Analyzing Subversion in UNDERTALE Through Soundscape

Dr. Stephanie Lind (stephanie.lind@queensu.ca)
Dan School of Drama and Music, Queen's University (Canada)

Released in 2015, the video game *Undertale* achieved massive popularity due to its unique mix of humour, non-violent gameplay, and a retro aesthetic. However, many elements within the game satirize and subvert the expectations of 1980s- and 90s-era gaming, the time period established by this retro aesthetic. One of *Undertale*'s most interesting features is the way in which retro music interacts with (or in some cases against) elements of both the game mechanics and narrative. How might we analyze this? Many videogame music analyses use score transcriptions as a starting-point; however, the most interesting features of this repertoire are often left unexamined since they cannot be represented through pitch and rhythm. Approaching this music therefore requires a re-think on the part of the analyst to interpret and represent elements such as the interaction of music with visual elements, narrative, game mechanics, and sound effects. Might we be able to use **new modes of representation** to analyze juxtapositions, interactions, and subversions between these components? This poster will examine the "pacifist route" playthrough of the game.

SCHOLARSHIP: Several scholars in cognate disciplines suggest musical analysis is possible without a traditional score, and that in multimedia one of the most important aspects is the interaction between music and other elements *(emphasis below my own)*:

- Soundscape analysis: "A major component of auditory scene analysis – sorting out complex vibrations into separate sources – is **the detection of coherent patterns** of those sources" (Truax 2017, 257)
- Soundtrack analysis from film studies: the soundtrack in films, like videogames, consists not only of music but also of speech and sound effects. Neumeyer names this the *mise-en-bande*, "a kind of musical composition, and **aural analysis can then be brought to bear on the sound track as a whole**, its relation to the image, and its contribution to narrative" (2015, ix-x)
- In ludomusicology, Collins also sees the full soundscape as vital to our understanding of game sound (2013, 4)
- My own previous work in this area presents a model for the interaction of visual, sonic, and gameplay functions (Lind 2020)

(REFERENCE LIST ON FINAL SLIDE)

COMMON FEATURES OF 8-BIT SOUND

* The "resolution of its tuning…because of further technical limitations, these notes do not correspond directly to known musical scales" (Braguinski 2018; also Collins 2008, 21-23)

* Use of simple wave forms (triangle, pulse, sine) to synthesize sounds (Braguinski 2018; Collins 2008, 21)

* 3-5 simultaneous voices (Braguinski 2018; Collins 2008, 21, 25)

* The use of temporal grids, "building blocks" which often limited the total number of pitches and durations (Braguinski 2018)

* Little control over fine details in the music (Braguinski 2018)

* Repetition, including looping and of formal sections (Braguinski 2018; Collins 2008, 19, 26-28, 31)

What are our expectations for Retro gaming?

LV 1   HP [30 / 20]

ANALYTICAL TOOLS

* Transcription of musical features for micro-level analysis

* Transcription of soundscape elements to establish inter-relationships between sound effects and music

* Timeline analysis to determine inter-relationships between sound/music, visuals, narrative, and game mechanics

* No transcription/analysis can include every feature of the work, so the analyst must decide what features are most important to communicate

COMMON FEATURES OF THE 8-BIT/16-BIT VISUAL & GAMEPLAY AESTHETIC

* Limited colour palette and pixel graphics (Braguinski 2018)

* Side-scrolling or top-down gameplay

* Simple control schema

COMMON NARRATIVE AND GAMEPLAY CONVENTIONS

* Clear duality of heroes and enemies

* Tutorial levels that present initial exposition of plot and gameplay mechanics

* Gameplay modes of cut scene, exploration, and battle

A transcription of the music (left) does not indicate how the music interacts with other gameplay components. This scene begins as a typical tutorial level, where the player is taught the game controls and expectations by the character Flowey. The right of the figure presents a timeline analysis of this scene that maps out its soundscape, focusing on music and sound effects, and shows the correspondence with different phases of the gameplay. There are clear correspondences between changes in the music and game phase: the song is repeated, unchanged, through the initial story exposition and tutorial (0:00 to 1:02), but at the moment where Flowey reveals that he is the player's enemy (1:02-1:07) – in other words, that the narrative and gameplay will not function as expected – the music is distorted through deceleration and transposition down a semitone, then stops. The musical distortion and "shooting" sound effects act as cues to disrupt the progression of both the expected tutorial and the music. The entry of Toriel (1:37), a character who assists the player, re-establishes conformity with the gamer's expectations for tutorials and is reinforced with a return to synthesized non-diegetic (background) music.

Your Best Friend
Undertale
Toby Fox
Transcribed by the author

Melody

Double-tracked accompaniment (approx. one triplet 8th displacement throughout)

Sound Effects:

Flowey typing noise (representing speech)

Pitch is higher on Flowey typing sounds

Maniacal laughter   "ah"

Toriel type-speaks (lower pitch)

"pew pew" noise

impact noise

rapid pulse noise

"pew pew" noise

Music:

Music "Your Best Friend" begins

Second loop begins

Third loop begins

Shift down one semitone, deceleration

(Music stops)

Entry of music "Fallen Down" (aka Toriel's Theme)

Game Phase:

Story Exposition | Tutorial instruction | Tutorial breakdown | Story Exposition

0:00   0:10   0:20   0:30   0:40   0:50   1:00   1:10   1:20   1:30   1:40   1:50   2:00

Congruent with expectations | **Incongruent with expectations** | **Congruent with expectations**

LEGEND:

Game Phases

- Cut scene
- Interactive dialogue
- Explo-ration
- Battle

Narrative Device

- 4th wall crossing

Sound & Music Timbres

- Recorded sound
- Sampled musical sound
- Synthesis musical sound
- Digital sound effect
- Silence (except for typing)

Visual Aesthetic

- Retro pixel style
- Non-retro shading gradient
- Photo sampling

Undertale, Denouement scene:

https://youtu.be/uSA50_hRHZY
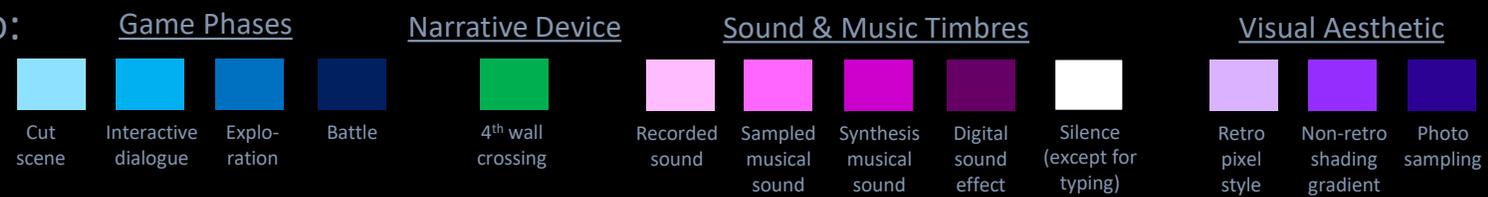
In this scene, the protagonist is told the backstory of the gameworld and motivations of the main antagonist, the sum of their actions throughout the game is tallied, and they face a final reckoning with two of the major characters (mini-boss Asgore and final boss Flowey). There is a significant break with the expectations of Retro gaming at several points in this scene:

- **6:18:** At this point, the protagonist begins their battle with Asgore. Prior to this point, the game has used 16-bit colour. At this point more gradation of colour is introduced, although the battle frame retains the pixel-graphics format. The music changes as well from synthesized sound to a blend of sampled and synthesized sound. This creates an **incongruency with the expected retro gaming aesthetic**.
- **13:43:** Everything stops, the screen is black, and no sound occurs for 19 seconds, an awkwardly-long pause that makes the player wonder whether the game has ended. After this point, Flowey repeatedly breaks the 4th wall through references to the game state or by "reloading" them to an earlier save point, creating an **incongruency of retro gaming expectations**.
- **15:49:** As the boss fight with Flowey begins, the graphics change from exclusively 16-bit to a mix of photo sampling (very incongruent with the retro aesthetic) and 16-bit pixel graphics, rapidly alternating between three battle scenes: 1) primarily photo sampling with dissonant sampled music and sound effects, 2) primarily 16-bit graphics and a variation of "My Best Friend" with distinctly digitally-synthesized timbres, and 3) primarily 16-bit graphics with a blend of synthesized and sampled timbres (particularly reminiscent of a vibraphone) on a consonant chord. The **sound disrupts the aural expectations for early 1990s game sound** through a mixture of synthesis sound with more realistic-sounding sampled music, more than 5 simultaneous voices, and ample use of glissandi and more complex rhythms rather than temporal grids.
- **25:32:** The protagonist grants mercy to Flowey. The game restarts, the credits play, and characters are reintroduced. 16-bit pixel graphics return, and the music returns to a focus on sampled music and sound effects, **returning to the game's expected status-quo**.

First disruption: more gradations of colour, first mix of sampled and synthesis sound in this scene

Disruption: break in all events

Rapid alternation of sound and visuals in battle phase, break of retro gaming expectations and significantly more dissonance

Return to expected game state and positive narrative outcome

Visuals

Timbres

Game Phase

Approaching the throne room

Entering the throne room and talk with Asgore

Battle with Asgore

Granting mercy

Flowey returns

Battle with Flowey

Battle won

Granting mercy

Return of opening

Narrative

00:00   05:00   10:00   15:00   20:00   25:00   30:00

| Congruency | Incongruency | Congruency | | Incongruency | | Congruency |

UNDERTALE

THE END

* you never gained LOVE,
but you gained love.

OUTCOMES FOR ANALYSIS

♥ The traditional musical score can tell us details about the musical setting, but since videogames are inherently interactive media, the score does not tell us information about how various elements of the game interact.

♥ Transcriptions provide a different form of representation that allows the analyst to symbolize interactions between differing components

Collins 2008: "games provide many choices for players to make … players have some control over authorship (playback of audio) that is of particular relevance" (4)

OUTCOMES IN UNDERSTANDING UNDERTALE

♥ In *Undertale*, subversion of expectation is an essential component to the gameplay experience. While initially positioning itself as a retro game, the expectations of late 1980s/early 1990s gaming are repeatedly subverted and disrupted.

♥ *Undertale*, as a result, undermines its own status as a retro game by repeatedly reminding the player about the discrepancies between the genre's expectations and the reality of this game. The pacifist-focused gameplay, if chosen, is a particularly strong critique of gaming conventions.

♥ Finally, the effect of these disruptions is to shift the game away from nostalgia towards a gameplay experience that suggests the uncanny, but which also echoes the narrative's themes of pacifism, forgiveness, and self-agency.

Ivănescu 2019: "many [retro games] are used as opportunities to critique aspects of games of the past, providing commentaries and opportunities for reflection on the part of their players." (14)

Osborne 2018, in relation to a different series of games, observes: "As the games' narrative content diverges from the initial nostalgic impressions created by their '8-bitness'…unsettling details develop that trouble the games' superficially simple narratives. Gameplay becomes disquieting as the player's agency is disrupted or foreclosed. Evoking the uncanny breaks through the idealization of the past that nostalgia requires. The comforting, familiar past becomes more difficult and more distant. In this way, players' nostalgia for the familiar past is both conjured and foreclosed by the games. …The sense of uncanny dread is reinforced by the games' mechanics, as the gameplay enhances, echoes, or mirrors the games' narrative themes." (220)

REFERENCES:
* Braguinski, Nikita. 2018. "The Resolution of Sound: Understanding Retro Game Audio Beyond the '8-Bit' Horizon". *NECSUS: European Journal of Media Studies*, Spring (July 31).
* Collins, Karen. 2008. *Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design*. Cambridge: The MIT Press.
* Collins, Karen. 2013. *Playing with Sound: A Theory of Interacting with Sound and Music in Video Games*. Cambridge: The MIT Press.
* Ivănescu, Andra. 2019. *Popular Music in the Nostalgia Video Game: The Way It Never Sounded*. Palgrave Studies in Audio-Visual Culture. Cham, Switzerland: Palgrave MacMillan/Springer.
* Lind, Stephanie, 2020. "Music as Temporal Disruption in *Assassin's Creed*," Special Issue: Musical Disruption in Video Games, edited by Stephanie Lind, *The Soundtrack* 11/1-2, 57-73.
* Neumeyer, David. 2015. *Meaning and Interpretation in the Music of Cinema*. Bloomington, IN: Indiana University Press.
* Osborne, Heather. 2018. "8-bit Nostalgia and the Uncanny: Horror as Critique in Twine Games." *Horror Studies* 9/2 (October 1st), 213-230.
* Truax, Barry. 2017. "Acoustic Space, Community, and Virtual Soundscapes." In *The Routledge Companion to Sounding Art*, edited by Marcel Cobussen, Vincent Meelbert, and Barry Truax. New York: Routledge.