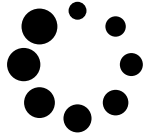


AN-ICON



The hallucinatory  
aspect of virtual  
reality and the Image  
as a *Bilderschrift*

by Pietro Montani Virtual Reality

Imagination

Hallucination

Dream

Regression

Intermediality

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# The hallucinatory aspect of virtual reality and the Image as a *Bilderschrift*<sup>1</sup>



by Pietro Montani

Abstract

This article discusses the following points:

- The analogies which can be identified between Virtual Reality (VR) and the hallucinatory aspects of dream activity make sense within a network of relations characterised by certain important cognitive performances (in particular inferential performances) which can be attributed to the work of the imagination;
- To assure the plasticity of these performances, the imagination seems to have to distance itself somewhat from linguistic thought and in dreams this is achieved regressively via the hallucinatory state. Various authoritative neuroscientific approaches to dreams significantly substantiate this theory.
- At the time when its correlation with linguistic thought is deactivated, the imagination does not, however, surrender itself to the hallucinatory event but elaborates it with recourse to practices similar to those of syncretic writing – a *Bilderschrift* or “pictographic script” as defined by Freud;
- It is significant that very early cinema also addressed the quasi-hallucinatory aspects of films, practising an “intermedial” *Bilderschrift*, i.e. a treatment of the images that is attentive to the comparison and integration of the different levels of expression which work together in the composition of a film;
- Digital images seem to revive this production model in several ways and I will offer two examples highlighting their affinity with syncretic and intermedial writing.

[Virtual Reality](#)   [Imagination](#)   [Hallucination](#)   [Dream](#)   [Regression](#)  
[Intermediality](#)

To quote this essay: P. Montani, “The hallucinatory aspect of virtual reality and the image as a *Bilderschrift*”, *AN-ICON. Studies in Environmental Images*, no. 1 (2022): 153-171

## Virtual reality, hallucination and the dream-imagination

The hallucinatory aspect of VR is obvious to those who have experienced or wish to study it. However, not everyone hallucinates and so the hallucinatory nature of dreams offers the most immediate and comprehensible parallel – an experience we undergo during sleep with a frequency and regularity familiar to all.<sup>2</sup>

VR and dreams cannot be treated as entirely identical phenomena, indeed there are many and significant differences as we shall see shortly. However we can immediately highlight at least two essential parallels. The first is the compelling illusion of reality that differentiates hallucinatory dreams and VR images from other types of internal and external images processed by the imagination. This leads to the second parallel, regarding the unalterable nature of what is perceived. Apart from some exceptional cases (e.g. “lucid dreaming”), we cannot intervene in dream images, the realism of which is experienced as both convincingly plausible and undeniably objective. The same applies to the fundamentally hallucinatory nature of VR images (although there are clearly many potential exceptions, to which I shall return in the final section). I would happily add a further property in the presence of sufficient evidence and that is how easily we forget dreams, which corresponds – although this is a totally subjective observation – to the ease with which we discard large portions of our VR experiences.

I must stress that the two aforementioned properties are linked to the particular realism of dream and VR

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1 This article refers to the European research project “The Future of Humanity: New Scenarios of Imagination” (Vilnius University). This research is funded by the European Social Fund (project no. 09.3.3-LMTK-712-01-0078).

2 The analogy between VR and dreaming has already been explored. See for example R. Diodato, *Estetica del virtuale* (Milan: Bruno Mondadori, 2005), which, however, chooses a different approach from the one I will propose here.

images. So, although the latter come in several interactive forms (e.g. immersive installations) that can alter the perceived environment, this does not impact on the fundamentally hallucinatory state of the images delivered. On the contrary, the degree of interactivity in dreams is limited to the activation of cognitive processes internal to the dream event such as the linguistic formulation of judgements and inferences, and an evaluation of the emotions experienced. But here, too, these processes are dependent on the objectivity of the images experienced. I shall provide a personal example: the night before starting this article I dreamt that I encountered a stranger in the street and sensed with great pity and concern that he clearly felt ashamed, although there was no indication as to why. Without entering into more detailed analysis, what I have described was clearly a hallucinatory event accompanied by a congruent judgement explicitly formulated in the dreamer's inner discourse, and which included the word "ashamed". But it was not a "lucid dream". A Freudian analyst would say that the dream was mine so the pity and concern were directed at a part of me. This may be so, but this split within the dreamer reinforces rather than diminishes the objectivity of the sentiment I felt and the congruence of the judgement I associated with it (i.e. that the human condition is truly compassionate – and mysterious – if someone can show shame for no apparent reason). Ultimately, it is the radically immersive state of the two traits shared by VR and dreams that should be underscored:<sup>3</sup> we become *caught up in a*

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3 For a helpful classification of all the VR forms see V. Catricalà, R. Eugeni, "Technologically modified self-centred worlds. Modes of presence as effects of sense in virtual, augmented, mixed and extended reality", in F. Biggio, V. dos Santos, G. Tyerry Giuliana, eds., *Meaning-Making in Extended Reality* (Rome: Aracne, 2020): 63-90. According to the accurate schema divided into four categories discussed in the article, the type on which these considerations focus occupies the second level of the third type ("Advanced cinematic VR"). However, the authors describe "radical immersive media" as a broad category of devices (which can be further divided into two subgroups) designed to interact in different ways with the real world. For reasons that will become clear later, I shall limit my considerations to a very general analogy between VR and dreams.

simulated environment featuring images that coercively force their presence on us.

And now for the equally significant differences. What I have described – and why I was able to describe it – was clearly a dream occurring in a REM sleep phase. It was one of those dreams availing of closer integration with Freud’s “secondary process” and the ones we remember (or reorganise) with greater satisfaction. The neurophysiological processes at work in all sleep phases are fairly well known today, although the scientific community has reached no full agreement on the functional meaning to attribute to the incoherence and transience of their dream products. We do not know exactly what purpose is served by the low structural level of dreams but there appears to be good support for the theory – adopted here – according to which their principal function is to increase the “fitness” of some processes of the imagination conducted in a wakeful state (particularly inferential ones) by reducing their redundancy and complexity in several ways.<sup>4</sup>

What does this strange neural work look like? Some have likened it to the wandering undertaken by our vigilant imagination<sup>5</sup>. Dreams (REM and NREM) also seemingly implement a momentary state of generally indeterminate, organised and specialised cognitive function (e.g. intentionality and attention) to maintain the brain-mind for periods of varying length in the purely virtual phase effectively described as the “default mode network”. This is a typically “experimental” phase as both the dream and the wandering explore numerous potential configurations of

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4 Here and elsewhere I refer in particular to an important essay by J.A. Hobson *et al.*, “Virtual reality and consciousness inference in dreaming”, *Frontiers in Psychology* 5, no. 1133 (2014) <https://doi.org/10.3389/fpsyg.2014.01133>. Hobson is an undisputed authority on dream studies and shares the theory (see in particular the works by G. Tononi) that dreams optimise some wakeful cognitive processes by alleviating and “pruning” the synapses in excess.

5 See M. Corballis, *The Wandering Mind: What the Brain Does When You’re Not Looking* (Auckland: Auckland University Press, 2014). Corballis is a psychologist who mainly studies language but his book is up-to-date on the most accredited developments of the neurosciences regarding the dream phenomenon.

well-defined or simply hypothetical situations and problems, often varied or even disparate. In this sense, the “default mode network” active in dreams in the hallucinatory form familiar to us prompts the entire neuronal apparatus to enter into free flow with no fixed objectives, allowing the “innate generator of virtual reality” in our brains to behave as a “free-running inference machine”.<sup>6</sup> This machine – and we shall return to this – benefits from a “synaptic regression”<sup>7</sup>, a temporary reinstatement of extremely primitive neural circuits not used in the wakeful state.

In other words, our brain seemingly needs to suspend dealings with the real world (and its complexity) at regular intervals and start dialoguing with itself, generating simplified and incoherent simulacra of a world so as to optimise, on reawakening, the performances that will enable it to cope *once again* with the complex (and harsh) reality. The autopoietic and virtualising nature of this work<sup>8</sup> offers a simple explanation for the fact that the foetus falls into full REM sleep in the thirtieth week of life.<sup>9</sup> This is pure cognitive and proprioceptive training in VR as, at that stage, its only experience of the world is intrauterine. Hobson, Hong and Friston astutely likened this surprising evolutionary phase to an insurgence and initial coordination of the a

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6 J.A. Hobson *et al.*, “Virtual reality and consciousness inference in dreaming”: 22. As better clarified below, I shall here intend the concept or “regression” also in the specifically Freudian sense.

7 *Ibid.*: 15.

8 I discuss this point in P. Montani, *Tre forme di creatività. Tecnica, arte, politica* (Napoli: Cronopio, 2017).

9 See J.A. Hobson, “REM sleep and dreaming: towards a theory of protoconsciousness”, *Nature Review Neurosciences* 10 (2020): 803-813 10.1038/nrn2716.

priori (intuitive and intellectual) forms discussed by Kant<sup>10</sup> (to whom we shall return).

What temporary conclusions can we draw from the parallel between the dream hallucination and VR? A crucial point regarding both the analogies and the differences seems to require critical attention. The neurophysiological study of dreams shows that a *significant relationship* can form between the sometimes hallucinatory and incoherent nature of images and the *emergence* of our cognitive strategies in the broad sense (e.g. the inferential activity attributable to the imagination).<sup>11</sup> The emphasis should fall on both requisites – the incoherence and the hallucinatory nature – although, for obvious reasons, VR seems keen to focus primarily on the latter. To address this problem properly, we should refer to Freud’s great work on the mental significance of dreams<sup>12</sup>, starting from a fairly solid point of contact between the neurophysiological model with which he worked and the very different ones we work with today. This point of contact consists in the specific importance of *regression* in hallucinatory and incoherent processes managed by the dream-imagination.

### Regression and “Bilderschrift” in dreams

When referring to Freud I shall totally disregard the aspect dearest to his heart, that dreams are *interpretable* and that this very interpretability defines their

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10 J.A. Hobson *et al.*, “Virtual reality and consciousness inference in dreaming”: 19. I. Kant, *Critique of Pure Reason* (1787), trans. P. Guyer, A. Wood (Cambridge: Cambridge University Press, 1998). In a very important book, *Before Tomorrow. Epigenesis and Rationality* (Polity Press: Cambridge, 2016), Catherine Malabou argued in favor of an “epigenetic” interpretation of the development of Kantian a priori forms. I have developed a similar approach to Kant’s critical philosophy in P. Montani, “Imagination and its technological destiny”, *Open Philosophy* 3 (2020): 187-201.

11 The “judgement” I formulated during the described dream is typically inferential in form. For the Kant of the third *Critique*, it is the *Urteilkraft*, i.e. the “power of judgement”, that is essentially inferential and abductive in nature. See I. Kant, *Critique of the Power of Judgment* (1790), trans. P. Guyer, E. Matthews (Cambridge: Cambridge University Press, 2001).

12 See S. Freud, *The Interpretation of Dreams* (1900), trans. J. Strachey, in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vols. 4-5, (London: The Hogarth Press and The Institute of Psycho-Analysis, 1955).

immensely important metapsychological condition. Is this approach justifiable? Yes if we refer to the last chapter of *Traumdeutung*, “The psychology of Dream Processes”. A footnote added in 1925 at the end of the previous chapter (VI, “Dream-work”) introduces its objectives significantly, saying that the particular nature of the dream-work should be studied *as such*, over and above the fact that this form of working is used by the unconscious in a hallucinatory and disguised mode to achieve its drives. Freud writes

At bottom dreams are nothing other than *a particular form of thinking*, made possible by the conditions of the state of sleep. *It is the dream-work which creates that form*, and it alone is the essence of dreaming – the explanation of its peculiar nature.<sup>13</sup>

The peculiarities of the dream-work – brilliantly studied by Freud in Chapter VI – are well known: condensation, displacement and considerations of representability. But the common trait is *regression*, intended by the author in a strictly topical sense. Explained as simply as possible (and in non-Freudian language), during dreams our mind-brain reconnects with a very primitive prelinguistic and preconceptual stage of its memory store. Or rather, it is a phase in which a profoundly embodied imagination (think of a baby just a few months old) has also had to perform the work (e.g. inferential) that would subsequently be delegated to linguistic thought.<sup>14</sup>

The phenomenon of *regression* does not only belong to dreams, observes Freud, although in dreams it produces a particular “vividness”, a hallucinatory *Belebung*. That this is, in other respects, a somewhat paradoxical process emerges from the fact that “a particular form of

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13 Ibid.: 510. My italics.

14 Using the terminology of Deleuze and Guattari, we could say that here the imagination adopts a predominately “striated” manner of proceeding. See G. Deleuze, F. Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (1980), trans. B. Massumi (London: Athlone, 1988).



thinking” is entrusted to the process of regression in which “*the fabric of the dream-thoughts is resolved [aufgelöst: disrupted] into its raw material*”.<sup>15</sup> But, we must add, it is disrupted *as far as is possible* for, although the archaic zone of the memory store in question dates from an evolutionary phase when linguistic thought did not yet exist, the latter will *leave a trace* in the regressive path implemented by the dream state in adulthood.<sup>16</sup> As demonstrated, for example, by perhaps the most surprising requisite of the dream-work: the ability to treat words as if they were objects and play with their signifying matter. Further on, with regard to dream-hallucinations, Freud speaks of a “transvaluation” of thought into images; thought is drawn towards the most archaic memory store, to be seen specifically as a disabling of its logical and linguistic relations in favour of the earliest work of a totally embodied imagination. But these remain transvaluated thoughts and are by no means a reinstatement of a prelinguistic condition. Rather, it is a *new reorganisation of the relationship between image and word*, a radical renegotiation of their “normal” bond (I shall return to this key point later).

This brings fresh relevance to the factor of dream-work that Freud called “regard for representability”

What we have described, in our analysis of dream-work, as ‘regard for representability’ might be brought into connection with the selective attraction exercised by the visually recollected scenes touched upon by the dream-thoughts (...) [So that] dreaming is on the whole an example of regression to the dreamer’s earliest condition, a revival (*ein Wiederbeleben*) of his childhood, of the

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15 Ibid.: 545. My italics.

16 This is the theory developed by J. Derrida in *Writing and Difference* (1967), trans. A. Bass (London: Routledge, 2001).

instinctual impulses which dominated it and of the methods of expression which were then available to him.<sup>17</sup>

Freud appears to refer to non-elaborated (or semi-elaborated) nuclei linked to powerful emotional investments, such as the “internal objects” Melanie Klein and her followers later discussed when re-elaborating Freudian dream theory in broader and more flexible terms, and today considered widely reliable and compatible with neuroscientific findings.<sup>18</sup> The last lines of the citation (from a 1919 addition) allow us to conclude that the regressive movement Freud attributed to the physiology of dreams can be acquired as *a structural requisite of the dream-imagination* without necessarily attributing it to instinctual motivation. In other words, if dream-work is rooted in the condition of very early infancy – the condition of being “*in-fans*” i.e. not yet capable of speech – this means that the regressive movement of the dream reaches and revives not only the desiring aspects but the concomitant inferential processes too. Thus, these processes *take place in the absence of language* and make predominant use of prelinguistic images and *schema*. We could call it an imagination that “schematises without any concept” as Kant said regarding “reflective judgement”, highlighting its exceptional epistemological significance.<sup>19</sup> This further Kantian indication is by no means casual<sup>20</sup> and should be paralleled with the “free-running inference machine” discussed by Hobson, Hong and Friston. Preliminary and free imaginative training is required, hypothetical and exempted from defined

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17 Ibid.: 549-550. My italics.

18 This is the theory persuasively argued by M. Mancina, *Il sogno e la sua storia*. (Venice: Marsilio, 2004); and *Sonno & sogno*. (Rome-Bari: Laterza, 2006).

19 See E. Garroni, *Estetica ed epistemologia* (Milan: Unicopli 2003); P. Montani, “The Imagination and Its Technological Destiny”: 3; L. Palmer, “Schematizzare senza concetti e senso comune”, in D. Cecchi, M. Feyles, P. Montani (eds.), *Ambienti mediali* (Milan: Meltemi 2018): 39-56. Significantly, Palmer accompanies his rethinking of the Kantian concept with experimental evidence.

20 See Montani, *Tre forme di creatività*; and “The Imagination and Its Technological Destiny”.

tasks, simplified and experimental, not only (as is obvious) *before* cognition can start to be deployed but also so that it can function *constantly* – e.g. (Tononi’s proposal largely endorsed by Hobson) in terms of synaptic pruning, simplification and resetting of the inferential device.<sup>21</sup>

Before leaving Freud we must adopt another of his valuable indications. Above, I linked dreams to a particular way of reorganising the image-word relationship. I will specify that Freud clearly sees them, ultimately, as a relationship guided by a *principle of reversibility*. Not only are words used as if things, *images also display a key trait of discursive convention*. This trait is also fully comprehensible in intuitive terms: both ontogenetically and phylogenetically, the human imagination must have performed a major work of segmentation, classification and organisation (e.g. inferential) on the experience, valorising a certain *intelligible profile* of the images – precisely that which language will later formalise. Freud calls this property, reactivated by the dream-imagination, a *Bilderschrift*, a picture writing:

The dream-content (...) is expressed as it were in a pictographic script [*Bilderschrift*], the characters of which have to be transposed individually into the language of the dream-thoughts. If we attempted to read these characters according to their pictorial value instead of according to their symbolic relation [*Zeichenbeziehung*], we should clearly be led into error.<sup>22</sup>

Freud speaks here from the standpoint of interpretability (not relevant for us) but the observation can of course be generalised. Products of the dream-imagination

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21 See G. Tononi, C. Cirelli, *Sleep function and synaptic homeostasis*, *Sleep Medicine Reviews* 10 (2006): 49-62. In this sense and precisely because of its hallucinatory “resuscitation”, the dream-work restores not so much the contents of the oldest inferences but the earliest manner of that performance (i.e. “schematises without any concept”) which conduct precious selective functions for pruning purposes.

22 Ibid.: 296. The translation of *Bilderschrift* as “pictographic script” is highly questionable; and that of *Zeichenbeziehung* as “symbolic relation” is frankly erroneous as the “symbolism” of dreams is not involved here but only the more general sign profile of dream-images.

should above all be observed in terms of their *Zeichen-beziehung*, their singular and archaic relationship with the semiotic order. In other words, despite being hallucinatory, dream-images should *also* be appreciated for their ability to reactivate a condition in which the imagination has *also* processed them as the *signs* of a particular *Bilderschrift*.<sup>23</sup>

Our Freudian journey has taken us another major step forward: the *relational* aspect –stressed in the conclusions of the first section – can now avail of a specific and significant reference to a *scriptural element within the work of the imagination*. This element can be *linked* to the radical regressive condition in which the imagination behaves literally as a VR generator. We can now try to better understand how this correlation works.

### **Bilderschrift in very early cinema and in the digital age: the syncretism and intermediality of images**

Interestingly, in its very early days, and roughly when Freud was developing his *Traumdeutung* and subsequent metapsychological additions, the cinema was seen (or conceived) by some film-makers and theoreticians as closely resembling the device of image-word *reversibility* highlighted at the end of the previous section. This means that the birth of the cinema also featured a major focus on the *network of relationships* which the powerful illusion of reality produced by the cinematographic image was clearly keen to unite. In some cases, in particular, that image was seen as a syncretic form of expression: *a space of comparison and integration between different levels of expression*. This section dwells briefly on two significant examples of

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<sup>23</sup> On the image-word connection and its meaning for an appropriate understanding of a “history” of the arts, C. Brandi’s observations in *Segno e immagine* (Palermo: Aesthetica, 2002) are valuable, not coincidentally introduced by a discussion on Kant’s schematism,

this understanding of the image – which I call “intermedial”<sup>24</sup>: a reflection on the cinema of the “Russian Formalists” and Sergei M. Eisenstein’s first cinematographic theory centred on the project of an “intellectual cinema”.<sup>25</sup> I shall conclude with some comments on VR installations and their inclusion in the intermedial paradigm of the image.

The Formalists felt strongly that the emergence of the cinema gave their era the privilege of observing a form of art *in its nascent state*. Cinema brought a brand-new addition to the technically reproduced image – the ability to move in time. Boris Eikhenbaum, for instance, argued that with cinema “for the first time in history, an art which was ‘depictive’ by its very nature became capable of evolving in time and proved to be beyond any comparison, classification or analogy”.<sup>26</sup> He was struck in particular by the fact that, in cinema, the image medium adopted an original condition because the reception of the film has to develop with a time sequence typical of other media (e.g. writing).

To better use these peculiarities, thought Eikhenbaum, the structural principles of the cinematographic text would have to comply with two preferential options, one paradigmatic and the other syntagmatic. The paradigmatic option consisted in asserting the conventionality of the image (its *Zeichenbeziehung* as Freud would say) in a head-on contrast with the naturalistic values of photographic reproduction; the syntagmatic option consisted in emphasising the discrete (or potentially discrete) nature of the formal unities placed in a reciprocal relationship following a short, markedly divided montage. These two requisites are therefore totally comparable to Freud’s *Bilderschrift*. But Eikhenbaum underscored another aspect concerning

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24 On this concept, see P. Montani, *L’immaginazione intermediale* (Rome-Bari: Laterza, 2010).

25 See R. Taylor, ed., *Russian Poetics in Translation*, vol. 9: *The Poetics of Cinema*. (Department of Language & Linguistics: University of Essex, 1982); S.M. Eisenstein, *Towards a Theory of Montage* (London-New York: Tauris Academic Studies, 2010).

26 B. Eikhenbaum, “Problems of cine-stylistics”, trans. R. Sherwood, in R. Taylor, ed., *The Poetics of Cinema* (Oxford: RTP, 1982): 10-21. My italics.

not the *construction options* but the *structural conditions* of understanding a film, arguing that the image plane in the cinema is always accompanied by the articulation of “inner speech” in the spectator’s mind. So, the cinematic experience has to proceed via a *constant integration of image and language planes*, more akin to a process of *reading* than a prolonged and guided form of contemplation.<sup>27</sup> Returning to the parallel with Freud’s reflection on the figures of the dream-work, we could say that, in films, the autonomous expressive and pathemic resources of the image come together in a *constant relationship* with the broader cognitive resources accessed by linguistic thought.

Remaining largely on the wavelength of Eikhenbaum’s theories, Sergei Eisenstein pushed himself even further forward in the same 1920s’ time-frame, especially from a design perspective. In short, he believed that the discursiveness of cinema could function as a device that takes the spectator into close contact with the semiotic operations that enable the imagination to give sensible content to concepts. That is, it could explore the key imaginative performance that Kant called “schematism”. A performance that, unsurprisingly, we have already referred to regarding its relationship with dream-work. Eisenstein called this cinema “intellectual” because, from the political perspective that excited him at the time, the cinematic experience promised to considerably alter the spectators’ “power of judgment” (to use another Kantian term), training them, for instance, in dialectical thinking, as we read in one of his notes for the planned film adaptation of Marx’s *Capital*.<sup>28</sup>

Although Eikhenbaum and Eisenstein’s theories cannot be generalised, we can agree on the fact

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<sup>27</sup> On the complex intermedial nature of reading, see S.B. Trasmundi, S.C. Cowley, “Reading: how readers beget imagining”, *Frontiers in Psychology* 11: 531682 (2020), doi: 10.3389/fpsyg.2020.531682.

<sup>28</sup> On this subject, see an important work by E. Vogman, *Dance of Values. Sergei Eisenstein’s Capital project* (Zurich-Berlin: Diaphanes, 2019).

that, throughout the silent film period, the treatment of cinematographic images largely adhered to the general *Bilderschrift* principles discussed here, and often invented new figures of them. We can also agree that, whatever its strengths and weaknesses, this trend was destined to undergo a marked shift after the introduction of sound, which could inevitably be expected to produce – and Eisenstein was one of the first to denounce this<sup>29</sup> – a strengthening of the reproductive and illusionistic effects of the film image and an ensuing increase in the naturalistic understanding of the film. From that moment on, the cinema pursued different paths which we cannot follow here although it may be interesting to ask what transformations would have been seen in the “scriptural” direction I discussed briefly at the start of this section.<sup>30</sup> We must instead ask ourselves, and I shall do so rapidly below, whether the fundamental principle embraced by this direction, namely the activation of a critical countermovement *physiologically correlated* to the regressive nature of the image, reappeared elsewhere. And how it could also concern VR where the regressive movement, as mentioned at the beginning, reaches the extreme condition of a hallucinatory event.

Before proceeding we should again stress the *relational*, and more precisely *intermedial*, nature of the critical countermovement which accompanies the regressive process of the imagination – and thus also presumably its extreme outcomes in the hallucinatory version of VR. Against this backdrop, I shall conclude by touching on two different spheres of exemplification. The first concerns the spontaneous practices of *syncretic writing* in use on the Web for about 20 years now and which are increasingly widespread among its users. In the second, I shall present some brief comments on how the intermedial device

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29 See S.M. Eisenstein, “Buduščee zvukovoj fil'my. Zajavka”, in Id., *Izbrannye Proizvedenija v šest' tomach. II* (Moskva: Iskusstvo, 1963-1979): 15-16.

30 I have done so partially in P. Montani, *Emozioni dell'intelligenza* (Milan: Meltemi, 2020).

has been managed in two remarkable recent installations: *Carne y arena* by Alejandro Gonzales Iñárritu (2017) and *VR\_I* by Jilles Jobin (2018).<sup>31</sup>

It is a fact that the birth of the interactive Web supported the emergence of a form of *syncretic writing* that does not merely combine image, word and sound but also very frequently exploits their reciprocal relations to obtain significant effects of meaning from this intermedial confrontation – for the moment predominantly tuned into a playful, ironic and paradoxical register (I am thinking of all the “meme” forms). As well as not excluding significant evolutions and further differentiations, this aspect in itself already guarantees great (and spontaneous) reflexive control of the semiotic material manipulated.<sup>32</sup> I have suggested calling this practice “extended writing”, adding that significant innovation might develop in the technologies of human expression. Indeed, the first thing to do is to study the internalisation processes and feedback on the imaginative and cognitive conduct of those using it (but it is a mass phenomenon).<sup>33</sup> I am keen to stress here that the regressive values linked to the image in extended writing are placed in a constant, systematic and plastic relationship with several critical and intellectual distancing practices, often of a distinctly intermedial nature. That is to say, they are conceived to exploit the effects of meaning ensuing from the re-mediation and comparison of different media.

The two installations mentioned above are important not only for their uncommon design complexity but also and primarily for their intermedial tone (i.e. distanced and reflexive), albeit diversely interpreted in the two cases. In

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31 The two installations could be visited at the Fondazione Prada in Milan (2017) and the Istituto Svizzero di Roma (2018), respectively.

32 See P. Montani, “Materialità del virtuale”, *Agalma. Rivista di studi culturali e di estetica* 40, no. 2 (2020): 11-18; and “Apology for technical distancing. But beware the feedback!”, *IMG: Interdisciplinary journal on image, imagery and imagination* 3 (2020): 264-281.

33 The issue of “extended writing” should be included in an extensive case study of technological aesthetics, as well illustrated recently by V. Gallese, “The aesthetic world in the digital era. A call to arms for experimental aesthetics”, *Reti, saperi, linguaggi* 9, no. 17 (2020): 55-84.



both, visitors realise that the VR is simply a *part* of a broader experience that can internally implement in various ways what I have just described as a critical countermovement. I shall conclude by indicating the essential coordinates below.

*Carne y arena* is a journey in four stages, the second of which contains a VR installation. Here, the visitor – alone and free to move around – finds him/herself spending six minutes in a desert zone with a group of Mexican refugees trying to cross the US border but being violently driven back by an American army patrol.<sup>34</sup> In the first space, visitors are asked to remove their shoes and socks and place them in a locker from which they will collect them later. This is a key strategic move because during their mobile permanence in the virtual environment their bare feet will make them constantly proprioceptively aware of an essential split (*Virtually Present, Physically Invisible* is the installation's astute subtitle). A walkway awaits when they exit the "arena", after retrieving shoes and socks, from where the visitors can catch a glimpse of what is happening in the semi-dark space of the virtual simulation by looking, if they so wish, through the gaps between the wooden planks of a wall. This is a further distancing from the powerful engagement just experienced. The walkway leads to a final room where, free to decide how long to stop at each one, they can watch video clips of the migrants narrating details of the episode to which the visitors have been invisible witnesses and what happened to them afterwards. Their

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34 I dwelled more analytically on the Iñarritu installation in P. Montani, *Tre forme di creatività*. See also F. Casetti, A. Pinotti, "Post-cinema ecology", in D. Chateau, J. Moure, eds., *Post-cinema. Cinema in the Post-Art Era* (Amsterdam: Amsterdam University Press, 2020): 193-217; A. D'Aloia "Virtually present, physically invisible: virtual reality immersion and emersion in Alejandro González Iñarritu's *Carne y Arena*", *Senses of Cinema* 87 (2018) <http://www.sensesofcinema.com/2018/feature-articles/virtually-present-physically-invisible-virtual-reality-immersion-and-emersion-in-alejandro-gonzalez-inarritus-carne-y-arena/>. For an important discussion of the "empathic" effects attributable to experiences in VR see A. Pinotti, "Autopsia in 360°. Il rigor mortis dell'empatia nel fuori-cornice del virtuale", *Fata Morgana* 39 (2019): 17-32. On the aesthetics of "unframed" images see P. Conte, *Unframing Aesthetics* (Milan-London: Mimesis International, 2020).

faces appear in high definition on small screens placed in niches around the walls of the room.

The important point here is that the VR is just *one of the many elements* in the installation and the overall experience stimulates visitors to engage in an intermedial reflection that invests them literally from head (equipped with visor and headphones) to toe (bare). The truly striking and forceful realism of the simulation thus finds its meaning within a complex narrative device. I shall add that even the patchy recollection of the six-minute VR simulation mentioned at the start of this article finds interesting justification within the context of this complex cognitive and pathemic experience.

*VR\_I* is an all-VR installation and far more playful than *Carne y arena*. The artist is primarily a choreographer and paid particular attention to the fluidity of movement of the five dancers who inhabit the virtual space and define it with their performance. They take on very different sizes in the various phases of the event: gigantic and objectively threatening at the start but miniaturised and observable later on, almost as if in a lab experiment on a small quadrangular platform, and finally life-size. Five people enter the virtual space and each visitor's avatar can interact with the other four, not only on a haptic and sensorimotorial level (the hands have sensors) but also linguistically thanks to phono-acoustic equipment. The visitors find themselves in a metamorphic space resembling that of dreams: sometimes a boundless desert, at other times an urban landscape or a mountain-top loft with sweeping views down over a wide valley. The environments are always clearly identifiable and their subsequent development follows the rhythm of the dancers and the spatial harmony created by their movements. It is also significant that famous paintings (Matisse, Bacon) are hung on the walls of the loft interiors. Basically, the whole encourages visitors to let themselves go in an experience constantly tuned to a free

reflexive register and they quickly realise that the rhythmic play between the different spatial dimensions is one of the core themes of the choreographic flow they are engaged in, as too is the doubling of the performance (the dancers giant or miniaturised, the paintings), the comparison between the dimensions and the free exchange of dialogue about what is seen and happening. We could perhaps describe *VR\_I* as a lucid intermedial dream which can be realised without any forcing by an embodied imagination fundamentally reconciled with its less docile partner: language.

## Conclusions

- The *hallucinatory immersiveness* of VR must, just like that of dreams, be understood and studied against the backdrop of the network of significant *relations* it can entertain with other performances, for example inferential, of an embodied imagination. It seems inadvisable to isolate it from this broader context.<sup>35</sup>
- The *regressive aspect* characterising the specific hallucinatory immersiveness of dreams must be understood primarily in terms of the neurophysiological functions (synaptic pruning, plasticity, resetting of inferential devices) attributable to the movement which allows the brain-mind to return to the situation in which the work of the imagination autonomously conducted cognitive performances that would, in a subsequent phase, be guided by linguistic thought.
- It is in this regressive sphere<sup>36</sup> that, remaining with Freud, we see the particular resources of a *significant link between image and writing* (a *Bilderschrift*). It is a link that very early cinema

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35 A critical-genealogical investigation into the life of media conducted in terms of the assemblages or true ecosystems, in which each time they assume a structural positioning and a cultural meaning, characterises the work of Francesco Casetti. See lastly and also for some significant analogies with the issue of immersiveness, “The Phantasmagoria: an enclosure and three worlds” (forthcoming).

36 A “regression in the service of the ego” we could say, using a fine expression introduced by E. Kris, *Psychoanalytic Explorations in Art* (New York: Schocken Books, 1967), but the issue should also be addressed from a broader disciplinary perspective in terms of the adaptive and evolutionary advantages ascribable to the work of the dream imagination.

interpreted predominantly as an *intermedial comparison*, i.e. a comparison-integration of different media (starting with image and verbal discourse) such as to combine a critical and reflexive countermovement constantly and systematically with the naturalistic and quasi-hallucinatory reception of the film.

■ This same countermovement is perceived today in the spontaneous phenomenon of *extended writing* which can be recorded on the Web and in the design of some major *installations* in which VR features, in various ways, as *a component* of a more complex and “scriptural” narrative device in the broadest sense.

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