NECSUS

The affective niches of media

Steffen Hven

Introduction

Media-technologies exemplify how humans create a variety of environments designed to alter, enhance, sustain, or expand our emotional capacities in specific ways.[1] In reference to theories of 'niche construction' and 'scaffolding' in evolutionary biology,[2] a series of emotion researchers have proposed that affectivity – broadly construed to include emotions, moods, and motivational states – is enabled and supported by environmental resources such as material objects, social situations, and physical or mediated spaces.[3] As such emotions extend beyond the body of the human organism and are thus to varying degrees shaped by external, environmental factors.

This article argues that the concepts of 'affective niches' and 'emotional scaffolding' are valuable for the study of media-induced emotions, here exemplified in reference to cinema.[4] The thesis is that to properly understand media-induced emotions we must take their specific environmental scaffolding or affective niche into concern. This provides an alternative to the standard 'internalist' interpretation of classic cognitivism and neuroscience according to which 'emotions are conceived as internal states or processes and the role of the environment is confined to providing stimuli and receiving actions'.[5] Treating media-induced emotions as emergent out of the coupling of the human embodied organism, the situative context, and the medium, this article outlines the value of affective niche theory to our understanding of cinematic emotions, while also hinting at how this theory could prove useful to understanding how other media such as music, social media, or virtual reality scaffold particular types of affective engagement.

The first part of the article introduces the concepts of affective niche construction and emotional scaffolding, whereas the second part highlights how affective niche theory might shed new light on some common issues concerning our understanding of cinematic emotions. Fear is a renowned example of the difficulties of equating a 'real-world' emotion with its equivalent media-induced emotional counterpart. It shall be argued that this is partly due to the capacity of media to extract 'sensory isolates',[6] which ensure the possibility of sensations of olfaction in the lack of actual smells, thermoception without inducing coldness or warmth, and nociception without the experience of pain. Ultimately, the aim of this article is to go beyond the divide between culture and biology, not by suggesting an interactionist model but by proposing affective niches as a conceptual plane where the cultural and biological necessarily co-exist.

From evolutionary to affective niches

Derived from insights first introduced in the 1980s to evolutionary biology by Richard Lewontin,[7] 'niche construction theory' has become an established complement to the standard neo-Darwinian evolutionary theory of adaptation and natural selection.[8] In the standard view, the arrow of causality is unidirectional from environment to organism: '[a]daptation is always asymmetrical; organisms adapt to their environment, never vice versa.'[9] Against this essentially 'externalist' notion of a passive organism adapting to the conditions of the environment, niche construction theory examines how organisms through their life actions become active makers and remakers of their milieu.[10] Thus, it is crucial how organisms shape their environment to create a form of feedback in evolution that proponents of niche construction argue is not yet fully appreciated by contemporary evolutionary theory.[11] The concept of niche construction thus emphasises the agency of the organism capable not only of adapting to, but also of altering the environment that shapes it to catalyse new forms of adaptations for better or worse. In brief, niche construction is the 'reciprocal feedback between organisms' activities and their selective environment'.[12] Media can be conceptualised as an advanced technological form of the general trait, whereby 'many animals intervene in their environment, shaping it in ways that improve the adaptive fit between the agent and the world; such animals in part adapt to their niche; in part they construct their own niche'.[13]

Whereas evolutionary theories of niche construction consider the reciprocal relation of organism and environment phylogenetically (or on a deep temporal scale related to genes), philosophers of emotion have recently used the notions of niche construction and 'scaffolding' to examine how humans construct affective niches (virtual or real) designed to alter and steer their emotional states.[14] Media are prime vehicles of the human construction of affective niches. News is reported from the perspective of an affective niche: we do not simply receive information of an event, but are immediately guided in relation to our emotional reaction to the event, e.g. through the use of appropriate facial expressions, choice of words, or narrative structuring.[15] Facebook has presumably attempted to ensure that their platform provides a supportive and positive emotional niche by restricting the available negative reactions of users (e.g. the lack of a dislike response) and by filtering out negative posts in the News Feed to cultivate positive emotional contagions between users.[16] At a concert, the music is not received in a vacuum by the individual but in the collective listening experience, where 'I do not just hear the music. I hear the others hearing the music. And *my* experience of the music changes accordingly.'[17] 'Acousmatic music'[18] or 'muzak' can be seen as a social technology for affect regulation in work places, shopping malls, or public spaces designed to create an environment that encourages efficient, consummative, or less stressful behaviour.[19] Affective niches are also integrated into the marketing mechanisms of new media technologies. Virtual reality has, for instance, been branded as an 'empathy machine'[20] due to its supposed ability to embed the viewers sensorially into the world of (politically) distressed or oppressed human beings, as recently exemplified by *Clouds over Sidra* (Arora and Pousman, 2015) and *Carne y Arena* (Iñárritu, 2017).

In these and countless other ways, media provide different platforms or environments that afford new kinds of affective experience. As Joshua Meyrowitz argued in *No Sense of Place*,

> media affect us by shaping the type of interactions that take place through them. We cannot play certain roles unless the stages for those roles exist.[21]

Yet, he concludes his famous study by stressing that we have all too often chosen 'not to see how the environments we shape can, in turn, work to reshape us'.[22] This reciprocal interaction of environment and organism breaks down the divide between biology and culture. Any rigid attempt to

clearly demarcate the 'biological' and 'cultural' ignores the reciprocal causation of how we shape our environment only to let it shape us, too. The environment – whether prehistorical or modern – cannot neatly be separated into biological and cultural components.[23]

Affective niche theory argues that cultural norms and values mould people's behaviour and feelings gradually such that 'the environment inscribes its cultural norms into our moods, leading us to acquire culture-specific ways of feeling and behaving that can be regarded as part of our *habitus*, or set of incorporated social practices'.[24] In a manner that resembles 'situated'[25] and 'extended'[26] approaches to cognition, affective niche theory proposes that 'the environment plays an active role in structuring and enabling emotional engagements, which like cognitive engagements are scaffolded by their natural context of occurrence'.[27]

This view is indebted to the 'enactive'[28] philosophy of affect developed by Giovanna Colombetti, one of the main proponents of affective niche theory, in *The Feeling Body* . The central thesis of this book is that 'the mind is enacted or brought forth by the living organism in virtue of its specific organization and its interaction with the world'.[29] From this perspective, affect is neither opposed to nor shut off from cognitive processes, but marks the very domain which ensures that things can appear as meaningful or salient in the first place.[30] This implies an affective conceptualisation of cognition such that 'cognition is, necessarily, always already affective'.[31]

Whereas *The Feeling Body* develops its enactive philosophy of affect through a sustained engagement with the affective sciences, affective niche theory pursues a better integration of environmental factors into this analysis. Together with Joel Krueger, Colombetti has emphasised the importance of affective niche theory for overcoming internalist assumptions:

> Ultimately, the goal of a situated and scaffolded approach to affectivity is to move away from the widespread tendency of mainstream affective science to provide internalist explanations of how emotional states occur, that is, explanations that refer primarily, or even exclusively, to mechanisms located inside individual organisms, such as affect programs or cognitive appraisals. [32]

The external environment is thus not just acting as input or stimuli to be received and evaluated physiologically within the organism according to innate, pre-installed emotional reaction patterns, affect programs, or cognitive appraisals. Affective niche theory thereby expands the embodiment thesis such that 'affective phenomena extend not simply beyond the skull, but beyond the skin as well'.[33] In extension of this, it could be argued that media

produce new forms of cognitive and affective experience through the sustained production of affective niches. Even if cinema has not fundamentally altered our basic neurological or genetic make-up, it has, in the words of Walter Benjamin, added a new region of consciousness.[34]

Affectivity is not a passive response to environmental stimuli devoid of agency. In fact, through technology, media, architecture, or cultural practices the human species has radically transformed its 'Umwelt'[35] – the 'world' of the organism according to its potential perceptive, affective, and cognitive modalities of interaction. This again changes the affective affordances of the environment and influences 'our moods, scaffolding them and creating short- and long-term affective niches to which we adapt, and in which we achieve moods that would otherwise not be possible'.[36] This observation has a series of interesting implications for how we think of media-induced emotions.[37]

Affective niches and 'internalist' film theory

Ed S. Tan has observed that the very question of whether the emotions we experience in mediated situations are 'authentic' or not is implicit in all theory of the relation between art and reality.[38] For Tan, fictional emotions – what he refers to as F emotions – are 'witness emotions, comparable to affect evoked by the sight of nonfictional emotional events in real life'.[39] From this perspective, the fictional illusion, or the diegetic effect, causes you as viewer not only 'to entertain the illusion that I am present in the scene [...] I may even feel that to a greater or lesser degree the adventures of the protagonists are actually happening to me'.[40]

Ultimately, Tan's study, which draws upon both introspective (survey research) and non-introspective (neurophysiological studies) evidence, concludes that 'films evoke [authentic] emotion'.[41] I agree with Tan that we experience authentic emotions in cinema. However, I do not find the opposition of authentic versus inauthentic a very illuminating one. Films might evoke authentic fear, but this does not mean that the fear you experience when unarmed and confronted with an aggressive tiger (or even just witnessing someone in this situation) is equivalent to the fear of being confronted with the audiovisual representation of an aggressive tiger, which you consciously know is not able to harm you. It might, therefore, be profitable to distinguish between two kinds of authentic emotions, both belonging to the

larger emotional category of fear, but differentiated by their specific environmental scaffolding.[42]

Before considering this option, let us briefly review the 'internalist' alternatives that have been offered by Carl Plantinga and Torben Grodal. Plantinga agrees with Tan that emotions elicited by films are authentic, but insists that a further differentiation between 'real-life' and 'fictional' emotions is required. What Tan's theory fails to acknowledge, argues Plantinga, is the fact that film viewers, unlike witnesses, are entirely unable to act upon the events depicted in the film (e.g. by calling the police, etc.). At the same time, film spectators – although being emotionally impacted by a film – remain entirely aware of its fictional status.[43] How can we feel genuine emotions to fictional events that we know are not true? Plantinga's solution to the apparent 'paradox of fiction'[44] is exemplary of how the classical cognitivist marginalisation of the (media-)environment into mere triggers of non-cognitive, innate affect programs has informed our understanding of media-induced emotions.

For Plantinga, we respond to fiction with actual emotions because the mind is modular. Fictions engage the low road and generate affective and emotional responses independent of belief, while at the same time eliciting higher order cognitive and emotional responses that prevent viewers from responding as though the fictions were actual events.[45]

Our emotional reactions to cinema are thus split between a low affective level, where we experience real fear, and higher cognitive and emotional levels, where we remain in the belief that the depicted events are fictional. This split is explained with reference to the hypothesis of the 'modularity of the mind'[46] and the classical cognitivist theory of perceptual processes and basic emotional responses as being 'cognitively impenetrable'.[47]

Whereas cognitive inquiries under the influence of embodiment have grown increasingly critical of the conception of the mind as modular,[48] modularity has been revived in the more radical form of 'massive modularity'[49] within the much-debated paradigm of evolutionary psychology commonly referred to as 'EP'[50]. Within the field of evolutionary psychology, it has become the standard practice to differentiate between two branches. As the evolutionary literary theorist, Brian Boyd explains,

> for many years people working in the area have distinguished between a broad field
> of evolutionary inquiry into human nature, evolutionary psychology (ep), and a
> much narrower patch within that field, Evolutionary Psychology (EP; also called

narrow school or High Church Evolutionary Psychology), defined best by the work of Cosmides, Tooby, and Buss. [51]

Thus, whereas Jerry Fodor proposed that high level perception and cognitive systems are non-modular, EP has argued that even higher cognitive processes such as 'mind reading' is modular. Plantinga draws attention to this evolutionary understanding of modularity when he argues: '[w]e seem to be genetically programmed to respond with specific emotions to certain types of situations.'[52]

In his biocultural theory of film, Torben Grodal combines ideas of embodiment, the ecology of visual perception, and EP.[53] This approach shares the most common conceptual ground with affective niche theory, yet I shall demonstrate how the two differ on some key issues mostly related to the role Grodal ascribes to EP. Grodal establishes his conception of the embodied and ecological mind on the 'massive modularity' proposition derived from EP. On this account, the mind is like 'a Swiss Army knife with numerous different modules and functions each of which can be applied singly, or in conjunction with others, in different situations'.[54] These central modules are, moreover, not flexible but neurobiologically and genetically hardwired meaning that the 'biology of humans has not changed fundamentally since most of our ancestors left the Pleistocene savannas of East Africa some 50,000-100,000 years ago'.[55]

Our most basic affective reactions to media are thus not only excluded from the domain of cognition but also to be determined by what Grodal, following EP, regards to be a biological fact, namely that 'our modern skulls house a Stone Age mind'.[56] As Leda Cosmides and John Tooby have emphasised, this view is strongly committed to computationalism:

> the brain is not just like a computer. It is a computer – that is, a physical system that was designed to process information. [57]

In reference to EP, Grodal thus advocates a comprehension of basic psychological mechanisms as computational adaptations that were solidified in the Pleistocene epoch. Following EP, ontogenetic, social, as well as present environmental and cultural factors are thus all epiphenomenal to our already prespecified 'Stone Age' minds:

> [w]e still need the social sciences. But psychology underlies culture and society, and biological evolution underlies psychology.[58]

EP offers a remarkable bringing together of externalist and internalist determinism. Externalist by proposing that the mind is irrevocably a result of environmental adaptations solidified in the Pleistocene era. Internalist by proposing that current psychological mechanisms are reducible to hardwired domain-specific modules in the brain. Grodal uses this account to offer an interactionist 'biocultural' approach, where the innate dispositions of the embodied brain determine the range of emotions that might be selected and activated differently depending on cultural and historical factors. Culture is, in other words, 'only possible on top of the biological affordances and constraints of our embodied brains'.[59]

This falsely suggests the existence of a conceptual plane capable of determining the prototypical basis of our emotional responses in purely biological terms thereby revealing the 'human nature' as it truly exists in isolation from the developmental history of the organism and the specific environmental scaffolding of affective experience. As Tim Ingold has argued, EP relies on the problematic assumption that it is possible to determine what human beings *are* independently from their manifold historical, ontogenetic, and environmental circumstances 'in which they grow up and live out their lives'.[60]

If the environment is reduced to the input that triggers internal mechanisms of embodied action-execution, it seems reasonable to equate mediated and non-mediated fear on the 'low level road'. Yet, once the environmental factors are brought into the equation a more nuanced picture emerges. Although the train, in Maxim Gorky's famous description of the early projection of the Lumière brothers' *L'Arrivée d'un train en gare de La Ciotat* (1896) was experienced with fear and dread as it approached its audience, 'It speeds straight at you – watch out!',[61] it did not trigger a full-blown experience of panic and fleeing. Instead, the cinematograph had brought forth an affective niche supported by the mediation of a visual-kinetic sensory isolate that left the impression that the train 'will plunge in the darkness in which you sit, turning you into a ripped sack full of lacerated flesh and splintered bones',[62] yet turned out to be but 'a train of shadows'.[63] Gorky had effectively described the advent of a new form of affective entertainment grounded in the cinematic medium's ability to arouse bodily excitements through 'sensory isolates'.

Sensory isolates and affective niches

Following affective niche theory, I maintain that mediated emotions cannot be properly understood without taking the mediated material and the larger cognitive or social context as integral components of the emotional experience.[64] This provides us with another way of assessing the nature of mediated emotions beyond the limited schisms of 'authentic' versus 'inauthentic'. Emotions are always co-determined by the 'Umwelt' in which they occur. Thus, emotions in social encounters, dreams, daydreaming, imagination, and media differ according to their degree of environmental scaffolding just like the collective and social context of the media experience must be taken into account. Film-phenomenologist Julian Hanich has pointed out that the cinematic relation is not dyadic (film and spectator) but triadic (film, spectator, and other spectators) and thus based on a collective constellation between 'viewer, the film, and the rest of the audience'.[65] Affective niche theory aids the analysis of this 'audience effect' by perceiving it as part of the environmental scaffolding. Mediated emotions, such as those we experience in the cinema, are thus always scaffolded by the conditions of the medium, the viewing circumstances, and the social context as well as the individual viewer's 'experiential background', i.e. the 'repertoire of past experiences and values that guides people's interaction with the environment'.[66]

In the following, however, I will focus on how the audiovisual nature of the cinematic medium not only restrains but also enhances the affective impact a film can have on its spectator. Following Michel Chion, media operate with 'sensory isolates' in which 'sensation directed at just one of the senses are taken out of multisensory context'.[67] In the case of recorded sound, the sound phenomenon is isolated from its original environment and the sensations that would normally accompany it. The filmic sound of a rattling train is an acoustic isolate and as such 'opposed to the sensation we experience when riding in a train, where this noise is associated not only with visual sensations but also *phoric* sensations (of being carried, or jolted)'.[68]

If we return to the example of fear, the sensation mediated by audiovision differs by operating with sensory isolates that ensure the formation of an affective niche. We do experience 'fear' but from a mediated niche assuring that negative side-effects associated with fear, such as pain or even death, will not be inflicted upon us. Our relation to the (fictional) environment is thus sensorially mediated although the affective niche (e.g. the sensation of fear,

dread, anxiety, or horror) created often transgresses the fictional boundaries and extends well beyond the end of the film projection.

Nonetheless, this conception of mediation is neither reserved for art nor media technologies. As Chion explains, '[m]odern windows, which let light through while insulating us ever more efficiently from temperature and noise, are systems that create sensory isolates.'[69] The film experience, however, cannot be reduced to sound and vision, but must be understood as multisensorial. As Luis Rocha Antunes has convincingly demonstrated, 'film is an audiovisual medium that is perceptually experienced by spectators in a multisensory fashion'.[70] Basing his argument predominantly on cognitive neuroscientific research, Antunes has shown that due to the cross-modality of the senses, films rely upon a multisensory integration. Therefore, media invoke experiences not just related to their direct input channels, in the case of cinema sound and sight, but to all our senses at once including nociception (perception of pain) and thermoception (perception of temperature).

Again, however, we cannot conclude from this, as Antunes also does not, that we are actually experiencing *pain* or *coldness* in the cinema. Instead, we are experiencing these sensations from within an affective, media-created niche. Consequently, we are dealing with a kind of fear, pain, empathy, sexual arousal, or any other media-induced affective state that was not available to our ancestors on the East African savannas. Through sensory isolates, media allow us to have sensations of pain without being *in pain*; of extreme coldness without *freezing*; or of smells without actually *smelling* anything. What we have is thus a completely new taxonomy of affective experiences that are neither reducible to our 'Stone Age minds' nor to innate affect programs. Like the comforting sound the rain makes, when it drops on your tent to provide a sense of security and shelter, media create new kinds of emotions through niches that amplify certain sensorial stimuli while filtering out certain (negative) side effects.[71]

The cinematic ability to provide a 'protective affective niche' is perhaps most explicitly explored by the '*Heimatfilm*', 'Germany's only indigenous and historically most enduring genre.'[72] According to Johannes von Moltke, the *Heimatfilm* centers around the affective notion 'there is no place like home'.[73] The *Heimatfilm* thus adds to the sense of having a natural habitat, the feeling of being defined by both a regional and national identity. This affective belonging to regional and national identities has then been subjected to a variety of different expressions throughout modern German history (i.e. the Wilhemine Empire, the Weimar Republic, the Nazi era, the years

of rebuilding, the East/West-divide, the early years of reunification, and the new rise of national right wing populism).[74] As a genre the *Heimatfilm* is united by its transhistorical affective niche of 'home', yet this niche has been construed differently according to the worldview, ideologies, and interpretation of national and regional identities both in the context of the prevalent *Zeitgeist* and the personal or political commitments of the filmmakers.[75]

Bodies, genres, and affective niches

Affective niche theory bridges between the representational and the nonrepresentational, the cognitive and the affective, the textual and the 'textural'[76] thereby providing a new perspective on the relation between affect and genres. By altering our environments or creating virtual worlds, humans are able to create niches that enhance our cognitive capacities (e.g. maps, computer calculations, or road signs) and to develop novel modes of being affected (e.g. literature, music, and film) that in turn change our behaviour. Films carefully use soundscape, music, coloration, camera movements, mise-én-scene, framings, and rhythmic editing to regulate the bodily and emotional state of its audience and to steer how its narrative world is comprehended and emotionally judged.

Films systematically concerned with the bodily effects that both producers and audiences expect them to arouse have been labelled 'body-genres', e.g. horror films, melodramas, tear-jerkers, comedies, feel-good films, and pornographic films.[77] Linda Williams has observed that 'body-genres' are determined by a correspondence between the affective arousals portrayed in the films and those pertaining to the experience of the audience. Richard Dyer has further argued that the decisiveness of body-genres to invoke a corporal, physiological, and affective experience has caused them to gain a low cultural esteem:

> [t]he fact that porn, like weepies, thrillers and low comedy, is realized in/through the body has given it low status in our culture. Popularity these genres have, but arbiters of cultural status still tend to value 'spiritual' over 'bodily' qualities, and hence relegate porn and the rest to an inferior cultural position. [78]

Film-phenomenologist Jennifer Barker has reminded us, however, that the label 'body-genres' should not cause us to neglect the fact that '[v]iewers' responses to films are necessarily physical, full-bodied responses, because

our vision is always fully embodied, intimately connected to our fingertips, our funny bones, and our feet.'[79] The low cultural esteem of (some) body-genres might not necessarily be due to the corporeal-physiological appeal of these films, but could be caused by the tendency of body-genres to deliver affective niches with a high degree of reliability making them appear more *functional* than *artistic*. Body-genres are defined by a consistent feel, tone, or mood that pervades the film material. In pornography, as often mocked, all thinkable objects expose a lustful or erotic aura. In horror films fear is lurking around the corner. Body-genres often exaggerate their affective niches to meet the (commercial) expectations created by their specific genre-label. Art cinema is contrarily often invested in bringing us 'out of our comfort zones' (or established affective niches) and to open up new modes of perceiving, experiencing, and thinking about the world (thereby producing novel affective niches), also beyond the duration of the screening.

If filmic affects cannot be reduced solely to the preconceived, universal architecture of the brain but equally rely on a societal, technological, and ontogenetic scaffolding, then our affective engagement with films is subject to change both in terms of how the means of affective niche production change as genres or the medium evolve but also in terms of different modes of reception (broadly construed as related to viewing circumstances, individual dispositions, and the situated historical and societal context in which the film is experienced). Consequently, affective niche theory involves a historicisation and contextualisation of filmic affect. It seems fair to assume some variations in the affective niche of *Frankenstein* (Whale, 1931) between a contemporaneous and present-day audience. Whereas the former is likely to have responded with fear, a present-day audience is likelier to respond with awe or laughter. Similarly, what frightens most today might not frighten many in the future. Jens Eder has demonstrated that understanding affective dispositions requires several factors to be taken into concern. Affective dispositions thus 'range from the architecture of the brain to specific personal concerns, and from the universal to the cultural, social, individual and situational'.[80] His formula, 'Films' structures + viewers' dispositions = viewers' affective responses',[81] could act as a starting point for studying how genres such as horror develop with the general evolution of the cinematic medium and its audience.

Conclusion

This article has provided a brief outline of affective niche theory and its possible application to cinema and media studies. The aspiration has been to demonstrate that the concept of affective niches could prove vital for the development of a theory of mediated affectivity that is truly situated in the intermediary space between organism and environment. Although such a theory requires considerably more research on the particular nature of mediated affective niches, I hope this article has shown that affective niche theory brings together onto the same conceptual plane that which have long been dichotomised in the field: the representational and the nonrepresentational; the affective and the cognitive; the textual and the textural; the discursive and the sensorial; and the media and their users. Affective niche theory could thus provide us with a conceptual tool for the analysis of affective states as dynamically embedded in wider cultural, biological, technological, and social contexts. Given that our most pervasive surrounding environment today is technological and 'nature' 'is drenched with human manipulation',[82] I believe that affective niche theory promotes a more nuanced understanding of the affective operations of media.

Author

Steffen Hven is a postdoctoral researcher at the Centre of Media-Anthropology (KOMA) at the Bauhaus-Universität Weimar, where he also received his PhD in 2015. He is the author of *Cinema and Narrative Complexity* (Amsterdam University Press, 2017). Currently he is finishing the monograph *Cinema and Narration: Towards an Embodied and Media-Philosophical Approach* (exp. 2020) in which he argues for a reorientation of film narratology based on the key notions of embodiment, situatedness, and anthropomediality. His main research interest lies in how cinema alters, enhances, diminishes, or distorts the basic perceptual, affective, and cognitive mechanisms whereby humans construct or render the (narrative) world meaningful.

References

Antunes, L.R. *The multisensory film experience: A cognitive model of experiential film aesthetics*. Bristol-Chicago: Intellect, 2016.

Barker, J. *The tactile eye: Touch and the cinematic experience*. Berkeley: University of California Press, 2009.

Barkow, J. 'Beneath new culture is old psychology: Gossip and social stratification' in *The adapted mind*, edited by J. Barkow, L. Cosmides, and J. Tooby. New York: Oxford University Press, 1992: 627-637.

Benjamin, W. 'Erwiderung an Oskar A. H. Schmitz' in *Gesammelte Schriften*, Vol. 2: 751–757. Frankfurt: Suhrkamp Verlag, 1977.

Bollmer, G. 'Empathy Machines', *Media International Australia*, Vol. 165, No. 1, 2017: 63-76. https://doi.org/10.1177/1329878X17726794 .

Bourdieu, P. *Le sens pratique*. Paris: Les Editions de Minuit, 1980.

Boyd, B. 'For Evocriticism: Minds Shaped to Be Reshaped', *Critical Inquiry*, Vol. 38, No. 2, 2012: 394-404.

Caracciolo, M. *The experientiality of narrative: An enactivist approach*. Berlin-Boston: De Gruyter, 2014.

Chion, M. *Audio-Vision: Sound on screen*, translated by C. Gorbman. New York: Columbia University Press, 1994.

_____. 'The Sensory Aspects of Contemporary Cinema' in *The Oxford handbook of new audiovisual aesthetics*, edited by C. Gorbman, J. Richardson, and C. Vernallis, translated by C. Gorbman, Oxford Handbooks. Oxford: Oxford University Press, 2013: 325-330.

Clark, A. *Being there: Putting brain, body, and world together again*. Cambridge: MIT Press, 1998.

Clover, C. 'Her Body, Himself: Gender in the Slasher Film', *Representations*, Vol. 20 (Special Issue: Misogyny, Misandry, and Misanthropy) 1987: 187-228.

Colombetti, G. *The feeling body: Affective science meets the enactive mind*. Cambridge-London: MIT Press, 2014.

_____. 'Enactive Affectivity, Extended', *Topoi*, Vol. 36, No. 3, 2017a: 445-455.

_____. 'The Embodied and Situated Nature of Moods', *Philosophia*, Vol. 45, No. 4, 2017b: 1437-1451. https://doi.org/10.1007/s11406-017-9817-0 .

Colombetti, G, and Krueger, J. 'Scaffoldings of the Affective Mind', *Philosophical Psychology*, Vol. 28, No. 8, 2015: 1157-1176. https://doi.org/10.1080/09515089.2014.976334 .

Colombetti, G, Krueger, J. and Roberts, T. 'Editorial: Affectivity Beyond the Skin', *Frontiers in Psychology*, Vol. 9, No. 1307, 2018: 1-2.

Colombetti, G, and Roberts, T. 'Extending the Extended Mind: The Case for Extended Affectivity', *Philosophical Studies*, Vol. 172, No. 5, 2015: 1243-1263. https://doi.org/10.1007/s11098-014-0347-3 .

Connerton, P. *How societies remember*. Cambridge: Cambridge University Press, 1989.

Cosmides, L. and Tooby, J. 'Evolutionary psychology: A primer'. 1997a: https://www.cep.ucsb.edu/primer.html.

_____. 'The modular nature of human intelligence' in *The origin and evolution of intelligence*, edited by A. Scheibel and J. Schopf. Sudbury: Jones & Bartlett, 1997b: 71-101.

_____. 'Conceptual foundations of evolutionary psychology' in *The handbook of evolutionary psychology*, edited by D. Buss. Hoboken: John Wiley & Sons, 2005: 5-67.

Donaldson, L.F. *Texture in film. Palgrave Close Readings in Film and Television*. Basingstoke: Palgrave Macmillan, 2014.

Durham Peters, J. *The marvelous clouds: Toward a philosophy of elemental media*. Chicago-London: University of Chicago Press, 2015.

Dyer, R. 'Coming to terms' in *Marginalization and contemporary cultures*, edited by R. Ferguson, M. Gever, T. Minh-ha, and C. West, Cambridge: MIT Press, 1990: 289-298.

Eder, J. 'Collateral emotions: Political web videos and divergent audience responses' in *Cognitive theory and documentary film*, edited by C. Brylla and M. Kramer. Cham: Springer International Publishing, 2018: 183-203. https://doi.org/10.1007/978-3-319-90332-3_11 .

Elsaesser, T. *New German cinema: A history*. New Brunswick: Rutgers University Press, 1989.

Fodor, J.A. *The modularity of mind: An essay on faculty psychology*. Cambridge: MIT Press, 1983.

Garwood, I. *The sense of film narrative*. Edinburgh: Edinburgh University Press, 2013.

Gorky, M. 'A review of the Lumière programme at the Nizhni-Novgorod Fair' in *Kino: A study of the development of the Russian and Soviet film*, edited by J. Leyda, translated by L. Swan, 3rd Edition. Princeton: Princeton University Press, 1983: 407-409.

Griffiths, P. and Scarantino, A. 'Emotions in the wild' in *The Cambridge handbook of situated cognition*, edited by P. Robbins and M. Aydede, Cambridge-New York: Cambridge University Press, 2009: 437-453.

Grodal, T. *Embodied visions: Evolution, emotion, culture, and film*. Oxford-New York: Oxford University Press, 2009.

_____. 'Tapping into our tribal heritage: The Lord of the Rings and brain evolution' in *Audiences*, edited by I. Christie. Amsterdam: Amsterdam University Press, 2012: 128-142.

_____. 'How Film Genres Are a Product of Biology, Evolution and Culture – an Embodied Approach', *Palgrave Communications*, Vol. 3, August 2017: 17079. https://doi.org/10.1057/palcomms.2017.79.

Hanich, J. 'Judge Dread: What we are afraid of when we are scared at the movies', *Projections*, Vol. 8, No. 2. 2014: 26-49. https://doi.org/10.3167/proj.2014.080203.

_____. *The audience effect*. Edinburgh: Edinburgh University Press, 2018.

Hurley, S. *Consciousness in action*, 1st edition. Cambridge: Harvard University Press, 2002.

Hutchins, E. *Cognition in the wild*. Cambridge: MIT Press, 1995.

Hven, S. 'Memento and the "Embodied" Fabula: Narrative Comprehension Revisited', *Acta Universitatis Sapientiae. Film and Media Studies*, Vol. 11 (2015): 93-110.

_____. *Cinema and narrative complexity: Embodying the fabula, Film Culture in Transition*. Amsterdam: Amsterdam University Press, 2017a.

_____. 'Sulla possibilità di una narratologia incarnata e antropomediale', translated by S. Busni and C. Martino, *Fata Morgana*, Vol. 31 (Special Issue: Consciousness), 2017b: 197-209.

Ingold, T. 'Beyond Biology and Culture. The Meaning of Evolution in a Relational World', *Social Anthropology*, Vol. 12, No. 2, 2004: 209-221.

_____. *Life of lines*. London-New York: Routledge, 2015.

Jablonka, E. 'Preface: The Entangled (and Constructed) Human Bank', edited by J. Kendal, J. Tehrani, and J. Olding-Smee, *Philosophical Transactions of the Royal Society B: Biological Sciences*, Vol. 366, No. 1566, 2011: 784.

Knobloch, S., Patzig, G., Mende, A-M., and Hastall, M. 'Affective News: Effects of Discourse Structure in Narratives on Suspense, Curiosity, and Enjoyment While Reading News and Novels', *Communication Research*, Vol. 31, No. 3, 2004: 259-287. https://doi.org/10.1177/0093650203261517 .

Kramer, A., Guillory, J., and Hancock, J. 'Experimental Evidence of Massive-Scale Emotional Contagion through Social Networks', *Proceedings of the National Academy of Sciences*, Vol. 111, No. 24, 2014: 8788-8790. https://doi.org/10.1073/pnas.1320040111 .

Krueger, J. 'Doing Things with Music', *Phenomenology and the Cognitive Sciences*, Vol. 10, No. 1, 2011: 1-22. https://doi.org/10.1007/s11097-010-9152-4 .

Krueger, J. and Szanto, T. 'Extended Emotions', *Philosophy Compass*, Vol. 11, No. 12, 2016: 863-878. https://doi.org/10.1111/phc3.12390 .

Laine, T. and Strauven, W. 'The Synaesthetic Turn', *New Review of Film and Television Studies*, Vol. 7, No. 3, 2009: 249-255. https://doi.org/10.1080/17400300903047029 .

Lewontin, R. 'Organism and environment' in *Learning, development and culture: Essays in evolutionary epistemology*, edited by H.C. Plotkin. New York: Wiley, 1982: 151-170.

_____. 'Gene, organism and environment' in *Evolution from molecules to men*, edited by H.C. Bendall. Cambridge: Cambridge University Press, 1983: 273-285.

_____. *The triple helix: Gene, organism, and environment*. Cambridge: Harvard University Press, 2000.

Lewontin, R. and Levins, R. 'Organism and Environment', *Capitalism Nature Socialism*, Vol. 8, No. 2, 1997: 95-98.

Maiese, M. 'Affective Scaffolds, Expressive Arts, and Cognition', *Frontiers in Psychology*, Vol. 7 (March) 2016. https://doi.org/10.3389/fpsyg.2016.00359 .

Mauss, M. 'Les Techniques du Corps', *Journal de Psychologie*, Vol. 32, No. 3-4, 1935: 271-293.

Meyrowitz, J. *No sense of place: The impact of electronic media on social behavior*. Oxford-New York: Oxford University Press, 1985.

Moltke, J. von. *No place like home: Locations of heimat in German cinema*. Berkeley-Los Angeles-London: University of California Press, 2005.

Noë, A. *Action in perception, Representation and Mind series*. Cambridge-London: MIT Press, 2004.

Odling-Smee, J., Laland, K., and Feldman, M. 'Niche Construction', *The American Naturalist*, Vol. 147, No. 4, 1996: 641-648.

_____. *Niche construction: The neglected process in evolution*. Princeton: Princeton University Press, 2003.

Odling-Smee, J., Erwin, D., Palkovacs, E., Feldman, M., and Laland, K. 'Niche Construction Theory: A Practical Guide for Ecologists', *The Quarterly Review of Biology*, Vol. 88, No. 1, 2013: 3-28. https://doi.org/10.1086/669266 .

Plantinga, C. *Moving viewers: American film and the spectator's experience*. Berkeley-Los Angeles-London: University of California Press, 2009.

_____. 'Art Moods and Human Moods in Narrative Cinema', *New Literary History*, Vol. 43, No. 3, 2012: 455-475.

Plourde, L. 'Sonic Air-Conditioning: Muzak as Affect Management for Office Workers in Japan', *The Senses and Society*, Vol. 12, No. 1, 2017: 18-34. https://doi.org/10.1080/17458927.2017.1268812 .

Prinz, J. 'Is the mind really modular?' in *Contemporary debates in cognitive science*, edited by R. Stainton. Malden: Blackwell, 2006: 22-36.

Pylyshyn, Z.W. *Computation and cognition: Toward a foundation for cognitive science*. Cambridge: MIT Press: 1986.

Radford, C. 'How Can We Be Moved by the Fate of Anna Karenina?', *Proceedings of the Aristotelian Society*, Vol. 49, (Supplementary), 1975: 67-80.

Rhym, J. 'Towards a Phenomenology of Cinematic Mood: Boredom and the Affect of Time in Antonioni's L'eclisse', *New Literary History*, Vol. 43, No. 3, 2012: 477-501.

_____. 'Historicizing Perception: Film Theory, Neuroscience, and the Philosophy of Mind', *Discourse*, Vol. 40, No. 1, 2018: 83-109.

Robbins, P. and Aydede, M (eds). *The Cambridge handbook of situated cognition*. Cambridge-New York: Cambridge University Press, 2009.

Schaeffer, P. *Traité des objets musicaux*. Paris: Le Seuil, 1966.

Schneider, S. 'The Paradox of Fiction' in *Internet encyclopedia of philosophy*, 2002. https://www.iep.utm.edu/fict-par/.

Sinnerbrink, R. 'Stimmung: Exploring the Aesthetics of Mood', *Screen*, Vol. 53, No. 2, 2014: 148-163. https://doi.org/10.1093/screen/hjs007 .

Smith, M. *Film, art, and the third culture: A naturalized aesthetics of film*. Oxford: Oxford University Press, 2017.

Sterelny, K. *Thought in a hostile world: The evolution of human cognition*. Malden: Wiley-Blackwell, 2003.

_____. 'Po-Bo Man?' *Studies in History and Philosophy of Biological and Biomedical Sciences*, Vol. 35, No. 4, 2004: 729-741. https://doi.org/10.1016/j.shpsc.2004.09.009 .

_____. 'Minds: Extended or Scaffolded?', *Phenomenology and the Cognitive Sciences*, Vol. 9, No. 4, 2010: 465-481. https://doi.org/10.1007/s11097-010-9174-y .

Tan, E. *Emotion and the structure of narrative film: Film as an emotion machine*. New York: Routledge, 1996.

Uexküll, J. von. *A foray into the world of animals and humans*, translated by J. O'Neil. Minneapolis: University of Minnesota Press, 2010.

Varela, F., Thompson, E., and Rosch, E. *The embodied mind: Cognitive science and human experience*. Cambridge: MIT Press, 1992.

Walton, K. 'Fearing Fictions', *Journal of Philosophy*, Vol. 75, No. 1. 1978: 5-27.

Williams, G.C. 'Gaia, Nature Worship and Biocentric Fallacies', *The Quarterly Review of Biology*, Vol. 67, No. 4, 1992: 479-486.

Williams, L. 'Film Bodies: Gender, Genre, and Excess', *Film Quarterly*, Vol. 44, No. 4, 1991: 2-13.

Notes

[1] I thank Jane Stadler, Julian Hanich, Jens Eder, Francesco Sticchi, and one anonymous reviewer for their insightful comments on this article. I would also like to express my gratitude to the Fritz Thyssen Foundation and the Bauhaus Research School for financial support.

[2] See Odling-Smee & Laland, & Feldman 2003.

[3] See Colombetti & Krueger 2015; Maiese 2016; Krueger & Szanto 2016; Colombetti 2017a; and Colombetti & Krueger & Roberts 2018.

[4] The potential value of evolutionary niche construction theory to film studies has earlier been explored by Smith 2017, pp. 15, 187-188. My approach differs from Smith's first by exploring *affective* niche theory, but also by favouring an enactive approach, whereas Smith is committed to a more classical cognitive position in which mental representations fill the 'gap' between the 'mind' and the 'world'. See Smith 2017, p. 223. Elsewhere I have proposed an enactive theory of cinema. See Hven 2015, 2017a, and 2017b.

[5] Griffiths & Scarantino 2009, p. 437; see also Hurley 2002.

[6] See Chion 2013; see also Antunes 2016 and Laine & Strauwen 2009.

[7] See for instance Lewontin 1982, 1983, 2000.

[8] Important contributions to 'niche theory' include Odling-Smee & Laland & Feldman 1996; Odling-Smee et al. 2013; Odling-Smee & Laland & Feldman 2003; and Sterelny 2003 and 2010.

[9] Williams 1992, p. 487.

[10] Cf. Lewontin & Levins 1997, p. 98.

[11] Cf. Odling-Smee et al. 1996, p. 641.

[12] Jablonka 2011, p. 784.

[13] Sterelny 2010, p. 466.

[14] Cf. Colombetti 2014, Colombetti & Krueger 2015, and Colombetti & Roberts 2015.

[15] Cf. Knobloch & Patzig & Mende & Hastall 2004.

[16] Cf. Kramer & Guillory & Hancock 2014.

[17] Krueger 2011, p. 20.

[18] A term coined by Pierre Schaeffer (1966), the 'acousmatic' refers to sounds heard without a reference to their source. Cf. Chion 1994.

[19] Cf. Plourde 2017.

[20] The controversial notion of VR as 'empathy machine' dates back to a 2015 TED Talk by Chris Milk titled 'How virtual reality can create the ultimate empathy machine'. For a critique see Bollmer 2017.

[21] Meyrowitz 1985, p. 329.

[22] Ibid.

[23] Cf. Sterelny 2004, p. 739.

[24] Colombetti 2017b, p. 1443. See also Mauss 1935; Bourdieu 1980; and Connerton 1989.

[25] Cf. Hutchins 1995 and Robbins & Aydede 2009.

[26] Cf. Clark 1998 and Menary 2010. Note that affective niche theory is broadly construed in order to embrace both situated, enactive, and extended approaches without having to go into the issues

that separate these. See Colombetti & Roberts 2015 for an overview in relation to affective niche theory.

[27] Griffiths & Scarantino 2009, p. 443.

[28] See Varela & Thompson & Rosch 1992.

[29] Colombetti 2013, p. xiv.

[30] Ibid., p. 2.

[31] Ibid., p. xvii.

[32] Colombetti & Krueger 2015, p. 17.

[33] Ibid., p. 1248.

[34] Benjamin 1977, p. 751. Benjamin's historicisation of perception has been the subject of much criticism. See Rhym 2018 for a defence of Benjamin against this criticism.

[35] For more on the concept of 'Umwelt' see Uexküll 2010.

[36] Colombetti 2017b, p. 1444.

[37] It is common to differentiate between moods and emotional states. In brief, mood is more pervasive, diffuse, and encompassing than focused emotional states and less directly tied to cognition, action, or causation. See Plantinga 2012, Rhym 2012, and Sinnerbrink 2014.

[38] Cf. Tan 1996, p. 226.

[39] Ibid., p. 82.

[40] Ibid., p. 153.

[41] Ibid., p. 231.

[42] See Hanich 2014 for a similar claim in relation to filmic dread.

[43] Cf. Plantinga 2009, p. 63.

[44] Cf. Radford 1975 and Walton 1978. See Schneider 2002 for an overview of the debates.

[45] Ibid., p. 66.

[46] See Fodor 1983.

[47] Pylyshyn 1986.

[48] Criticisms of computationalism include Noë 2004 and Prinz 2006.

[49] See Cosmides & Tooby 1997b for an example of 'massive modularity'.

[50] See Cosmides and Tooby 1997a for an introduction.

[51] Boyd 2012, p. 397.

[52] Plantinga 2009, p. 81.

[53] Cf. Grodal 2009, 2012, and 2017.

[54] Grodal 2009, p. 10.

[55] Ibid., p. 6.

[56] Cosmides & Tooby 1997b, p. 85.

[57] Cosmides & Tooby 2005, p. 17.

[58] Barkow 1992, p. 635.

[59]   Grodal 2009, p. 2.

[60]   Ingold 2004, p. 215, emphasis in original.

[61]   Gorky 1983, p. 407.

[62]   Ibid.

[63]   Ibid.

[64]   Eder 2018 takes a similar approach to divergent affective responses by relating it variously to questions concerning the medium; documentary as a genre; film's affective structures; and viewers' social dispositions.

[65]   Hanich 2018, p. 7.

[66]   Caracciolo 2014, p. 4.

[67]   Chion 2013, p. 328.

[68]   Ibid.

[69]   Ibid.

[70]   Antunes 2016, pp. 4-5.

[71]   Note that the affective niches created by 'sensory isolates' are not always intended to stir 'protective' feelings, but can also be used to provoke, defamiliarise, or confront us with social anxieties, taboos, the horrifying, the unwatchable, etc.

[72]   Elsaesser 1989, p. 141.

[73]   Moltke 2005, p. 3.

[74]   Ibid., pp. 3-4.

[75]   Hans Deppe's *Grün ist die Heide* (*The Heath is Green*, 1951) exemplifies the archetypical *Heimatfilm*. A prominent non-German example of a film that expresses the notion of 'no place like home' is *The Wizard of Oz* (Fleming, 1939). Edgar Reitz's *Heimat* trilogy (1984-2004) is an example of how the genre has been used by a new wave of directors to critically reflect upon national and personal history.

[76]   For more on 'textural' film analysis, see Barker 2009, pp. 23-68; Donaldson 2014; and Garwood 2013, pp. 12-34.

[77]   Important texts on 'body-genres' include Clover 1987, Dyer 1990, and Williams 1991.

[78]   Dyer 1990, p. 290.

[79]   Barker 2009, p. 74.

[80]   Eder 2018, p. 191.

[81]   Ibid.

[82]   Durham Peters 2015, p. 2.