

Immersion as category of audiovisual experience: From Long Beach to Hollywood

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1. Introduction

Immersion is a cognitive modality based on the sensation, whether arising from a real situation or induced by a virtual space, of finding oneself in an environment, whether real or virtual, and being part of it, of being immersed in it. It is a fundamental category in the definitions of specific artistic and commercial genres such as virtual art (Popper 2007; Grau 2003) and the videogame (Lehto 2009, McMahan 2003), and a key feature in concepts like multimedia (Packer – Jordan 2001) and ‘digital multimedia arts’ (Balzola – Monteverdi 2004, pp. 13-14), recently interpreted as fundamental category for the understanding and interpretation of the recent developments in audiovisual experience (Rose 2009), and analysed in relation to sound and audio (Dyson 2009). Immersion aims at the involvement of the viewer in the work, within its own space, as part of it; the immersive work aims to build an unmediated relationship with the viewer (Bolter – Grusin 1999), creating the illusion of belonging to its world. Immersion destroys the frame that separates the world of the work from that of the viewer. In this sense, the work is no longer an object at a remove from the audience, that can be interpreted adopting a semantic horizon that is external to the one adopted in everyday life: the reality becomes confused with the work. The immersive work does not have a prevailing

figurative function, nor does it represent or stand for anything: it is an environment to be experienced firsthand. Its goal is primarily to constitute a presence, not to represent something. Instead of a sign-based, cognitive paradigm it uses a perceptive paradigm involving the construction and constitution of a reality, a tactile, kinaesthetic actuality which involves the viewer's whole body.

Thus immersion is a modal category which concerns the relationship between viewer and work, i.e. the work's cognitive modalities, rather than a medial category, i.e. as something inherent to the media's internal structure. Surrounding the viewer with multiple sensorial stimuli may denote an immersive type strategy, but it is not a sufficient or necessary condition for a work to be defined according to this category. For this reason, too, immersion can take a multiplicity of different forms and genres, from the new media art to the videogame, as well as more traditional forms such as cinema and the audiovisual installation – the two forms we look at here. In fact it is a category which concerns the aesthetic conception governing the work's creation rather than the formal boundaries of the artistic forms and genres. It is not a property inherent to the media: it depends on the viewer's perception or experience of them, and thus on one hand on the degree of both novelty (for the viewer) and knowledge accumulated in previous experiences (Grau 2003; 2005), and on the other on the details and compositional strategies pursued by the artist during the construction of the work as a whole.

In this essay we shall illustrate the complexity of the category of immersion, showing how it can take a multiplicity of forms. We shall investigate two such forms by analysing two contemporary works that represent different expressive forms, adopting opposing narrative strategies, that were conceived with different aims and presuppose a completely different productive texture, even if they are very close both geographically and chronologically: *The Ring*, a horror film made in Hollywood in 2002 and *Pneuma*, an audiovisual installation made by Bill Viola 'just down the road' in Long Beach in 2004. We shall thus compare two cultural objects which are overtly different, starting from observations made by Viola himself (1990) and by Holly Rogers (2005). We shall investigate them by pointing out the differences between them, highlighting the basic principles that underlie the experiential forms they engender, which would not emerge from a comparison of similar cultural objects. We intend to show the existence of various forms of immersion, with opposing modalities of action on the viewer's cognition, while remaining within a similar paradigm, i.e. multiple typologies of immersive spaces.

Through these examples we also hope to show how the specific modalities in which the immersive experience manifests itself are determined by a series of elements collocated on different planes and reflected in the details of the techniques and compositional strategies elaborated and adopted by

the artist: they are decisive not only for the work's compositional but also for its social dimension (among others), and establish the basis for their aesthetic conception.

2. Analysis: two cognitive forms of immersion

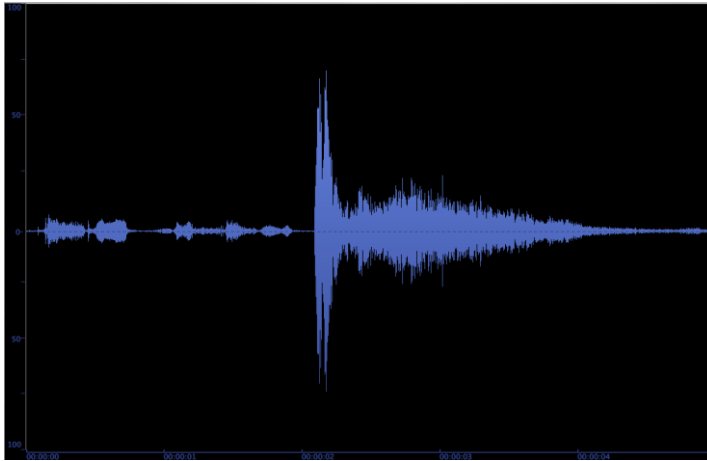
2.1. *The Ring*

The third scene of *The Ring* depicts the reception held in memory of the sudden and deeply mysterious death of the young Kate, which occurred during the first scene. The atmosphere is sad and mournful, but at the same time reflective and free of tension: the viewer is not expecting any horror. During the reception, in a sequence without musical accompaniment and featuring dialogues and environmental sounds which are soft and peaceful, Kate's mother asks her sister to investigate the death on account of the strange circumstances in which the body was discovered. She says she was struck by her daughter's expression; suddenly, at 14' 50", there is a brief cut to a shot of the dead girl, found in a wardrobe in her bedroom with her face distorted in terror, a shot that is accompanied by a violent digitally produced sound object. In this frame, involving flashback, the director adds no new information since the audience already knows the situation from the first scene. His aim is to make spectators jump out of their seats, to undermine the tranquil atmosphere that had come to prevail in during the second and third scenes.

To achieve this the composer Hans Zimmer, sound designer Peter Miller and sound editor Trevor Morris amplified the jump cut by using basic psychoacoustic techniques: purely visually, the cut would have been sudden and unexpected but not violent. In fact the image of Kate is accompanied by a sound object which represents a violent change in dynamics and register with respect to what comes before. Furthermore, the preceding dialogue is at a low and gradually diminishing volume (Figure 1a, sec. 0 - 2). During the whole sub-sequence featuring the dialogue in the kitchen (13' 45" - 14' 50") environmental noises gradually fade out and the two sisters' tone of voice slowly changes, becoming increasingly murmured and intimate. This process is accompanied by a close up on their faces, seen full face in the last frames. There are two functions in this audiovisual process: it creates a more intimate emotional relationship between the viewer and what is being represented (the characters), and obliges the viewer to listen increasingly carefully in order to understand what they are saying to each other. Since the perception of volume has a differential rather than absolute value, the cut between the dialogue and the sound object that accompanies Kate's distorted features is intensified. Moreover, Zimmer has created a percussive sound object based on registers which are distant from

the average voice range that precedes it, accentuating both the low frequencies (>100 Hz) and high brackets, including a whistle at about 4100 Hz. Thus registers which have not yet been heard are amplified in the sound object, namely the spectral areas which go beyond the fundamental and the principal harmonics of the voices, highlighting the shock effect of the cut and hence the viewer's sense of horror (Figure 1b).

(a)



(b)

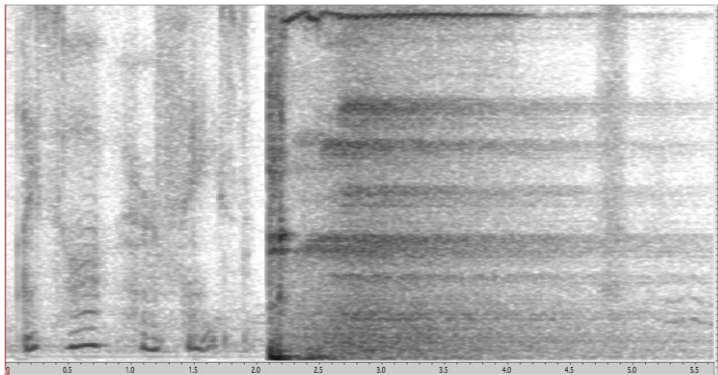


Figure 1. *The Ring*, waveform (a) and spectrogram (b) of the stereophonic reduction of the 6 audio channels, from 14' 48" to 14' 53,5".

Thus we see that the different components of the film were combined so as to determine the levels of emotional tension and release in the viewer, the closeness or distance *vis à vis* the screen, sudden shocks and so on by means of sophisticated audiovisual techniques involving the subliminal manipulation of perception.

The first scene of *The Ring* (0' 00" - 7' 14"), for example, can be interpreted as a prologue, both presenting the 'topics' and introducing the viewer into the emotional atmosphere of the film by means of a series of four crescendi in both the narrative and 'immersive' tension (0' 0" - 0' 32"; 0' 32" - 2' 52"; 2' 52" - 4' 17"; 4' 17" - 7' 13"). In each case the crescendo is followed by an immediate release, each one reaching a higher peak of emotional excitement. Both the music and the sound design exploit immersive techniques, based not so much on the representation of affects but on the 'presence' of the sound: the viewers listen not just with their ears but above all through their bodies. To grasp this phenomenon one simply has to observe the dynamic of the surround channels, placed to the sides and behind the spectators, from 0' 00" to 7' 13" (Figure 2):

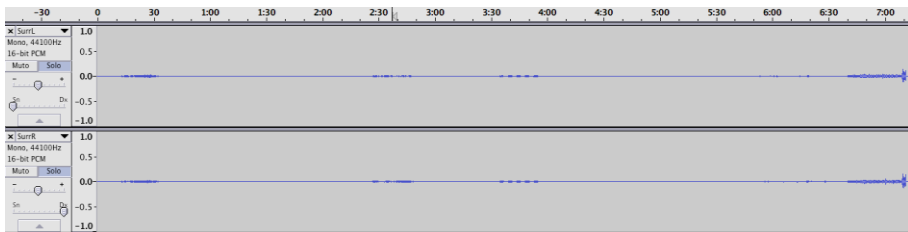


Figure 2. *The Ring*, prologue (0' 00" - 7' 14"): waveform of the surround channels.

The sound surrounds, or immerses, the viewer on four occasions, each time with a greater volume and for a longer period, corresponding to the climaxes in the emotional crescendi identified above. Only the third moment comes before the climax: in fact the acoustic peak is followed by a long silence in all the channels, charged with suspense.

If we take a more detailed look at the prologue's finale (Figure 3) featuring Kate's death, we can identify the only moment in the whole of the first scene in which the movement of the sound in space is frenzied and not measured. The morphology of the sound object outlined in yellow moves from the central front channel to the side and then the rear, then back to the front side and finally to the whole front facing channel, the focus moving in the space of half a second from right to central to left and ending up between central and right. All this occurs in less than six seconds. In reality the composite sound object (each part is collocated in a different position in the space) which accompanies the climax of the scene is not perceived by the viewers for what it is but acts on their primary emotions and fears: as

well as ensuring a better allocation of the various components of the sound object in space, the movement is intended to disorient viewers and give them a violent shock, almost to make their heads spin. In fact the spatialization adheres to a behaviouralist type paradigm in terms of both direction of movement and velocity.

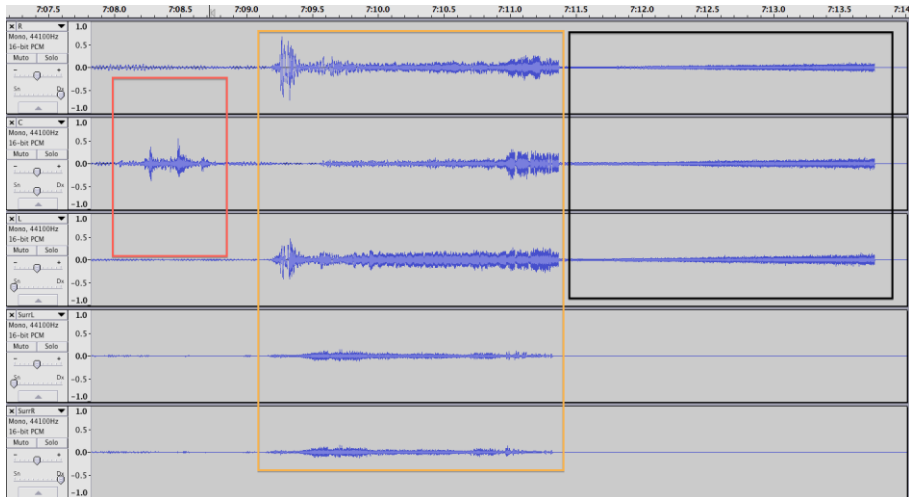


Figure 3. *The Ring*, ending of the prologue, from 7'08" to 7'13": waveform of the 5 channels (Left, Center, Right, Surround Left, Surround Right). Red square: opening of the door. Yellow square: compound digital sound object, associated with Katie's death, which follows her encounter with Samara. Black square: visual (and audio) white noise which fills the whole screen; figuratively speaking, it introduces the viewer both into the vision and into the diegesis.

2.2. *Pneuma*

Pneuma is a visual installation created by Bill Viola in 1994, comprising three black and white videos projected into the corners of a room so as to construct a *continuum* filling the environment. Dissatisfied with the first effect, Viola produced a second version the following year, adding white noise modulated in amplitude. In 2004 he collaborated with the sound designer Mikhail Sandgren to create a third, definitive version featuring a specially composed 'soundtrack'.

The videos have a contrapuntal structure: modulations in luminosity, definition, gestures and subjects succeed one another and are reflected back from the various sides of the room, creating a slow, continuously changing stream. The work can be divided up into several sections: the images projected onto the three corners do not coincide, even if they are often analogous, and there are occasional moments when all three screens are

blank. In composing the soundtrack Viola and Sandgren adopted multiple layers of noise with different connotations of timbre, register and texture, taken from both concrete and electronic sources and modulated in a continuum that changes in quality and intensity. There is no exact link between the evolution of sound and images (constituting the audiovisual matrix, which may or may not be perceived by the viewer): the work is not based on synchronism and does not have a synaesthetic character, relying on the correspondence of the senses. Although the evolutions in timbre evoke the general progression of the images, from luminosity to their recognisability/noise, there are no synchronies or deterministic associations: the sound creates a counterpoint with the images to set up a continuous respiration made up of parallel processes which may or may not be in synch. The various independent parts are coordinated in a polyphony endowed with broad formal sections featuring crescendi and decrescendi, consonances and dissonances, sub-sections and so on. See Table 1 at the end of the text for an analysis of the first section of *Pneuma*.

The layers of noise are constructed with great care. They begin and end gradually, so as not to impinge on the viewer's attention and elicit conscious listening; instead, they act on subliminal cognition. Viewers do not listen to the sound actively; indeed they are probably not even aware of the different qualities of the noise layers. The noise is used to 'compress' the viewers both psychologically and occasionally even physically, not to represent an object or an action. Each layer possesses its own characteristics of timbre and texture; sometimes there appears to be a concrete source, such as the wind, a jet of water, underwater sounds etc.; but the allusion is hardly ever clear or specific.

Instead each layer contains 'spatial' information and 'tactile' properties which are perceived unconsciously in a non-mediated manner: spaces which are grainy/continuous, static/dynamic, high/low, dense/rarefied, far/near, large/small, violent/relaxed, smooth/rough, annoying/pleasing etc. While not heard in a conscious manner, these properties are cognitively registered by the viewers who then project their own experiences, memories of similar sound environments and impulses from their subconscious onto them. Rather than simply composing layers of sound, Viola and Sandgren create interior sound spaces which evoke something different in each viewer. On one hand the noise drives the viewer into a particular emotional sphere; on the other it acts as a screen, an empty space imbued with a limitless semiotic potential which is activated by means of an introspective process that throws up recondite and unconscious mnestic traces. This is why it is impossible to identify the specific sound source: rather than depicting the objects it alludes to, it evokes the unknowable and mysterious.

Like that of *The Ring*, the soundtrack of *Pneuma* possesses multi-modal features: the sound is constructed by means of techniques of subliminal manipulation of perception, which act on the body and on the

viewer's emotional sphere. However, the two works represent two different forms of construction of immersion: the film conjures up a hyper-realistic scenario, while in the video installation viewers are brought face to face with themselves. *The Ring* triggers sensations and emotions which are moulded down to the smallest detail, leaving no scope for the individual, while in *Pneuma* it is a question of activating the viewer's mind and triggering introspective processes which reveal the unknowable, mystery, subconscious, fears and attachments, cultural archetypes, the individual with a specific past and relationship with the world. Thus in *The Ring* the mind adopts a passive role and is manipulated; in *Pneuma*, on the contrary, it is enhanced, stimulated to rediscover its most secret recesses, induced to prevail over the body.

3. Forms of audiovisual representation

We shall now take a brief look at the various forms which the link between sound object and representation can take in *The Ring* and *Pneuma*. In the third emotional crescendo in the first scene of *The Ring* (2' 52" - 4' 17") we referred to above, the telephone rings in a call Kate and Becca fear may bring news of Kate's death; they delay picking up the receiver, and as Becca passes the call to Kate, she pretends that it is the call they are dreading (the tension is released when it turns out to be Kate's mother). The telephone is the only 'diegetic' sound which is spatialised on the five channels in the first scene. This is not because it can be interpreted as an environmental sound, since it is perfectly visible on the screen, indeed it is right in the foreground. In fact the editor has adopted an immersive technique, placing the viewers inside the telephone in order to compress them psychologically and raise the tension to a peak. In this way, rather than a diegetic-mimetic-representative function, the ringing fulfils an immersive, experiential function, involving not so much the art of representation as the material construction of the sensorial experience. The reproduction of the object takes place in an emotional space and belongs to an illusory and virtual reality in which it is dematerialised and artificially rematerialised, acting on a pre-rational dimension; however, what is affected is no longer the physical object but one that has been invented, constructed by the artist with the aim of disturbing or stimulating the viewer both psychologically and physically. Thus, following Baudrillard (2005), one can speak of a hyper-real dimension and a dematerialisation of experience (Virilio 1992 [1980]). The object, transformed into a simulacrum (Baudrillard 1981; 2006), is detached from reality and becomes a false reality, a sign with (only) itself as referent, in the interests of sensorial manipulation. From being an observing subject, the viewer becomes an object that is unconsciously manipulated by the action of the simulacrum.

The film manipulates the viewer's relationship with objects which, rather than representing themselves, construct the viewer's emotional trajectory. Used in a non-mediated manner, the artificial objects within the work take on an emotional dimension of their own which affects the ways in which reality is perceived: they possess a quantity of additional information, a definition which is at once material and emotional. The artist constructs a world map full of supplementary information which for the viewers takes the place of reality. Rather than reflecting on the reality, or on the work, they submit to it passively: the emotional dimension of the objects, perceived as a *donnée* of nature, affects their way of interpreting reality. Thus immersion is not only an experiential form but also a cognitive one, and involves a way of knowing and experiencing the world.

In the few passages of *Pneuma* in which an allusion to a source can be clearly identified, the sound objects are treated in such a way as to evoke the idea of the event/object rather than the object itself (see also Hamker 2003). For example, from 3' 02" to 4' 11" we hear first children's voices and then whispers, which correspond to the face that can be recognised now and then on the lefthand video. The messages uttered by the voices are incomprehensible: all that remains is the pragmatic dimension, an archetype of human expression. The children's voices do not represent a specific situation but allude to memories of childhood. The whispers, which are not actively listened to, generate a sense of intimacy and human proximity between work and viewer. The meaning they presumably convey remains concealed, and a psychological mechanism of the projection of the subconscious is activated: they are the voices of loved ones, the voices of memory. In Viola's poetics the object does not represent itself, but nor does it manipulate the emotional dimension of the viewer by means of psychoacoustic devices; instead it alludes to the idea of the object, to its archetype, to the possible memories it is able to solicit: this is why its boundaries are not well defined and it cannot be clearly recognised. Moreover, this is why the sound object is not perfectly synchronised with the image. Viola conjures up the unknowable, confronts viewers with questions, causing them to search in the most recondite recesses of their minds, in ancestral memories, in an information blackout.

Thus if a mechanism of substitution of reality is activated in *The Ring* by means of a simulacrum, in *Pneuma* memories and the reality of the inner person stand revealed in a psychological process. The audiovisual objects of *The Ring* are charged with information, life-size maps of reality in which the data is altered and intensified, constituting hyper-real maps; whereas Viola withholds information from the audiovisual object so as to force the viewer to actively intervene. If in the first case the audiovisual matrix evokes the figure of the simulacrum, in the second one can speak of an archetype, an ancestral memory stored in the depths of human existence, which is revealed as a result of an introspective examination

activated by the work. Thus Viola sublimates immersion, adopting it as a means to free the mind of the viewer rather than to imprison or manipulate it. He leads the viewer towards self-discovery and introspection. The viewing experience involves progress towards a strenuous ritual sacrifice on the part of a celebrant who, during the 'rite', recognises and rediscovers himself in the victim, in the abysses of the work.

4. Conclusion

Both our case studies feature the category of immersion because the relationship between work and viewer tends not to be mediated by forms of representation (except possibly at a superficial level) but is based primarily on the direct, subliminal manipulation of the viewer's perception, i.e. on the non-mediated reification of the work's presence. In both the macro-form and the details, artists apply multiple strategies designed to overcome the critical distance between viewers and work, immersing them in it. In the audience's perception the media devices disappear, the frames and in general all the forms of mediation dissolve, leaving room for a direct and multimodal contact with the work. This contact involves neither simply the individual nor the combined senses of the viewer but the body as a whole in a kinaesthetic and multimodal manner. However, as we have seen, the conception of the relationship between viewer and work in *The Ring* involves at least in part a behaviourist paradigm, while the strategies elaborated by Viola are more complex: forgoing a strict interdependence between action and perceptive reaction, they prompt the viewer to undertake an introspective examination, to break free from appearance and immanence and get closer to the self. They are in fact seen to be two different forms of immersion.

Analysing the forms of experience in two heterogeneous contexts such as a Hollywood film and videoart, we have been able to observe communicative strategies which, while referring to a common paradigm, immersion, are actually opposed; they reverberate in the details of the audiovisual construction, of which naturally we have cited only a few examples. This enquiry can be extended to other contexts, other media and forms of communication that characterise the present. However, it is essential always to take into account the complexity of the elements at work and the poly-stratification which is intrinsic to the modalities of management and creation of the experience, at the interface of media structures, communicative strategies, compositional techniques and audiovisual design.

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Appendix

Video brilliance			Time	Video			Audio
L	C	R		L	C	R	
.	.	.	00 00	Dark	Dark	Dark	Crescendo dal nulla: brown noise (low frequencies)
			00 06	It begins lighting from the screen's center Lights (lantern)	It starts lighting from the screen's center	It starts lighting from the screen's center	
^			00 14	Child carrying a recognizable lantern			First waves of high frequencies (white noise), barely audible in pianissimo
f			00 42	zoom on lantern (lights)			
v	^	^	00 44		Mountain silhouettes appear	Silhouettes of mountains begin to be visible	Middle and very low frequency range noise, gradual crescendo (these new layers stratify with the low freq.-range noise already present)
v	mp	mp	00 46				
v	^	v	00 50	it goes off black			New high frequency sound begins; it recalls reverberated whistles.
v	f	v	00 55	landscape with trees (appears gradually)		Mountains seen from afar	
mp	mp	mp	01 00				The image disappears
v	v	p	01 09	void (black)	The image vanishes gradually	The image vanishes gradually	
v	pp	v	01 12		A new landscape appears (this time level land)	New flatter landscape with clouds appears	Only low and very low frequency range layers remain
	^	^	01 14			it vanishes gradually	
	v	^	01 15				a new layer of white noise overlaps the previous layers: <i>crescendo dal nulla al forte</i> . A new layer of middle range frequency noise, which recalls the sound of the wind.
^	mp	mp	01 19	the landscape with trees reappears and gradually vanishes			
v	v	v	01 34	black			White noise: <i>decrecendo al nulla</i>
^	^	^	01 36	Landscape similar to the one in the central channel (uninterrupted horizon)		Landscape similar to the one shown in the central screen (continuous horizon) It begins moving faster rapidamente; veiled image.	
mp->p	v	mp->p	01 58		short transition		Middle frequency range noise <i>crescendo dal nulla</i> (although it is in the same range of the previous layer, which overlaps, it is different from it; no wind). Low and very low frequency noises, <i>decrecendo al nulla</i> .
	f		02 04		Clearer image: also a utility pole becomes recognizable		
	v	v	02 12				Unintelligible
	v	v	02 18		Black	Black	
			02 25			Black	A lot of little bulbs or lights, that after a
		^	02 30			Naked child	
v		v	02 45				Unusual noise, it recalls the cicada sound; later also
^			02 48	Black			
pppp			02 56	Glare or grove of reeds, or something similar: almost unintelligible			
v			02 59			Black	
^	mf		03 02				

^ mp v ^			03 09	while it becomes clear that they are flowers		animal sounds and children voices: better-defined noises than before, which emerge out of a continuous unclear noise texture on the back.
	mp v		03 16			
	v ^ mp		03 26			
^ mf			03 31	a face is recognizable: the glares, or grove of reeds actually are hairs.		
v mp v			03 37			
	p mp		03 45	Black	Flowers	Closer voices, whispers.
^ mp			03 48			
	v mp v		03 54			
			04 00			
^			04 11			The whispers and the voices disappear gradually.
v ^			04 19	Flowers		Continuous <i>crescendo</i> and <i>decrescendo</i> of many layers of coloured noise bands, which alternate.
	^ f		04 28			
	mp		04 42			
^ f v ppp v ^ mf			04 48			
	v ^ mf		04 50			
			04 59			
	v ^		05 05			
v			05 13	Dark		
. .			05 20			
^	v ^ pp v		05 23	Building		
v pp			05 30		Dark	
p	^ f ff		05 35	Building	Building	New mid-low frequency range noise, <i>crescendo</i> .
	^ p		05 37			
	v mp		05 42			
mp v ^			05 46			
^	v ^		05 52			
mp pp v ^	v .		05 56			
^	pp v ^ mp		05 58	Human body	(detail of the building)	Unclear noise layer, <i>crescendo</i> .
f						
v			06 12		Black	New noise in the highest frequency range; it seems bound to the human body image, but its source remains uncertain.
p	p		06 16	Detail of the building		

(at times variable)	(at times variable)	^ (grad.)	06 34				Cloud	
	v	p v	06 54 06 56				Black	Black
v ^ v			07 06	Detail of the building				
			07 10	Black				
^ mp	^ mf f	^ (gradual and slow) mp	07 13 07 21	Detail of another building	Woman on the side of a street	Buildings		Crescendo <i>al forte</i> , followed by a <i>decrescendo</i> : narrow noise band, middle frequency range.
v ^ mp ^ v v		v ^ v	07 29 07 34					
	v	v	07 40 07 43	Black	Black	Black		
							Everything off, but a continuous unidentifiable low background noise, low-middle frequency range.	

Tab. 1: Analysis of the first section of Pnuma (0'00"-7'43").

Legend:

Col. 1-3, brilliance of the projections, channels 1-3 (Left, Center, Right).

Col. 4, timeline.

Col. 5-7, subjects, themes and characters depicted; channels 1-3 (Left, col. 5; Center, col. 6; Right, col. 7). The colours highlight their unfolding through the channels.

Col. 8, sound: description of the main sound layers and events.

Abbreviations, columns 1-3: '^' crescendo; 'v' diminuendo; '.' black, no brilliance; '|' black, no brilliance continues; 'pppp' - 'fff': scale of intensities, whose approximate notation follows the musical dynamics scale.