



Gestalt, Animation, and the Culture of Design

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This article explores the affinities between animation practice and experiments in perception by Gestalt psychologists. By drawing out a Gestalt style of seeing — a sensitivity to the visual forces that scaffold an image — we can better describe movements, figures, and spaces in animation. Although these affinities make Gestalt appropriate for discussing animation, they do not necessarily imply that animated films merely illustrate or independently verify Gestalt laws of perception. Rather, they suggest two branches of cultural practice sharing what philosopher of science Ian Hacking calls a 'style of reasoning': a regularized procedure whose consistent results form a basis for knowledge in a given culture. This article argues that Gestalt and animation are co-participants in the 'culture of design': a project of shaping sensory arrangements in order to shape populations, which began in the nineteenth century and has gained force through the present day. It is this culture of design, which includes the exploration of cinema as an art of graphic arrangement, that has become all-but-ubiquitous in the twenty-first century and has led to the ubiquity of animation.

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Some scholars have begun using the term 'Gestalt' when they refer to certain effects related to animation. Hannah Frank describes an inky patch on a card in Robert Breer's *Blazes* (1961) as bearing a certain 'Gestalt', one that suggests 'a bird flapping its wings'.¹ Elsewhere she calls Breer's film *Fuji* (1974) an 'experiment in Gestalt', wherein we are invited to see that all it takes for us to recognize Mount Fuji is a triangle, or an upside-down V with a certain obtuse slope.² Andrew Johnston describes an early experiment in electrical image reproduction (a predecessor of the CRT technology in television sets) which brought an image into resolution 'through a pointillist Gestalt'.³ Jordan Schonig describes the effect of a compression glitch in Chairlift's music video for 'Evident Utensil', wherein an abstract collage of colour begins to move like a man's face, as a 'perceptual effect where we seize a recognizable form from the temporal Gestalt of its movement'.⁴

As these authors use it, the term is not being used in a very technical sense; aside from Schonig, none of these authors cite Gestalt psychologists in their work. Yet it's significant that these authors choose the word 'Gestalt', rather than a cognate like 'shape' or 'form'. Each author is describing something *like*



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a shape, but not something that is fixed or assured. In each example, there is a sense that the percept in question is fragile, contingent. It might have been perceived otherwise. The inky patch might not make a bird; a triangle or an upside-down V might not make Mt. Fuji; an abstract collage might not make a face. Each of these percepts might have remained a chaotic visual soup, bearing no configuration at all. A kind of work is required, on the part of the perceiver, to complete the impression in question. Each example yields something that feels like it 'holds together' before our eyes, and not because we are directly seeing conditions in the physical world. These conditions are created out of whole cloth, or heavily technologically mediated, such that their visual coherence is an open question. The 'togetherness' of these examples is not a given. It must be earned, by being arranged before our eyes just so. Each of these arrangements forms one half of a kind of perceptual agreement, an agreement that a viewer will complete by grasping the arrangements as being organized just so.

It is precisely these kinds of perceptions — perceptions that might be grasped otherwise, and which therefore seem to tell us something about how we grasp things in the world through our senses — that Gestalt psychology was constructed to explain. In this article, I argue that Gestalt psychologists and animators found many of the same perceptual effects, implying a similar picture of human nature as primarily tasked with organizing the world and organizing ourselves in concordance with it. Because Gestalt and animation have been so historically preoccupied with how sensory arrangements must be 'earned', Gestalt turns out to offer an excellent framework for describing animation — especially a period and class of animation practice that explicitly toyed with the limits of perception.⁵

However, I will hold back from claiming that animators ended up 'proving' the theoretical claims of Gestalt psychology. (They certainly did not prove any of Gestalt's more controversial theories, such as brain isomorphism). Rather, I wish to draw out some historical implications of the overlap between Gestalt and animation as *styles* of manipulating or knowing the world. Ultimately, I want to suggest, Gestalt and animation were silent partners in what we might call the 'culture of design': a dual obsession with shaping arrangements of the senses and shaping arrangements of populations, an obsession that begins in the nineteenth century and continues to this day. It is the ubiquity of design, and not merely the ubiquity of digital imagery per se, that has allowed animation to saturate moving image culture so thoroughly today.

How then is animation generally conceived, and how does Gestalt offer a helpful alternative? By and large, animation has been written about in its distinctness from live-action film — in the fact that its movements, figures, and spaces are not recorded in real time but created from scratch. Writers on film such as Siegfried Kracauer, Erwin Panofsky, and Lewis Jacobs celebrated cartoons (especially Disney) for achieving sights and sounds that seemed effortless when drawn, but which would have been awkward or even impossible to achieve through direct photography.⁶ Cartoons were often conceived as bearing their own kind of medium-specificity — a specificity that lie *within* the technical possibilities of

moving pictures, yet stood apart from 'cinema' proper. This opposition between synthesized movement and recorded movement has persisted to this day. Notably, it helped set the terms for many of the debates around the status of digital film.⁷

From noting that animation is different live-action, it is but a small step in logic to argue that animation *should be as different as possible* from live-action. This hidden value judgment lay in many critics' assessments of Disney's early feature films, when the unruly physics that had once dominated cartoon worlds gave way to more rigid principles of movement and suggestions of three-dimensional space.⁸ That value judgment also underlies the most well-known feature of animation: plasmaticness. First coined by Sergei Eisenstein, plasmaticness is the sense of freedom from worldly constraints that we sometimes feel when we watch animated figures stretch themselves or change their shape.⁹ For Eisenstein, this was an imaginary freedom Americans felt from the tedium of industrial production. Though the concept was originally intended only to describe Disney cartoons of the 1930s, plasmaticness has been so commonly cited, inside and outside of animation studies, that it has nearly been hypostatized into a timeless essence of frame-by-frame filmmaking more generally.¹⁰

There is an obvious problem here. If we assume that a film is more animated the less it resembles live-action, we risk ignoring all the ways that animators acknowledge or embrace the secular world. Examples of animators doing exactly this are numerous. Before the digital era, almost all animation had to be photographed; this meant that matters of camera and lighting were essential to animation aesthetics.¹¹ In addition, animators often *studied* photographed human and animal motion, and their studies resonated with — and in some cases were directly inspired by — scientific studies of motion.¹² Moreover, since World War I animators have made liberal use of the rotoscope, a tool for tracing recorded movements; the Fleischer studio's 1920s hero Koko the Clown was traced from reference footage of Max Fleischer in a clown suit, and the Out of the Inkwell shorts that featured Koko were celebrated in part because those traced movements looked *more* 'animated' than customary cartoon movements.¹³ Finally, animation techniques have long been a part of scientific study itself, diagramming all manner of unseen processes.¹⁴ Animation's powers of visualization and reduction formed a cornerstone of animation practice during and after World War II, most famously by the United Productions of America studio.¹⁵

Animators don't just study the world around them, though. They study perception, albeit often indirectly. This is where Gestalt becomes helpful.

Recall that I said about the opening examples that their holding-together, their manifoldness as unified perceptions, must be 'earned'. This is a logical consequence of how animation, as movement and space constructed frame by frame, works. In a live-action film, a filmmaker can create the impression of a character walking across a room simply by filming an actor walking across a room. As viewers, we would explain our impression of the event by describing

the event itself; if the walk had some idiosyncrasy, we would attribute that idiosyncrasy to the actor. In animation, none of these things is a given. The manner of the walk, the size and shape of the character, even the dimensions of the room — any of these can change at any time.

Hume's problem of induction looms large over animation technique. Thinking within a framework of plasmaticness, we might be inclined to celebrate this openness as a liberation from the impositions of earthly physics; but Hume conceived induction as a problem precisely because it leaves us unprotected from vertiginous, chaotic meaninglessness. In animation practice, we get a perceptual analogue of this problem: how does an animator make anything look like anything at all? When physical forces do not hold in an aesthetic world — when gravity, friction, inertia, and the properties of chemical compounds will not hold together a walking figure or the room it wants to walk across — how does an animator create forces that *will* hold?

The answer, arrived at by animators and Gestalt psychologists alike is, by exploiting the forces within the sensory field itself: the intuitive impressions of attraction, repulsion, and coordination among units of perception that seem to spontaneously arise from within a picture. Like a square that emerges from an array of dots —



— movements, figures, and spaces can emerge from relations of spacing and timing within and across frames.

Some animated films do this more self-consciously than others. Take a film by Norman McLaren, *Blinkity Blank* (1952). In this film, McLaren scratches figures into the emulsion of a film strip, often leaving frames completely black. The early part of the film is, in part, a kind of test to see how frames can be arranged so that, even though we see black frames, we still see movement. McLaren uses blank frames in a number of ways. Sometimes he alternates blank frames with figured frames, which slows down the movement into a fragile kind of stutter. Sometimes he places a few blank frames in a row after a quick movement, as if the figure has sped up beyond our threshold of vision. Sometimes he 'cuts' to black after a burst of action, only to have a figure wander back into the blank frame; it is as if the cut to black turned into an empty space, right before our eyes.

In all these cases, the black frames are plainly visible. And yet, we are amazed that movement still holds across those gaps — that McLaren can even make a gap *add* to the impression of movement. Collectively, these optical tricks demonstrate that a blank frame is not just a blank frame. How we see it will depend on how the frames around it are arranged. Any given blank frame will look more like the figured frames surrounding it than like other blank frames.

This demonstration is remarkably similar to a set of experiments in motion that Gestalt psychologist Max Wertheimer published in 1912. Wertheimer used a tachistoscope to show test subjects three phases of a movement: a vertical

strip, a blank space, and a horizontal strip. By playing with the interval at which the middle phase — the blank space — was presented, Wertheimer got subjects to see a variety of impressions. Most famously, subjects saw *phi*: a 'movement that did not appear to belong to either strip but hovered faintly between the two'. Presented with a differently-timed interval, subjects would see one strip moving and the other strip standing still; this was described as 'dancing'. With yet another interval, a subject would see two *phi* motions simultaneously, one on the left and one on the right.¹⁶ As in McLaren's film, a blank interval is not just a blank interval. Manipulating that interval will alter the impression of motion.

We can see more remarkable similarities in another pair of examples: McLaren's *Animated Motion* instructional series (1976–1978) and Gestalt psychologist Albert Michotte's experiments in the impression of causality. In the third *Animated Motion* video, McLaren uses two circles to demonstrate that when an animator manipulates the number of frames it takes for one thing to hit another. Depending on what the other thing does upon impact, the animator can suggest different kinds of movement: a punch, a gentle push, a cautious touch. Underneath each movement is a set of tick-marks that show the frame-by-frame positions of each circle, demonstrating that what appears seamless and spontaneous is a series of precisely-measured distances.

Albert Michotte experimented with impressions of moving squares hitting each other. Using a 'paper disc' method, Michotte manipulated the timing of each square's movement and found that different timings yielded qualitatively different impressions. If one square approached slowly and the other square shot off quickly upon impact, the impression of causality was especially strong (despite this motion behaving contrary to the laws of physics). If there was a short time lag between the moment of impact and the second square skittering off, it looked as if some mysterious force had been triggered inside the second square.¹⁷

In both films, McLaren is intentionally isolating simple movement effects (for experimental and pedagogical purposes, respectively); most animated films contain figures, movements, and spaces that are considerably more complex. Yet the similarities between McLaren's presentations of movement and Gestalt experiments seem to indicate something deeper, precisely because they are so stripped down.

One thing we might want to say here is that animators have independently verified Gestalt laws of perception. This is more or less what Rudolf Arnheim asserts. He describes an experiment by Fritz Heider and Marianne Simmel, wherein subjects viewed a short film of two triangles and a circle interacting in various ways. Subjects described the larger triangle as 'aggressive' and 'belligerent', solely from its movements. Arnheim notes similarly expressive movements by geometric figures 'in the more elaborate "abstract" films of Oskar Fischinger, Norman McLaren, Walt Disney, and others', taking them to demonstrate the Gestalt theory of expression.¹⁸

I believe a more fruitful path of inquiry, however, might lie in taking Gestalt seriously for animation criticism and history. Arnheim writes of Gestalt as a

'style...of science', likening it to art.¹⁹ Philosopher of science Ian Hacking has picked up on something like this when he theorizes, following A.C. Crombie, 'styles of reasoning'. Broadly speaking, a style of reasoning is a set of procedures that creates its own standards for correctness.²⁰ Like styles of art, styles of reasoning can coexist within a given historical period, and they can accumulate over time. (Statistical analysis, for example, is a style of reasoning).

Speaking to the area of criticism: one of the biggest challenges in animation scholarship is simply describing what we see and hear. Our inherited vocabulary of formal film analysis was forged in the 1960s and 1970s to describe live-action films. It offers little help when we want to capture what is most striking about a piece of animation, save for some CGI films that are constructed to resemble live-action feature films. (And unlike live-action, animation has precious little of a tradition of criticism for us to rely on). We are often left with what animation theorist Suzanne Buchan calls 'the inarticulate "mmm..." that is often the response to what we see on screen'.²¹ This is one of the reasons plasmaticness has proven to be such an appealing concept: it's easy to apply. It saves us the trouble of having to closely describe how things are moving. Paraphrasing or summarizing what we see, noting the fantastical elements, we glide past the initial 'mmm...' and go straight to interpretation.²²

Gestalt gives us a way to push *into* the initial 'mmm...' and come out the other side with a firmer grasp of perceptual subtleties. In the experiments described above, we can discern something like a style of Gestalt experimentation — and, by extension, a Gestalt style of looking at animation. Designing Gestalt experiments, such as the *phi* experiments, required a special sensitivity to the organizational features and thresholds of perception, tweaking an apparatus or a presentation such that one impression would become something else. Gathering the results for these experiments involved soliciting spontaneous, open-ended responses from subjects. Wertheimer, Michotte, and Heider and Simmel collected lively self-reports of what viewers saw — they reported 'dancing', or 'a sort of two-stroke', or, 'It is as if A in touching B induced an electric current which set B going' — and these reports make for some of the most convincing evidence of the effects the authors are arguing for.

Putting these factors together, we can note that a Gestalt style of seeing involves being sensitive to the ways that picture and sound organize themselves before us, describing those ways as closely as we can, however counterintuitive the descriptions might be. We are prompted to pay greater attention to the qualities of visible movements, figures, and spaces themselves. By using our intuitions about organization as our primary means of description and asking questions like, *how does this figure, movement, or space fit together?, what forces seem to scaffold it? how am I seeing it as one configuration and not another?*, we can perform criticism with more precision, staying with the surfaces of what we see and hear without falling back on simply paraphrasing what happens. In this manner, Gestalt becomes less like a science than like formalist art criticism or ordinary language philosophy.

I stress that this way of looking at animation need not be limited to looking for

Gestalt principles in animated figures (similarity, continuity, closure, Prägnanz, and so on).²³ If we look more generally for figures and forces in what we see, we gain new insights into animation techniques throughout history.

Take the line, one of the most basic units of two-dimensional animation. Traditionally, the moving or transforming line has been conceptualized as the formal analogue of plasmaticness. Vivian Sobchack, for one, argues that when the line moves, it effectively rebels against its own form. Whatever a line may represent at any given time, the line itself is always visible as a mark on a surface, irreducible to that representation. That moving, irreducible mark always threatens to overtake the figure, asserting its own power as a sort of inbetween-ness of lively being:

*Thus the animated line never 'flattens' itself out into something geometrically 'straightforward' – nor does it ever become pure figure. Recursive, it insists on the mobility of its becoming, on its unfixing of and separation from itself, on its capacity to simultaneously both posit and negate itself.*²⁴

Taking as her privileged example Raimond Krumme's 2000s commercials for Hilton hotels, in which a single line metamorphoses into various scenes of travel, Sobchack hints that the power of this single transformative line is 'perhaps, the DNA of animation'.²⁵

I don't want to directly argue with the claim that some originary hint of this transformative power is present anytime we see a moving line, but because the claim is so totalizing, it leaves us unable to describe any other functions a line might have. A theoretically posited 'essence' makes it more difficult to perform specific criticism.

Instead of assuming that this power of the line is found everywhere, we may do better to ask: what makes us want to *attribute* this power to the line in cases like these? Why does the line seem to be moving or transforming itself? Why doesn't it look like it's being transformed by something else? Here, the 'pure' line against a blank space seems to be enacting a mysterious power to change itself not because that is a natural property of the moving line but because there are no other visual forces competing with it. A solid line, with nothing around it to make us see it any other way (such as a repeating pattern of the same line), appears to hold itself together. It appears as an abstract version of what Gestalt psychologist Fritz Heider calls a 'thing': a manifold whose parts attract each other more strongly than they attract outside forces or entities.²⁶ Things are, by and large, solid and stable: persons, trees, rocks. When we see a manifold whose parts do not strongly attract each other, we grasp it as what Heider calls a 'medium': a loose arrangement of parts. In everyday life, fluids and gases are mediums. In pictorial terms, if we see a tangled layer of intersecting lines (such as the whorls of a Jackson Pollock painting), rather than a spare line against a blank background, we will be inclined to grasp that tangle as a medium. A thing is that which we press *against*; a medium is that which we press *through*.

Because a thing holds itself together, it tends to move as a single, whole

entity. Push a rock and the entire rock will move. Because a medium does not hold itself together, its parts will move in different ways, and at different rates of speed. Push a volume of water and it will re-form around your hand, making temporary whirlpools or folds, eventually resettling itself.

It is clear that we do not see a naked line in empty space as a medium. When it moves, it moves as one. When it transforms, it does not appear to be transforming according to an outside force, as happens with the volume of water. Its principle of transformation is active: it seems to be changing its own shape. What matters for this description is that the line is *holding* shape *as* it is changing shape. We can observe that the line seems to have transformative powers not because of properties within the line itself, but because the line is being depicted as a unified thing that holds itself together whose force of alteration comes from within itself.

We can usefully contrast this kind of line with another kind of line: the outlines of Disney characters after the mid-1930s. Over the course of the 1930s, animators at Disney thought of outlines less as fixed boundaries of bodies than as flexible skins that contained a principle of movement within them. Disney animation instructor Donald Graham appropriately refers to this change as going from 'animating forms' to 'animating forces'.²⁷ When an animator is animating by forces, the 'essence' of a character is not in its shape but in a kind of linear scaffolding held within the character, a flexible vector of movement. The role of the outline is to register the forces of this movement. Thus, the outline of the duckling in *The Ugly Duckling* (Burt Gillette, 1939) is extremely flexible, but we are hardly inclined to attribute powers of transformation to it, because its changes appear to be under the sway of an internal motive principle, unseen but palpable.

We can even note that the camera itself — not the physical apparatus on the animation stand that photographs drawings, but the internally-coherent view of a diegetic animated world — functions as a kind of *figure* in two-dimensional animation. Certain visual conditions, such as parallax, must hold in order for a camera movement to manifest itself. The things onscreen must move in a special synchronization with each other. When this happens, we intuit something *inside* the space taking views of it. Animators like Caroline Leaf and Kathy Rose have played with these conditions, creating strange and nonsensical camera movements. These movements cannot be described in live-action terms; they offer a feeling of movement through space without offering a coherent space. With an eye toward the visual forces of configuration, we can also see other animation techniques in new ways, such as sound synchronization and rotoscoping.

What is implied by this overlap between Gestalt experimentation and animation technique? We can use Gestalt to describe things closely, making animation more amenable to formal analysis; but descriptions are rarely, if ever, epistemically neutral. They entail certain philosophical and political commitments. As philosopher of science Thomas Kuhn has demonstrated, even our descriptions of something as simple as the swing of a pendulum will

imply some overall picture of the world around that pendulum. An adherent of modern physics will see it primarily as a revolution around a center, which is being interrupted by the force of gravity. An Aristotelian would see it as a fall toward the earth, interrupted by the arm of the pendulum.²⁸ What might taking Gestalt seriously commit us to? What happens when we see a labile line in blank space as a thing with the power to remain itself through change, or when we see a labile line around a cartoon duck as a skin being reshaped according to a vector of forces inside it?

Even if we stop short of taking the Gestalt style of seeing all the way to its proponents' most extreme theoretical conclusions, by its very nature of seeking out perceptual arrangements the style will incline us toward a view of perception *as* arrangement. Somewhat like the way phenomenological film criticism tends to take the camera as a model of phenomenology's own picture of being-in-the-world, attending to Gestalt forces leads us to reflect on ourselves as arrangements of forces that organize themselves in relation to the world and each other.²⁹ One upshot here is that instead of modeling political engagement as an opposition between dominant structures of power and acts of resistance to those structures — a kind of binary thinking that may lead us to resist the idea of 'structure' altogether, potentially slipping into what feminist author Jo Freedman has called the 'tyranny of structurelessness'³⁰ — we may think about structure itself as an ally and a weapon. Instead of, 'how do we resist?' our primary question becomes, 'how might we organize?'

This is precisely the way many animators of the middle twentieth century thought about their medium. Animators of this period took inspiration from graphic design — a field that itself took inspiration from Gestalt psychology.³¹ György Kepes's seminal design textbook *Language of Vision* argued that the graphic arts provided a kind of sensory education that could unite the public. By encouraging citizens to see themselves in terms of relationships with others, Kepes argued, designers provided a defense against the threats of fascism and haphazard technologism; not coincidentally, Kepes openly acknowledges an intellectual debt to the Gestalt psychologists.³² (To this day, Gestalt laws are routinely included in graphic design textbooks). While the high modernists of the postwar era were growing disenchanted with collectivist politics and turning to esoteric aesthetic forms, postwar animators working outside the American studio system held a commitment to organizing with a public.³³ In 1975, the International Association of Animated Film issued a manifesto that read, in part:

*We must prove that apart from being an art media of its own, a useful tool in entertainment and in advertising, animation could also contribute to the understanding of basic human and social problems. [...] In fact, given a chance, animation can contribute to serve humanity on a far broader level than it has done in the past.*³⁴

This is not to say that mid-century animators made especially radical films or held to an especially radical politics; by and large, they did not. By extension, engaging with Gestalt psychology will not automatically produce a radically

new kind of world. But the affinity between animation practice and Gestalt by means of design should give us pause. Dealing with that affinity can help us see historical conditions to which we already find ourselves committed.

What might those historical conditions be? More pointedly, why did Gestalt principles seem like an appropriate tool for graphic design? I want to suggest here that Gestalt offered clear applications for a project that designers were already engaged in by the time Kepes was writing: the project of arranging the senses in order to arrange populations. As philosopher Jacques Rancière argues, design plays a major role in what he calls the 'distribution of the sensible'.³⁵ Politics for Rancière always involves the construction of a world that is both sensuously direct and held in common. Aesthetics intervenes in politics by pressing at the scaffolding of that sensorial construction. With the growth of mass production in the nineteenth century, the designer gained an enormous amount of power over this construction (for the simple fact that anything that is mass produced, by definition, must be designed).³⁶

Some of the first major critiques of industrialization, in fact, came around concerns of design — namely, from the British Arts and Crafts movement. For art critic John Ruskin and designer William Morris, the effects of industry were visible not only in labor conditions but in the homes and everyday objects of the citizenry. The Arts and Crafts movement argued for social change through, in part, making the built environment more beautiful.³⁷ By the early twentieth century, designers were routinely recognized as crucial political actors. For the major design schools of this time (the Deutscher Werkbund, the Constructivists, the Bauhaus, and so on), envisioning a set of products or surfaces was inseparable from envisioning an entire society.³⁸ For someone like Kepes, then, Gestalt was appealing because it wove design into human nature itself: even in perception, we are all organizing our environments to find the most balanced relations with it.

This is why I didn't want to argue that Gestalt gets at some timeless 'truth' of human nature that animators merely stumbled upon: paradoxically, Gestalt, as an attempt at a scientific psychology, makes arranging — and, by implication, rearranging — the primary task of the human. To think with Gestalt in a historically robust manner is to acknowledge that we live in a culture of design. This has been the case for the overdeveloped West since the late nineteenth century, but the importance of this fact has become more and more important, as professional design has encroached into more and more areas of life: with software, with web and app design, and with the rise of 'design thinking'.³⁹

Film scholarship has so far been limited by its tendency to think about animation as a certain kind of film — and, by extension, to think about the animator as a certain kind of filmmaker. We can see, however, that an equally fruitful path of inquiry opens up when we think about the animator as a certain kind of designer — a *designer of movements*. Several consequences follow from this.

First, the field of animation practice stretches beyond the realm of 'cinema' in a way that cannot be ignored. Animation takes its place not only in the history of narratively-driven works, such as theatrical cartoons, feature films, and television programs, but in the histories of advertisements, propaganda, scientific visualizations, station identifications, video games, apps, and more.

Second, the ubiquity of animation in media culture, which it has become cliché to note, takes on a different tenor. Rather than the 'return of the repressed' narrative often told of animation, wherein visuals produced by hand are initially pushed to the margins of cinema's dominant 'machine vision' (i.e., photography), only to come back and become the dominant mode of filmmaking, we can view animation techniques in conversation with the broader expansion of design into everyday life.⁴⁰ (This has manifested itself in cinema outside of animation techniques as well: note the rise of the sound designer in the 1970s, and the close relationship between film and fashion.⁴¹)

Finally, we can view animation's tendency to play with the organization of our senses as bearing at least as much significance as its representational content. As an art that arranges our sensory impressions, animation, whether its practitioners know it or not, bears some of design's cultural function of arranging populations. Moreover, animation has the ability to arrange these sensory impressions self-consciously. Recall the 'Gestalts' that I began with: an impression of a bird or Mt. Fuji or a human face whose arrangement appears fragile, which appears to need something from us in order to be seen properly, which makes salient the fact *and* the task of organization. As a mode of thinking that mainly concerns itself with the organizational fit between the human and the world, Gestalt is basically an ethos of design. As such, it makes the task of design apparent in ways that other modes of thinking, such as psychoanalysis and phenomenology, do not. It does not in itself promise resistance or utopia.⁴² But it does hold out the possibility of alternative ways of being and forces us to be specific about what those ways of being might be. Which returns us to the question: how are we to organize?

Notes

¹ Hannah Frank, *Frame by Frame: A Materialist Aesthetics of Animated Cartoons*, ed. by Daniel Morgan (Oakland: University of California Press), 22.

² *Ibidem*, 54.

³ Andrew Johnston, *Pulses of Abstraction: Episodes from a History of Animation* (Minneapolis: University of Minnesota Press, 2021), 158.

⁴ Jordan Schonig, *The Shape of Motion: Cinema and the Aesthetics of Movement* (New York: Oxford University Press, 2021), 166–167.

⁵ Of course, each of the arts relies on some kind of organizational principles to achieve coherence; but the kind of 'holding-together' I'm referring to is a more basic perceptual matter than the sense of wholeness often implied by an aesthetic judgment (such as the complementarity of colours in a painting, or the sense of 'rhythm' that E.M. Forster notes as a unifying force of a novel).

⁶ See Kracauer quoted in Frank, 154–155; Erwin Panofsky, 'Style and Medium in the Motion Picture', in *The Visual Turn: Classical Film Theory and Art History*, ed. Angela Della Vacche (New Brunswick: Rutgers University Press, 2003), 69–64 (75 and 84); and Lewis Jacobs, *The Rise of the American Film* (New York: Teachers College Press, 1968 [1939]), 496–505.

⁷ For examples see Lev Manovich, 'What Is Digital Cinema?' reprinted in Shane Denson and Julia Leyda, eds., *Post-Cinema: Theorizing 21st-Century Film* (Falmer: REFRACTION Books, 2016), 20–50, and D. N. Rodowick, *The Virtual Life of Film* (Cambridge: Harvard University Press, 2007), and Dudley Andrew, *What Cinema Is!: Bazin's Quest and Its Charge* (Malden: Wiley-Blackwell, 2010).

⁸ Gregory A. Waller, 'Mickey, Walt, and Film Criticism from *Steamboat Willie* to *Bambi*', in *The American Animated Cartoon: A Critical Anthology*, ed. by Danny Peary and Gerald Peary (New York: E.P. Dutton, 1980), 49–57.

⁹ Sergey M. Eisenstein, *Disney*, trans. by Dustin Condren and ed. by Oksana Bulgakowa and Dietmar Hochmuth (San Francisco: Potemkin Press, 2012), 15.

¹⁰ The most thorough exploration of plasmaticness remains Scott Bukatman, *The Poetics of Slumberland: Animated Spirits and the Animating Spirit* (Berkeley: University of California Press, 2012). I am not arguing against the concept itself: only its hypostatization.

¹¹ See Frank.

¹² Alla Gadassik, 'Assembling Movement: Scientific Motion Analysis and Studio Animation Practice', *Discourse*, 37.3 (2015), 269–297.

¹³ Donald Crafton, *Before Mickey: The Animated Film, 1898-1928* (Cambridge: The MIT Press, 1982), 158.

¹⁴ Scott Curtis, 'Animated Images in a Media History of Science', *Journal of Cinema and Media Studies*, 61.1 (2021), 147–152.

¹⁵ Ryan Pierson, 'Postwar Animation and Modernist Criticism: The Case of Annette Michelson', *Journal of Cinema and Media Studies*, forthcoming. On UPA see Dan Bashara, *Cartoon Vision: UPA Animation and Postwar Aesthetics* (Oakland: University of California Press, 2019).

¹⁶ Max Wertheimer, 'Experimental Studies on Seeing Motion', trans. by Michael Wertheimer and K.W. Watkins, in Id., *On Perceived Motion and Figural Organization*, ed. by Lothar Spillman (Cambridge: The MIT Press, 2012), 1–92.

¹⁷ Albert Michotte, *The Perception of Causality*, trans. by T.R. Miles and Elaine Miles (New York: Methuen, 1963), 121.

¹⁸ Rudolf Arnheim, *Art and Visual Perception* (Berkeley: University of California Press, 1974), 403.

¹⁹ Arnheim, 'Gestalt and Art', *The Journal of Aesthetics and Art Criticism*, 2.8 (1943), 71.

²⁰ Ian Hacking, "'Style" for Historians and Philosophers', in Id., *Historical Ontology* (Cambridge: Harvard University Press, 2002), 178–199.

²¹ Suzanne Buchan, 'The Animated Spectator: Watching the Quay Brothers' "Worlds"', in *Animated 'Worlds'*, ed. by Suzanne Buchan (Eastleigh: John Libbey Publishing, 2006), 36.

²² This, of course, isn't to disparage the act of interpretation. Subtle and powerful interpretive claims have been made using plasmaticness — particularly by Nic Sammond, who notes that the freedom of movement in cartoon figures has a history in blackface minstrelsy. See Nic Sammond, *Birth of an Industry: Blackface Minstrelsy and the Rise of American Animation* (Durham: Duke University Press, 2015). My point here is that

limitations in our powers of description will in turn limit the scope of our interpretations.

²³ Max Wertheimer, 'Investigations on Gestalt Principles', trans. by Michael Wertheimer and K. W. Watkins, in Wertheimer, 127–182.

²⁴ Vivian Sobchack, 'The Line and the Animorph, or "Travel Is More Than Just A to B"', *Animation*, 3.3 (2008), 251–265 (258).

²⁵ Ibidem, 261.

²⁶ Fritz Heider, 'Thing and Medium', in Id., *On Perception, Event Structure, and Psychological Environment* (Ann Arbor: International Universities Press, 1959), 1–34.

²⁷ Gadassik, 286.

²⁸ Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 2012), 111–134.

²⁹ On the importance of the camera (especially the moving camera) for phenomenological film criticism, see Schonig, 'Seeing Aspects of the Moving Camera: On the Twofoldness of the Mobile Frame', *Synoptique*, 5.2 (2017), 57–63.

³⁰ Jo Freedman, 'The Tyranny of Structurelessness', *Berkeley Journal of Sociology*, 17 (1972–1973), 151–164.

³¹ Bashara, 14.

³² György Kepes, *Language of Vision* (Chicago: Paul Theobald & Co., 1944).

³³ On high modernism's disenchantment with public engagement, see Marci Kwon, *Vernacular Modernism: Joseph Cornell and the Art of Populism*, Ph.D. dissertation (New York University, 2016), 17–18, and Robert Genter, *Late Modernism: Art, Culture, and Politics in Cold War America* (Philadelphia: University of Pennsylvania Press, 2011), 24. Annette Michelson follows this narrative when she theorizes American avant-garde filmmaking in 'Film and the Radical Aspiration', *Film Culture*, 42 (1966), 34–42 and 46.

³⁴ Quoted in 'Report on the Lucca Meeting', *ASIFA NEWS*, 1 (1976), 2.

³⁵ Jacques Rancière, *The Politics of Aesthetics: The Distribution of the Sensible*, trans. by Gabriel Rockhill (New York: Continuum, 2004), 12–13.

³⁶ Matthew Holt, 'Baudrillard and the Bauhaus: The Political Economy of Design', *Design Issues*, 32.3 (2016), 55–66 (57–58).

³⁷ Rancière, *Aisthesis: Scenes from the Aesthetic Regime of Art*, trans. by Zakir Paul (London: Verso, 2013) 133–153.

³⁸ On these respective movements see Frederic J. Schwartz, *The Werkbund: Design Theory and Mass Culture before the First World War* (New Haven: Yale University Press, 1996); Victor Margolin, *The Struggle for Utopia: Rodchenko, Lissitzky, and Moholy-Nagy, 1917-1946* (Chicago: University of Chicago Press, 1997), and T'ai Smith, *Bauhaus Weaving Theory: From Feminine Craft to Mode of Design* (Minneapolis: University of Minnesota Press, 2014).

³⁹ On the spread of design thinking see Annemarie Rose Ennis Dorland, 'Doing Design Thinking: An Ethnography of the Digital Graphic Design Studio' (Ph. D. dissertation, University of Calgary, 2018), 33–43.

⁴⁰ Manovich offers the most popular version of the return-of-the-repressed narrative.

⁴¹ On sound design see William Whittington, *Sound Design and Science Fiction* (Austin: University of Texas Press, 2007); on film and fashion see, for example, Lucy Fischer, *Designing Women: Cinema, Art Deco, and the Female Form* (New York: Columbia University Press, 2003).

⁴² Relatedly, I want to emphasize that there is nothing inherently progressive about design in itself, and I believe Rancière overstates its liberatory potential. See, for example, Arden Stern and Sami Siegelbaum, 'Special Issue: Design and Neoliberalism', *Design and Culture*, 11.3 (2019), 265–277.