I Feel Like An Abstract Line

Laura U. Marks

People with the special condition of mirror-touch synaesthesia are capable of extraordinary embodied responses to the world—an extreme empathy to other people and also to non-human and non-living things. This essay will argue that non-synaesthetes can also cultivate embodied and empathic responses to inorganic forms. My case study will be the 'abstract line', a line that describes no figure but exhibits its own feeling qualities. Perceptual theories from the nineteenth century to the present suggest ways that humans can relate to a line, feel the way a line feels, even without projecting human qualities on it. Feeling like an abstract line then allows us to feel what we have in common with non-organic life. I will discuss abstract lines from Islamic art, abstract painting, animation, and analogue video synthesis. The point of cultivating these capacities is to enjoy life more—and also, I'll argue, to protect ourselves from machinic intelligences that try to pre-empt our capacities for empathy, and to develop collective powers.

Some mirror-touch synaesthetes relate experiences that show they feel like abstract lines. In an interview with the artist Daria Martin, editor of this volume, the mirror-touch synaesthete Fiona Torrance writes:

> Patterns engulf me. . . . A patterned carpet like the one at the Crown Plaza in Speke, Liverpool can be overwhelming, as the way the colours and lines/shapes are combined makes parts of the body feel pulled out of shape. By stepping in particular shapes or on specific colours you can keep a better balance. My entire body, physical sensation and movements are affected by patterns. I love some patterns for the way they make me feel. Some are calming and rhythmic while others are divisive and disturbing depending on the objects and angle of the walls in the room.[1]

Carpet, Drake Hotel, Chicago. Photo by Laura Marks.

And consider this statement by another mirror-touch synaesthete interviewed by Martin: 'If I were to attend to a lamp or a potted plant, I feel my body become many of their elements—the roundness of the lamp or the hollow round sensation of the lamp shade . . . I sense my body shaped with the pointed characteristics of the branches of the plant and smooth portions corresponding to its leaves'.[2] This person also says that when he sees patterns with 'lots of dots, especially very small dots, or lines, I get the feeling of the lines on my body'.[3]

These two mirror-touch synaesthetes describe attitudes of empathy with objects, a feeling of shared embodiment, that I believe non-synaesthetes can cultivate too. We can do this by letting go of our human scale a bit and allowing the other thing to fully inhabit our perception—to 'enworld' us, as phenomenologists say. Such empathic attitudes call to mind a concept of perception proposed by the mathematician and philosopher Gottfried Wilhelm von Leibniz (1646–1716) in *Monadology*.[4] Leibniz describes a universe in which a single embodied soul

subdivides into innumerable souls, each protected by its body. Souls are aware clearly of only part of the world close to them, according to what their bodies give them to know. They're aware only dimly of the rest, the area the monad's body shares with other bodies. Leibniz's conception of a world of interconnected, sensing souls remains influential in our time, in part through the philosophy of Gilles Deleuze. In Leibniz's terms, mirror-touch synaesthetes have a larger clear area—they are aware, including painfully aware, of their entanglement with the experience of others, including non-human others.

For sure, synaesthetes have special capacities that other people don't. But many of us are capable of a great deal of embodied empathy, not only with creatures but also with non-organic things. Of course we 'identify' with figurative images and feel empathic, embodied responses to them. The Western literature on identification with figures goes back as far as Aristotle and spans art history, philosophy, cinema theory, and cognitive science, so instead of summarising it, I'll give you one recent tidbit. A study published in 2009 presented chimpanzees with computer animations of chimpanzee heads making various expressions.[5] The yawning computer-animated chimpanzee induced contagious yawning in the chimpanzee viewers. (Note that while the modern concept of mirror neurons explains this result, so too does 'Carpenter's effect', a term introduced in 1876 for the way people reproduce the actions of others they see with their own bodies.)[6] The researchers plan to experiment further by showing alternately enhanced and degraded animations, in order to determine whether the chimpanzees are identifying with the animated figures (so an enhanced animation would induce even more yawning) or responding to a generalized stimulus (so a degraded animation would still produce the same effect). The researchers note modestly that 'the ability to custom-design behaviours allows for new questions to be asked'.[7] I imagine the results will be of great interest to designers of interfaces for computer games, nursing robots, and other products that solicit empathic engagement. Companies will be able to manufacture cheap empathic robots to stand in for humans and other living things capable of real empathy. This is just one of the ways our empathic responses to other faces are being thoroughly colonised, at least for people who are vulnerable to computer-assisted surveillance—I'll mention some more later. Media technologies have completely colonised people's identification with faces and figures.

Therefore, my protagonist in this essay—the hero in the struggle against empathic colonisation—is the abstract line. In the thought of the philosopher

Gilles Deleuze and the psychoanalyst Félix Guattari, the abstract line is the companion form of haptic space—a perceptual field that invites the eyes not to perceive figures from a distance but to draw close and almost touch forms without distinguishing them.[8] Both haptic space and abstract line invite a viewer to feel with the art form in an embodied way, instead of responding cognitively to what the art depicts. Haptic space invites a viewer to lose her boundaries and merge with the thing beheld, as I've argued in *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*.[9] Or, if there is no thing, to merge with the scene of the depiction itself: to feel like a landscape, to feel like a starry sky, to feel like a screen full of static. So haptic space and haptic visuality raise questions for the limits of what a spectator can stand before she loses her identity altogether. Abstract line raises these questions too, as we will see.

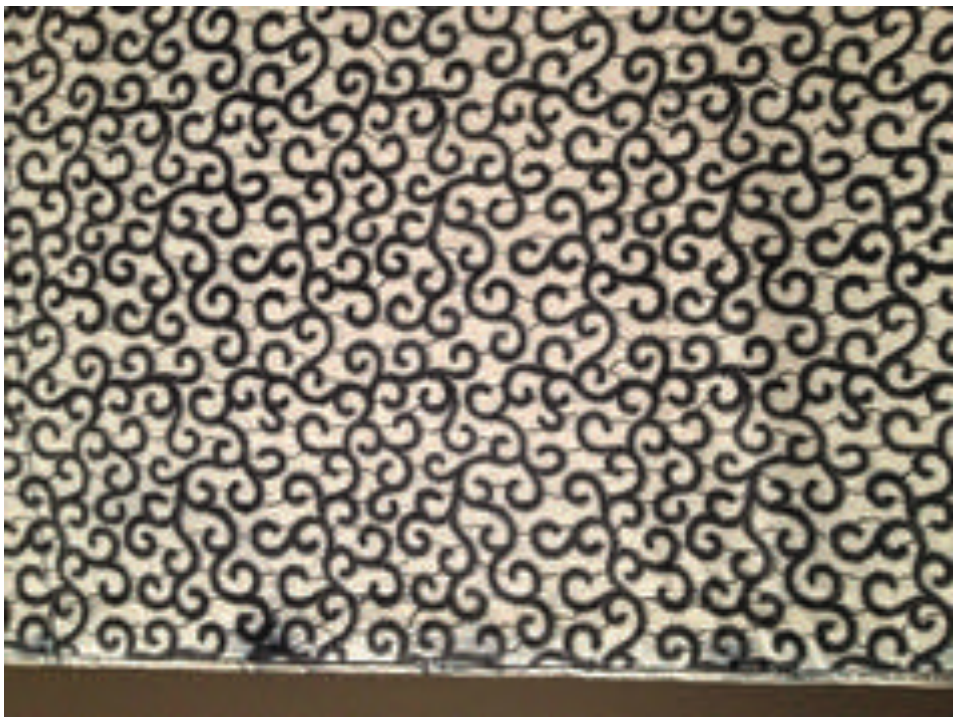
'Abstract line' is what Deleuze and Guattari called a line that does not serve to delimit a figure but that has its own independent life. 'This streaming, spiraling, zigzagging, feverish line of variation liberates a power of life that human beings had rectified and organisms had confined, and which matter now expresses as the trait, flow, or impulse traversing it. If everything is alive, it is not because everything is organic or organised but, on the contrary, because the organism is a diversion of life'.[10] Many paintings by Henri Matisse are animated by abstract lines that show that 'everything is alive'. For example, his *Harmony in Red* (1908) at the Hermitage Museum is not a non-figurative painting, but one in which the life of the line precedes the life contained in organic beings, like the woman at the table, the trees outside the window, the fruits on the table, and the flowers pictured on the wallpaper. An independent life both informs and moves beyond the life contained in living beings.

Haptic space and abstract line are subsets of what Deleuze and Guattari call smooth space, that is, space that is organised intensively, rather than by forms imposed from outside. 'A line that delimits nothing, that describes no contour . . . that is constantly changing direction, . . . that is as alive as a continuous variation—such a line is truly an abstract line, and describes a smooth space'.[11] A wax cloth from Côte d'Ivoire at the Seattle Art Museum exemplifies a line propelled by its internal vitality; it is patterned with snaking black lines on a cream background that branch and curl and that are fringed with little lines that call to mind eyelashes or centipede legs. The patterned cloth also shows how an abstract line, multiplying and changing direction, gives rise to a haptic space. Our vision, rather than focusing on a figure, moves around

Henri Matisse, *Harmony in Red* (1908). The Dessert: Harmony in Red, 1908 by Henri Matisse. © Succession H. Matisse/ DACS 2017.

the composition, in and out, taking in the whole and the detail dialectically. Imagine that you encounter an Ivoirian woman wearing clothes and a head wrap made of this fabric. The independent life printed on her clothing will amplify her own vitality and lend it the mysterious depth of a life that originates from elsewhere.

Deleuze and Guattari write: 'This self-organizing, individuating line is not opposed to figuration but shares something in common with depictions of animals in early art, a 'pure animality' that precedes the animal'.[12] 'Pure animality' describes abstract lines that are derived from animals, such as Celtic compositions based on twining snakes, and Asian designs based on dragons such as this Caucasian dragon carpet at the Pergamon Museum. I would add that a 'pure vegetal life' arises from abstract lines derived from vines and other plants. Classical Greek, Roman, and Persian art developed rich vocabularies from plant life. Islamic art, as we will see, abstracted these plant forms into a vegetal life



Wax-print cloth, Côte d'Ivoire, Seattle Art Museum, (1999).

unconstrained by organic rules. In this vitalist aesthetics abstract line and its companion form, haptic space, do not represent life but **are** life.

Cultivating our responses to these forms helps get around the way perception is learnt and organised. Perception is a judgement—gestalt psychology, figure/ground differentiation, and many more cultural formations of perception pre-form in us judgements about what is important to perceive. Feeling like an abstract line means letting go of the judgements that create meaning for a little while and allowing sensations to affect you. Let the line's rhythms move you. Feel languorous, exhilarated, dizzy, frivolous. Put up with its lack of meaning; postpone interpretation—for now.

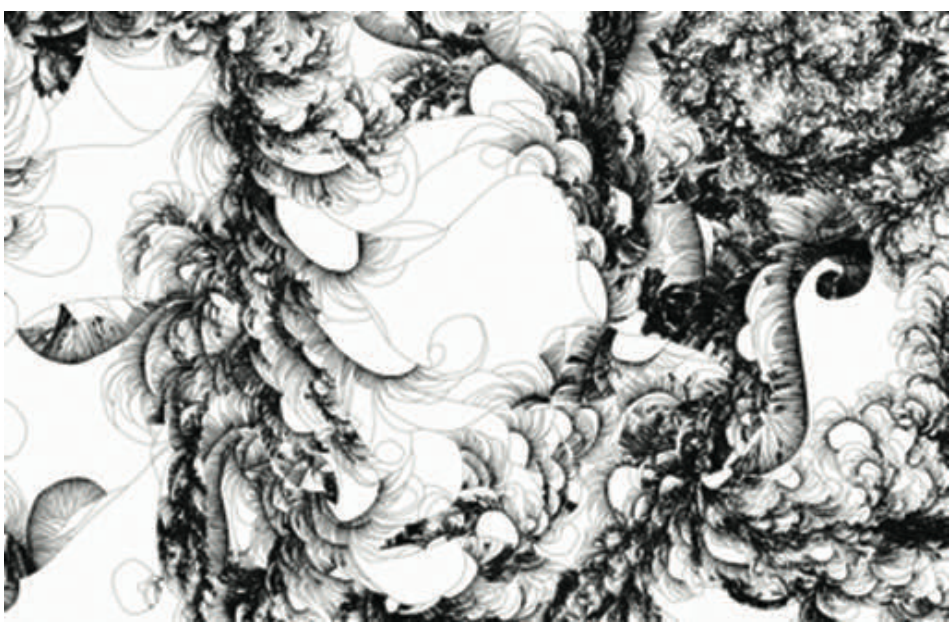
Deleuze and Guattari derived the concept of abstract line from the German art historian Wilhelm Worringer's concept of primordial abstraction (picked up later in this volume in Massimiliano Mollona's chapter) and its later avatar in the 'Gothic line'. According to Worringer, abstraction is 'any linear treatment of forms whose geometric, inorganic character repudiates any association with our

Dragon Rug. 18th century. Wool and cotton. Philadelphia Museum of Art, The Joseph Lees Williams Memorial Collection, 1955-65-23. Artwork by unknown, *Dragon Rug* © 1948 Philadelphia Museum of Art, reproduced with permission of Philadelphia Museum of Art.

vital feelings as organically designed beings'.[13] This implies that if we feel along with abstraction, we are accepting the repudiation of our own organic life. But while Worringer distinguished empathy and abstraction, I argue we can have empathy **with** abstraction. So how can we feel empathy with a line? Do we only project human feelings on lines?

The computer scientist and artist Mauro Annunziato makes digital drawings that are generated by a program that makes lines act like living things. In one of them *Migration* (2000), lines are programmed to 'live' as long as possible—to extend as much as they can, including by curling in on themselves—to multiply, producing what Annunziato calls 'sons' that, in turn, try to stay alive and multiply. So it's a drawing of life-like striving and triumph, defeat and death—of all the struggles involved in migration, the title of the work. We can easily feel like an abstract line looking at Annunziato's lines. This drawing shows how far we can go by identifying with a line, projecting human feelings on it.

However, I want to argue that we do not only project human feelings onto abstract lines. Something arises in the encounter between our vision and the line



Detail, Mauro Annunziato, *Migration* (2000).

that did not exist in our prior experience. One way to think about this is in terms of the concept of affect, first proposed by the Dutch philosopher Baruch Spinoza (1632–1677), which has become very popular in recent years as an account of human experience as an ever changing series of non-cognitive encounters with other entities. It is valuable as a way to account for experience that occurs in the body, prior to emotion and thought. We can say the encounter between the line and our vision produces affections, non-cognitive bodily responses. Lines make us feel their crawling, twining, voracious capacities. Lines that break up or drive themselves into corners give us a feeling of defeat. The abstract line gives rise in us to affect, which Spinoza defined as the 'lived transition or lived passage from one degree of perfection to another'.[14] In Deleuze's adaptation of Spinoza, he emphasised that it need not be the whole human body that responds to an affection, but rather that parts of our bodies may enter into combinations with the other entities we encounter. Hence he and Guattari privileged the 'molecular' nature of these encounters over the larger, 'molar' scale at which meaning, narrative, thought, and even emotion take place. The molecular scale is where those micro-perceptions occur, of which, I have suggested, mirror-touch synaesthetes are more aware than most people are.[15]

When we start to think this way, feeling like an abstract line is not a projection of human feelings on the inanimate. This is because it embodies a life force that precedes, and is both larger and smaller than, individual bodies. The abstract line participates in a life force anterior to particular life forms. If we feel something lively within ourselves in response to it, this may make us feel even more alive. Or we may feel this life coming from the outside as a threat to our discrete form. In this way, the abstract line behaves similarly to what Deleuze calls the Figural. The Figural bypasses meaning and speaks directly to the nervous system.[16] It both suggests a figure and destroys it, in a way that might create a feeling of nausea or exhilaration. I agree that it addresses the nervous system, and not the brain, by which Deleuze meant the site of cognition.

Let's chase the abstract line back to one of its richest origins. The Gothic architecture that inspired Worringer was, in turn, inspired by forms developed in Islamic art. Craftsmen devised the fascinating form termed the bevelled style for the decoration of Balquwara palace on the shore of Tigris river in the mid-ninth century. The style spread rapidly throughout the Abbasid caliphate. The bevelled style abstracts the vine forms of Late Antique and Sasanid Persian art. The fascinating thing about this style is that it hints at figures of plants and creatures

'Bevelled style' panel, Samarra, ninth century. bpk Berlinn/Museum für Islamische Kunst, Staatliche Museen zu Berlin/Foto: Georg Niedermeiser.

that disappear when you look at them from a different angle. The line seems to invest the plant-like or animalish form and then twist away from it and move on, impelled by its own interior life. I find that as my eyes follow these lines that flirt with figure and slip away, a feeling of internal movement teases me out of my own solid figuration and makes me feel molecular.

Islamic art, inspired to creativity by the religious avoidance of figurative images, performed all kinds of experiments with abstracted plant forms, for example on the tile facade of Sheikh Lutfollah Mosque, how abstract line gives rise to haptic space, especially for a viewer who is there in Isfahan and can walk around and experience the tiles from different vantage points. Looking at this, one can feel a connection to the vine-like and snaky movement of the lines. Different kinds of lines intertwine. Gracefully spiralling blue lines, derived from vines, terminate in flowers. More abstract white 'islimi' do not directly reference a plant origin; some scholars suggest those green-and-white forms are highly

Friends outside Sheikh Lutfollah Mosque, Isfahan (1603–1616). Photo by Laura Marks.

abstracted dragons or other animals, gone into hiding inside the abstract line. Red cloud bands, derived from Chinese art, have a more bunchy, staccato form. Each of these abstract lines creates a different feeling independently, and as they interweave, the clever divisions and intersections that suggest these forms can twine to infinity, giving rise to a complex feeling of abstract linearity, or becoming-abstract-line, in the beholder.

You can also get a sense of the materials of the medium and 'identify' with the work in its materiality. In the ceramic tile, one can see the smoothness, imagine how sturdy it is, see how the maker has joined the pieces skilfully, and observe the cocoon of an insect living on the surface of the tile. At the same time, a viewer can respond affectively to the colours, the gleam, the reflections in the tiles. So the abstract line and haptic space in these tiles are living and material, as well as a life form beyond materiality.

From the early Renaissance, Islamic aesthetics travelled clandestinely into European art. Often the abstract line migrated by hiding in a carpet, whose

Detail, tile facade of Sheikh Lutfollah Mosque. Photo by Natalie Sorenson.

abstract patterns, often called simply arabesque, so excited European painters that they found ways to incorporate them in their figurative paintings. I argued in *Enfoldment and Infinity* that the abstract line of Islamic art, after it twined into European art of the Renaissance, has continued to poke up periodically.[17] Notably, it is featured in art forms that are considered decorative, frivolous, feminine, or decadent such as Renaissance ornament, the rococo, and psychedelic art.

However, the abstract line was a minor form in Western art until the twentieth century. Western thinkers always gave precedence to figures over abstractions. The late nineteenth-century Austrian art historian who was most fond of the abstract line Aloïs Riegl, writing in 1893, held that art should maintain a balance between two aesthetic modes—subject matter and decoration, or **argument** and **ornament**. Ornament and argument complement each other, but ornament should be subservient to argument.[18] It's interesting to see this balance between argument and ornament in European Renaissance art. The arguments of early Renaissance religious paintings and portraits were balanced with the ornament

of richly decorated frames based on Islamic arabesques. The excavation of Nero's palace the Domus Aurea in the fifteenth century revealed a wealth of frivolous abstract lines in the painted wall decorations, which distracted from the serious subject matter of sculpture; Italians called these forms *grottesche*, from the grotto. Renaissance painters, including Raphael, decorated luxurious interiors with meaningful paintings framed, and often overwhelmed, by frivolous grotesques. And many an ornamented utilitarian object, such as the pictured German wheel-lock rifle, played out the struggle between argument and ornament.

Ornament offers a respite from the exhortation of argument. It suggests a feminist resistance to ideology. It also exercises our perceptual skills. And ornament creates affects that give us micro-liveliness. So we can return renewed to the 'meaningful' representation in the subject matter (or get back to shooting or continue down the stairs).

The eighteenth-century rococo used motifs of chinoiserie, but Jean Pillement's etching shows its typical weird and lovely C-curves and S-curves that (some argue) are deconstructions of the Islamic arabesque. Jumping forward to psychedelic poster art of the 1960s, which was influenced by these earlier incarnations of the abstract line, we see how the abstract line in concert posters by Peter Max, Bonnie Maclean, and other artists of the period amplifies the sense of enhanced perception under the influence of music and psychedelic drugs.

Detail, wheel-lock rifle, Germany, Wallace Collection, London (1630s). Photo by Laura Marks.

Jean Pillement, etching (1755). Courtesy of Victoria and Albert Museum, London.

The figurative impulse is overwhelmingly strong. For a long time and in most societies, the representational meaning of an image has been considered more important than its plastic qualities. Even so, at the height of cultures of representation, there have always been abstract lines (and haptic space) around to relieve the brain, as these examples show.

Let me return to the history of thinking empathically about the abstract line. As well as Riegl, many other late twentieth- and early twenty-first-century thinkers were onto empathic relations with non-human forms. The German psychologist and philosopher of aesthetics Robert Vischer, writing in 1873, argued that sensation, which 'constitutes the most primitive form of the sense of universal coherence', gives rise to a more abstract feeling of the self as 'a subordinate part of an indivisible whole'.[19] Vischer described how a perceiver experiences an embodied similarity to the forms she perceives. He termed this emotional projection *einfühlung*, 'feeling oneself in'. Vischer attributed this embodied relationship to the way the muscles of the eye move along paths described by the form of the thing seen, so that 'my conscious second self' identifies with the line. 'I too rise and plunge along those rocky contours, along the "heaving mountains". I follow the unpredictable twists and turns of a tree and internally repeat them for myself'.[19] Note that Vischer is accounting for feeling like the **shape** of the mountain or the tree, not feeling like the mountain or tree itself. I argue that we can 'feel ourselves in' to this wallpaper by Christopher Dresser, designed a couple of decades after Vischer wrote, feel affects of rising and plunging as our eyes follow its serpentine lines, and, like Vischer, even feel ourselves to be part of a larger, interconnected whole in the course of this empathic perception.

In 1886, the Swiss art historian Heinrich Wölfflin wrote that empathy consists in the 'enjoyment of the self projected into a body or form', suggesting that people 'empathise' with abstract forms insofar as those forms undergo experiences that we too might undergo. The inorganic forms of the physical world 'can communicate to us only what we ourselves use their qualities to express'[20]—projection, in other words.

Wölfflin remained determined not to unmoor the human sense of self as an embodied soul. However, the German philosopher of aesthetics Theodor Lipps, writing in 1903, extended Wölfflin›s concept of bodily empathy to non-figurative forms. Lipps was mostly concerned to account for how humans directly experience in their own bodies the states of other humans, as in contagious yawning. But Lipps also described an *einfühlung* with inanimate objects. For example,

Studio of Christopher Dresser, Furnishing fabric (roller-printed cotton, 1899). Courtesy of Victoria and Albert Museum, London.

when we look at a Doric column, we feel pleasure in its achievement of standing straight and supporting a load. He concluded: 'Thus, all pleasure produced by spatial forms and, we can add, any kind of aesthetic pleasure, is a feeling of *sympathy* that makes us happy'.[21]

We find a wavy line beautiful, he wrote: 'because its progression, its quicker and slower self-bending, the tension and release lying therein, is felt by me as a free activity and an exuberant feeling of my own contemplating ego sunken into the wavy line'.[22] The vitalist fascination with the life of forms in the early twentieth century resonates in art nouveau and Judendstijl. The art historian David Morgan cites the art critic Karl Scheffler, who wrote in 1901 that we humans share a feeling with everything organic, since 'our organism is a sort of instrument whose strings are set in sympathetic vibration'.[23] Scheffler may have said organic, but his examples, such as a floating puff of cigar smoke and a photograph of a glacier, are organic in the broadest sense—that is, in Leibniz's sense that all monads have a soul, and everything, down to the smallest particle, is a monad.[24] For example, in Alphonse Mucha's famous advertisement for Job rolling paper, the smoke rises from the lady's cigarette in saccadic twists that give a sense of non-organic life. Or, in Leibniz's sense, of many lives—each particle of smoke is a monad, whose body expires as its soul rises up in a cloud of carbon ash.

The German term *einfühlung* was translated into English as 'empathy' in experimental psychology in the early twentieth century, in the work of the psychologists James Ward at the University of Cambridge and Edward B. Titchener at Cornell.[25] Developing on the work of Vischer, Worringer, Lipps, the German physiologist, philosopher, and founding psychologist Wilhelm Wundt, and others, Titchener used empathy to mean not psychological fellow-feeling but kinaesthetic imaginative projection, a shared sense of movement.

Alphonse Mucha, *JOB* (color lithograph, 1897). Courtesy of Victoria and Albert Museum, London.

These early twentieth-century accounts begin to suggest that it is possible to relate to a line, feel the way a line feels, even without projecting human qualities on it. We can understand this through phenomenology, which posits that we feel a shared embodiment and a material commonality with what we behold. Existential phenomenology supposes an open and generous body that transforms in interaction with the world. And we can understand it through the Deleuzian view that our body is too big to be the site of transformation and always ends up appropriating experience to the human scale. Deleuze criticised phenomenology for privileging the human centre of perception, thus taking too large-scale and anthropocentric a view of what occurs in the encounters between bodies. Instead, he argued, we need to analyse effects on the body at a molecular level. As Spinoza provocatively wrote: 'No one has hitherto laid down the limits to the powers of the body, that is, no one has as yet been taught by experience what the body can accomplish solely by the laws of nature, in so far as she is regarded as extension'.[26] Feeling like an abstract line exercises our capacities for extension and connection. Affects put parts of our body in connection with forces beyond it. They unmake and remake the body.

Despite the differences between phenomenology and Spinozan–Deleuzian theory of affect, both of them affirm that opening to outside forces, though it threatens our integrity, also expands us, makes us more in touch with others, more sensitive, more alive. It seems that in encounters with many abstract lines, the affect arrives first, exciting responses in us, rhythms, micro-movements . . . and then later we respond with our whole body, in the way phenomenology describes. First we are moved from outside, then we might inhabit a body-to-body relationship, between your body and the body of the abstract line. Unless, of course, the abstract line is entirely colonised by figuration, as it is in most cartoons—then it is no longer an abstract line at all.

Now let's think about how we feel empathy with lines actually in motion. It might be harder to avoid projecting human feelings onto moving images, even abstract ones. Animation gives life—breath, *anima*—to non-organic forms, making them feel alive, even when there are no figures. Tom Gunning argues that we feel movement directly; rhythm moves us. 'We do not just *see* motion and we are not simply affected emotionally by its role within a plot,' Gunning writes, 'we *feel* it in our guts or throughout our bodies'.[27] Rapid camera movement, handheld camera, fast or rhythmic editing, and of course the movements of bodies on-screen all excite kinaesthetic responses in embodied viewers. I'm sure you've

felt yourself moving your head and shoulders in saccades and ellipses, maybe even feeling queasy, as you follow the movement of the dogmatically hand-held cameras of the Dogme movement, or leaning forward as you watch a chase scene edited with a fast rhythm like *The Bourne Identity*, or testing in your own body the kinetic precision of the dancers in a Beyoncé music video. These forms in motion give rise to embodied, affective responses as our bodies (or parts of our bodies) encounter them.

Gunning extends this kinaesthetic empathy from photographic film to animation. Animation is a moving image practice that derives much of its power from abstract lines. It allows us to feel impossible movements in our bodies, to contract and bounce, surge, and spread. Sergei Eisenstein was fascinated by what he called the 'plasmaticness' of Disney animations, and computer animation also allows us to experience embodiments, speeds, and rhythms of which our actual bodies are incapable.

I think we are far beyond 'identification' with another body when we empathically feel cinematic movement. The best animations don't subordinate the rhythmic line to figurative needs but allow it to exceed, and even direct, the feeling. The line resolves around the human or animal figure, but it also has an independent expressive quality. For example, Lina Ghaibeh's animation *Sad Man* depicts a Beirut bachelor whose everyday routine is broken only by electrical power cuts and running out of water. The simple event of facing each new day at the bathroom mirror transforms into a series of surreal solutions: the man's sad face wipes off onto the towel; it gets sucked into a bottle; his tears flood the room. Ghaibeh suggests the man's figure and face simply with thick, irregular, expressive lines, and she uses the same to empathise with the man, and the room, and the water, until all is empathy.

What about animation that challenges the way a line is constituted? Masayuki Kawai does live performances with analogue video feedback and makes compositions from the results. His *Video Feedback Auto-generated Piece 40*, for example, is not a painted animation, so we can't identify with the hand of the artist or with the indexicality of a pre-existing line. It's not a computer animation, so the lines are not extrusions of algorithms.[28] We can enjoy these ambient pastel forms and the abstract lines they generate for both phenomenological and affective reasons—that is, it both supports an extremely distended experience of our body, and it unmakes our body. Affectively, *Video Feedback Auto-generated Piece 40* brushes against our perception and incites fluid micro-movements in response to

Still, Lina Ghaibeh, *Sad Man* (2004). Still from animated short by Lina Ghaibeh, *Sad Man* © 2002 Lina Ghaibeh, reproduced with permission of Lina Ghaibeh.

its own. Phenomenologically, we relate to it as to another body. For there is still a body here—the body of the video medium. Analogue electronic interference produces these abstract lines (and their haptic space) in the struggle between the electron beam and the video raster lines that would normally contain it. Personally, I am very fond of electrons, those tiny 'souls' that we humans harness into disciplined armies to do our bidding. I like it when they escape these bonds and do things they want to do. Our bodies resonate with the struggles of the electronic medium. So we feel a shared embodiment and materiality with video itself.

I've been arguing that we can cultivate an innate capacity for empathy with non-organic objects. We can develop our capacities to live across the porous boundaries between ourselves and everything else, to live in Leibniz's 'grey area' and Spinoza's encounters between bodies. Unfortunately, empathy makes us vulnerable. Power has invaded our very acts of perception and feeling. Technologies to analyse our sensations and perceptions are harvesting us as consumers and providers of data to corporations. In the attention economy, our perceptions translate into information useful for capital.[29] Commercial media and industrial

Still, Masayuki Kawai, *Video Feedback Auto-generated Piece 40* (2011). Courtesy of MORI YU GALLERY and Chi-Wen Gallery.

design are working to instrumentalise our acts of perception and empathy. As scholars like Pasi Valiaho and Steven Shaviro have shown, movies, games, and device interfaces are designed to stimulate maximum affective response. They are exploiting the very kind of empathic openness that I have been arguing we need to develop. They are drawing people into an ersatz oceanic feeling deployed at the very micro-levels of perception and affect.

For example, facial recognition software, combined with technologies to analyse human facial micro-movements, is able to read our faces and anticipate our responses even before we can. The company Affectiva has developed a platform, based on research at the MIT Media Lab, called Affdex Facial Coding. It 'reads emotional states such as liking and attention from facial expressions using a webcam . . . to give marketers faster, more accurate insight into consumer response to brands and media'.[30] Affectiva's software accounts for cultural differences, so nobody is safe![31]

And Facebook has developed a program called DeepFace that combines artificial intelligence (AI) software and big data to identify untagged faces with

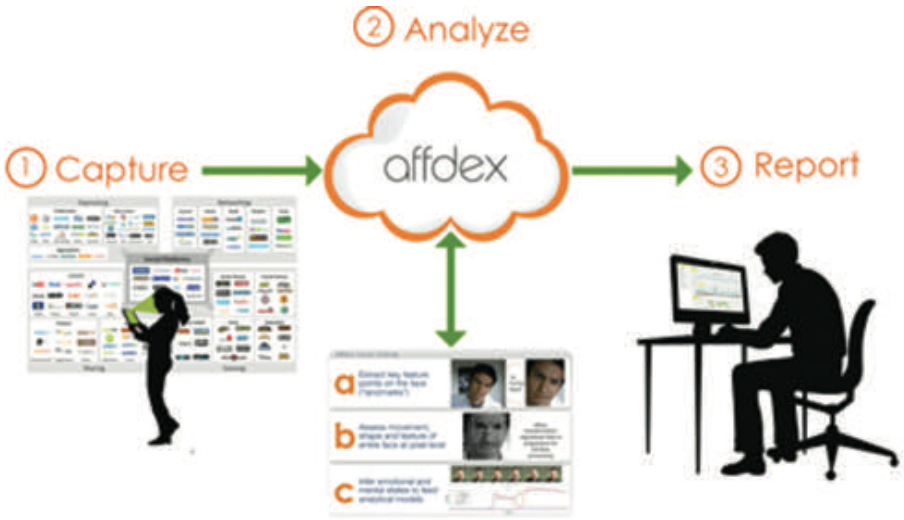


Image from Affectiva website.

97.25% accuracy—about as good as human capacity. Facebook developed DeepFace from programs it acquired when it bought the Israeli company Face.com in 2012 for US $60 million.[32] Most likely, the software was originally developed for military surveillance, a big concern for Israel. I note for my pixel-loving friend Azadeh Emadi that DeepFace is squeezing the maximum labour out of pixels by algorithmically aligning images of faces for most effective recognition. The researchers write: 'The network architecture is based on the assumption that once the alignment is completed, the location of each facial region is fixed at the pixel level. It is therefore possible to learn from the raw pixel RGB values, without any need to apply several layers of convolutions as is done in many other networks.'[33] This is not empathy software but powerfully supports the antisocial anticipation of empathy that other programs like Affectiva's have achieved.

So our faces and their varying moods will soon be subject to instant recognition both online and in places equipped with surveillance cameras. Luckily, face masks are in fashion again, in designs by Hussein Chalayan, Alexander McQueen, Gareth Pugh, and others, so we can hide our expressions when we go shopping and search the web on our camera-equipped devices.

Meanwhile, synaesthesia, the skill of sensory empathy, or feeling like an abstract line, has become a hot commodity. Designers of computer interfaces,

online avatars, mobile electronic devices, hotel lobbies, and a raft of other things are starting to corral perceptual empathy to make appealing objects. The Ford Motor Company employs a synaesthete to do 'cross-sensory harmonization' for Ford, optimising the relationships between the look, sound, and feel of Ford car doors, steering wheels, etc.[34] Some of these applications can make life in the well-designed world more pleasant. But they also dull our senses by pre-empting our sensory engagement with the world.

Recall that Riegl's terms ornament and argument originally corresponded, respectively, to narrative, figurative images, and non-narrative, relatively non-figurative images. In our time, argument continues to arrive in the form of figurative images, but as capitalism invades the perceptual field, all kinds of perceptibles have become hortatory. Ornament too is designed for instrumental purposes. This means not all abstract lines are really abstract—some are designed to soothe, some to stimulate. Argument now shapes not only perceptibles, but also the act of perception itself.

Of course, there are some people who are not vulnerable to these acts of perceptual surveillance. The very poor, who do not use computers or mobile phones that subject them to social media, are free of it. So are the very rich, people who can afford to absent themselves from computer-assisted surveillance. But most everyone else in the world is having their time taken from them by corporations. Poor people around the world are wasting their time playing Candy Crush Saga.

How on earth can we resist? My first answer is that instead of playing games or checking Instagram, we do exercises in feeling like abstract lines. This will develop our perceptual resistances.

Next, how to prevent our most intimate capacities from being harnessed and used against us? Synaesthesia, empathy, and feeling like an abstract line are capacities much broader, richer, and more 'useless' than commercial applications need them to be. The ally of perceptual uselessness is, of course, art. Art gives us perceptions and affects and opens us up to unforeseen empathies for no reason but to challenge and expand our capacities for being alive. In Spinozist terms, colours, shimmer, tuneful melodies, infectious rhythms, and abstract lines make us more alive. They affect us, make us open and vulnerable, yes, but they also make us aware of the larger-than-human powers of which we are a part. A Spinozan criterion for social political collective action: do new experiences (technology, design) increase or decrease capacity to affect, be affected, and act?

My third suggestion is that cultivating our abstract line feeling can develop collective powers, or what Walter Benjamin called collective innervation. Benjamin argued that new technologies redesign our perceptions. Importantly, this need not occur against our will—as is the case with the instrumental technologies discussed above—but also with our creative collaboration. Annunziato's algorithmic line, Ghaibeh's sympathetic animated lines, Kawai's video feedback, the snaking lines of Ivorian wax cloth, psychedelic posters, and the other abstract lines I've discussed here have a creative effect on our embodied perception. Collective innervation, as the film historian Miriam Hansen explained, imbues technology with the social relations and sensuousness that capitalism denies.[35] So participating in new technologies is an occasion for our bodies to form novel responses. That's what we do when we cultivate feeling like abstract lines. In Spinoza's term, enlarging our powers of perceptual empathy helps us to gain adequate ideas, converting passive affect to knowledgeable action.

Feeling like an abstract line, then, allows us to feel what we have in common with non-organic life—life forces that animate plants, rocks, molecules, electrons. I hope that, rather than succumbing to overwhelming media affects and well-designed experiences, we can continue to take risks and cultivate our inner powers of feeling in common with life in general. This way we can create zones of power and 'useless' beauty that will serve as batteries for collective action.

Endnotes

1. Daria Martin, Interview with Fiona Torrance, a mirror-touch synaesthete, 18 March 2013.
2. Daria Martin, Interview with Anonymous, a mirror-touch synaesthete, 5 Nov 2012.
3. Daria Martin, Interview with Anonymous, a mirror-touch synaesthete, 5 Nov 2012.
4. Gottfried Wilhelm von Leibniz, '*The Monadology and Other Philosophical Writings*', trans. Robert Latta (London: Oxford University Press, 1965).
5. Matthew W. Campbell, J. Devyn Carter, Darby Proctor, Michelle L. Eisenberg, and Frans B. M. de Waal, 'Computer animations stimulate contagious yawning in chimpanzees', *Proceedings: Biological Sciences* (2009), 276, 1676, 4255–9.
6. Miriam Bratu Hansen, 'Benjamin: Mistaking the Moon for a Ball' in *Cinema and Experience: Siegfried Kracauer, Walter Benjamin, and Theodor W. Adorno* (Berkeley: University of California Press, 2012), 132, 18.
7. De Waal, 4258.
8. Gilles Deleuze and Félix Guattari, '1440: The Smooth and the Striated', in *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 496–7.
9. Laura U. Marks, '*The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses* (Durham and London: Duke University Press, 2000).
10. Deleuze and Guattari, '*A Thousand Plateaus*', 499.
11. Deleuze and Guattari, '*A Thousand Plateaus*', 497–8.
12. Deleuze and Guattari, '*A Thousand Plateaus*', 499.
13. David Morgan, 'The idea of abstraction in German theories of the ornament from Kant to Kandinsky', *Journal of the History of Ideas* (1996), 57, 2, 238.
14. Deleuze, '*Spinoza: Practical Philosophy*', trans. Robert Hurley (San Francisco: City Lights Books, 1988).
15. Deleuze and Guattari, '*A Thousand Plateaus*', 248–50.
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17. Laura U. Marks, '*Enfoldment and Infinity: An Islamic Genealogy of New Media Art*' (Cambridge, MA: MIT Press, 2010), chapters 4 and 5.
18. Margaret Olin, 'Self-representation: resemblance and convention in two nineteenth-century theories of architecture and the decorative arts', *Zeitschrift für Kunstgeschichte* (1986), 49, 3, 391–4.
19. Robert Vischer, 'On the Optical Sense of Form: A Contribution to Aesthetics', in H. F. Mallgrave and E. Ikonomou, eds., *Empathy, Form, and Space: Problems in German Aesthetics, 1873–1893* (Santa Monica, CA: Getty Center for the

History of Art and the Humanities, 1994), 109.

19. Robert Vischer, 'The Aesthetic Act and Pure Form', trans. Nicholas Walker, in Charles Harrison *et al*., eds., *Art in Theory, 1815–1900: An Anthology of Changing Ideas* (Oxford: Oxford University Press, 1998) [original German publication 1874].
20. Morgan, 'The Idea of Abstraction in German Theories of the Ornament from Kant to Kandinsky', 317–41. Quote is from Wølfflin, 'Empathy and the Problem of Form', *Art in Theory, 1815–1900*, 713.
21. Gustav Jahoda, 158. Jahoda argues that Lipps treated sympathy and positive *einfühlung* as synonyms.
22. Theodor Lipps, '*Aesthetik. Pyschologie des Schonen und der Kunst, part one, Grundlegung der Aesthetik*' (Hamburg and Leipzig: Leopold Voss, 1903), trans. and quoted in Morgan, 'The Idea of Abstraction in German Theories of the Ornament from Kant to Kandinsky', 234.
23. Morgan, 'The Idea of Abstraction in German Theories of the Ornament from Kant to Kandinsky', 236.
24. Interestingly, Lipps also described 'negative' *einfühlung*, in which another person's antagonistic gesture repels us. He wrote that when he sees a person with an arrogant attitude, 'My inner being objects; I feel in the arrogant look a life-denial or life-inhibition affecting me, a denial of my personality.' This description accords remarkably well with Spinoza's description of the way another person's angry or threatening attitude diminishes my own powers of acting.
25. Susan Lanzoni, 'Empathy in Translation: Movement and Image in the Psychological Laboratory', *Science in Context* (2012), 25, 3, 301–27.
26. Baruch Spinoza, 'Ethics', part III, prop. II, in *Improvement of the understanding, Ethics and Correspondence of Benedict de Spinoza*, trans. R. H. M. Elwes (New York: Wiley, 1901), 131.
27. Tom Gunning, 'Moving away from the index: cinema and the impression of reality', *Differences* (2007), 18, 1, 39.
28. Computer animation is a fairly Platonic medium, in that each of its forms is the expression of an algorithm.
29. (cf. Jonathan Crary, '*Suspensions of Perception*'; Jonathan Beller, '*The Cinematic Mode of Production: Attention Economy and the Society of the Spectacle*').
30. http://www.affdex.com.
31. http://www.affdex.com.
32. '"DeepFace" could provide instantaneous facial recognition via Facebook', *Russian Times*, 19 March 2014, http://rt.com/usa/deepface-instantaneous-facial-recognition-facebook-706.
33. Yaniv Taigman, Ming Yang, Marc'Aurelio Ranzato, and Lior Wolf, 'DeepFace: Closing the Gap to Human-Level Performance in Face Verification', undated paper published by Facebook, 2014.
34. Caroline Winter, 'The Mind's Eye: Synesthesia Has Business Benefits', *Bloomberg Businessweek*, 9 January 2014.
35. Hansen, 'Benjamin: Mistaking the Moon for a Ball', *Cinema and Experience*, 132–45.