

The Narrative of the Body: A Study on the Design of Breathing Sounds in Films

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Abstract: As a subtle bodily sound, breathing sounds in films can serve as a medium to express the body and the environment, possessing the dual attributes of “story” and “discourse” in narration. The narration of breathing sounds presents distinct embodied characteristics, including the directness of presenting physical information, the rhetoric of internal focalization and emotional externalization, which can highlight people’s sense of existence in the air and the environment. The design and application of breathing sounds in films not only provide auditory materials and backgrounds for story scenes, becoming part of the narrative content, but also have narrative and aesthetic significance such as marking and rhetoric.

Keywords: Breathing sounds; Film sound design; Bodily narration

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1. Introduction

Breathing sound is an acoustic phenomenon produced by the interaction between airflow and the respiratory tract during human or animal breathing. Unlike speech, which directly conveys accurate and explicit linguistic information, it can carry rich emotions and meanings. In film synchronous sound, breathing sound is a relatively subtle sound in people’s daily auditory experience, and its loudness is usually less obvious than that of speech and action sounds when captured. Film sound production can amplify, exaggerate, or separately record it in post-production action sound effects according to narrative needs. The designed and modified breathing sound not only stands out from the sound environment as a sound component with unique value, but also, due to its strong correlation with people’s physical states or inner thoughts, can be used as a sound element reflecting the body and characters’ inner worlds, participating in the display of narrative and argumentative content and the expression of emotions. Therefore, it is necessary to incorporate breathing sounds into the scope of bodily narration and discuss their unique embodied characteristics in expressing the human body, life, and the relationship between humans and the environment.

Bodily narration is a concept integrating philosophical, sociological, semiotic, and other perspectives, with different connotations in different scenarios. The French philosopher and sociological thinker Michel Foucault linked power mechanisms with physical reactions, arguing that the body in narration can become a carrier for individuals to resist power. In film semiotics, this carrier is further regarded as a symbol bearing cultural meanings and metaphors, whose significance

can be constructed and interpreted in specific social and cultural contexts. For films, the concrete body is also a window for dialogue between people's inner worlds and external phenomena. The American scholar Peter Brooks regarded the body as the object of visual desire and narrative motivation, which exercises the function of language and drives the development of character actions and plots ^[1]. The phenomenologist Maurice Merleau-Ponty believed that audiences can understand the physical actions and situations on the screen through their own physical perception. From this perspective, the audience's direct perception of breathing sounds can be regarded as an embodied narration.

Examining the narrative function of breathing sounds from the perspective of bodily narration first requires clarifying their content and instrumentality in narration, namely the "story" of the event content described in narrative elements and the "discourse" of the way of expressing events ^[2]. Obviously, breathing sounds can be both part of the characters and events in the story scene and a form of narration. At this time, breathing sounds not only become the content of the story due to their associated physical characteristics but also have obvious physicality in the way of presenting the story and aesthetics, rising from a sound component to a sound element with narrative and expressive functions.

2. Characteristics of breathing sounds and transformation of physical information

In human auditory experience, breathing sounds are mainly emitted through the nasal cavity or mouth, with overall weak intensity, which is only easily detectable in a quiet environment. Only when breathing is rapid or the respiratory tract is abnormal, the airflow and vibration increase, and its loudness will increase significantly. However, breathing sound is not a single sound source but is produced by two types of accompanying vibrations during breathing: one is the turbulent flow formed by the irregular movement of airflow in the respiratory tract and the friction with organs; the other is the slight sound caused by the vibration of body tissues. From the perspective of acoustic characteristics, breathing sound consists of inspiration and expiration sounds, and there are many variables related to physical conditions in its attributes, such as loudness, interval, and frequency spectrum. Although breathing sound has a wide frequency band, the energy distribution is uneven, with the main frequency components between 200–1000 Hz. In cases such as gasping, strenuous exercise, and coughing, the high-frequency components of breathing sound will be significantly enhanced, attracting the attention of the audience or other characters in the story. In addition, the rhythm of characters accelerating, slowing down, or even consciously controlling breathing can be displayed through changes in the cycle of breathing sounds. These characteristics of breathing sounds, which are strongly correlated with human physiological states, provide an auditory experience and material basis for bodily narration, proving that breathing sounds have the function of narrating physical information and states.

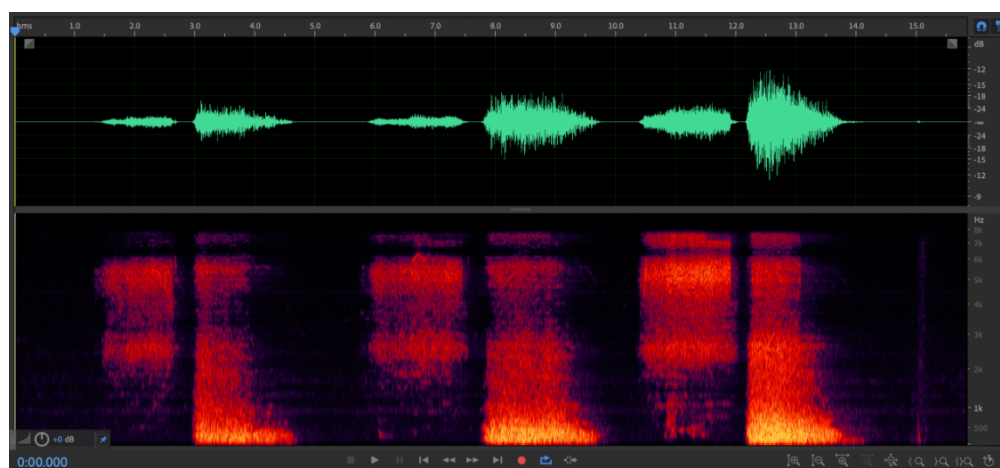


Figure 1. Spectrum display of an adult male's rapid breathing sound: with strong high-frequency components.

Béla Balázs asserted in “Theory of Film” when discussing the aesthetic characteristics of film sound that “sounds on the screen have not changed the original various characteristics of sound itself” ^[3]. Breathing sounds in films are not equivalent to recorded natural and objective sound materials, but can reflect the attributes of the corresponding sound sources through their acoustic characteristics. According to Gérard Genette’s view, narrative elements first imitate many phenomena of real objects and people, but to enable them to narrate, they also need to have narrative tone and content ^[4]. The narration of breathing sounds is direct, directly reporting the health, vitality, and load of the body through prominent and externalized sound forms. Usually, when a character is in a healthy, calm, or sleeping state, the volume produced by steady and gentle breathing is weak, almost merging into the environmental sound. However, when the character is injured, ill, or in other abnormal situations, the breathing sound becomes mixed, intermittent, or irregular, and becomes a focal sound in the film. For example, in “Apocalypse Now”, the breathing sounds of the wounded on the battlefield are weak and labored. The combination of the acoustic characteristics of breathing sounds and visuals intuitively and significantly conveys the fragility of their bodies and the passing of life.

Films can “reconstruct the individuality of each specific movement by combining unnamed movements and characters’ gestures” ^[5]. When sound materials are consciously and purposefully used for character shaping, environment construction, or emotional expression, they can be transformed into carriers of individual expression. The audience can infer the character’s physical states, such as movement and illness, through phenomena like enhanced high-frequency components, changes in loudness, or changes in energy distribution during the breathing cycle of breathing sounds, and generate narrative physical information and meanings through comparison ^[6]. Its physical information can also be reflected through the contrast between abnormality and normality.

Table 1. Typical characteristics of breathing sounds in different breathing states

Comparison dimensions	Gasping	Calm breathing	Deep breathing
Main frequency range	200–1000Hz	300–1500Hz	500–4000Hz
High-frequency components	Strong with clear, continuous spectral peaks	Weak, almost negligible	Weak with occasional small protrusions
Energy core area	200-500Hz accounting for over 60% of total energy	300-800Hz with more uniform total energy distribution	800-2000Hz with energy peak shifting to high frequencies
Cycle fluctuation	Energy during expiration often exceeds that during inspiration, with gentle fluctuation	Energy during inspiration slightly higher than that during expiration, both increasing with large fluctuation amplitude	Energy during expiration exceeds that during inspiration, with intense fluctuation
Physical scenarios	When the body is ill	Relaxed states such as sitting quietly and sleeping	After exercise, during active deep breathing
Auditory characteristics	Accompanied by “wheezing” or “gasping” sounds, a sharp sound	Soft sound without noise, similar to a “hissing” sound	Slightly louder sound with strong airflow sense

By sorting out the acoustic characteristics of breathing sounds in different films, it can be seen that when a character is in movement, load, or other non-quiet states, the rhythm and frequency spectrum of breathing sounds are significantly different, which can reflect the body’s movement, labor, or functional conditions. In film series such as “Mission Impossible” and “Spider-Man”, after intense chases or fights, the heavy, rapid, and high-amplitude gasping sounds of characters are often intentionally amplified. The irregular chaos indicates the content of the event that the body is under severe load. This direct narration of physical states and events enhances the sense of reality and immersion of characters’ actions.

3. Emotional representation: Rhetorical narration of breathing sounds

The phenomenologist Merleau-Ponty proposed that “the existence of space is closely related to the human body”. When representing external phenomena, the body can connect objective phenomena with human thinking activities^[7], serving as a way for people to perceive the external world and express inner cognition. In films, physical states interact with people’s consciousness, actively participating in the construction of meaning, reflecting the state of consciousness through physiological characteristics, and expressing the emotional focus of characters and narrators through external bodily sounds. Unlike the accurate expression of language and the direct interpretation of character behaviors, this externalization of emotions needs to be completed through auditory exaggeration, comparison, or rhythm, with strong rhetorical characteristics.

The rhetoric of bodily narration is first reflected in the externalization of the subject’s emotional extremes through dynamic comparison of changes in physical states. In highly tense situations, the human body’s limbs or organs will have corresponding reactions, and breathing can project these reactions. Especially when body language cannot fully express emotions, breathing sounds play an irreplaceable role. In “Interstellar”, when the space station docks with the spacecraft, the character Cooper operates the equipment with full concentration. Although the character has no large-scale body movements, his breathing state externalizes the enormous pressure in his heart. More importantly, the character’s control of breathing sounds also expresses the complex changes of emotions. The audience can feel the character’s physical reactions and emotional changes through changes in the intensity and frequency of breathing sounds.

Secondly, when using breathing sounds for narration, film creators will unconsciously exaggerate them to strengthen the breathing experience and make the audience pay attention to this sound. Daniel Punday believed that in traditional narration, the body is a rhetorical medium, but the body’s emotions and states are not the content of this rhetoric^[8]. When using exaggeration to highlight the character’s emotions, the expression of consciousness through the body’s experience is the purpose of narration, that is, to let the audience understand the central position of the individual character in the event in this situation, rather than just the audience’s sense of tension from breathing sounds. In “The Revenant”, when Glass is attacked by a grizzly bear, the character’s gasping sounds on the verge of suffocation are mixed with high-frequency tearing sounds, constantly reminding the audience to listen to his physical state and emotions. The focus of what the audience hears or feels is not the screams heard by onlookers, but the auditory world submerged in pain that he experiences from within the body^[9]. Here, breathing sounds assume the function of externalizing and narrating the invisible and extremely painful emotions from within.

In addition, the temporal characteristics of breathing sounds have a natural rhythm, which is inherently a rhetorical way of narration. Although the repetition and interval changes of breathing sounds cannot convey complex and accurate information, they can directly convey rhythm and emotions like music, controlling the intensity of emotional narration in films. At the beginning of “Gravity”, when space debris attacks the space shuttle and chaos breaks out in the cabin, the character Ryan Stone’s breathing sound suddenly changes from a steady, slow rhythm to a panicked, fast and irregular gasp. It is not until she finally enters the International Space Station and gains temporary safety that her emotions gradually calm down and her breathing becomes deep and long. This series of changes not only marks the sudden change of the character’s inner state but also generates a rhythm of alternating slow and fast emotional narration at the discourse level. At this time, breathing sounds act as a narrator, telling the audience that the most dangerous part of the story has passed, thereby guiding the narrative rhythm to slow down and preparing for the next conflict.

4. The body in air: Environmental connection of breathing sounds

Another important function of the design of breathing sounds in narration is to confirm the rationality and possibility of the connection between the environment and character actions in the narrative scene. For the integrity of the story, some sound elements not only rhetorically display information and express emotions in an internally focalized way but also imply the existence of causal relationships between these events^[10]. From the physiological perspective of breathing, air circulates

between the human body and the outside world through the mechanism of inhalation and exhalation, and the breathing sounds produced can reflect the interaction between the human body and air to a certain extent. In films, this can be used to metaphorize the dialectical relationship between the body and the environment.

When changes in breathing sounds express the character's living state, they can actually be used to indicate environmental information, which is also an important manifestation of the body as event information and narration. In the extremely cold environment of "The Revenant", accompanied by visually visible thick white gas, the character's breathing sounds are heavy and slow. This acoustic characteristic continuously narrates the struggle of his body to maintain life in this harsh environment. After he is injured, his breathing sounds become weak, intermittent, and sometimes accompanied by noise. At this time, breathing sounds not only narrate the physical state in a specific environment but also the action event of the person surviving in this environment. The body stands out from the environment and becomes the foreground event of the story. On the one hand, it reports the changes in the character's vitality to the audience, and on the other hand, it conveys the oppressive feeling of the environment^[13].

The American scholar Daniel Punday believed that taking situational and relational physical perception as the driving force of narration, the narrative form itself has a strong correlation with the body^[11]. Through the acoustic presentation of physiological phenomena, breathing sounds in films externalize the relationship between internal life states and the environment into perceptible artistic symbols, constructing an embodied spatial narration at the auditory level. This embodiment is not necessarily the audience's own feeling, but the audience's grasp of the character and the situation. In "Gravity", Ryan Stone, wearing a spacesuit, has his free breathing restricted to the small space protected by the spacesuit and metal cabin. The prominence of breathing sounds confirms the cramped space, and the contrast between space and the small space symbolizes the insignificance of humans. Visually, although the film images define the narrative as taking place in a small and closed metal cabin, the sense of crisis largely comes from the character's breathing elements, especially at the moment when the oxygen pipe is cut off; this feeling of life danger is more prominent. At the same time, the contrast between the weak breathing sound and the absolute silence of the external universe correlates with the oppression and conflict of the space environment on the human body. In this case, what can prove that the body still has life significance in the absence of social space is its natural breathing and actions^[12], and the character's breathing sound is a sound marker narrating the isolation of his fragile life in the endless natural space.

When discussing the relationship between body consciousness and the environment, Merleau-Ponty believed that the reason why visible, audible, and olfactory things fill the individual's surroundings is not only due to their objectivity but also because the individual has incorporated themselves into these things when describing them, and the individual self is also the object of observation. This observation mechanism can "generate various sounds, various sensory organizations, and the weight and thickness of the present and the world precisely because the person who grasps these things feels that he emerges from them through a kind of entanglement and repetition completely homogeneous with them; he feels that he is the sensible thing returning to itself, and conversely, the sensible thing seems to be its copy or the extension of its flesh"^[14]. In the silent environmental sound of "The Revenant", the character's heavy breathing sound is clearly audible, which not only renders the oppression of space but also strengthens the dialectical existence of humans in space. "The aesthetics of sound design not only involve the combination of sounds with images but also sounds with sounds^[15]." When people are aware of the existence of breathing sounds, they will notice the condition of the surrounding air, and even compare it with other sound sources in the same space, feeling the interactive relationship between space and humans from between sounds and between sounds and the environment, becoming an aesthetic effect of the body conveying the environment.

5. Conclusion

This paper examines breathing sounds under the theory of narratology and summarizes their embodied characteristics in film narration. It can not only directly narrate the characters' physiological events and living states but also serve as a rhetorical device to express the characters' emotions and thinking, being a sound element that realizes internal focalization

and externalizes invisible emotions. In addition, by narrating the delicate relationship between the body and air, breathing sounds in films also strengthen the aesthetic conception of the body's naturalness. The research on the bodily narration of breathing sounds is not only conducive to the effective use of breathing sounds in works but also has positive significance for expanding the aesthetic functions of film sound.

Disclosure statement

The author declares no conflict of interest.

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