

CHAPTER ONE

Techno-Phenomenology, Medium AS Interface, AND THE Metaphysics OF Change

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During long periods of history, the mode of human sense perception changes with humanity's entire mode of existence. The manner in which human sense perception is organized, the medium in which it is accomplished, is determined not only by nature but by historical circumstances as well.

—WALTER BENJAMIN

In “The work of art in the age of mechanical reproduction,” Walter Benjamin (1968, p. 222) famously argued that the emergence of modern media of technical reproducibility (above all, photography and film) corresponds to sweeping changes in the organization of what he calls the “medium” of sense perception. Speaking directly to the conditions of mediation interrogated by the various contributors to the present volume, Benjamin’s so-called “modernity thesis”—which anticipates Marshall McLuhan’s (1962) arguments about the way that media-technological changes precipitate transformations of our sense ratios—has been picked up and explored by a range of more recent film and media theorists. Drawing on Benjamin’s notion of a perception-altering “shock effect” (*Chockwirkung*) that mediated the physiological impacts of industrial-era technologies to moviegoers and city-dwellers, for example, early film historian Tom Gunning (2006) traces the emergence of a “culture of shock” that, in cinema and related forms of art and entertainment, radically changed the parameters of human experience in the course of the late nineteenth and early twentieth centuries (for related arguments, see Gunning, 1994; Hansen, 1999; Singer, 2001). Theorists such as Benjamin, McLuhan, and Gunning are accordingly concerned with conditions of mediation in what might well be

the most fundamental sense of the term: at issue for them are not only technical developments in the empirically determinate media of film, radio, and television, for example, but the deeper, and ultimately metaphysical transformations wrought by changes within the media-technological milieu, which is itself seen to serve as a basic condition of all possible experience.

This idea resonates, to various extents, with many of the contributions to the present volume; for example, Graham Harman (Part One, First Dialogue) follows McLuhan and Heidegger in focusing not on the “contents” of media (or experience) but on media as a variable *background for* and *interface with* such contents. Similarly, Lisa Parks (Part One, First Dialogue) is concerned with the *infrastructures* of mediation that typically remain invisible to us when we use media, and Paddy Scannell’s (Part One, First Dialogue) “hermeneutics of trust” aims to expose the experience-enabling *care-structures* that underlie our everyday reliance on media technologies. Implicit in these meditations is the notion that media condition our experience in a rather fundamental way, and that changes in the structures (or infrastructures) of media are therefore capable of transforming the very structures of our experience.

One of the broadest media-philosophical statements of such an approach has been articulated by French philosopher Bernard Stiegler (1998, 2009, 2010), who expands Derrida’s notion of supplementarity to account for the essential or non-contingent role of technics in the constitution of the human and in the production of human experience. Similarly, American media theorist Mark Hansen (2006) defines media as the “environment for life” itself. Against such notions, however, more empirically and analytically minded critics see in such claims an inflationary sort of ontologism that cannot be maintained when we turn our attention back to specific, ontically determinate media technologies and apparatuses. A skeptic like film scholar David Bordwell (1997), for example, sees claims such as Benjamin’s and Gunning’s about the experiential impact of film as pure hyperbole. Bordwell argues, commonsensically enough, that the cognitive structures governing our experience are subject to the slow processes of biological evolution while they remain impervious to the vicissitudes of rapid technological change (for further critical discussions of the so-called modernity thesis, see Carroll, 2001; Keil, 1998, 2004). Predictably, the ensuing debate has tended to reach impasses over basic questions of what, precisely, is at stake in theories of media change, and by what means or methods we should evaluate such theories. Is it legitimate to hypothesize abstract metaphysical transformations on the basis of concrete material changes, for instance, and how we might identify the causal agencies and effects of such change? Are the latter restricted to the cultural domains of discourse and signification, for example, or is the “hard-wiring” of the brain itself supposed to be subject to change?

Clearly, the media philosophers want to claim that media change, as a change in the conditions of experience itself, cannot be contained or encompassed in the realm of words and symbols; critics from the opposing camp therefore see their opponents

committed to claims that can be refuted empirically on the basis of evolutionary biology and cognitive science. If, however, the changing conditions of mediation are in fact the shifting conditions of our historically and materially situated experience, then the scientific knowledge marshaled against the media philosophers will itself be dependent upon a particular media-technical assemblage and therefore subject to occasional paradigm shifts. In this sense, our media might be seen to function like the horizon for thought itself, much like the scientific paradigms described by Thomas Kuhn (1970) or the “epistemes” described by Michel Foucault (1970); a similar suggestion about media as the condition of thought or experience—as a media-technical *a priori*—can be found in Friedrich Kittler (1999). On the other hand, though, this hypothesis ironically casts doubt on the media-philosophical approach, which now appears *unfalsifiable* in a sense that will surely be unacceptable to skeptical interlocutors. We arrive, therefore, at an epistemological impasse: it would appear, at least at this level of generality, that neither side is able to demonstrate conclusively that its own approach is the more reasonable one.

TOWARD THE ANTHROPOTECHNICAL INTERFACE

In order, then, to come to terms with these debates, I propose a *techno-phenomenological* approach that will effectively mediate between the claims of the two opposing sides. Specifically, I aim to outline a theoretical model and an associated mode of investigation that will proceed from concrete phenomena and scientifically plausible mechanisms without foreclosing the route to the more speculative domain of media-philosophical inquiry. Broadly speaking, a techno-phenomenological approach will focus on the embodied interfaces in which phenomenological intentionalities are embedded and variously mediated by technologies. Such an approach, I contend, enables us to see concrete media changes as involving experiential transformations that are at once robustly material, and hence not restricted to cultural or psycho-semiotic domains, while still compatible with the long durations of biological evolution. Linking organic bodies and inorganic technologies in the pre-discursive (and indeed pre-perceptual) space of embodied practices—where such practices are themselves both subject to and instrumental in the course of evolutionary selection and change—an *anthropotechnical interface*, based concretely in proprioceptive and visceral sensibilities, will be shown here to constitute the primary site of media change, and a condition of mediation in the strong sense considered above.¹

As a theoretical model, the anthropotechnical interface describes a relational substrate that underlies the socially, psychically, and otherwise subjectively or discursively organized relations that humans maintain with technologies. It is therefore a logically prior or more fundamental condition of mediation than the particular

interfaces that are routinely thematized in discourses highlighting technological innovation and change (e.g., the move from mouse-based to touchscreen interfaces with computational technologies). Whereas the latter are conceived as determinate changes in the relations between already constituted subjects and objects, the anthropotechnical interface is the diffuse space within which human subjects and technological objects are constituted in their historically emergent relations. I conceive this interface as a material pivot in a realm of historical change that both exceeds and grounds our perceptual, conceptual, and linguistic faculties to register change or to write history. Accordingly, embodiment—conceived as distinct from and ontologically prior to the discourses and social subjectivities founded upon it—is historically variable, and it varies in response to technological change; the affective body itself is decomposed and reconstituted when inserted into novel technological circumstances. Seen thus, embodiment (and, *a fortiori*, subjectivity) is not separable from these circumstances but is born (and reborn) from out of them. On this view, technological and human embodiment are co-constitutive, for the former transforms the latter as it opens new means of contact with the world, while the technological environment is ineffectual without a body thus “enviored” and affected.

What I am outlining is a theory of change anchored in the transformation of the body as it moves *between* one material environment and another. And while it implies that scientific knowledge will also be dependent upon (and hence relative to) such movements, my model of anthropotechnical interaction as the site of deep-seated change takes its cue from and aims to be compatible with scientific realism, broadly speaking. Positing material–environmental interactions that antedate and enable the emergence of human organisms, social formations, language, and thought, I assume the biological body to be an evolutionary product. Yet the mutations that I propose occur as the result of technology’s “unnatural selection” are of a different order, exceeding anatomical and physiological or narrowly technical determination.

FROM VISUAL TO VISCERAL MEDIA

In order to argue for these claims and to demonstrate the model’s ability to mediate between ontic/ontological or physical/metaphysical levels, I will take a somewhat oblique approach to Benjamin’s and Gunning’s arguments about the transformative force of early cinema—which I take here as exemplary for broader media-philosophical claims about the conditions of mediation. It is important to recall that this early “cinema of attractions” was not a primarily narrative medium, and that its attractions were not even purely visual in nature (see Gunning, 1986; Hansen, 1991; Musser, 1990). The cinema was part of a landscape of thrilling rides, car-

nivals, bustling urban settings, and modern means of transportation—where the cinema harnessed the excitement and velocity of movement and addressed early audiences in the manner of a roller-coaster ride (Rabinovitz, 2012). The appeal, or the promise, was haptic as much as visual, and film took aim at the proprioceptive and visceral sensibilities of its audiences—most clearly in so-called kinesthetic films or phantom rides.² I emphasize this because it is easy to overlook the transformative potential of such novel environments so long as we focus only on representational and visual aspects, which we tend to assimilate as objects to the fixed perspective of a subject. I want to focus, though, on the embodied interval before stimuli become ordered perceptions.

Brian Massumi (2002) has emphasized the nonconscious nature of proprioception, “the sensibility proper to the muscles and ligaments” (p. 58), which gives rise to the “muscular memory” informing “skill, habit, posture” (p. 59). Our inability to recall the objective appearance of streets we navigate as if in “auto-pilot,” to say exactly where the bathroom light-switch is, or whether we locked the door this morning, attests to the praxical primacy of this realm, which is “asubjective and nonobjective” in nature (p. 59). Deeper still than the proprioceptive domain is the “interoceptive” one of “viscerality” (p. 60): the dimension, quite literally, of gut feelings, where external stimuli are registered prior to and independently of conscious processing. My body reacts to an onrushing car, carries me autonomously across the street, before I realize what has happened; subjective perception occurs in retrospect, emerging as a *re*-collection of sense as anticipated by animal viscerality.

Together, proprioception and viscerality mark out a realm of pre-personal affect, the cognitive processing of which defines feeling and perception in a world articulated according to distinctions of inside/outside and subject/object (Massumi, 2002, p. 61). My argument is that we interface with mediating technologies directly at this medium depth of corporeality, as a condition of our subjective grasp on and interaction with the world, so that when the “face” of technology is transformed, so too is the “face” of the body; the human–technological “inter-face” itself is revolutionized, and with it the phenomenal world. Proprioceptively, habits are transformed as we learn new skills and incorporate new technologies; our mesodermic memories are tuned to new movements. Viscerally, the impact of technological novelty, conceived as a clash of familiar modes of apprehending the world with an incommensurable sensorimotor interface, may be even more radical; at this level, shock may be experienced directly on and in the body prior to and autonomously from subjective awareness.

EMBODYING THE SHOCK OF THE NEW

To bring this perspective to bear on the media-philosophical claims associated with film's impact on experience, I propose what at first might appear an unlikely comparison with the motor-driven escalator—a technology whose early history coincides in remarkable ways with that of the cinema. Like film, the escalator has a pre-history or pre-apparatic phase of design and experimentation that goes back to around 1850. Furthermore, its early exhibition is quite similar to that of film: the escalator was installed briefly in 1895 as an amusement attraction at Coney Island, and it appeared at fairgrounds and Expos over the next few years, including the Paris Expo of 1900, where both film technologies and the escalator were demonstrated. The connection between early cinema and the escalator is not simply historical, therefore, but more broadly cultural. Both technologies were marshaled as heralds of modernity and technological novelty, and the appeals of both were broadly visceral in nature. Thus, a techno-phenomenological analysis of the escalator might cast a surprising light upon the cinema as an embodied interface and, in this way, help us to break through some of the impasses surrounding the “modernity thesis” put forward by Benjamin and Gunning.

Consider, first, the nonmotorized staircase. Despite its simplicity, it should not be reduced to a mere physical construction of wood or stone; it is an interface with the world, both human and nonhuman, that opens *for* human's access to material locations otherwise unreachable. Indeed, building a staircase *creates* such spaces, makes them potentially occupiable, thus constructing in a small but very direct way a portion of the world. Proprioceptively, the staircase evokes a matrix of coordinated movements that we learn as children and apply unthinkingly to the various staircases we encounter in the course of our lives. This matrix is abstract, in the sense that it is applicable to a wide range of staircases, more or less independent of their material construction, dimensions, or location; but it is nevertheless concrete, encompassing specific patterns and rhythms of muscle contractions and relaxations, precisely timed and balanced against one another. These habitualized movements are only partially accessible to conscious experience, as is adequately demonstrated by the strangeness of posture revealed in Eadweard Muybridge's (1901) images of staircase locomotion. As with other habitual movements (walking, running, swinging a golf club), self-consciousness in stair-climbing may in fact impede successful execution.

Enter, now, the escalator. Compared to the staircase, the escalator is a newer technological interface that resembles the staircase both in form and function. But due to the motorized movement of the stair steps, the proprioceptive matrix proper to the staircase is of only limited applicability to the escalator. Once on the escalator, one may, of course, choose to actualize the staircase matrix, actively climbing rather than standing and waiting to be delivered by the mechanism. But embarking and

disembarking are a completely different matter. Imagine, as a thought experiment, a young child getting on an escalator. If inexperienced, the child may place a hand on the handrail, preparing to exert weight on it and pull his or her body up the first step; experience with the staircase has taught the child to do so. But the handrail itself moves, propelling with it the hand. Retracting it, the child looks down at his or her feet, sees the moving steps, but finds no stable point of entry; corporeal indecision, temporary paralysis give rise to visible anxiety. Then a parent takes the child's hand, offering a responsive support that solves the problem of the handrail's unyielding auto-motion, and pulls the child onto the first step, coordinating the child's movement with his or her own. Safely on the escalator, the first steps have been made in the escalator's incorporation by the child, forming the basis of a proprioceptive memory of general applicability to escalators. A new interface with the world is being forged, transforming the child's body and the worldly spaces open to it. Ontogenetically, the child (who literally follows in the parent's footsteps) is repeating the phylogenetic development that led societies with escalators to regard their interface with them as "natural," i.e., similar in kind to the habitual motions of walking, running, and climbing staircases.

But between the introduction of the novel technology and its proprioceptive naturalization, a transitional phase of bodily uncertainty intervenes. Nonlinear, this transition falls outside the matrix of old habits, while a new matrix is not yet available to accommodate it. This is a time of viscerally perceived intensity, the shock of the new that disrupts the old but will be forgotten when habit recommences. Having developed a proprioceptive schema for the staircase, the child is shocked to find it inapplicable to the escalator. The child's anxiety, I propose, is altogether nonpsychic: it is literally visceral in that the absence of a suitable matrix for interfacing with the moving staircase is experienced in the gut rather than the brain; for a moment, the child becomes all gut, involuntarily retracting hand, shuffling feet, shifting weight, seeking the safety of orientation that only an unavailable interface-matrix can provide. Though properly corporeal and nonconscious, such a matrix is itself a condition for conscious experience. For the child, the parent's outstretched hand is also a proprioceptive interface-matrix, and it draws the child back to subjective awareness, to determinate relationality with the world, from out of the chaos of viscosity.

To grasp the shock of transitional viscosity, to see that it is indeed both *shocking* and *visceral*, we may approach the situation from a different angle. Consider your own habitual encounters with escalators. Consider that you have not just one but several matrices for interfacing with them: one applies to continuously moving escalators, another to those escalators that are activated and set in motion by stepping on a pressure pad at their point of entry. The differences between your proprioceptive memories of the two are only minimal, but they are quite significant. For example, with the continuous-motion escalator, you can run as fast as you like and, so long as

you coordinate your entry carefully, jump onto the first step with a flying leap. With the pressure-pad escalator, you must be careful to step squarely on the activator, not to jump over it, and you would be advised to give the apparatus a moment to start up before embarking. Your body “knows” these things and will usually gauge the appropriate rhythms for you. But habit can also get you into trouble. You approach a motionless escalator, step on the pressure pad, and continue on at a pace you have proprioceptively learned to be appropriate for such mechanisms, allowing sufficient time for the escalator’s motion to commence. Rather than standing, you unthinkingly choose to climb the steps, tacitly “knowing” that a staircase matrix applies after a certain point. But the escalator has not in fact begun moving, and having had no reason to suspect a malfunction beforehand, you do not consciously recognize this fact until it is too late—you miss a step, stumble, catch yourself or fall. Afterwards, you may feel embarrassment, looking around to see if anyone saw. You may laugh uncomfortably, curse the escalator, or flee the scene as quickly and quietly as possible. But, if you have had this experience yourself, you will agree that it is difficult to describe what exactly happened in the interval, *what it felt like in the process*, between your habitual entry and your recognition of the escalator’s malfunction. In the space-time defined by the mismatch of your proprioceptive matrix to a situation of its inapplicability, you have been thrown out of the space of normal stimulus–response or action–reaction schemata and into a profoundly corporeal realm of burgeoning viscerality. At this level, there is no subject to do the perceiving, acting, or feeling; here there is only pure, unqualified shock.

CONDITIONS OF MEDIATION, CONDITIONS OF CHANGE

With regard to the transformative power of the cinema and media change more generally, I propose in conclusion that technological transitions regularly challenge sensorimotor matrices in precisely this way. They subject our bodies to the shock of intensities for which we lack the (corporeal, not just conceptual) means to accommodate and integrate them into the world of subjects and objects. When exposed to them repeatedly, these unqualified intensities, immediate in impact, lay the groundwork for a transformation of bodily-perceptual habits, thus altering the overall shape of our interface with media-technologies and with the wider world through them. But because an interface is itself a condition for conscious experience, we are prone to apprehend change extrinsically and in retrospect, blind to the germinal motor that drives transformation: hence the tendency toward linearization, as with teleological views of the transition from pre-cinema to early to classical cinema.³ Such views efface a deeper level of micro-transitions for which no common ground exists to measure or imagine the change. At the relational level of anthropotechnical interfacing, media change is about the emergence of new global

schemata of embodied subject–object relations. It is accordingly nondiscursive, robustly material, and yet compatible with the relatively slow temporality of biological evolution. For media change, as a change in the originary conditions of mediation, occurs in a different register, one that is metaphysically distinct from—and that serves as the basis for—any empirical determination of change.

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NOTES

1. For an expanded version of the argument, see Chapter 4 of my *Postnaturalism* (Denson, 2014). See also Denson (2007) and Denson (2011) for related arguments and explorations. What I am calling techno-phenomenology owes much to Don Ihde's (1990) phenomenology of mediating technologies, itself indebted to the philosophy of Merleau-Ponty (1962), among others. As developed in Denson (2014), my own approach wedds this line of thought to a Bergsonian metaphysics and to various approaches developed in the field of science studies.
2. Kinesthetic films and phantom rides were produced by attaching a camera to the front of a moving vehicle (train or automobile, for example), simulating the experience of modern transportation; this simulation was taken to its extreme in Hale's Tours, which used a railway car as the physical cinema venue (see, in particular, Chapter 3 of Rabinovitz, 2012).
3. Gunning (1986), Hansen (1991), and other early film historians spearheaded a paradigm shift away from a view of the cinema "maturing" from a so-called "primitive" to a "classical" phase. I am suggesting that the teleological tendencies that these critics called into question are widespread in a variety of medial and technological contexts, and they are the result of our (necessary) blindness to the pre-subjective changes that take place at the level of the anthropotechnical interface.