Towards an Experience-Based Aesthetics of Virtual Reality: A Case Study on Fear

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When developing an aesthetics of VR, it is essential that it remains anchored to concrete objects and actual users' inclinations and practices. This article provides an example of an "experience-based" aesthetics of VR, presenting the results of a pilot empirical study on fear in VR and discussing it in aesthetic terms. More in particular, the article ventures into two important debates in the field: that around the "paradox of fiction", and that concerning aesthetic distance. By doing so, the article highlights the fruitfulness of investigating a difficult object like VR, which eludes standard conceptualizations from image and media theory. At the same time, it illustrates how developing a specific aesthetics of VR can contribute in turn to indicate new pathways into long-standing issues in aesthetics as a whole.

Keywords: virtual reality, paradox of fiction, aesthetic distance, empirical aesthetics

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Introduction

It has by now become undeniable that digital media are changing our modes of being in the world, radically transforming our sensory activity and impacting multiple dimensions of our experience. This is even truer considering that these media have now escaped the domain of occasional and intentional use, with their presence being increasingly felt throughout our daily lives[2].

Just as in many other fields, scholars of aesthetics feel the urge to respond to this phenomenon and provide an expert understanding of it. "Aesthetics" here is to be interpreted in its dual sense of theory of art and artistic experience, and – more widely – of theory of *sensory* experience (*aesthesis*). Thus, an exhaustive aesthetics of a given medium would define a vast range of issues about the creation and reception of its products, asking not only which ones can be deemed "artistic" and what makes them so, but also inquiring into what they elicit in broader perceptual, cognitive, and emotional terms. However, not all current media afford the same chances of success for such an ambitious project. A particularly elusive object of research in this regard is virtual reality (VR).

The aim of building an appropriate aesthetics of VR, indeed, is hampered by the fact that the latter is still struggling to become a mainstream medium. Notwithstanding the

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[2] See F. Cavaletti, F. Fimiani, B. Grespi, A.C. Sabatino (a cura di), *Immersioni quotidiane. Vita ordinaria, cultura visuale e nuovi media*, Meltemi, Milano 2023.

decreasing price of the necessary equipment – with a good quality headset costing nowadays much less than a regular smartphone – VR has not entered the average household. Hence, its use tends to remain limited to "specialists", or to rely on identified VR "arcades", in which people pay to play VR games in the form of an occasional experience not dissimilar – in frequency and significance – to a session in an escape room or a bowling alley.

One of the consequences of this state of affairs is that the emerging aesthetics of VR differs significantly from its counterparts in other media, such as painting, theatre, or cinema.

VR scholars, in fact, cannot easily count on that large user base whose habits, inclinations, and concrete behaviour would normally provide – even if just informally or by means of observational insight – a testing ground for theoretical hypotheses. For their part, works in cognitive psychology have sometimes provided fundamental and practice-based concepts for the understanding of VR as a medium[3]. Mostly, however, these works revolve around VR experiences created *ad hoc* to answer specific research questions, rather than to be representative of VR "in general"[4]. This problematical situation is aggravated by the particular sensationalism surrounding the discourse on VR: this encourages rash and typically audacious claims, which tend to become unquestionable truths before being reasonably verified or discussed.

Overall, though with notable exceptions[5], what the field may end up adopting is a *disanchored* aesthetics of VR, whose theoretical pillars remain unmatched by actual VR practice. To mitigate this risk, I propose, it is important to go "back to basics", and make sure that what we have come to consider established about VR is proved legitimate when confronted with what VR users actually do and feel. To do so, it is not obligatory to adopt a full-blown empirical approach to aesthetics, including experimental studies proper, and

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[3] M. Slater *et al.*, *A separate reality: An update on place illusion and plausibility in virtual reality*, in "Frontiers in Virtual Reality", 3, 2022, 914392; M. Slater, *Place illusion and plausibility can lead to realistic behaviour in immersive virtual environments*, in "Philosophical Transactions of the Royal Society B: Biological Sciences", 364/1535, 2009, pp. 3549-3557.

[4] See for instance D. Banakou *et al.*, *Virtually being Einstein results in an improvement in cognitive task performance and a decrease in age bias*, in "Frontiers in Psychology", 9, 2018, p. 917.

[5] A key reference here is G. Tavinor, *The Aesthetics of Virtual Reality*, Routledge, New York – London 2022.

methods from psychology, the natural sciences, and similar disciplines[6]. While valuable, such an approach is not suitable for all philosophically oriented research questions, as it inevitably demands a substantial degree of simplification (for instance, to allow for variable control and measurement). Even when this is not the case, it is not necessarily self-evident that philosophical research needs (or wants) to engage in data collection and analysis procedures that can be very demanding in terms of time and resources – a limitation which affects even more seriously those methods that are most willing to respect the complexity of lived experience (and hence of the aesthetic experience)[7].
A better suited goal, therefore, could be to structure and bring forward what I call an "experience-based" aesthetics: a research practice in which theoretical reflection simply searches for occasions on which user interaction with images and media can be observed and recorded concretely, with methodologies whose complexity should be adapted to the researchers' needs and skills, without, however, compromising on scientific rigour.

In what follows, I will provide an example of such an approach by presenting a pilot empirical study on fear in VR and discussing it in aesthetic terms. In particular, I will venture into two important debates in the field: that around the so-called paradox of fiction, and that concerning aesthetic distance. By doing so, I will also show the particular fruitfulness of a difficult object of research such as VR, which challenges standard ideas concerning images and representations[8]. Ultimately, I will illustrate how developing an aesthetics specific to VR can in turn contribute to indicating new pathways into long-standing issues in aesthetics as a whole.

Virtual Reality as a Hyper-Emotional Medium (or Not)

One of the most widespread "unquestioned pillars" of the discourse about VR concerns its *impact*: VR is invariably expected to have a *powerful* effect on users, and to "strike" them not so much at the cognitive as at the *emotional* level.

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[6] See M. Nadal, O. Vartanian (ed. by), *The Oxford Handbook of Empirical Aesthetics*, Oxford University Press, Oxford 2022.
[7] See on this aspect, and for a time-efficient usage of a research method for first-person experience, F. Cavaletti, K. Heimann, *Micro-phenomenology as a method for informing experimental design: a case study regarding time perception* (research paper – forthcoming).
[8] A. Pinotti, *Towards An-iconology: The image as environment*, in "Screen", 61/4, 2020, pp. 594-603.

In popular discourse, VR is often depicted as a 21st century version of Tom Gunning's «cinema of attractions»[9], which he defined in turn by drawing from Sergei Eisenstein's notion of the same name[10]. It is important here to underline similarities and differences between the respective ideas of «attractions». On the one hand, both indicate, in the Soviet film director's words, «any element […] that subjects the spectator to a sensual or psychological impact»[11]; on the other, attractions in Gunning's sense share little or nothing of Eisenstein's political and ideological goals, and of his view of emotions as a tool for cognitive involvement. In fact, the label «cinema of attraction» describes audiovisual productions whose vocation is to show rather than tell, to impress and shock rather than prompt thought or reflection, and to fascinate the audience for the sake of it rather than with a view to any further goal.

This description, elaborated by Gunning with reference to early, pre-1906 cinematographic practice, arguably also fits most contemporary VR productions – at least as far as the world of entertainment is concerned[12]. In popular representations of VR, users are consistently depicted as affected by surprise, enthusiasm, excitement, but also horror, terror, and so on. On YouTube and social media, the most trending collections of "reactions" are those in which users are recorded as they show exaggerated responses to highly emotional VR content. Arcades in which VR is offered to the general public frequently employ visuals that recall amusement parks, and a language that emphasises and overplays the emotional aspects of the experiences being offered[13]. A language revolving around a constellation of stereotypical keywords and the use of extreme adjectives is also common in advertisements by most influential VR companies. The latest Apple Vision Pro «puts you in the centre of the action with *mind-blowing* immersion» and lets you «enjoy *stunning* content wherever you are»[14]. Sometimes, the

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[9] T. Gunning, *The Cinema of Attraction[s]: Early Film, Its Spectator and the Avant-Garde*, in W. Strauven (ed. by) *The Cinema of Attractions Reloaded*, Amsterdam University Press, Amsterdam 2006, pp. 381-388.
[10] S.M. Eisenstein, *Montage of Attractions* (1923), trans. Daniel Gerould, in "The Drama Review", 18/1, 1974, pp. 77-84.
[11] *Ivi*, p. 78.
[12] The situation is different when it comes to professional domains in which VR is used "seriously" – e.g., as a training or therapeutic tool.
[13] See for instance one of the most popular VR arcades in Milan: https://www.zerolatency-vr.it/zero-latency-vr/ (Accessed 15/07/2024)
[14] https://www.apple.com/apple-vision-pro/; a similar language surrounds Meta Quest 3 https://www.meta.com/it/en/quest/quest-3/ (Accessed 15/07/2024)

emotional impact of the experience appears to be overshadowed by that of the VR technology itself – in a way that once again strongly resonates with Gunning's portrait of early cinema.

Less self-referential "attractions" might appear to be found in a different type of VR production aimed at wider audiences: namely, that branch of VR supposedly oriented towards social change – notoriously launched by Chris Milk's 2015 call for the employment of VR as an «empathy machine». In such "serious" VR, the powerful emotions triggered by the medium and its content should simply work as a pathway to cognitive activation. However, such rhetoric has by now been widely debunked as naïve or even hypocritical in its claim that users would actually go beyond instantaneous emotional involvement[15].

Leaving aside commercial interest or political commitment (be the latter genuine or not), one may wonder why – from a scientific perspective – VR should be conceived as a medium that strikes the users' emotions more remarkably than others. In the current literature, the most compelling reason is to be found in what is considered the defining property of VR: presence. The definitions of presence are numerous and varied[16]. The one I am adopting here is closest to Mel Slater's notion of «place illusion»: i.e. the sense generated by VR of being in an alternative environment, in spite of remaining cognitively aware that this is not the case. In Slater's account, place illusion combines with «plausibility illusion», which indicates the tendency to react to the virtual events as if they were real (again, even though knowing that this is not the case)[17]. In this scenario, in addition to behavioural reactions (for instance, pulling away at the sight of a virtual snake), it is not unreasonable to expect emotional reactions as well (for example**,** disgust or fear).

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[15] More rigorous proposals, such as those connected to the domain of "immersive journalism", are subject to continuous debate. See for instance A. Sanchez-Acedo *et al.*, *Metaverse and Extended Realities in Immersive Journalism: A Systematic Literature Review*, in "Multimodal Technologies and Interaction", 7/10, 2023, p. 96; as well as F. Cavaletti, K. Heimann (ed. by), *Transformational Experiences. The Role of Immersive Arts and Media in Individual and Societal Change*, thematic issue of "AN-ICON. Studies in Environmental Images"*,* 3/1, 2024.

[16] As demonstrated by a map designed by Matthew Lombard and Matthew T. Jones: http://matthewlombard.com/presence-definitions/; see also M. Lombard, M.T. Jones, *Defining presence*, in M. Lombard, F. Biocca, W.A. Ijsselsteijn, J. Freeman, R. Schaevitz (ed. by), *Immersed in Media: Telepresence Theory, Measurement and Technology*, Springer, London 2015, pp. 13-34.

[17] M. Slater, *Place Illusion and Plausibility Can Lead to Realistic Behaviour in Immersive Virtual Environments*, cit.; see also M. Slater *et al.*, *A Separate Reality: An Update on Place Illusion and Plausibility in Virtual Reality*, cit.

Indeed, there is a widespread assumption in the literature that there must be a direct relationship between presence and emotional outcome, or perhaps a mutual relationship between the two. When tested empirically, however, this assumption has failed to be confirmed unequivocally.

Starting off on a positive note, an oft-cited study published by Giuseppe Riva and colleagues found that presence and emotions were mutually dependent[18]. By examining the users' experience of a relaxing, an anxiety-provoking, and a neutral VR scenario, they observed that the degree of perceived presence was a significant predictor of emotional variables in the second scenario in particular. At the same time, they recorded a significantly higher level of presence in both the relaxing and anxiety-provoking scenarios compared to the neutral one, thus showing that emotional involvement in turn boosted presence.

This sort of two-way relation was also reported in a more recent review by Julia Diemer and colleagues[19]. However, the authors pointed out that the most coherent data in their analyses came from research on VR as a tool for exposure therapy, in which very particular virtual environments are specifically selected or created in order to elicit stress, anxiety or fear in patients suffering from phobias or post-traumatic stress disorder[20]. Therefore, it cannot be taken for granted that the results of this review can be extended to more mainstream VR content and to a general population.

Two of the latest studies have explored presence and emotions in VR in a non-medical setting. Jeroen Lemmens and colleagues addressed the relationship at play in a VR horror game[21]. By conducting mediation analyses, they found that VR influenced presence, and presence influenced fear. However, a comparable study by Crescent Jicol and colleagues assessing the reciprocal interaction between emotion, presence, and the additional factor

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[18] G. Riva *et al.*, *Affective Interactions Using Virtual Reality: The Link Between Presence and Emotions*, in "Cyberpsychology & Behavior", 10/1, 2006, pp. 45-56.
[19] J. Diemer *et al*, *The Impact of Perception and Presence on Emotional Reactions: A Review of Research in Virtual Reality*, in "Frontiers in Psychology", 6/26, 2015.
[20] See M.B. Powers, P.M. Emmelkamp, *Virtual Reality Exposure Therapy for Anxiety Disorders: A Meta-Analysis*, in "Journal of Anxiety Disorders", 22/3, 2008, pp. 561-569; and R. Gonçalves *et al.*, *Efficacy of Virtual Reality Exposure Therapy in the Treatment of PTSD: A Systematic Review*, in "PloS One", 7/12, 2012, e48469. For a humanistic take on the same subject, see also F. Cavaletti, *Sguardi che bruciano. Un'estetica della vergogna nell'epoca del virtuale*, Meltemi, Milano 2023 and in particular paragraph 4.1.3. *Terapie virtuali: isolamento ed esposizione*.
[21] J.S. Lemmens, M. Simon, S.R. Sumter, *Fear and Loathing in VR: The Emotional and Physiological Effects of Immersive Games*, in "Virtual Reality", 26/1, 2022, pp. 223-234.

of agency showed that emotion (intensity) affected presence, rather than the other way around[22].

What should we think, then, about the idea of VR as a hyper-emotional medium? In the mainstream discourse, claims about the emotional impact of VR can be suspected of being overplayed by commercial or political interest. For its part, the scientific discourse does not yet appear able to provide unambiguous indications of VR-induced emotions.

To contribute to the research on the topic, and carry the project of an experience-based aesthetics of VR one step further, we decided to run a pilot empirical study on presence and emotions in a VR experience of heights[23].

An Empirical Study on Fear in VR

For our study, we chose to use the commercially available entertainment application *Richie's Plank Experience*. In this application, users take a lift up to the top of a skyscraper and then walk on a plank extending from a terrace. The experience is supposed to trigger a response of fear, however playful. Therefore, our exploration of emotions in VR was tailored more specifically to fear.

The reasons why this study is to be considered a pilot, or an exploratory study, are the following. First, we relied on a relatively small sample of participants – especially when dividing them into sub-groups in the analyses (see later in this paper). Second, precisely because of the small sample size, we performed *descriptive* analyses only (thus mainly calculation of medians and observation of tendencies within and across groups, for instance the level of fear in a given portion of the sample compared to another one), with no correlational research (which would show possible relationships between variables, for instance how and to what degree presence influences fear). For these reasons, we aimed less at obtaining definitive and generalizable results, than at discussing hypotheses and generating possible research paths for further studies.

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[22] C. Jicol *et al*., *Effects of emotion and agency on presence in virtual reality*, in "Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems", 2021.

[23] The study was run in collaboration with Casa Paganini (University of Genova) and in particular Antonio Camurri, Eleonora Ceccaldi, and Stefano Piana. Other members of the AN-ICON research group (University of Milan) provided support as research assistants: Ilaria Ampollini, Giulia Avanza, Margherita Fontana, Mariaenrica Giannuzzi, Giancarlo Grossi, Roberto Paolo Malaspina, Maria Serafini, and Ilaria Terrenghi

Richie's Plank Experience is designed to make the users feel as if they actually were on top of a skyscraper (i.e. presence) and make them scared as a result (i.e. emotional outcome of fear). On this basis, and since we could not test correlations, our starting hypotheses were simply that we would find 1) high levels of perceived presence and 2) high levels of fear. We expected that certain characteristics of some of the participants might affect our two main targets. Thus, we decided to investigate for each participant their level of familiarity with VR, and their fear of heights in real life (i.e. acrophobia).

Before the VR experience, we administered Cohen's acrophobia questionnaire, a validated set of items assessing the respondents' fear of heights[24], and an *ad hoc* questionnaire aimed at assessing the users' familiarity with VR. Then, the participants went through the VR experience. We provided the same clear instructions to all participants to ensure comparability.

After the VR experience, we assessed the participants' emotional response in the moment of the experience using the PANAS questionnaire, a validated set of items investigating twenty possible feelings and emotions, among which «Scared» and «Afraid», most closely related to our target emotion of fear[25]. Further, we assessed presence during the experience using the IPQ questionnaire, an open-access tool frequently used in VR research[26]. Lastly, we proceeded to descriptive analyses and hypotheses discussion.

[24] D.C. Cohen, *Comparison of Self-Report and Overt-Behavioral Procedures for Assessing Acrophobia*, in "Behavior Therapy", 8/1, 1977, pp. 17-23.
[25] D. Watson, L.A. Clark, A. Tellegen, *Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales*, in "Journal of Personality and Social Psychology", 54/6, 1988, 1063.
[26] http://www.igroup.org/pq/ipq/index.php (Accessed 15/07/2023)

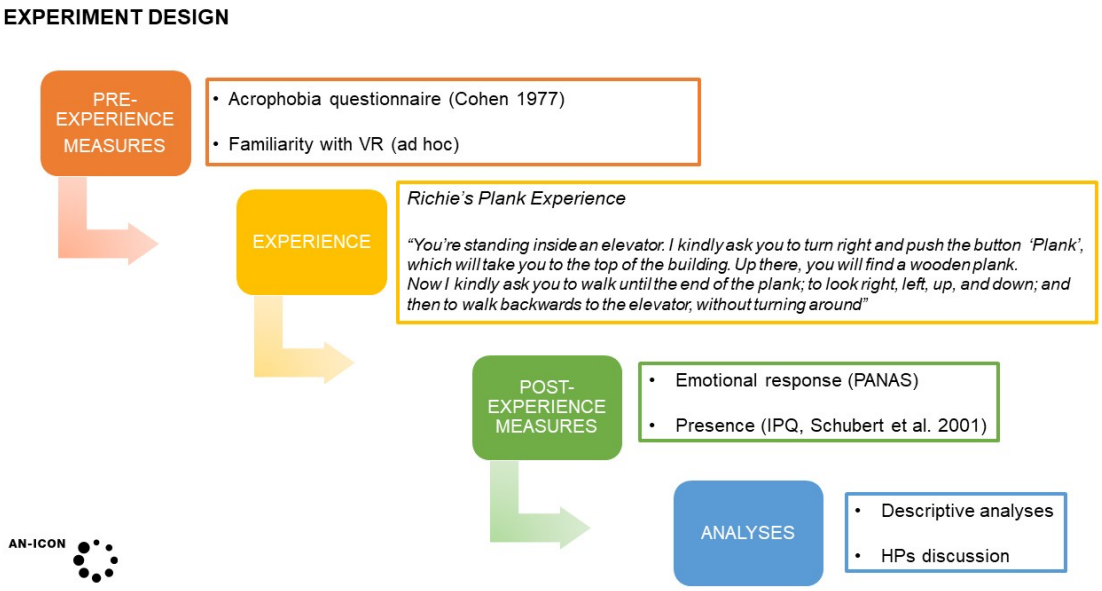

Fig. 1 – Visual representation of the experiment design

Our sample, recruited via flyers and word of mouth, initially consisted of 32 participants. However, after the experiment, we decided to exclude 3 of them due to inconsistent or unreliable responses in the questionnaires. Thus, the final sample consisted of 29 participants, with a median age of 25, divided into 11 females and 18 males.

The pre-experiment questionnaire about familiarity with VR revealed that 9 participants had never tried VR before the study, 8 had only tried it once, and 12 had tried it more than once. As for real-life levels of fear of heights, using a score of 50 as a threshold[27], we identified 14 participants with low-to-moderate acrophobia, and 15 with moderate-to-high acrophobia.

Moving to the post-experience measures, first we focussed on the emotional response, for which we calculated median results[28].

[27] As suggested by the literature in the field. See for instance R.E. Jackson, *Individual Differences in Distance Perception*, in "Proceedings of the Royal Society B: Biological Sciences", 276/1662, 2009, pp. 1665-1669; S. Seinfeld *et al*., *Influence of Music on Anxiety Induced by Fear of Heights in Virtual Reality*, in "Frontiers in Psychology", 6, 2016, 1969; T. Donker *et al.*, *Effectiveness of Self-Guided App-Based Virtual Reality Cognitive Behavior Therapy For Acrophobia: A Randomized Clinical Trial*, in "JAMA Psychiatry", 76/7, 2019, pp. 682-690.

[28] Because of the small sample size and our expectation of non-normal distribution.

Contrary to our expectations, the items «Scared» and «Afraid» did not score particularly highly, with 3 out of 5 as a median value. The items «Nervous» and «Jittery» scored higher (4 out of 5). Though not immediately connected to fear, these scores could be relevant in relation to the expected outcome of the VR experience. However, they were more likely influenced by the experimental setting and the participants' awareness of being monitored by expert observers. In sum, the VR experience turned out to be emotionally "colder" than expected, at least with regard to our target emotion, and especially when considering that half the sample expressed moderate-to-high levels of acrophobia.

Regarding presence, we calculated median values for each of the IPQ items. We also calculated aggregated median values for two of the subscales in which the questionnaire is structured, namely spatial presence and realism. We observed high levels of presence, in both the general item and the spatial presence subscale (with scores of 6 out of 7). We obtained a slightly lower score in the realism subscale (5 out of 7). However, this can be explained in light of the fact that the experience is indeed not particularly realistic, having a rather cartoonish graphic style. Therefore, though the VR experience proved quite "cold" emotionally, levels of presence were overall high.

Since our results did not appear so far to offer straightforward interpretations, we proceeded to further descriptive analyses after dividing our sample according to the categories we used in the pre-experience survey: namely, level of acrophobia and degree of familiarity with VR.

We found interesting results, in particular, when we recalculated median values for presence in the three groups identified based on the degree of familiarity with VR[29]. Indeed, we observed that the median values across items were less homogeneous in the group of people who had tried VR more than once before our study, thus the most "skilled" group. In other words, in this specific group, the participants' responses varied more greatly across items addressing related yet different aspects of the experiential construct of presence, as can be appreciated in the graphs below.

[29] Surprisingly, PANAS scores for «Scored» and «Afraid» were not substantially higher in the moderate-to-high acrophobia group.

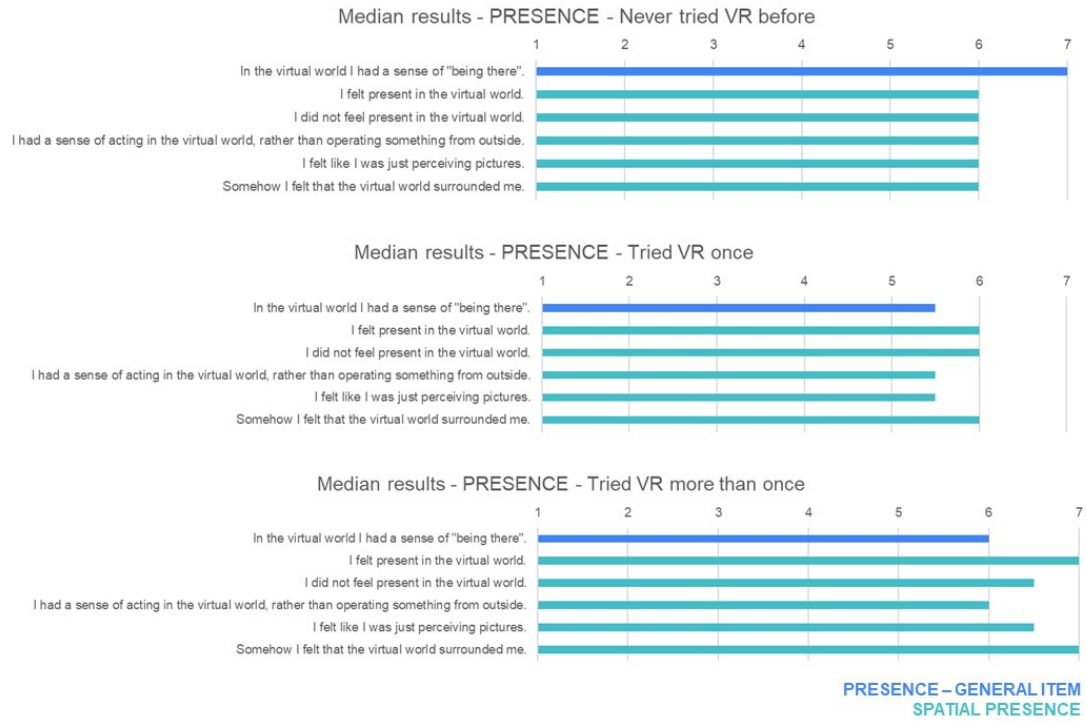

Fig. 2 – Median results for presence by degree of familiarity with VR

Therefore, to sum up: first, measures of emotions and presence gave divergent results. In particular, we found mid-to-low levels of fear, but high levels of presence. Second, the levels of presence showed variations going hand in hand with variations of the degree of familiarity with VR. More precisely, though we could not claim – based on our descriptive analyses – a correlation in this sense, greater familiarity appeared to be associated with more nuanced responses to the presence questionnaire.

On the one hand, these results did not provide full support for our starting hypotheses. However, precisely the observed mismatch between contained emotional involvement and considerable sense of presence opened interesting paths of reflection, which allow us to touch upon concepts and debates that are pivotal in the history of aesthetics.

The Paradox of VR Fiction

The so-called «paradox of fiction», whose formulation is generally attributed to Colin Radford and Michael Weston[30], consists of three statements, each in itself seemingly indisputable, yet impossible to support if the other two are accepted. These statements are as follows: 1) When experiencing fiction, we feel emotions towards the characters and events being depicted or narrated; 2) In order to feel emotions towards someone or something, it is necessary to believe that they exist, or that what is shown about them is to be taken as real[31]; 3) We know for sure that characters and events in fiction do not exist – at least in the straightforward meaning of this word, or that what is shown about them is not to be taken as real. Since the paradox is destined to remain a paradox unless one of these statements is removed, the debate revolves around *which* one has to go.

It is well beyond the scope of this paper to solve this debate. Instead, what may be interesting to explore is what the study of the VR experience in general, and more in particular the empirical study of the specific VR experience I have discussed above, can suggest concerning the paradox.

So let us start with what we know, or what is assumed, about the experience of VR in general. If we follow the dominant narrative I have introduced above, essentially depicting VR as a hyper-emotional medium, we are encouraged to accept the first statement of the paradox: we do indeed feel emotions that are related to what happens in VR-based fiction. However, we want to avoid claiming that this is so because we are "fooled" by the VR representation. In fact, as we have seen above when touching upon Slater's theorization, even those scholars who insist most emphatically on the powers of VR clarify that whatever «illusion» this technology may generate is known to be such – at least at cognitive, if not at perceptual level. Our bodies can shake and tremble, hence we can be - so to speak - fooled viscerally. However, our cognition intervenes and prevents us from fully embracing what is happening to us as real. Therefore, we probably should also accept the third statement of the paradox, indicating that we do not take what we experience in VR to be real in the common sense of the word.

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[30] C. Radford, M. Weston, *How can we be moved by the fate of Anna Karenina?*, in "Proceedings of the Aristotelian Society, Supplementary Volumes", 49, 1975, pp. 67-93.
[31] This alternative formulation is mine, and it is proposed to better accommodate audiovisual media.

At this point, we are bound to exclude the second statement of the paradox: namely, that in order to feel emotions in regard to something we have to believe that it is real.

In the literature, there is a group of scholars who take precisely this stance. Their positions are generally grouped within what is known as Thought Theory: this is because its main claim is that what generates our emotions in fiction is not the characters or the events being depicted or narrated, but rather the *thought* of them. Which makes it unnecessary to take as real what we are reading or witnessing. I can think about eating spoiled fish and feel genuine disgust, Thought Theory scholars would argue, without actually eating it right now, or even without having ever eaten it in the past.

After being introduced in the field of philosophy by Peter Lamarque, this theory has received notable application in media studies by Noël Carroll[32]. To support his argument, Carroll takes the example of a horror movie featuring a monster or some other frightening creature. In his view, the idea that what triggers our fear is the thought of the monster, rather than the monster itself, is supported by the fact that, when we want to feel less scared, we look away from the screen. This would not make sense if we were afraid of the monster itself, taking it as real: in this case, we would rather escape the movie theatre.

Carroll's proposal fits well the understanding of VR as a hyper-emotional medium, particularly if compared to previous ones. In fact, it could be argued that the more a representation proves sensorially rich, the more vivid will be the thoughts evoked by it, together with the corresponding emotion. In this sense, audiovisual media like cinema would be more emotionally impactful than textual media, and virtual reality would be even more emotionally impactful than cinema – which is precisely the position defended in the currently dominant narrative surrounding VR.

If, however, we shift our focus towards the specific VR experience that I have described above, and take into account the results of the empirical study that I have summarized, we are led in quite a different direction. In that study, as we have seen, participants expressed only moderate levels of the target emotion – fear. Now, a single empirical study, and a pilot one, does certainly not justify abandoning any successful theory. However, as I have suggested, the view of VR as being hyper-emotional is not yet

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[32] P. Lamarque, *How Can We Fear and Pity Fictions?*, in "British Journal of Aesthetics", 21/4, 1981, pp. 291-304; N. Carroll, *The Philosophy of Horror, or Paradoxes of the Heart*, Routledge, New York 1990.

very well-grounded. Therefore, for the sake of exploring different options, I suggest developing the hints contained in our study's results.

If we take the latter as a new departure point, which of the statements of the paradox of fiction is to be put aside? Based on the participants' report, we can hypothesize the rejection of statement 1), according to which, when experiencing fiction, we feel emotions in the first place.

At first, this might sound puzzling. Most people, in fact, would say that they watch horror movies, to stick to Carroll's examples, with the precise goal of feeling fear. Some help in clarifying the issue comes from one of the main proponents of this view, Kendall Walton[33].

Walton's position concerning our emotional involvement (or lack thereof) in fiction comes as a corollary of his well-known theory of the engagement with fiction as a «game of make-believe». Games of this sort are those in which we use material objects (e.g. pillows, the floor) as props that prescribe certain imaginings and related behaviours (e.g. the floor is lava, and pillows are stones that serve for us to move around without burning our feet). According to Walton, fictions – be they novels, paintings, movies and so on – work as props in games of make-believe in which we are required to imagine what is represented. For instance, when watching a horror movie, we imagine that there is a monster wandering in the woods. And just as we do so, we also imagine our state of mind and emotional reactions to this state of things: we imagine that we are scared. In some cases, we may even act accordingly, if this enhances our engagement in the fiction. Here one of Walton's example is that of a child screaming and running away from his father who is pretending to be a monster. However, what we feel is simply an imagined emotion, rather than a genuine one. Walton calls it a «quasi-emotion».

This account provides a fairly robust explanation of what we observed in our study. Recall that, for the items «Scared» and «Afraid», we obtained a median value of 3 out of 5. One way of interpreting this outcome is that the participants felt a low level of actual fear. Another and less obvious interpretation, however, could be that they tried to capture and express with a relatively small, somehow intermediate number the hybrid and possibly somewhat confusing construct of a quasi-emotion; the fact that they felt

[33] K. Walton, *Mimesis as Make-Believe. On the Foundations of the Representational Arts*, Harvard University Press, Cambridge (MA) 1990.

something *similar* to fear, but that they sensed they had to differentiate from ordinary, real-life instances of fear.

This interpretation presents the additional advantage of allowing a solution to a seeming contradiction between what we recorded during our study and what we observed in other circumstances in which we proposed the same VR experience to different users, in non-experimental but rather playful settings. On these occasions, we consistently witnessed strong if not dramatic expressions of what we took to be fear: people freezing or on the contrary rushing to the end of the experience, screaming, asking for help, or even uttering expletives. With this background, we could not help being surprised by the apparent lack or in any case low level of fear expressed by the participants in our study. However, the outcome we obtained becomes easier to understand if we accept the hypothesis that what people experience, during an experience like *Richie's Plank Experience*, is quasi-fear: something which, in the context of play, can be indulged and even deliberately amplified, just as when a child runs away from the father who is pretending to be a monster; or something which, in a more serious setting in which one is encouraged to provide a more reflective account of one's experience, can be re-thought and re-interpreted as having been induced as an effect of the imagination.

Presence, at a Distance

If the second interpretation I have proposed is correct, the results of our study as regards emotional involvement may suggest a certain propensity in our participants for deeper introspection, and a non-obvious ability to appreciate subtle differences between similar but not equivalent experiential constructs. This reading appears to find additional support when moving to our results concerning presence.

As reported above, our data revealed that participants felt highly present in the VR experience. However, our most interesting outcome was arguably the fact that we found more nuanced responses in the group with greater familiarity with VR, hence our "most skilled" participants. What might this mean?

An initial consideration here may be that presence, when experienced fully, is a quite disorienting feeling. Those deeply immersed in VR can lose track of their position in physical space, become confused, and behave in ways that from the outside may even

appear foolish. In such conditions, they may very well fail to appreciate the complexities and details of the representation they are being offered, or the experience it generates, because they are – in a way – *too close* to both. In this light, what may have happened to our skilled participants is that they managed to *detach* to some degree from the VR representation and also from the emotions it was inducing in them, thus being able to describe their experience with more subtlety.

Now, what I have just stated could be rephrased in terms of the process to obtain an adequate *aesthetic distance.* Once again, therefore, we can try to interweave a contemporary study of VR and a long-standing debate in aesthetics, to see whether and how this may advance both.

The topic of distance has played a key role in discussions on aesthetic experience since even before the birth of the discipline. In the modern era, as is well known, it received impetus from Immanuel Kant's reflection on the notion of «disinterest», which implied an attitude of indifference towards any practical or even conceptual gain one may obtain regarding the object of the aesthetic experience[34]. As the debate developed, and interpretations of Kant became more rigid, it started to be pointed out that the demand for absolute detachment – if plausible at all – could result in an impoverished aesthetic experience. Following this line of thought, authors like Edward Bullough elaborated the idea of a «right distance», combining detachment with a reasonable degree of participation[35].

More relevant for our argument here, however, are those scholars who on the contrary remained particularly concerned about the risks of getting too close to the object of the aesthetic experience. These authors gave an explicitly *normative* inflection to the debate, providing clear boundaries to distinguish "correct" and "wrong" attitudes and styles of experience. Further, they adopted a somewhat *paternalistic* attitude, branding those unable to respect these boundaries as «amateurs». In this regard, a particularly harsh critic was certainly Theodor Adorno, the target of whose polemics was what he perceived to be a widespread tendency towards making the aesthetic experience hyper-subjective: in other words, taking advantage of aesthetic objects as mere pretext for triggering

[34] I. Kant, *Critique of the Power of Judgment* (1790), ed. by P. Guyer, Cambridge University Press, Cambridge 2000, §2.
[35] E. Bullough, *Psychical Distance as a Factor in Art and an Aesthetic Principle*, Cambridge University Press, Cambridge 1912.

heightened intimate emotions. As a result, the relevant traits of the objects, their very aesthetic qualities, were deemed to remain unnoticed, unappreciated, and paradoxically made superfluous[36].

Retrospectively, we can probably say that Adorno's doom-laden interpretation was somehow prophetic. In the domain of music, to which the philosopher often paid particular attention, we may think for instance of Spotify playlists specifically designed to emphasize certain emotions, sometimes even in relation to precise life situations: «Feel Good Friday», «Sad Breakup Songs», and suchlike.

Adorno had in mind an ideal type of listener (but we could extend his reasoning to spectators, users, and so on), whom he defined the «expert»: a «fully conscious listener, who tends to miss nothing and at the same time, at each moment, accounts to himself for what he has heard»[37]. While he wished for this to happen, he also believed that «making experts of all listeners would of course be an inhumanly utopian enterprise»[38]; and he was also pessimistically foreseeing the imminent extinction of his second best type of the listener, the «good» one, able to maintain adequate detachment from the aesthetic object and to appreciate its relevant traits – if not completely – sufficiently.

What Adorno and like-minded authors believed to be necessary for appropriate aesthetic experience were very restrictive factors: a high-level education (ideally even a professional one), continuing exercise, an almost devotional respect for art and its products. Is this really the only way to achieve an aesthetic experience that is worth calling such? The results from our study seemingly indicate that this may not be the case.

As it appears, in fact, participants' mere *familiarity* with VR technology and its content was enough for us to start noticing an increased ability in nuancing the VR experience and its description. None of our participants, as it emerged in a debriefing session after data collection, was an «expert» user in Adorno's sense, and perhaps not even a «good» one. Participants, even those identified as "skilled" for having tried VR more than once before the experiment, were curious to learn more about the technical functioning and expressive strategies of the medium. Their familiarity, therefore, had little to do with professional expertise. Still, it was enough to allow them to avoid a complete and possibly

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[36] Th. Adorno, *Introduction to the Sociology of Music* (1962), Seabury Press, New York 1976; see also Th. Adorno, *Aesthetic Theory* (1970), Continuum, London - New York 2002.
[37] Th. Adorno, *Introduction to the Sociology of Music*, cit., p. 4.
[38] *Ivi*, p. 5.

uncritical or even instrumental absorption, and instead adopt a slightly detached attitude that made their VR experience more nuanced.

This paves the way to a less elitist view of the appropriate aesthetic experience, which seems important not only because it makes the latter more realistically achievable, but also – from a scholar's perspective – because it provides better motivation for aesthetic education. Which, importantly, nowadays tends at the same time to mean *media* education. Laying the seeds for aesthetic appreciation may be as simple as *familiarising* people to it. In the specific case of VR, this may imply one or more of the following: exposing people to concrete experiences, and discussing them as they unfold or right after; providing basic conceptual tools for making sense of the experience (in the case of VR, good starting notions could be «place illusion» and «plausibility illusion»); and eliminating technological anxiety, by explaining how the apparatus works and enabling autonomous use.

Conclusion

In a context in which VR is still struggling to become a mainstream medium, it is important to keep its aesthetics *anchored* to concrete objects and most of all to actual users' inclinations and practices. This article has provided and discussed a practical instance of an experience-based aesthetics of VR, presenting the results of a pilot empirical study on fear in VR.

By exploring these results, it has been possible to develop reflections that are relevant to two important debates in aesthetics: those around the paradox of fiction and the notion of aesthetic distance. As for the former, I have illustrated how relatively low levels of fear in a VR experience supposed to trigger it not only counter the mainstream rhetoric of VR as necessarily hyper-emotional, but also allow to reconsider on a new grounding the notion of «quasi-emotions» put forward, among others, by Walton. In fact, a theory that could be dismissed as timid, or even deliberately evasive (something easily attributable to any proposition that comes in the "quasi-" form) has been shown to possibly possess new experiential substance. As for aesthetic distance, I have discussed a more democratic understanding of it, revolving around a moderate idea of familiarity as opposed to professional expertise, with implications as well concerning how to educate for aesthetic

appreciation. An adequate aesthetic position, a right distance so to speak, may be much more within reach than some theorists have long led us to believe.