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Soundscapes

Listening to British and American Languages and Cultures

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The Sound of Art: Soundscape in Pictorial Descriptions

Maria Elisa Fina

mariaelisa.fina@unive.it

Università Ca' Foscari Venezia

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ABSTRACT – This study reports on an investigation of soundscape in twenty audio-delivered pictorial descriptions in English specifically designed for children, available on the official website of the Museum of Modern Art (MoMA) in Manhattan. The scripts of the pictorial descriptions were retrieved from the website's dedicated section and annotated by means of QDA Miner Lite, a software for qualitative analysis. Drawing on van Leeuwen's criteria for the analysis of soundscape (1999), the scripts were annotated according to a set of codes (type of speaker, speech, music, sounds, prosody) and then analysed in order to investigate how the different semiotic resources are combined to enhance children's art experience. The results show that soundscape in the pictorial descriptions entails a complex web of significances, which challenge children's observation skills and stimulate critical thinking. Furthermore, the use of soundscape may also result in edutainment strategies, which include gamification and dramatization.

KEYWORDS – Soundscape; Pictorial descriptions for children; Immersive triggers; Content-specific music; Evocative sounds.

1. SOUNDSCAPE, CULTURAL HERITAGE AND MUSEUMS

“If a barge (or boat) could talk, what would it say about the people who sailed in it?”¹ British award-winning sound designer Nick Ryan was asked by the Greenwich National Maritime Museum (London) to create a soundscape of effects to surround Prince Frederick's barge. By using special “invisible speakers”, Ryan recreated the physical sounds of the boat moving through the water: the sloshing of waves against the wooden hull, the creaking of oars, and Handel's *Water Music* which was performed by an orchestra on an adjacent

¹ <https://www.feonic.com/blog/museum-soundscape> (05/12/ 2019).

barge on the Thames. This example of immersive museum exhibit design relies on sophisticated technology, the same technology that allows museums to offer their visitors emotionally engaging experiences.

The power of sound in cultural heritage experience dates back to long before modern technologies. Tilden, the father of heritage interpretation, gives an interesting example of interpretation in the Navajo Reservation of the Canyon de Chelly:

[...] And they stood there for a long time looking at this perfectly magnificent world, with the background of nature behind it. And then a Navajo came out from a little side canyon and stood on a rock in front of the White House and sang a song; and my friend said: “[...] the story of a man, with the great background of geology behind it, and then the expression of a living being illustrating the thought and the life of the people. (Tilden 1977, 37)

Although here sound is accidental and does not occur in a museum context, it can be considered exemplary of its potential for enhancing appreciation of cultural heritage. Indeed, the song sung by the Navajo not only resonates within the geological landscape, but also gives voice to the Navajo Culture, thus offering visitors a unique experience of it. Soundscape in museum settings started to develop as a research area only around 2013. Cluett defines three stages in the development of sound in American curatorial practices: ephemeral (sound as a concept and phenomenon), immersive (sound as an artistic medium), and invasive (awareness of the existence of ‘sound art’) (Cluett 2014).

As Bubaris rightly notes, museums have always been considered “places of silence”, with “the silent visitor standing still in front of an exhibition and gazing intently”, even though human presence and activity necessarily imply sound. Over the last few decades, however, museological theories and practices have explored alternative exhibit designs that consider sound no longer a problem, but a powerful tool to enhance visitors’ experience (Bubaris 2014, 391). Bubaris identifies two different cultural practices of museum sound design. One involves creating a multisensory dynamic environment where visitors are not just silent receivers but also agents in harmony with the environment. Motivated by the need to integrate – rather than separate – the reality of life into the ideology of art, Voegelin proposes ten museum “soundwalks” or “phonographic expeditions” (Voegelin 2014, 121; see also Kannenberg 2016) – as written instructions that invite the visitors to listen to the surrounding physical environment as they explore the museum.

The second practice of museum sound design identified by Bubaris involves the “dramaturgical use of sound for underscoring the narrative structure of an exhibition” (Bubaris 2014, 392), such as the use of background music to unify the exhibited objects into thematic subsections. Relevant to this practice is a recent study by de Jong, who analyses the use of sound and silence in three Polish history museums. Both diegetic and non-diegetic sounds (e.g. machine guns and explosions) are used as “immersive triggers” (de Jong 2018, 90) that place visitors in the past (Krakow under Nazi occupation). Furthermore, they serve a “sentimental education”, since they mirror what must have been the feelings experienced by the characters of the represented past.

A third practice of museum sound design is Neves’s “soundpainting” (2012), in which the audio description for the visually impaired is enriched with music and sounds and, where possible, touch. Neves also gives an example of “enriched descriptive guide” (2016), by which the user’s multisensory experiences are stimulated by providing thinking prompts which encourage cognitive and/or physical exploration.

The study presented in this paper focuses on soundscape embedded in the description of artworks and illustrates an investigation of audio-delivered pictorial descriptions for children retrieved from the website of the Museum of Modern Art (New York). The investigation sheds light on soundscape-related strategies that have been adopted to make contents accessible to children and enhance their appreciation of art.

2. THEORETICAL BACKGROUND

The theoretical model used in this study is van Leeuwen’s ‘soundscape’ (1999), defined as a composite semiotic system consisting of speech, music, and sounds. Everyday life offers countless situations in which we may find ourselves immersed in soundscapes, where different types of sound interact at different degrees of loudness. Soundscape is “rarely fixed and static [as] the presence, relevance and interaction of sounds constantly change over time, either spontaneously or as a result of sound manipulation” (Francesconi 2014, 109). Such manipulation occurs for example in films, where diegetic sounds are amplified or reduced to mark specific aspects of the scene, while non-diegetic sounds are added to impact the audience’s emotions. ‘Sound’,

however, does not refer to sounds from external sources only; it also relates to the way we use voice. As Cluett rightly notes, voice itself is physical sound: “the same voice that whispers can also sing, shout, and scream” (Cluett 2014, 116). In everyday communication we tend to adjust voice pitch, loudness, and intonation according to what the context requires or the effect we want to produce on the listener.

Van Leeuwen’s model consists of an analytical framework which investigates speech, music, and sounds as interrelated phenomena, in terms of “sound-as-sound”, “sound-as-music” or “sound-as-language” (van Leeuwen 1999, 6). Indeed, the model aims to “integrate speech, music and other sound” (4; emphasis in the original) and provides specific terminology for describing the integration of the three elements in all their potential. Van Leeuwen gives the examples of a variety of sound events including popular songs, radio and television programmes, commercials and soundtracks, which he analyses using six parameters. These parameters do not provide a code, but are considered as tools to establish some “*meaning potential*” (10; emphasis in the original) always to be referred to the specific context in which the sound event occurs. The parameters are the following:

1. Perspective, i.e. the relative loudness of simultaneous sounds which places sounds at different distances from the speaker;
2. Time and rhythm, i.e. the tempo characterising sounds;
3. Interaction of voices, i.e. how the plurality of voices involved in the soundscape intertwine (by taking turns or simultaneously);
4. Melody, which is realised through pitch movement, pitch range and pitch level, with pitch being modulated in order to convey specific emotions;
5. Voice quality and timbre, which includes varying degrees of tension, roughness, breathiness, loudness, pitch register, vibrato;
6. Modality, which refers to the degree of truth assigned to a sound and is determined by a combination of the previous features.

The pictorial descriptions we are about to analyse can be defined as ‘soundscapes’ because they all include (script-based) speech, music, and sounds. What mainly interests our analysis is how these three elements interact to create meaning, facilitate understanding and generate children’s involvement, with a special focus on the semantic and cognitive relations activated by soundscape. The main reference criterion of van Leeuwen’s model is the interaction of voices, with ‘voice’ intended here in terms of both ‘voice as speaker’, with his/her generic or specific role within the narration, and ‘voice as semiotic resource’, which includes music, sounds, and prosody (pauses,

pitch, loudness, etc.). We will also refer to perspective, melody and voice quality, when relevant.

3. THE STUDY: DATA, METHODOLOGY AND RESEARCH QUESTIONS

The data include twenty pictorial descriptions in English downloaded from the *Kids* section of the MoMA's website² (see *Tab. 1*):

Table 1. Corpus of MoMA Kids pictorial descriptions³

1. <i>The Red Studio</i> (Henri Matisse)	12. <i>The Migrants Arrived in Great Numbers</i> (Jacob Lawrence)
2. <i>Broadway Boogie Woogie</i> (Piet Mondrian)	13. <i>Christina's World</i> (Andrew Wyeth)
3. <i>One: Number 31</i> (Jackson Pollock)	14. <i>Untitled</i> (Mike Kelley)
4. <i>Vir Heroicus Sublimis</i> (Barnett Newman)	15. <i>Splatter Chair I</i> (Richard Artschwager)
5. <i>The Dream</i> (Henry Rousseau)	16. <i>Guitar</i> (Pablo Picasso)
6. <i>Frontal Passage</i> (James Turrell)	17. <i>The Magician</i> (Jean Dubuffet)
7. <i>House by the Railroad</i> (Edward Hopper)	18. <i>Flag</i> (Jasper Johns)
8. <i>The Sleeping Gypsy</i> (Henri Rousseau)	19. <i>Unique Forms of Continuity in Space</i> (Umberto Boccioni)
9. <i>The Piano Lesson</i> (Henri Matisse)	20. <i>Martin, Into the Corner, You Should Be Ashamed of Yourself</i> (Martin Kippenberger)
10. <i>Still Life #30</i> (Tom Wesselman)	
11. <i>Dynamic Hieroglyphic of the Bal Tabarin</i> (Gino Severini)	

Each pictorial description lasts about two minutes and can be listened to on the website itself. While it is played, the screen displays the picture of the artwork and the script of the recording. The contents of the scripts were copied and pasted in single Word files, compared with the recordings to check con-

² The pictorial descriptions in *Tab. 1* are those available at the time of the research.

³ Due to re-organisation of the MoMA website, pictorial descriptions 3, 4, 5, and 8 may be no longer available on the website.

sistency, and then annotated by means of QDA Miner Lite⁴, a software for qualitative data analysis. This software allows users to annotate the data by creating codes and assigning them to selected text segments. The segments labelled with a specific code can then be retrieved, and co-occurrence with other codes can also be displayed.

Considering van Leeuwen's criteria for the analysis of soundscape (1999), five code categories (or node codes) were created: 'type of speaker', 'speech', 'music', 'sounds', 'prosody'. Each category included a set of associated codes.

The category 'type of speaker' includes the types of speaker – apart from the narrator – who might intervene in the description. These could be:

- actor, i.e. a voice impersonating a character;
- young visitors, i.e. children interacting with the narrator, for example answering the questions posed by the narrator.

The category 'speech' includes a set of codes which label content types and their communicative purposes. Although these codes do not constitute soundscape in its strict sense, we will see how they meaningfully combine with music or sounds. The related set of codes includes:

- invitation/instruction, e.g. to identify a detail in the painting;
- narrative question, i.e. a question regarding possible outcomes in the story represented in the painting and posed to sustain tension and keep the young visitor interested;
- didactic question, i.e. a *Wh*- question regarding the objects or characters represented in the painting (e.g. "Now what do you see?");
- rhetorical question, i.e. a question posed to catch children's attention and to introduce particular aspects of the artwork in a non-didactic way;
- question for description, e.g. a question posed by the narrator to indicate or describe details of the artwork (e.g. "But can you find the musician?");
- indirect invitation, i.e. a question or statement that implicitly invites the young visitor to imagine, feel, think, adopt a specific point view or identify something.

The category 'music' includes the following codes:

- narrative- /description-independent music, i.e. music that is neither explicitly nor implicitly linked to what is being narrated or described by the speaker;

⁴ The software is developed by Provalis Research.

- narrative- /description-specific music⁵, i.e. music that is relevant to the narrative, description, or main theme of the artwork;
- musical pattern, i.e. a short jingle accompanying specific portions of text;
- musical pause;
- perspective (overlaps with speech/sounds), as explained in section 2.

The category ‘sounds’ draws on a previous classification (Fina 2018, adapted from Crook 1999) and includes the following related codes:

- ambient sounds, i.e. sounds describing indoor or outdoor environment, e.g. sounds reproducing nature or sounds reproducing the bustle in a train station when a train station is mentioned by the narrator;
- sound signals, i.e. conventionalised sounds marking the beginning or end of a section or action;
- confirmatory, evocative sounds, i.e. narrative-related sounds representing, confirming and reinforcing past or present actions, events, or situations (e.g. a door opening, etc.);
- impressionistic sound effects, i.e. particular effects applied to voice or sounds.

Finally, the category ‘prosody’ includes the following codes: pause, sentence stress, non-verbal emotional vocalisation (e.g. laughter), voice quality (e.g. lax vs tense), rhythm (which is determined by specific patterns of sentence stress, pausing, alliteration, etc.).

In line with van Leeuwen’s model, the categories and related sets of codes are to be considered not as operating separately, but as interrelated features which meaningfully integrate with each other. The different voice of a different speaker may imply a different role in narration, and this different role might in turn be marked by different voice quality and/or prosody compared to the main narrator. When purposely combined with speech, music and sounds can enhance narration and description significantly and increase interactivity between the child and the artwork. In the light of these observations, the analysis of soundscape in the pictorial descriptions addresses the following research question: *How does soundscape shape the description of the artwork and the relationship between children and the artwork in the MoMa Kids audio-delivered pictorial descriptions?* The analysis of soundscape will include a discussion on the possible semantic and cognitive relations that soundscape may determine, as well as on the possible effects that specific combinations of features may imply in terms of content uptake and visitor involvement.

⁵ For a full account on narration- /description-dependent and narration- /description-specific music, see Fina 2018.

4. ANALYSIS OF SOUNDSCAPE IN THE *MOMA KIDS* PICTORIAL DESCRIPTIONS

We will begin the analysis by looking into the category ‘type of speaker’ in order to see how second speaker’s intervention shapes the pictorial soundscape and what the implications could be in terms of content uptake and visitor involvement. Actors are usually employed to bring the artwork to life by unveiling the story behind it, as in excerpt 1:

1. [metronome ticks] [piano music scale “C-D-E-F-G-F-E-D-C” at the same tempo as the metronome ticks]
[Actress impersonating the piano teacher]: *Encore une fois*, Pierre. Do it again!
[piano music scale] No, no, no! [piano music scale interrupted abruptly with pressure on multiple keys] Tickle ze keys, not pound! Again, please! [piano music scale – lower loudness]
[Male narrator]: Artist Henri Matisse painted this picture of his son’s [end of scale] [end of metronome] piano lesson. [...]

(Henri Matisse, *The Piano Lesson*)

Soundscape here is activated at multiple levels: voice, language, music and sounds. The scene of Matisse’s son’s piano lesson is brought to life by an actress who impersonates a strict piano teacher. The actress’s first utterance is in French (*Encore une fois*) and then repeated in English, but with an unmistakable French accent, particularly audible in the pronunciation of the word “no” and in the substitution of the ‘th’ sound with /z/ (“ze keys”). The sound of the French language is used here as an “immersive trigger” (de Jong 2018), as it places the young listener in the French context in which the painting was conceived and produced. The scene is enhanced not only by the local flavour conveyed by the sound of the French language, but also by the sound of the metronome, which opens the scene followed by the music scale performed on the piano at the same tempo as the metronome beats. At the level of prosody, the annoyance of the piano teacher is conveyed by the exclamation “No no no!” and by sentence stress on the verb “pound”. However, it is also matched by music, as the piano music scale is abruptly interrupted and multiple keys are pressed simultaneously, probably to convey the child’s frustration at not being able to fulfil his teacher’s expectations. The piano music scale resumes upon exhortation (“Again, please!”) but much more softly, which takes the listener back to reality, signalling that the description of the painting is about to start.

In the following excerpt, instead, the actor interacts with the narrator (excerpt 2):

2. [Sound of steam train in the background]
[Female narrator]: You're in a train car over 65 years ago, in America, leaving the deep south.
[Actor impersonating the train driver]: [sound of train in the background] You'll be lucky if you find a place to sit – on this car every seat is taken. Excuse me, ma'am, you'll have to move your bag – i-it's blocking the aisle.
[Female narrator]: But where are all these people going?
[Actor impersonating the train driver]: They've left their homes and they're traveling north! Places like New York, Chicago [increased loudness].
[Female narrator]: Why?
[Actor impersonating the train driver]: They're hoping to find work in the big cities. When so many people travel, it's called [P] a migration. Next stop, Philadelphiaaaaa! [increased loudness] [sound of train] [sound of train ends]
[Female narrator]: Artist Jacob Lawrence created sixty pictures. [...]

(Jacob Lawrence, *The Migrants Arrived in Great Numbers*)

In this pictorial description, an actor impersonates the train driver taking the migrants to the north of the US. Differently from excerpt 1, here the narrator herself is immersed in the scene, as she is on the train and asks the train driver what is going on (“But where are all these people going?” and “Why?”) The story represented in the painting is narrated by means of a dialogue between the narrator and the train driver, and the questions asked by the narrator, which could be labelled as ‘didactic’, actually lose their schoolish tone. Unlike what happens in other pictorial descriptions, these questions are not directly addressed to the listener but to the train driver. The fact that the train driver, and not the narrator, explains the key concepts about the painting neutralizes the formal distance between the expert narrator and the non-expert young visitor. This is visible for example in the utterance “When so many people travel, it's called [P] a migration”, in which the distinct pause before the word “migration” emphasises the concept and makes it more memorable for children. More ambient sounds enhance the scene, like the reproduced noises and whistles of a steam train, or the marked accent of the English spoken by the train driver. Loudness plays a key role, too, emphasizing the words “New York, Chicago” and “Philadelphiaaaaa”. The end of the sounds reproducing the train noises marks the end of dramatization, and the beginning of the description by the narrator.

A particular use of an actor's voice can be found in the pictorial description of *The Magician* by Jean Dubuffet. The only narrating voice is that of an actor, who voices the artwork by impersonating the Magician himself, as shown in excerpt 3:

3. [Actor impersonating the Magician]: Abrakadabra, allakazan! Behold the wizard, the magic man! [sound reproducing a charm]
[evocative music begins, long-pressed alternating keys] [loudness of music decreases when speech begins] Hello, young sorcerer's apprentice! Allow me to introduce myself: I am called [P] Magician. I began my life as a couple of knotted, gnarly, twisted roots. A sculptor's magical imagination transformed me [P] into art! [...]

(Jean Dubuffet, *The Magician*)

The spell cast by the Magician (“Abrakadabra, allakazan!”) and the corresponding evocative sound immediately immerse the listener in a magic mood. Then, the Magician greets the young visitor (“Hello, young sorcerer's apprentice!”) and introduces himself and starts telling his story, i.e. the story behind the artwork. At the extraverbal level, the surreal dimension is enhanced by evocative music in the background, characterised by alternating medium-pitched notes produced by sustained pressing of keys on an organ (or a similar instrument). The music conveys an aura of mystery, against which reverberates the vibrato, rough and tense voice of the Magician, which makes the story intriguing. Prosody masterfully keeps the listener's attention, with varied pitch range, short pauses emphasising important segments of information (“magical imagination transformed me [P] into art!”), and extra stress on the adjectives “knotted, gnarly, twisted”, which emphasises the /n/ alliteration in “knotted and gnarly” and gives rhythm to the narration.

The three excerpts analysed so far are clear examples of edutainment, because the educational function of the museum experience is fulfilled by means of entertainment. The story behind the artwork is told by means of dramatization in order to make the contents more appealing, memorable and, as a result, more accessible to children.

In a few pictorial descriptions, children's voices may be found to interact with the narrator, as in excerpt 4:

4. [Male narrator]: Here, the artist Edward Hopper wanted his painting to be a portrait of the house. [P] How would you describe this house?
[Kid 1]: It looks like the only house around, it's all alone.

[Kid 2]: It looks like it may be haunted!

[Kid 1]: Most of the shades are pulled down.

[Kid 2]: Maybe nobody's home or the people who lived there moved away.

(Edward Hopper, *House by the Railroad*)

The description of the painting is a dialogue between the narrator and two children, who answer the didactic question “How would you describe this house?” by sharing their observations about the depicted object. As in excerpt 2, such interaction reduces the formal distance between the expert narrator and the non-expert listener. The information about the painting will come not from a lecturing narrator but from an informal exchange of thoughts between peers (i.e. Kid 1 and Kid 2). Furthermore, this narration mode may also trigger the young listeners’ critical thinking, as they will probably feel encouraged to develop their own ideas and feelings about the painting.

We will now focus on excerpt 5:

5. [Female narrator]: There are so many ways to look at this picture. You could see it as lots of blue, red and yellow squares and rectangles on a white background. Or you could think of things it reminds you of.
[Kid 1]: To me it's like the inside of a computer. [beeps of computer]
[Kid 2]: I think it's a bunch of water pipes that go different ways. [sounds of pipes and water flowing in them]
[Kid 1]: Maybe a plan for a building, [sounds of elevators] with elevators going up and down. [sound of elevators]
[Elevator voice]: Eighth floor: toys, games, and sporting goods – step to the rear, please!
[Kid 2]: Hey, how about city streets! See the traffic pattern? [sounds of traffic]
[Kid 1]: Yeah, like you're looking down at New York City from above! The red lights say, Stop, stop, stop!
[Actor impersonating a driver]: Hey, bud! Get a move on! [sounds of traffic end]

(Piet Mondrian, *Broadway Boogie Woogie*)

In this case, the ideas shared by the children about what the painting might represent (i.e. “the inside of a computer”, “water pipes”, “elevators”, “city streets”) are enhanced by the corresponding confirmatory/evocative sounds. In particular, the sound of a climbing elevator is followed by the elevator voice announcing arrival on a floor where children will find games and toys.

In the last line, dramatization also provides a vivid picture of busy city streets, with an actor/driver prompting another driver to move on. Far from merely entertaining young visitors, this use of soundscape stimulates children's imagination and interpretation skills. At the same time, it encourages the appreciation of a kind of art which greatly differs from the realistic depiction of easily recognisable objects.

We will now look into the use of music and its role in pictorial description soundscape, by analysing the following excerpts:

6. [Male narrator]: He listened to jazz music [fast jazz music begins] as he swooped around dripping, pouring and flinging. Some people think this looks like the pattern of a crazy dance!

(Jackson Pollock, *One: Number 31*)

7. [Male narrator]: Now, look down in the bottom right-hand corner. [P] Can you find the letters V-A-L-S-E? [Viennese waltz begins] [music decreases in loudness when speech resumes] They spell *valse* – French for “waltz” – a dance where two people whirl round and round in circles!

(Gino Severini, *Dynamic Hieroglyphic of the Bal Tabarin*)

8. [Male narrator]: Look closely at the painting. [P] What clues can you find? [...]
[Kid 2]: She's got an instrument with her, maybe she's a musician? [music performed by a mandolin]

(Henri Rousseau, *The Sleeping Gypsy*)

In all three excerpts, the music is relevant to what the speaker is narrating or describing; but there are some differences. In excerpt 6 the jazz music begins after having been mentioned by the narrator (“He listened to jazz music”), whereas in excerpt 7 the waltz music begins after the spelling of the letters in the painting (“V-A-L-S-E”) but *before* the word *valse* and its English translation are revealed by the narrator. In both cases music creates vivid pictures – of the making of the artwork in excerpt 6 and of the scene represented in the painting in excerpt 7 – but in excerpt 7 music also serves as a hint about the word made up by the letters. As for excerpt 8, it is worth noticing that the music is played by a mandolin, the instrument lying next to the sleeping gypsy. The description does not specify the instrument's name, but its music compensates for it.

In excerpt 9, content-specific music is combined with intervention by actors:

9. [American patriotic music begins] [music decreases in loudness when speech begins]
[Voices in unison]: I pledge allegiance to the flag of the United States of America, and to the [...]
[Male narrator]: The artist Jasper Johns said:
[Actor impersonating J. Johns]: One night I dreamed that I painted a large American flag, and the next morning I got up and went out and bought the materials to begin it! [patriotic music ends]

(Jasper Johns, *Flag*)

The American patriotic music that opens the pictorial description immediately sets the context in which the story of the flag is to be framed. Presumably, the underlying message for young visitors is that what they see is not just the American flag, but an important part of America's history, as the artist Jasper Johns tries to tell with his artwork. This assumption seems to be confirmed by the intervention of adult and children's voices that, in unison, solemnly recite the pledge of alliance to the flag. Alongside with the American patriotic music in the background, the story behind the painting is introduced through the words of the artist himself, interpreted by the voice of an actor ⁶. This strategy might have important effects in terms of content uptake, too: a story told in first person is likely to be more effective and memorable than a story told in third person.

Another interesting use of music is shown in excerpt 10:

10. [Male narrator]: Now try this game: [suspense music of TV quiz with final drumroll] Look hard at the things on the table and try to memorize as many as you can. [drumroll ends] [sound signal] [music used in games during response time] [sound signal] Now, turn around so you can't see the picture [whistle-like sound effect reproducing turning] Don't peek. [musical pause] Okay, how many of the foods can you remember in ten seconds? [P] Ready! Set! Go! [jingle reproducing rhythmic sequence of musical notes with time ticking out in the background] [sound signal]

(Tom Wesselmann, *Still Life #30*)

⁶ A similar strategy can also be found in the pictorial description of *The Dream* (H. Rousseau), in which an actress recites the poem composed by Rousseau for his painting.

In this pictorial description, gamification becomes a strategy to increase involvement with the artwork. The child is prompted to play a memory game, while music reproduces the setting of a game. It is the kind of music we could hear in TV quiz shows, and it changes according to the different phases of the game: suspense music with final drumroll when the game is being explained, then rhythmic but more relaxed music during the memorization phase, and then, in the response phase, a rhythmic jingle accompanied by the sound of time ticking along. A sound signal marks the end of the game and the resuming of 'standard' description. Gamification can be considered another example of edutainment, since children are more likely to learn by playing, and hence are more likely to remember what they learned by associating the game they played to the painting itself.

The following excerpt is characterised by a particular use of music, too:

11. [Male narrator]: Take a few more steps back. [xylophone-like three-note descending scale]
[...]
Okay, now walk up closer [xylophone-like three-note ascending scale] and choose one thread of paint.

(Jackson Pollock, *One: Number 31*)

Here, the three-note descending and ascending scales performed by a xylophone (or a similar instrument) have a pragmatic value: they co-occur with invitations to step back from the painting and move closer to the painting⁷. While distance from and closeness to the painting certainly serve educational purposes, the use of musical patterns conveys the idea of fun and game, which definitely make the educational experience more appealing for children.

In excerpt 12, the musical pattern has a different function:

12. [Male narrator]: There's something strange about this place. That's because you've entered into [P] a dream! [harp-like musical pattern for transformation in Disney cartoons]

(Henry Rousseau, *The Dream*)

In this case, the dream-like atmosphere is reproduced by the musical pattern performed by harp (or a similar instrument) often used in Disney cartoons to accompany transformation or the act of entering a surreal dimension. The

⁷ The same pattern was also found in *Vir Heroicus Sublimis* (B. Newman) and *The Dream* (H. Rousseau).

scene is enhanced by an impressionistic sound effect which makes the word “dream” sound like a reverberating echo, while a pause before that word further emphasises the concept.

All the analysed pictorial descriptions are characterised by breaks in the narration filled by music playing in the background. Musical pauses may vary from 2 to 6 seconds approximately and they tend to co-occur after questions – especially didactic ones – and invitations to look for something in the painting. The purpose is to avoid information overload, allow the listener enough time to process the content, and prepare for what comes next. Due to space constraints, only two examples are provided:

13. [Male narrator]: In the upper right corner see the string of colorful flags? [musical P] And the little cat face? [cat meowing] [musical P] At the top of the painting, near the center, you might be able to find a woman’s honey-colored curls. [musical P] [...]

(Gino Severini, *Dynamic Hieroglyphic of the Bal Tabarin*)

14. [Female narrator]: Hey, I think it might be a chair – [musical P] a wooden chair with a tall back! Those brown pieces sticking out could be legs, couldn’t they? And pieces of wood on the sides of the seat? [musical P]

(Richard Artschwager, *Slatter Chair*)

In terms of perspective between speech and music, music tends to be louder when the narrator is silent, while loudness tends to decrease when speech resumes. However, especially when content-specific, music is still distinctly audible during speech without compromising clarity.

The excerpts analysed so far have exemplified the use of sounds as part of the soundscape. The following excerpt is probably the most exemplary:

15. [Male narrator]: Now imagine [P] jumping into the scene. [rhythmic energetic music performed by drums begins]
You’re trudging through the deep [sounds of jungle begin] dark jungle! Carefully, you part the tall ferns in the center. [lion’s roar] Aah! Lions! One of them, with fierce, yellow eyes is staring right at you. Quick – roar back at him! [musical P]
In the jungle you meet all sorts of beasts. Can you find one that might sound like this? [bird’s cry] Yep, there’s a bird perched high on a branch of the orange tree... And another up at the top on the left, flapping off with its yellow wings... [sound of flapping wings]

(Henry Rousseau, *The Dream*)

This description uses environmental sounds as “immersive triggers” (de Jong 2018) which bring the jungle’s fauna to life. The invitation to “jump into the scene” – in which the verb “jump” is emphasised by the preceding short pause – is followed by a vivid description of the forest. The young visitor is not a passive observer but an active participant, as suggested by the utterances “You’re trudging through the deep, dark jungle”, “you part the tall ferns in the center” or “roar back at him”, which cannot be considered actual instructions but rather invitations to *imagine* doing so. The gradual discovery of the animals dwelling in the jungle is marked by sounds reproducing the animals’ cries, (lion’s roar, bird’s cry) or movements (flapping wings). Interestingly, the sounds occur before the animals are mentioned, thus serving as hints about what to look for in the painting. It is also worth noticing that the image of the lion is matched by emotional vocalisation (“Aaah!”), which makes the description more personal and enhances emotional involvement.

The last excerpt we will analyse is the following:

16. [Female narrator]: It’s twelve and a half feet long, made up of different colors and patterns and forms – pink, blue, orange, and green stripes. [...] These patterns and wooly materials may look familiar. [musical P] [music turns into soft, reverberating sounds similar to a lullaby] Cozy. Like something to curl up in if you’re chilly, or cuddle when you’re afraid. Something maybe made for a special person by a friend or relative, with work and care and time and love. [musical P]

(Paul M. Kelley, *Untitled*)

In the segment “colors and patterns and forms” each element of the list is marked by a tonic stress that, together with the repetition of the conjunction “and”, determines a well-defined rhythm. The same prosodic strategy is repeated at the end of the excerpt, in the segment “with work and care and time and love”. We can reasonably argue that such prosodic pattern is not casual but designed to better illustrate the relationship between the colours, patterns and forms of the artwork, and the care, time, and love they are meant to represent. “Sentimental education” (de Jong 2018) is aided here by the lullaby-like music that begins when the narrator starts highlighting the familiar look of the patterns and wooly materials.

In the concluding section, the research question formulated in section 3 will be answered by illustrating the semantic and cognitive relations activated by soundscape.

5. CONCLUSIONS

The MoMA pictorial descriptions for children have certainly proved to be complex soundscapes in which speech (intended here as voice and prosody), music and different types of sounds meaningfully combine and interact to create meaning, facilitate content uptake, and generate children's involvement. Such an interactive combination of the different semiotic resources of the soundscape may be said to activate relations at two interrelated levels: semantic and cognitive.

Semantic relations basically concern the way soundscape shapes the description of the artwork for the specific target audience. The analysis suggests that soundscape is exploited to its full potential to make the implicit explicit, to shed light on what is not immediately retrievable, to bring to life the story behind the artwork, and to make the meaning of the artwork manifest and accessible to children. To this purpose, content-specific music and sounds are often embedded in the recorded descriptions to create a vivid picture of what is depicted or represented in the artwork, just as actors and children are involved in the description to clarify more complex aspects in a non-didactic way. Dramatization and gamification are only a small part of the pictorial description script. Dramatization usually occurs at the beginning, presumably to catch the child's attention and raise interest, while game activities usually come at the end of the description and provide children with opportunities to interact with the artwork. The in-between narration or description provided by the main narrator focuses on the key aspects of the artwork and its general meaning, which the young listeners are encouraged to identify, observe and reflect on by means of questions and invitations. Although frequently used, edutainment does *not* seem to occur at the expense of the educational function of the art experience; and it is here that cognitive relations come into play.

The educational function of art is preserved thanks to the cognitive relations activated by soundscape-related strategies. Didactic questions, invitations (to observe, to reduce or increase distance from the artwork, to think, etc.) but also the gamification strategy require active engagement in the art experience, just as the exploration of the artwork as the child's own discovery – as opposed to the lecturing approach – continuously stimulates the child's observation skills and critical thinking. Furthermore, extra-verbal features, such as music and sounds, or the effective use of voice and prosody, make the tasks appealing and encourage active participation.

From a wider perspective, this study opens up questions about the role that soundscape may play in increasing accessibility and inclusiveness in museum communication. Such role can only be investigated by means of cognitive studies aimed at measuring the actual effectiveness of soundscape-based communication in children's museum experience. The study this essay presents is mainly descriptive and only draws hypotheses about the possible effects that soundscape strategies may have on children; but it also sets the ground for defining analytical criteria and formulating research questions for future cognitive studies.

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