: the composer’s presumed liberty of action was compromised.’30 Thus, both total serialism and indeterminacy involve automatisms that jeopardize “freedom” in one way or another. (For this reason, these works can be described as modernist, because they push an “objective” abstract “language” over the communicative language of a subjective author.) Boulez’s Third Piano Sonata offers five ‘formants’ (‘Antiphonie’, ‘Trope’, ‘Constellation-Miroir’, Strophe’, and ‘Séquence’; only numbers two and three were formally published) which the performer is asked to order in advance, as if preparing a route on a

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map. In ‘Sonate, que me veux-tu?’ (1963), Boulez likened the role of the performer to Theseus in the Labyrinth. The image is evocative of Isaac’s journey around the dark corridors of the Ishimura, but it is also provocative in the sense that the player follows narrative threads through the game’s non-linear maze-like form, creating a unique linear audio-visual experience. Boulez drew heavily on literary criticism, work by James Joyce, and the poet Stéphane Mallarmé’s concept of ‘perpetual expansion’ derived from Un coup de dés. Significantly, Boulez—characteristically of post-war French intellectuals—initially rejected Cage’s “indeterminacy”, but Cage claims that once Boulez had discovered Mallarmé, he began his own investigation and developed his own terminology, rebranding indeterminacy as ‘aleatory’. Boulez’s 1957 essay, ‘Aléa’, offered a compositional framework in which chance is restricted in order to maintain creative control, a feature that distinguishes it from Cagean chance both procedurally and intellectually.

It would be remiss not to recognize the contributions of Varèse and his disciple, Xenakis. Both composers had a background in science and mathematics which greatly informed their work. Xenakis positioned himself against both integral serialism and earlier traditional tonal music because he argued that they both assume that absolute causality and determinacy are the rules by which the world works. However, he also rejected the “absolute” indeterminacy of Cage, for similar reasons to Boulez. Instead, Xenakis proposed that the future of music was “stochastic” as that better reflected the modern understanding of the world, according to probability theory.

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31 Pierre Boulez, ‘Sonate, que me veux-tu?’, Perspectives of New Music 1/2 (Spring, 1963): 32–44.
32 Pli selon pli (1957–1962) took these ideas further by setting Mallarmé on a larger scale, which also brought about other restrictions.
35 Pierre Boulez, Aléa.
polyvalent logic, and modern (quantum) physics.\textsuperscript{36} (Works such as \textit{Persephassa} (1969) for percussion ensemble were based on thousands of mathematical calculations.) Subsequently, he was suspicious of “linear” music and placed chance (\textit{tyche}), disorder (\textit{ataxia}) and disorganization in contrast with reason (\textit{logos}), order (\textit{taxis}) and organization (\textit{systasis}). Nevertheless, as the world he reflects in his music is tangible and literal, his language is conceived of as an “objective” tool, and in this sense, much of his music retains a modernist outlook.

The relationship of the avant-garde to its audience is most famously encapsulated in the title of Milton Babbitt’s notoriously arrogant essay ‘Who Cares if You Listen?’\textsuperscript{37} Likening research in music to research in science (and specifically, theoretical physics), Babbitt accepted music’s isolation from society as an inevitable consequence of its increased complexity. He subsequently believed that serious contemporary avant-garde music was necessarily elitist and required institutional (university) support, as it was beyond the everyday concerns of society. It is possible to detect an overly-rational bitterness in much avant-garde writing as the need to justify their work—and funding—became increasingly necessary. Georgina Born’s introduction to her study on Boulez’s own ‘Institutionalization of the Musical Avant-Garde’ at the state-funded IRCAM, \textit{Rationalizing Culture}, adopts Susan McClary’s well-known phrase to characterize writing of the period as a ‘rhetoric of survival’.\textsuperscript{38} Born’s title, thus, has a double meaning in that rationality itself was the key issue (understanding and “practicing” culture by objectifying it), but that also, rationalizing, or “legitimizing” culture became necessary in an unprecedented way. (Of course, the avant-garde efforts to legitimize themselves and their work remain highly contentious.)


Despite the flaws of this important ethnographic study, it highlights certain tensions and paradoxes in avant-garde thinking. Babbitt’s claims lose sight of music’s purpose/function as a performative art and communicative language and his almost childish equation with science is clearly flawed since in that discipline, social justification and “function” is paramount in spite of mass incomprehension.

Penderecki’s career path is characteristic of this Zeitgeist. His first compositionally “mature style” (during the 1960s) experimented with extended string techniques and the dialectic between very specific instructions and indeterminate graphic notations. Perhaps his most famous work, *Threnody to the Victims of Hiroshima* (1960) is scored for 52 string instruments and in it, Penderecki applied the idea of tone/chord clusters to textures, developing them into a more large scale aesthetic style often referred to as ‘sound mass composition’. The indeterminate notational elements (the score is written with symbols rather than traditional musical notation), alongside the original title of 8’37” provide overt clues to artistic intentions which became manifest when in 1994, Penderecki explained that:

[The piece] existed only in my imagination, in a somewhat abstract way. When Jan Krenz recorded it and I could listen to an actual performance, I was struck with the emotional charge of the work. I thought it would be a waste to condemn it to such anonymity, to those “digits”. I searched for associations and, in the end, I decided to dedicate it to the Hiroshima victims.

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Without undermining the “validity” of these extra-musical associations, which, it should be noted, were only given weight by the composer after he had successfully moved in a very different direction\(^{41}\), the fact remains that the origins of the work were undoubtedly heavily influenced by Cage. It seems that Penderecki originally had little sense of how the final result would actually sound, or how an audience might respond to perceived semantic “content”. The evidence suggests he was rather more concerned with the abstract experimentation—the use of new \textit{determining} notations for aleatory (indeterminate) techniques. Any emotional responses or meaningful interpretations were by-products of an experiment with sound and musical structure. That said, it is also true to say that the majority of aleatory/indeterminate music was composed as “other” to the accepted classical canon. Breaking away from tonality and its associated rhythmic and formal structures by definition means “otherness”. In an interview, Grave’s refers to Goldsmith’s \textit{Alien} as the textbook horror soundtrack, but suggests that the ‘original roots of every horror film score that’s ever been written’ can be found in Penderecki, not least due to the use of \textit{Threnody} in Stanley Kubrick’s cult classic, \textit{The Shining} (1980) and more recently, in Alfonso Cuarón’s \textit{Children of Men} (2006).\(^{42}\) (There is a small irony in the fact that Goldsmith himself had turned to Penderecki for inspiration for \textit{Planet of the Apes}.) However, when referring to \textit{Threnody}, Graves shows little awareness of the composer’s original intentions, remarking only on the impact of the music.

Specifically, there are several string techniques and notational elements employed in \textit{Threnody} that were of use to Graves. Penderecki outlined his new notations in detail at the start of the composition (Figure 5.4).\(^{43}\)

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\(^{41}\) In the 1970s, Penderecki began moving toward what has been described as a ‘post-romantic’ idiom. He explained that he was saved from the trappings of the avant-garde illusion of ‘universalism’ when he ‘realised the Utopian quality of its Promethean tone.’ See Tomaszewski, ‘Liner notes.’

\(^{42}\) See John Llewellyn Probert, ‘Jason Graves,’ on \textit{This Is Horror} (no date), retrieved from <http://www.thisishorror.co.uk/interviews/jason-graves/>, accessed 21/03/2013.

\(^{43}\) Figures 5.4–7 are taken from Krzysztof Penderecki’s score for \textit{Threnody for the Victims of Hiroshima} (1960), Copyright 1961 (Renewed) EMI Deshon Music, Inc., used with permission.
These symbols can be seen scattered across the semi-graphic (but nevertheless precise) score in Figure 5.5. The instrumental divisions are further subdivided, and Penderecki indicates the exact number required in each. The total forces required are 24 violins, 10 violas, 10 cellos and 8 double bass.
There is no time signature—instead the music is played in ‘real time’ with sections delineated by their duration in seconds (see 18” and 20” at the bottom of the score in Figure 5.6). The first 12 violins in Figure 5.6 are assigned a specific note (the chromatic scale attached with a dotted line...
beneath the top stave). Violins 13–24 are likewise assigned a different set of notes. These are combined as chord clusters, notated as thick lines that cover a complete spectrum of notes. Thus, a second violin cluster joins the first sounding a minor third below.

The clusters can move up or down as indicated by the arrows, but they can also expand in compass. The extract in Figure 5.7 shows how the upper and lower violin parts delineate the outer limits of the cluster as it expands and contracts.
The music dovetails between impactful cluster chords and sparser textures, a structure that parallels the dramatic pacing of *Dead Space* as much as it does any horror movie. It is worth noting that most of these technical and notational features— the ones employed by Graves to produce his score (see ‘Composition and Implementation’ below)—actually leave very little room for “chance”. The aleatory aspects come predominantly from conceptualizing musical components as broader brush-strokes. Penderecki’s notations hardly fulfil Cage’s desire to free sound from the tyranny of the composer.
Much of the music in *Dead Space* appears derivative of Penderecki and others, not just in terms of soundworld, but through the composer’s creative process. Through the use of *Threnody* in *The Shining* (1980) and *Polymorpha* in *The Exorcist*, this soundworld became a clear sign for a particularly alien and frightening otherness, a learned cultural trope. But the extreme sounds generated by such experimental writing in an atonal idiom was always at odds and therefore other to even the most extreme reaches of Romantic music—reaffirming, as it always does, tonality and hierarchical organization by the very act of stretching it to its limits. The gendered image of Classic Hollywood film scores, heavily influenced by late romantic concert and operatic repertoires, as ‘over-emotional’ or ‘slavishly descriptive’ has traditionally been juxtaposed with modernist music and its avant-garde opposition to mass culture.45 Jeremy Barham explains:

...composers of scores for the psychologically, technologically or sociologically dystopian visions of the following films—to varying degrees products of the early Cold War years and the socio-political unrest and gloom of the late 1960s and early 1970s—demonstrated viable new alternatives to prevailing neo-romantic scoring practices, whether through the use of pre-existent music or not:

- Fred M. Wilcox’s *Forbidden Planet* (1956)—pre-synthesizer ‘electronic tonalities’ by Louis and Bebe Barron;
- Alfred Hitchcock’s *Psycho* (1960)—Bernard Herrmann’s minimalist dissonant strings with which *The Shining’s* score has much in common;
- Alain Resnais’s elusive *Je t’aime, je t’aime* (1968)—Penderecki’s evidently alien-sounding vocal writing;
- Franklin Schaffner’s *Planet of the Apes* (1968)—percussive, Varèse-like modernity from Jerry Goldsmith, who was reputedly influenced by Penderecki;
- George Lucas’s *THX 1138* (1970)—grating avant-garde electronic tone clusters by Schifrin;
- Andrei Tarkovski’s *Solaris* (1972)—Eduard Artemiev’s harsh or brooding electronic sonorities and his similar treatments of Bach;
- The aforementioned *The Exorcist*.

more broadly, the use of Bach, for example, (for which read functional tonal harmony) as a universal signifier of humanity in films such as THX and Solaris, alongside atonal clusters as some kind of dehumanized inverse involving technological oppression or psychological disturbance, initiated an approach that has since attained the status of reactionary cliché. Barham also notes the irony in these developments when taking into account the famous 1947 Adorno-Eisler diatribe against the commercialization of music by Hollywood. How much more incredulous would they have been to find a mobile implementation of this modernist music in videogames? Noting Dahlhaus’s remark that ‘audiences who detest Schoenberg’s music in the concert hall will accept it without a murmur as background film music is as fundamental as it is depressing’, Barham quotes Mayersberg’s comparison of The Shining to post-war music:

It seems technically brilliant and yet fundamentally heartless. It seems deliberately clever and yet remains enigmatic. Kubrick has tried to bridge a gap which has occurred in the language of film. How can you express dissonance and fragmentation, the essential features of our present lives, in a manner which respects traditional harmonies? Can disorder ever be expressed in an orderly way?

The Shining, says Barham, responds to Eisler and Adorno by ‘providing music which is more than a “secondary piece of decoration” and which has “its own logic and integrity” but going far beyond this to ground aspects of the filmmaking process in the explanatory, instinctive world of musicopoetic expression.’ However, Kubrick seemed to support the integrity of the music one minute by adjusting one particular sequence in order to fit it to the pre-existing Bartók, and subverting it the next by chopping it up and layering it with sound effects and other excerpts (sometimes from the same piece). The resultant collage is a new form whose musical components only retain traces of their own original forms. Since Dead Space is not reliant on recycled or quoted material, its music being composed and “designed” to fit the dynamic game environment, it may fare

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49 Mayersberg cited by Barham, ‘Incorporating Monsters,’ p. 139.

50 Barham, ‘Incorporating Monsters,’ p. 139.
differently. Furthermore, aleatoric chance music arguably has less to lose than serial or tonal music, for instance, as its musical integrity is not contingent on linear order in any case.

Figure 5.9 (below) shows a representative excerpt from the soundtrack, ‘Welcome Aboard the U.S.G. Ishimura’. In the game, the cue commences at bar 16 as underscoring to the opening cutscene dialogue, just as the team arrive at Aegis VII.\(^{51}\) The cue later introduces many of the string effects and brass cluster chords of the violent modernist music before returning briefly to the calmer opening material. The second violin part of bars 1–7, includes an example of the expanding string glissandi as it would be notated by Penderecki. One of the principal musical themes—a three-note string melody (bars 9–10) rising by step with swelling dynamics—is then introduced accompanying the first view of the Ishimura. The sense of yearning in the theme is heightened at bar 20 as the melody is converted into a chromatic rise, moving from a diminished chord on F-sharp to an augmented D-major chord instead of the original E-minor to G-major progression. The suspenseful fermata on the C-sharp in the first violins at the end of bar 19 occurs just as a crewmember asks the question, ‘Now... where is she?’, referring to the Ishimura, shortly before the ship comes into view from behind an asteroid (see Figure 5.8), accompanied by the grander rendition of the string theme at bar 20. This demonstrates a film-like degree of synchrony between the musical score and the visuals during cutscenes. It also shows the close integration of both soundworlds, with the string glissandi functioning almost as a leitmotif or topic to represent the impending danger. In this way, the passage starts the didactic work of attributing the different musical soundworlds with particular narrative/gameplay functions: it teaches the player that neo-romantic music is heard when they are in a safe environment exploring the epic context of the narrative, but the modernist music indicates unknown dangers.

\(^{51}\) Bars 1–15 provide an introduction on the soundtrack, but are not heard in the game.
Figure 5.8: The U.S.G. Ishimura Comes into View (bar 20)
Figure 5.9: Welcome Aboard the U.S.G. Ishimura (Excerpt)
Grave’s approach to such cutscene underscoring is no different from traditional film scoring. His use of Penderecki’s extended string techniques and advanced musical notations, in this context, is to introduce the horror soundworld as a topic or sign. However, the writing certainly has ‘logic and integrity’. The dominant seventh chord on A reached at bar 19’s fermata achieves a sense of suspense without sounding cliché, despite its functional simplicity. This is largely because the chord is reached chromatically, rather than via a clear functional relationship, and it does not resolve. Instead, the music continues around diminished and augmented chord on F-sharp. The four two-bar phrases (Figure 5.10) first resolve back to the D-sharp note of origin, then expand upwards by a semitone, then two semitones, and finally with full contrary motion. The pull created by the use of diminished and augmented harmonies as both dissonances and their resolutions creates a powerful sense of yearning tension and mystery. However, as we shall see, the macro form of the game—the ebb and flow of sequences of gameplay, exploration and cutscenes—provides an additional layer of complexity.

Figure 5.10: Harmonic Progression, bars 16–23
Composition and Implementation

Distinguishing between different types of musical cues in the game—be they simple pieces for cutscenes or dynamic music—is often more difficult than it might at first seem, since there are no readily-available scores, and the distinctions can only be made through careful listening. Furthermore, the dynamic mixing of all of these audio elements creates a collage of sound that is often moved into the background so that the game’s diegetic sounds—such as dialogue, gunfire, or footsteps—can be easily identified. (Some fixed cues, for instance, could be composed to sound much the same as the modernist dynamic music heard during gameplay. Nevertheless, a clear distinction can be made between the neoromantic and modernist soundworlds.) Much is revealed in interviews and developer diaries.

After defining the parameters and musical style, Don Veca, the audio director, sent Graves a more detailed brief, including many audio clips of moments from his favourite soundtracks. According to various post-production interviews, Graves then recorded various musical elements (many were aleatory improvisations) with which to create a ‘sonic palette’. These elements included numerous isolated string glissandi and various brass chords with which he could later create any number of chord clusters, for instance. From that point on, it was actually Veca who took on the predominant role of implementing the music within the game. During actual gameplay, the music appears to have been arranged into four layers, each a stereo track representing a distinct ‘fear level’: creepy, tense, very tense, and chaotic. This implies that the cues are already set sound files by the time the game engine can use them, and therefore the level of manipulation that the music engine can achieve must be on a higher hierarchical plane. Each layer is streamed in synchronization and then one or all are mixed “on-the-fly” depending on various game variables, such as the proximity of the necromorphs. So for each two-minute cue, there would actually be

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52 Furthermore, the dynamic mixing of all of these audio elements creates a collage of sound that is often moved into the background so that the game’s diegetic sounds—such as dialogue, gunfire, or footsteps—can be easily identified.


54 In an interview concerning Dead Space 2, Graves suggests that as many as eight streams were available. See Naumenko, ‘Jason Graves Interview: The Same, But Different and Better.’
eight minutes worth of musical material available for sounding. This could be described as a “dynamic” or “interactive” music system.

The thesis of Umberto Eco’s *The Open Work* maintains that the distinction between poetics and aesthetics is of particular importance to the ‘open work’, which he defines specifically as one with aleatory or indeterminate elements (either in soundworld or form), and broadly in contradistinction to all ‘traditional art’.\(^{55}\) Eco, while not wanting to displace aesthetic judgements altogether, attempted to rebalance contemporary criticism by laying emphasis on poetics—by which he meant a work’s artistic purpose as opposed to the aesthetic value of the result.\(^{56}\) This was particularly pertinent in the case of the open work because it was the indeterminate elements rather than any semantic “content” that formed an ‘epistemological metaphor’ of modern society, as Eco saw it.\(^{57}\) In other words, the process of abstract formal experimentation was itself a basis for value judgements prior to any extra-musical associations later wrought. (In another sense, the “music itself” can also be thought of as a locus for “meaning/content”.) This adds weight to the idea that these conceptual origins matter. The cynic’s cry that Graves’ own experimentation was merely a means for gaining academic kudos and therefore amounted to little more than a publicity stunt might thus be held at bay. The opposite suggestion that this experimentation was only a means to achieving a particular result—that the process was necessary to create the scary soundworld required—is fallacious because it is neither technically


\(^{56}\) Understanding of the open work as the cornerstone for a new paradigm of modern aesthetics, Eco’s take on ‘intentional fallacy’ precluded neither the validity of authorial intent, nor the problem of infinite interpretive possibilities. Traditional aesthetic theory established by Kant put forward the idea that beautiful objects appear ‘purposive but without purpose’. However, this was primarily an issue about function, not intended meanings. See Roger Scruton, *Kant: A Very Short Introduction* (Oxford: Oxford University Press, 2001, originally published 1982), pp. 107–9.

\(^{57}\) Eco, *The Open Work*, p. xiv.
necessary nor cost effective.\textsuperscript{58} The programming requirements alongside the need for multiple recording sessions incurred an “unnecessary” expense.

Understanding exactly which musical elements are pre-composed and which are left flexible therefore matters a great deal. The first stage in Graves’s compositional process is remarkably similar to the indeterminate experimentation found in Threnody. But with this, Graves seems to be developing a ‘sonic palette’ of materials with which to compose the score. Subsequently, the aleatorism of this initial experimentation is averted or “fixed”, perhaps because Graves also knew in advance (apparently Penderecki did not) that he wanted to exploit the semantic content now attached to the resultant soundworld. Regardless, the story is complicated further when the score born out of this sonic palette is configured in layers and made interactive. As Graves/Veca had a specific dramatic goal to achieve, they end up with four layers that the game engine can move freely between. It is important to remember that some of the actual soundtrack in the game is not interactive, but pre-composed for cutscenes or particular dramatic moments. Most of the neo-romantic music is found at these moments, framing or punctuating the interactive layered system that is left to accompany the core gameplay elements. While Threnody demonstrates an antagonistic relationship between aleatory and totalist serial techniques (perhaps ultimately leaning towards the latter), Dead Space arguably achieves a more integrated dialectic. From this perspective, both “works” could be described as postmodern, with multiple subjectivities found in their polystylistic aesthetic. There is some irony in this, as both aleatorism and serialism were born out of a modernist mind-set—both were initially employed as a means to “purify” the musical language, making it objective—although the former is paradoxically well suited to postmodern epistemology, as is a polystylistic combination of aleatory and serial music.

\textsuperscript{58} This is reflected in Tim Curran’s interview with Graves in which the composer states that the convoluted ‘off-the-cuff’ production procedure he suggested to Audio Director, Don Veca, actually became the process used, in spite of its expense. See Curran, ‘Filling in the Dead Space.’
The semantic content Penderecki seemed initially oblivious to was sought after and exploited by Graves and Veca because it had picked up a powerful and now practically inescapable association with an “otherness” peculiar to horror and sci-fi film genres. The contrast of tonal and atonal language, regular phrasing and rhythmic instability, melodically led textures and disjointed, chaotic ones, all aid in defining each other.

**Neo-Romantic Narrator, Modernist Psycho-Analysis**

It is worth considering the extent to which the music in *Dead Space* might function as Isaac’s emotional voice, or another distinct “narrator”. Carolyn Abbate’s famous argument that music can only rarely be said to function as narrative rests on the premise that narrative is signalled through the use of an external voice—a narrator. Abbate posits that in *The Ring*, Wagner undermines his Schopenhauerian view of music as an ‘untainted and transcendent’ discourse by employing both textual and musical narrative voices that ‘ring false’: ‘polyphonic narration’ (many narrators speaking ‘with and across the text’), she says, ‘undercuts the very notion of music as a voice whose purity is assured by virtue of its nonverbal nature.’

(This echoes the interlace structure discussed in Chapter 3.) Abbate’s call to listen for prosopopoeia in music as a sign of the presence of a narrator is particularly useful in *Dead Space*, in which an autonomous musical software engine may arguably have its own degree of agency.

Often when Isaac is alone, the music could be said to express Isaac’s fears, whether or not they are justified. The interactive music engine described above outputs one of four streams of

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music, each representing an incremental degree of fear and action.\textsuperscript{60} The decisions the engine makes are contingent on a cumulative dramatic input variable, specifically the sum-total “fear factor”. This number is based on the number of individual objects (usually the necromorphs themselves) present within a given radius of the player, and the objects’ ‘fear emitters’—values attributed to the objects which represent how scary or threatening they may appear. The crucial point to note here is that the music engine, the musical voice one could say, has no way of testing the validity of the information it receives. Subsequently, the programmers can trick it, and in turn, the player, by attributing fear values to inanimate objects. These may include metal panels on the walls, for example, that could be triggered to fall off as Isaac passes by, in turn causing the music engine to react in the same way that the player might—as if they were in real danger. This is an effective scare tactic given the number of real surprise attacks he suffers. The sudden events can be, and often are, tied to loud sound effects but other music is layered before and after that has the potential to warn the player of impending danger. Thus, the music engine itself is tricked into treating real threats, and those fabricated by the programmers, in the same way, jeopardizing the engine’s omnipotence. This brings into question whether this musical voice is an additional subject within the game world—some other narrative force (the Marker perhaps) that can manipulate the player—or part of Isaac’s consciousness.

In addition to being an unreliable narrator, there is also a fuzziness involved in delineating sound from music, diegetic from non-diegetic, and between what is in Isaac’s imagination and what is real. The use of “stab chords” (short stingers usually comprising loud and sudden individual chords or notes in isolation) across the game series highlights the close relationship between these meaningful sound effects and the musical score “proper”—a pervasive distinction otherwise seemingly unimportant in mixed-media contexts. Nicholas Cook insists that music is a communicative medium and that multimedia analysis must therefore proceed from meaning,

\textsuperscript{60} Graves talks about transitioning from one level to another (rather than mixing multiple layers incrementally) in Tim Curran’s interview. See Curran, ‘Filling in the Dead Space.’
rather than mere effect: ‘what distinguishes the concept of meaning from that of effect is that the former is predicated on communication, on human agency, whereas the latter is not (that is why we talk about the effects of sunlight, not its meaning).’\(^{61}\) Indeed, it is valid (and easier) to speak of the effect of “inanimate” sounds on the player/listener, but sound effects in games are the result of purposive communicative action. Cook’s aim, of course, was to redress music theorists’ lack of analytical attention to the role of agency in meaning-generation, rather than to problematize the distinction between sound effects and music. In a quintessentially Cagean sense, Isaac’s “silence” is not silence at all, but is filled with the ambient sounds of his (and the player’s) worst nightmares, both on a diegetic level, and through the music’s non-diegetic emotive content. As Cage noted, ambient sounds, when people pay attention to them, can function as music in that they communicate certain meanings.\(^{62}\) Certainly the efforts that the audio engineers go to in placing and balancing the plethora of diegetic sounds in videogames are testament to the fact that they are a purposeful and meaningful contribution to the games narrative. This would suggest that from Isaac’s perspective, diegetic ambient sounds need not be orchestrated by some living agent to function as a form of language and carry meaning. Of course, the player knows that the ambient sounds have all been carefully prepared, but the idea applies just as well to the player’s world as Isaac’s. The implication of this line of thought is clear enough, although somehow still contentious: the transmission of meaning is not contingent on human agency; the only active agent required is a “reader”. Beyond the connection to Cage, the significance of this relationship between sound effects and the musical score is that it highlights that both, being meaningful, stand in opposition to any anti-expressive avant-garde ideology.

The lack of vocal communication creates a specifically auditory expressive void in the game’s narrative. Like the sound returning as the air rushes back in when Isaac leaves the vacuum

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of space in damaged parts of the Ishimura, this is filled in various ways, but primarily through the music. It also highlights the special closeness of music to other forms of communicative sound within the videogame aesthetic. Cage’s own experience at Harvard in 1951 led him to observe that even in a soundproofed anechoic chamber, the sounds of one’s own heartbeat, nervous system and circulation become amplified in the inner ear. Indeed, *Dead Space* echoes this idea when Isaac must pass through various depressurized areas of the damaged ship. Sound waves, obviously, cannot travel in a vacuum, so the sounds he hears as the pressure gates open are audibly and visually “sucked away” with the air leaving him in comparative quiet. Nevertheless, the sounds in his own suit are inescapable, and become all the more meaningful: his breathing becomes a charged expression of the inherent danger and precariousness of his situation. This is “embodiment” at its most literal, and reminds the subject of that very real and human preoccupation: mortality.

**Twinkle, Twinkle...**

Pervasive across the *Dead Space* series runs another musical trope idiomatic to the horror film genre as well as in videogames: the incongruous use of a nursery rhyme in a violent or scary context. Some gamers have referred to this form of incongruence as ‘ludic counterpoint’, and Michiel Kamp has also suggested the more theoretically-cognizant term of ‘ludo-musical dissonance’, which draws on the established term, “ludonarrative dissonance”. Kamp argues

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63 See, for example, the ‘Drunken Whaler’ trailer for *Dishonoured* (Arkane Studios/Bethesda Softworks, 2012), <https://www.youtube.com/watch?v=X7khCk0bdnE>, accessed 23/09/2014. The music was also used as part of the game’s soundtrack.

that “ludo-musical dissonance” can be characterized as ‘ready-to-hand’ in the manner of Heidegger’s “broken hammer”, and demonstrates how the phenomenon can ‘show how we experience background music in video games as a form of equipment that withdraws from our attention when it works correctly, but reveals its historical, film-musical context when it breaks down.’ This is another theoretical basis for analysing points of convergence or divergence between the intertwined strands of musical, ludic and narrative meaning in games, and is pertinent to Kirkpatrick’s concept of the ‘internal dissonance’ between play and meaning.

First heard in the so-called ‘lullaby’ trailer, ‘Twinkle, Twinkle, Little Star’ is played twice during Dead Space; in the first instance, a brief excerpt accompanies Isaac as he takes the elevator to the West Grow Chamber in Chapter 6, and later the whole song is heard looping in the Crew’s Quarters Lounge at the start of Chapter 10. On both occasions, the music quietly drifts around the ship as if from some disembodied diegetically-ambiguous voice. The sequences are not cutscenes, but are moments when the player is not in combat, and is either confined or relatively “at-ease”.

65 Additionally, if the player does not load a game after the menu has loaded, the whole ‘Lullaby’ trailer is played. (If the player scrolls through the main menu quickly, the modernist action music is heard.) The song is also heard in Dead Space 2, and several other minor games in the series. See Dead Space Wikia, ‘Twinkle Twinkle Little Star,’ on Dead Space Wikia, retrieved from <http://deadspace.wikia.com/wiki/Twinkle_Twinkle_Little_Star>, accessed 22/08/2013. Dead Space 2 also includes ‘Ring a Ring o’ Roses’.
'Twinkle, Twinkle’ is a simple strophic binary structure as transcribed (at pitch) in Figure 5.11. The melody was first published in 1761 in an anthology of popular French songs as a theme and variations entitled ‘Ah! Vous Dirai-Je, Maman’. Some twenty years later, Mozart wrote his famous set of variations on the song, though he was not the only composer to do so. The French rhyme was a parody of a well-known anonymous love poem ‘La Confidence’, in which a girl explains to her mother that she has been ‘defeated by love’. The original poem consisted of the following verses:

Twinkle, twinkle, little star,
How I wonder what you are.
Up above the world so high,
Like a diamond in the sky.

When the blazing sun is gone,
When he nothing shines upon,
Then you show your little light,
Twinkle, twinkle, all the night.

Then the traveller in the dark,
Thanks you for your tiny [little] spark,
He could not see which way to go,
If you did not twinkle so.

In the dark blue sky you keep,
And often through my curtains peep,
For you never shut your eye,
‘Till the sun is in the sky.

As your bright and tiny spark,
Lights the traveller in the dark.
Though I know not what you are,
Twinkle, twinkle, little star.

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67 Mozart, Variations on ‘Ah vous dirai-je, Maman’, K. 265 / K. 300e (1781 or 1782).

However, in the game, the last two verses are replaced with a long pause followed by the first two lines of the second stanza, and the final two lines of the last, combining to make a rather darkly poignant point:

When the blazing sun is gone,  
When he nothing shines upon,  
Though I know not what you are,  
Twinkle, twinkle, little star.

There is a structural “problem” in combining the melody with the lyrics, and that is that the first line of the music needs to be repeated in order to reach tonal conclusion at the end. However, perhaps predictably, Graves opted instead to leave the song tonally open, ending on the cliffhanger supertonic.

On the one hand, the presence of ‘Twinkle, Twinkle’ could be cynically viewed as cliché. The fact that the juxtaposing device has been used so often in film means that it has built up semantic currency and it is a tried and tested means of creating the “creepy” feeling essential to marketing the game (it is not coincidence that this music was chosen for one of the first promotional trailers). On the other hand, the particular presentation of the song is a tantalizing source of narrative-enriching signification. Furthermore, it is one of the most memorable and talked about features of the soundtrack. The performance is associated with a lullaby in the trailer, which helps to qualify these interpretive boundaries: this is not a child’s recital, but a parent’s, and perhaps a mother’s. The voice is adult but has a “broken” quality (it is quivering and uneasy), so instead of soothing, the ironic juxtaposition indicates that it is the singer herself who is in need of comfort. The overtones of innocence attached to the singing of nursery rhymes are still present but the sense is more of a lack of innocence, and a lack of hope in a situation already beyond repair. The ambiguity created by the juxtaposition between the violent imagery and ‘Twinkle, Twinkle’ subverts the innocent message of the nursery rhyme and creates a powerfully

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ironic message. Some players have gone further in suggesting that the lyrics offer specific narrative parallels, noting that the deliberate placement of such cultural references are not accidental. One such interpretation sees Isaac as the ‘traveller in the dark’, following the Marker (the star). Irrespective of this interpretations, the diegetically-ambiguous voice signals the different types of ‘voices’ examined by Abbate—this is not simply the voice of a human singing, but also a musical-narrative voice.

It is ironic that this simple, tonal binary structure with its balanced antecedent/consequent phrase structure—the most “classical” music in the game—provides the most unsettling and destabilizing musical experience. Perhaps this is due to the fact that to some extent, the atonal, aleatory, alien, modernist music ironically becomes the most grounded because the player tends to be both in control and fully-conscious of their predicament, whereas control is taken away from them during cutscenes or moments of pre-scripted narrative suspense, or they are otherwise unaware of what is around the corner during tension-building exploration. Furthermore, the aleatory music is not presented as an interpretive conundrum. In the elevator, when the song is sounded, although the player is in control, they have nowhere to go, and nothing to do but wait. When the player hears the full rendition of ‘Twinkle, Twinkle Little Star’, they are investigating a room full of violently disfigured corpses and trying to make sense of their surroundings. The fact that this imagery is accompanied by a nursery rhyme is deeply unsettling. The juxtaposition is a different category of ludo-musical dissonance than Kamp’s description of a functional breakdown; rather, here the goal or function is achieved through incongruity. The mystery of the song’s origins, its diegetic status, and its potential meanings

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71 See anonymous response to Gamespot forum user ‘ZombiDeadZombi’: ‘And usually, when you put a song on a movie/game, whatever, you usually have a reason to put it there.’ ‘Dead Space - Twinkle twinkle little Star...’ on Gamespot (21/07/2009), retrieved from <http://uk.gamespot.com/dead-space/forum/dead-space-twinkle-twinkle-little-star-50389453/> , accessed 22/08/2013.
present a complex puzzle for the player. However, it is not presented as a puzzle to be solved like others in the game. Rather, its puzzling nature fulfils a primarily emotive function that disorientates the player and creates a sense of unease—it does not matter so much who is singing or what the song means, just that the player is scared, and that the puzzle provokes play.

The juxtaposition of the nursery rhyme with the player’s sense of fear and horror might be described as musical-narrative rather than ludo-musical dissonance, because the music provides a different message to the narrative environment, not specifically the gameplay. Indeed, there is ludo-narrative consonance, and the familiarity of the nursery rhyme as a horror film trope may also suggest ludo-musical consonance. The analysis therefore serves as an interesting case study of the myriad interactions between various sources of meaning and experience. This ‘nexus of possibilities’ (following David Weissman’s terminology) is fertile territory for the activity of play.72

Isaac’s silence signals an acoustic void pertinent to understanding Dead Space’s position on the spectrum of mass culture and high art. Because Isaac does not communicate directly (at least in the first game), greater attention might be paid to other strands of signification. Graves employs two clearly delineated musical soundworlds, the neo-romantic, which functions as a narrator of sorts, and the modernist, which underscores the player’s gameplay, as if expressing Isaac’s fears. While both of these can be traced back to Hollywood film scores such as Goldsmith’s Alien, the latter has a more complex history. Like the fusion of styles in Alien, the two soundworlds are distinct but not conflicting. They are combined into a genre-defining musical world. Although Graves’s interest in the techniques of the avant-garde seem to be significant only insofar as it enables aleatory notation and technique, his use of these musical ideas in a video game also problematizes avant-garde ideology. The unambiguously emotive function of this

music can only be seen as a further rejection of the blank palette Penderecki himself eventually rejected. Yet at the same time, the ideas of non-linear structure that aleatory techniques prefigure—mobile form and dynamic music systems—are employed to create the underscore during gameplay. This non-linear music is, then, particularly appropriate for the most “playful” moments of video game form—when the player is in control and “feels out” the boundaries of the game’s form, they are also dynamically “feeling out” the music. In this way, Dead Space goes further than Alien in realizing the aesthetic potential of aleatory music.

Yet ironically, it is the incongruous deployment of music in the “classical style” that most unsettles players. What this tells us is that music continues to function in the myriad of different ways it did prior to modernist anti-expressive ideologies. Furthermore, it seems that ideas generated from non-linear musical systems have been absorbed as an additional aspect of musical potentials. In this sense, it surpasses The Shining as a response to Adorno and Eisler, and demonstrates the potential to silence their pessimism. The Dead Space series exemplifies the tensions felt across the videogame industry in collapsing the space between high and low art forms, and the reception of the game is indicative of the narrowing of the gap in terms of audience expectations and desires.