INTRODUCTION

Techniques of the Affect Lab

Throughout the course of the twentieth century occurred major reinventions in North American emotional life—in what it means to *express* an emotion, in what it means to *interpret* an emotion, in what it means to *measure* an emotion. These changes took place in dispersed and varied incarnations of what this book terms the *Affect Lab*: experimental spaces in which a technical instrument identifies something moving inside a body, something emotional, something we refer to as the affects. The techniques of the Affect Lab can happen and have happened in a range of locations—the university, the asylum, the prison, the parlor—locations that often mark the border between science and pseudoscience in the history of the emotions. The story I'm telling in these pages is a media archaeology of American psychology, which explains how, between 1900 and 2000, affect and emotion became things described and theorized only when affect and emotion became incited and registered by way of media.

"The observing gaze refrains from intervening," remarks Michel Foucault of the birth of clinical medical practice, "it is silent and gestureless. Observation leaves things as they are; there is nothing hidden to it in what is given."[1] Yet the affects cannot be perceived unless one moves beyond the empirical to the occult, the unseen, the *interior,* and interiority is accessed only through operations that refuse to refrain from intervention. Questions of simulation and dissimulation, of deception and malingering, of the incommensurability of my experience and your experience, of the distinction between what is written and what is felt—these lead to fears, anxieties, problems: problems assumed assuaged by material things that promise access to the mind as a physical, embodied, and impersonal entity that moves and is moved in relation. Knowledge of the affects exists only

as bodies are processed through a medium. Yet techniques of observation, inscription, and identification serve to *invent* that which is observed, inscribed, identified. The techniques of the Affect Lab precede and produce the affects they identify. Admitting as such creates significant complications when we use affect as a concept to theorize the ontology of the body and its relations.

"When one hears about another person's physical pain," writes Elaine Scarry, "the events happening within the interior of that person's body may seem to have the remote character of some deep subterranean fact, belonging to an invisible geography that, however portentous, has no reality because it has not yet manifested itself on the visible surface of the earth."[2] As with pain, so with affect more broadly. It is in making another's interiority sensible, empirical, that their interiority becomes real, communicable. But one can only trace particular incitements of affect through particular techniques and technologies. These particularities are assumed generalities, an eternal truth of the body rather than a momentary fragment. My argument foregrounds how the body, its capacities, its movements, its experiences—any quality that exceeds the empirical—have never been successfully differentiated from the physical capacities of media. When we attempt to locate an affective metaphysics of life, of humanity, of relation, what we find are the materialities of media. The ontology of the body, when it comes to that which cannot be directly perceived, can only be understood as a metonymy for the technics employed to make sensible. These media are necessarily placed under erasure, otherwise one must contend with the fact that all knowledge, like all power, "emanates from and returns to archives," the archives delineated by the technical capacity for writing, recording, storing, and transmitting.[3]

This book examines several technologies related to the history of psychology in North America: William James's use of spiritualist toys at Harvard University, the practice of serial photography in a number of early American psychological laboratories, experiments on "psychopaths" performed in a Canadian prison with an instrument called an Offner Dynograph, and the development of the "electropsychometer," or "E-Meter," by Volney Mathison and L. Ron Hubbard in the early days of Hubbard's religion, Scientology. But any moment a medium is employed to identify—and thereby produce—the affects, this moment can be said to be a specific instance of the process identified as the Affect Lab. And

even though I render this phrase in the singular, my use of "lab" throughout this book follows Darren Wershler, Lori Emerson, and Jussi Parikka when they suggest that "despite the singularity, certainty, and individuality of the moniker 'the lab,' labs have never been static, unchangeable, unitary entities with clear-cut histories."[4] My investigation into the psychological history of affect and emotion is intended to draw out contingencies, multiplicities, not the "origins" of affect as a singular, transcendental "thing."[5] As I will seek to demonstrate, the versions of emotion and affect produced in each of these experimental settings should best be considered *incommensurable,* with any one experimental understanding of the body and its affectability impossible to reduce to another.[6] Or, through particular, situated, technical definitions of the body that emerge from the instruments employed in experimental work, affect is revealed as an incoherent concept with few foundations in the materiality of the body—and many foundations in the material capacities of media.

Apart from Mathison and Hubbard's E-Meter, which was never properly "psychological" to begin with, the varied historical moments described in this book are directly and indirectly foundational for the contemporary understanding of affect employed in the humanities and social sciences, a range of work grouped under the name "affect theory." While there are many traditions that go by the name affect theory, there are two clear, dominant strains in the humanities and social sciences. One derives from cultural theorist Brian Massumi's interpretation of philosopher Gilles Deleuze, the other from queer theorist Eve Kosofsky Sedgwick and her reading of the psychologist Silvan Tomkins.[7] These two strains are not identical, but they share many assumptions about what a body is and what a body does, often legitimating arguments through reference to psychology and the neurological. While, for instance, Sedgwick's understanding of affect accepts the existence of several universal, basic emotional categories and Massumi's does not, both definitions of affect are united in arguing that "affect" is something distinct from "emotion." The former is physiological, preconscious, a body's impersonal capacity to act on and be acted upon by others, a substance that cannot be said to exist within a body but, rather, bridges interiority and exteriority. The latter is captured by language, by meaning, by culture and interpretation. The former is ontological, foundational; the latter is personal, subjective. These are claims that have some grounding in the history of psychology. Confusingly, however, this distinction is similar to the one that psychology makes

not between "affect" and "emotion," but between an "emotion" and a "feeling," where the former is physiological and rooted in the body, and the latter is subjective and interpretive.[8]

As I'll return to later in this introduction, there are numerous other definitions of affect and emotion, several of which are in line with the critique I offer in these pages. Yet the biological, psychological understanding of affect as a neurocognitive universal that exists prior to meaning, consciousness, and interpretation, bridging bodies as a material force that moves impersonally between them, regularly characterizes how "affect" is defined. While I often use "affect" and "emotion" interchangeably in this book, I am almost always using these terms to refer to biological, neurocognitive processes that exist prior to or outside of language and culture. In this book, I am interested in how a range of similar but distinct concepts—not just affect and emotion, but also something called "empathy," for instance—are presumed grounded in the material reality of the body through a veiled deferral to scientific and experimental knowledge, a deferral that cannot acknowledge the material and medial foundations of the body and mind.

The biological, the neurocognitive, and the psychological thus haunt affect theory in many of its articulations. As such, this book demonstrates why this affective ontology must be approached ironically. In looking at the technological foundations of American psychology, *The Affect Lab* historicizes the fabrication of an object named "affect" and how the assumed qualities that exist *within* that object as its ontology are metonymically grafted *onto* it by way of the media employed to discover the object in the first place. This book is, in other words, a story of a materialist epistemology preceding ontology; a story about the forgetting of mediation; a story of how claims of being and becoming are made through the neglecting of the physical capacities of media.

Measuring Interiority

There is an exigency for my argument, an exigency implied throughout this book and made explicit at several points, extending beyond concepts popular throughout the humanities and social sciences. But to make it overt: today, the emotions and affects have come to be central points in developing interfaces between bodies and machines, interfaces central to not only digital media but a broader remaking of work, capital, entertainment. Around 1900, with the rise of psychophysics and a technological

splitting of the senses, Friedrich Kittler argues, "What remains of people is what media can store and communicate. What counts are not the messages or the content with which they equip so-called souls for the duration of a technological era, but rather . . . their circuits, the very schematism of perceptibility."[9] Since around 2000, there has been a particular motivation behind perceptible penetrations of the body's surface, enabling a transmission and manipulation of emotion that links the face and skin with the brain and nerves: measuring and cultivating the emotions for profit—keeping people working, buying, and watching—all to extract value and predict behavior in the name of risk management and social control.[10] The political economy of digital media requires the modulation and maintenance of affective bonds between user and platform.[11] These changes began in the middle of the twentieth century with a reconstruction of work in both the factory and the office.[12] But in the present, various forms of emotional capitalism continue to add value to the technological shaping of emotional life.[13] Contemporary economic reality leads to depression, burnout, and misery.[14] Measuring and cultivating happiness invents a crude, utilitarianist form of capitalism that guides both "behavioral economics" as well as attempts to develop pharmaceuticals to keep people productive.[15]

Even if one does not accept arguments for misery and the ideal of happiness in the sustaining of late capitalism, it's easy to see how attempts to identify and measure the emotions are widespread. In 2015, the social networking website Facebook filed a patent to propose a passive use of digital cameras on computers and smartphones, taking pictures of users, matching photographed facial expressions with expressions in a database (Figure 1).[16] This would permit, the patent suggests, the automated evaluation of subjective feelings about whatever appears on one's social media feeds, an evaluation that would manipulate what content is seen and how one would potentially feel in response. Facebook's patent application defines neither what an emotion is nor which facial expressions are assumed emotional. It merely suggests their system would rely on "one of many well-known techniques."[17] Facebook's proposal is representative of tech companies investing in the identification of facial expressions of emotion. Reasons for this include the refinement of user experience following principles of "affective computing,"[18] attempts to create realistic, digitally animated characters in games and film for purposes of "immersion,"[19] a cybernetic reinvention of prediction and control,[20] and even a broader, more fundamental transformation of sensibility that

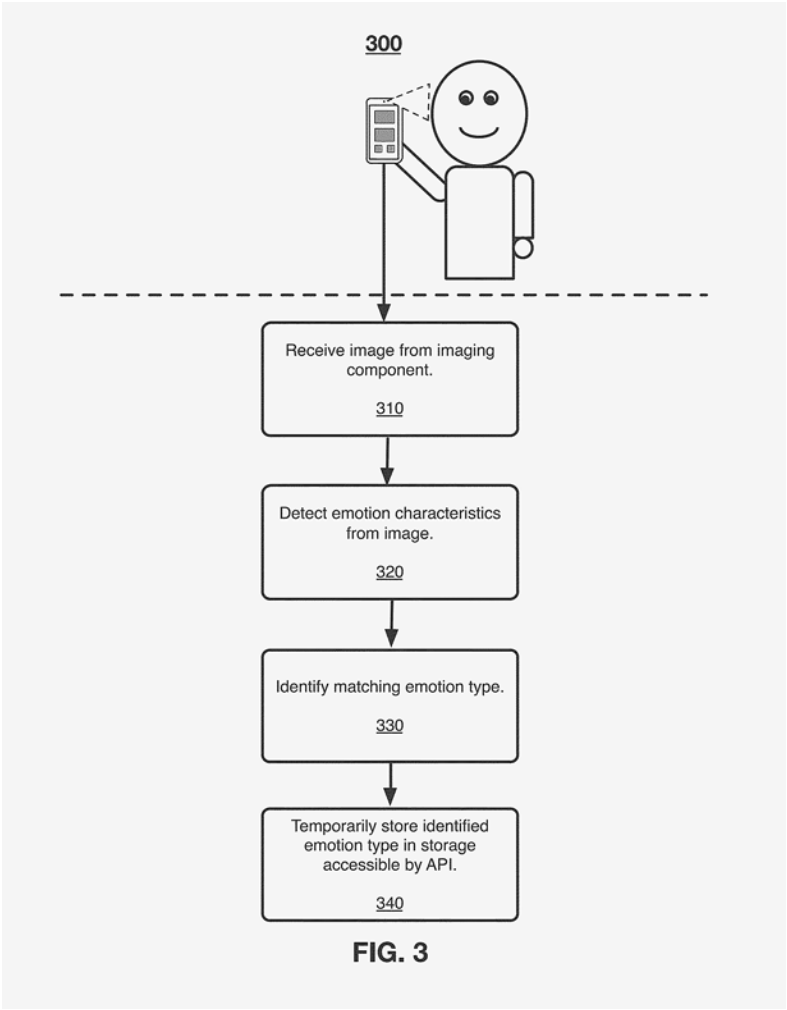

Figure 1. A diagram of the technological "logic flow" of emotion detection from Facebook's patent application, from US Patent Application No. US20150242679A1.

rests on the technological manipulation of embodied affection prior to conscious awareness.[21] Each of these examples has some relation to determining internal emotional states from images of facial expression—extracting value by way of attention, creating "friendly" and unintrusive interfaces with computers and robots, inventing fully "immersive" simulated environments.

Affective interfaces presume that the body and experience can be separated from the media that observe and thereby "know" interiority. The face is most often the privileged place to divulge that which is behind the surface of the skin, revealing one's intentions and beliefs. The face is a signifier for the uniqueness of individuality, a screen supposed to disclose more than it hides. But an unmediated face is an impossibility. The face only reveals interiority if one knows the proper technique: if a twitch of the eye indicates a lie, if a movement of the mouth indicates fear or contempt. The technique instructs one of where to look or how to see (or leads one to see through the proper instrument, an instrument that can never be acknowledged as determining what is visible). And yet we regularly have examples where these techniques inevitably fail when faces are too strange, too different.[22] Or they fail when faces deviate from the default assumption of a neutral, white, male countenance.[23] Nevertheless, a belief in the unintentional facial exposure of truth has guided, among other things, the condemnable persistence of physiognomy, the pseudoscience that argued one's character to be revealed through the physical features on one's face widely popular throughout the Victorian era in Europe, now updated for an age defined by social media metrics.[24] The quantified face, measured and mechanized through metrics of the social graph, determines varied means of predicting and controlling that reproduce homophobia, racism, and sexism, among other things—as was the case with physiognomy in its initial form.[25]

The truth revealed by the face in physiognomy was itself derived not just from normative judgments of appearance, but from technical and medial practice. Physiognomy has long been associated with the Zurich pastor Johann Kaspar Lavater, whose books widely circulated throughout Europe around 1800. Lavater began from the position that "all men (this is indisputable), absolutely all men, estimate all things, whatever, by their physiognomy, their exterior temporary superficies." In judging others, we depend, "in part, upon the exterior form, and thence [draw] inferences concerning the mind."[26] Lavater's essays provide a detailed elaboration of how his readers could learn to perform Lavater's own judgments of others themselves, to the best of their abilities, cultivating a moral precision in evaluating others on appearance alone—Lavater believed that particular forms of beauty were evidence of a divine soul, that appearance was character made manifest. But the techniques Lavater taught, illustrated repeatedly in his writings, were guided by unclear reasoning and presumed the face to be still and motionless, as if a drawing in a book

could substitute for the lived motion of a body. Indeed, there was something particular about *drawing* that Lavater thought essential for the physiognomist, a technique that surpassed the ability to judge from a visual evaluation of the body alone. "Drawing is the first, most natural, and most unequivocal language of physiognomy. . . . The physiognomist who cannot draw readily, accurately, and characteristically, will be unable to make, much less to retain, or communicate, innumerable observations."[27] The most instructive artistic technique is the production of "shades," which, Lavater suggests, predates drawing and painting. A shade is an image of a face in profile, abstracted of all detail except for a darkened outline, produced by having a subject sit on a specific kind of chair (see Figure 2).[28] It is only with the proper artistic discipline, the proper artistic method, the proper tools, and the proper abstraction that, for Lavater, one can see and judge correctly, one can get beyond the visible surface of the face,

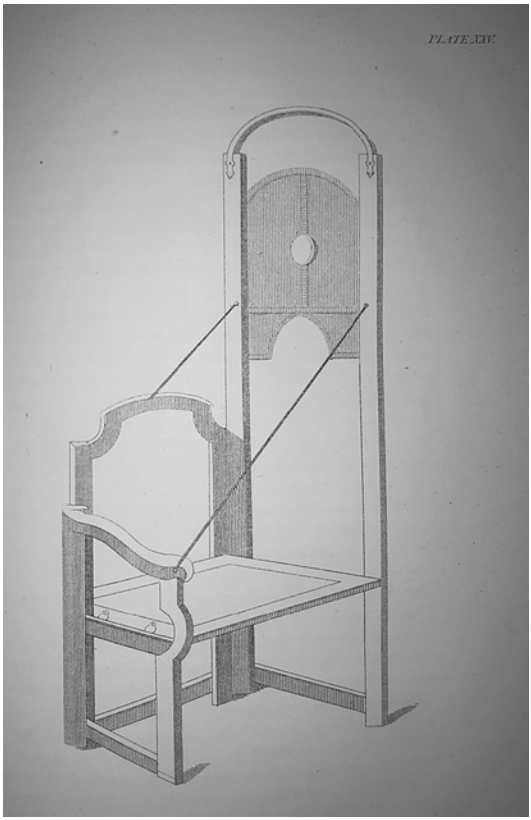

Figure 2. Lavater's instrument for the drawing of shades. Plate 25 of Lavater, *Essays on Physiognomy.*

approaching the interiority of self, character, and feeling. Drawing could only render faces inert and motionless—and therefore, the understanding of facial expression and character outlined in Lavater's physiognomy presumed its truth to emerge from faces devoid of movement.

The techniques of physiognomy have long been dismissed as without scientific merit, evidence of popular prejudice rather than fact of character. But today, what was once a technique of drawing is a technique given to computer vision and machine learning. The logic of Facebook and other algorithmic models for identifying faces would suggest that the problem is the fallibility of human judgment, not physiognomy itself. Divorced from techniques of the hand and eye, computers can supposedly inform us if someone is trustworthy or not, if someone is criminal or not, what someone's sexuality might be—a resurrection of discrimination through data that descends from Lavater and early attempts to identify criminal types.[29] Artificial intelligence can once again make racism scientific.[30] But the specificity of today's AI, its reliance on techniques derived from the mathematics of Bayesian probability, reinvents Lavater—rather than truth that emerges from the stillness of a drawing, the interiority of a person comes from mathematical correlations that presume the likelihood that what came first also will follow, remaining the same. The technique draws on historical precedents, but specificity of measurement changes how the interior essences of individual subjects are produced and organized.

The machine is "ignorant of theory and incapable of speculation," and the deferral to the machinic observation and revelation of truth is a nineteenth-century ideal Lorraine Daston and Peter Galison term "mechanical objectivity."[31] Mechanical objectivity is defined through a drive to repress human agency and interpretation, using technologies and techniques to "put in its stead a set of procedures what would, as it were, move nature to the page through a strict protocol . . . This meant sometimes using an actual machine, sometimes a person's mechanized action, such as tracing."[32] While not all forms of objectivity are mechanical, the techniques of the Affect Lab are guided by a perpetual, implicit assumption that instruments, as an embodiment of mechanical objectivity, merely reveal the truth of interiority, the truth of the affects and emotions. The deferral to the objectivity of the instrument is what turns a psychological metaphysics into a science, purging it of spiritualistic, religious, and mystical beliefs about interiority and the communication of souls.[33] The separation between science and pseudoscience derives from

the use of a medium to measure—something implicit even with Lavater's physiognomic studio and its chair for shades. The production of interiority through a medium to measure and inscribe has massive implications for our current attempts to technologically identify, manage, control, and commodify the emotions, where the emergence of experimental psychology can even be understood as the "prototype" for defining the user of contemporary technological interfaces.[34] When one uses an instrument to measure, I claim, one merely discovers measurements. What exists beyond mediation is still withdrawn, beyond empirical access.

If the face can reveal anything—even a face digitally photographed and measured—it can only show that approaching truth beyond the skin is forever differed. Philosopher Emmanuel Levinas tells us that "the face is the evidence that makes evidence possible."[35] Anthropologist Michael Taussig responds, "By no means does Levinas's face depend on giving us the Other's *interiority*."[36] For Levinas, the evidence of faciality is evidence of infinite alterity—the data supplied by the face disclose only that the truth of the other is withdrawn. In observing a face, we presume that the other has interiority, even though this interiority of the other descends into a metaphysical infinitude. Yet the assumption that guides Facebook (and a range of other technological solutions for identifying emotion) is that measurement will mitigate against (and solve) the problem of metaphysical alterity, alterity being the inverse of the homophilic ontology of the social graph.[37] This does not mean that metaphysics is dead in a time of digital media. Rather, at least since around 1900, media *are* that which provide our metaphysics. *Media are our first philosophy.* An interiority mediated by technical means reveals not the biological capacities of the human body but the ability of a machine to modulate and measure time and space.

Methods like that of Facebook's descend not only from Lavater but from the massively influential work of psychologist Paul Ekman and the broader paradigm of "affect program theory," which argues that each of the "basic emotions," emotions such as fear or anger, has a specific, unique neural "circuit" or "signature" (or "program") triggered in response to a particular stimulus, a "program" that also directly relates to the triggering of specific facial muscles, giving each emotion a visible, facial correlate.[38] These programs—this theory tells us—are innate to human, and often animal, neurophysiology, and their existence is assumed to have some evolutionary benefit. Ekman, along with his collaborator Wallace Friesen, developed their influential "Facial Action Coding System," or FACS, in the 1970s. This system links the movement of specific facial muscles with

specific affect programs, providing theoretical and practical grounding for many technological systems of emotion detection.[39] Affect program theory has influenced a wide range of other disciplines. Ekman and Friesen, along with other affect program theorists, like Silvan Tomkins, Carroll Izard, and Jaak Panksepp,[40] are regularly cited in a broad range of research arguing for the existence of biological, emotional universals,[41] assuming that the biology of emotions is something that psychology *knows* and, in addition, that it's something that the theoretical humanities now *know* as well—by way of Tomkins, affect program theory has directly shaped the version of affect theory that descends from the work of Eve Kosofsky Sedgwick, who appropriated the biological, neurological grounding of emotion accepted by these writers as a provocation directed at cultural theorists around the turn of the past century.[42]

Ekman's work was developed using still photographic images and, occasionally, video and film, techniques that I return to in chapter 2.[43] While photographs of the face are perhaps the most well-known medium in my history, the techniques of the Affect Lab are many and have changed throughout over a century of research in psychology, including—alongside photography, video, and film—spiritualist toys, electrical shocks, and devices that measure electrical resistance. In tracing distinct, if related, historical moments, I ultimately argue that what we refer to as "affect" is guided through what happens inside particular instances of the Affect Lab. What affect *is* depends on the techniques of the Affect Lab. It is only through these techniques that the body is transformed into an object of knowledge capable of becoming scientific evidence, it is only through these techniques that evidence is then interpreted in accordance with narratives about the body and its behaviors (which are often derived, in turn, through past inscriptions of the body).[44] It is only through these techniques that affect theory can find something called affect that emerges from the neurocognitive materiality of the brain. These techniques that visualize what a body is and does are inherently symbolic, even if they may not be linguistic.[45] They are material, but we must understand materiality as a *process of materialization* that occurs at the intersection of the physical and the symbolic.[46]

Media Epistemology and the Antisocial Turn in Affect Theory

To make these claims, this book examines specific technologies used in empirical, experimental studies in North American psychology, along

with how these studies emerged—and deviated—from problems posed in the arguments of German aesthetics. It also examines the technologies used in some pseudoscientific offshoots of psychology and psychiatry that emerged in the middle of the twentieth century as psychotherapy began to be broadly popularized, demonstrating the limits of mechanical objectivity in psychology—and how the deferral to a medial, mechanical objectivity in psychology reached its limit around 1950. While it is widely known that the turn to laboratory instruments in the history of American psychology around 1900 emerged to legitimate psychology as a science, separating it from spiritualism and the occult,[47] one dimension of my argument is how these same technologies and practices cannot possibly exclude the occult and the metaphysical. If the point of scientifically and experimentally studying affect and emotion is to get beyond visible, empirical surfaces, approaching the truth of the body's interiority—the very thing Levinas noted led to a metaphysical infinitude of the other—then, because technologies are presumed to allow access to the metaphysical beyond, they cannot separate "science" from spiritualist speculation.

Or, in following these laboratory instruments, this book makes an argument about the epistemological implications of measurement devices. Technologies of measurement *produce* the phenomena that is to be measured, they do not aid in observation,[48] which consequentially leaves psychological interiority in a mythical space beyond mediation, only accessed through technical mediation. One must transcend the empirical to approach a beyond of concealed inner experience. Yet while I center on specific technological instruments and their physical, material capacities for measuring the human body, I do not argue that these instruments can be detached from larger historical or interpretive contexts.[49] Rather, it is my intent to situate the objects I examine, showing how material instruments can serve to legitimate cultural, metaphysical knowledge as objective, as separated from broader cultural debate and contestation, an objectivity that, today, has led not to a hegemonic victory of scientific thought but to a range of scientistic beliefs that imagine technology as endowed with speculative capacities to synthesize bodies and minds, transcending material existence.

As Gaston Bachelard once wrote, in one of his books foundational for the French tradition of "epistemological critique" in the history of science,[50] "It may well be the instruments that produce the phenomenon in the first place. And instruments are nothing but theories materialized."[51] Any science must reflect critically upon how it produces its objects, and

how legitimating scientific truth requires attending to historical, social, and technical contexts, assuming not continuity and progress in how objects are made but discontinuity and difference.[52] While the instruments used in particle physics, given their massive scale and cost, often lend continuity to that which we call "physics,"[53] the psychology of the emotions in America is guided by no such continuity. Yet this continuity is assumed. Rather than continuity, I argue, psychology in the United States is shaped by a range of incommensurate methods that appear *illegitimate* when properly contextualized, employed in "laboratory" spaces that are barely controlled and barely laboratories, guided by questions about spiritualism and religion, about theater and audience reception, about incarceration and recidivism, about cults and mind control.

Attending to the physical qualities of instruments used in psychological research has consequences for not only the history of psychology, but, today, the humanities and social sciences writ large. As mentioned above, psychological claims about the physiology of emotion often guide what has come to be known as "affect theory." Even though many of those associated with affect theory claim that affect is material in some respect—as in, affect is a way of placing the physical capacities of the body into humanistic work after decades of attention to language[54]—most engagements of affect theory with the history of emotions have systematically neglected the instruments that produce these "things" as objects upon which a range of other claims depend. In its deferral to psychology and the brain, affect theory simply accepts that psychology can, in fact, know what an emotion is, that there are means for identifying and understanding the experience of an emotion, that there are qualities about a body that can be considered emotional. Yet attempts to technically identify an emotion dictate how bodily capacity has become something to control, manage, and correct, producing a range of problems for the contemporary study of affect that cannot—and will not—be addressed until the role of technical devices in providing the ontology of affect is acknowledged.

Recent critiques of affect theory have also sought to historicize affect—and its relation to modern scientific thought—in ways that resonate with my argument here, seeing affect and affectability as scientific norms inextricably bound together with racist, colonial models of social behavior. Or, affect and emotion, as concepts we use to define an essential "humanity" and "sociality," presume the control and management of bodies and their capacities, enforcing proper ways of being and existing, proper norms of sentiment and sympathy, norms deemed necessary for inclusion in a

modern liberal polity. In *Toward a Global Idea of Race,* Denise Ferreira da Silva argues that modern liberalism differentiates between an "affectable 'I'" and a "transparent 'I,'" the former of which characterizes colonized, racialized subjects imagined to be "affectable" and defined by relations of exteriority, the latter characterizing white Europeans, their rationality, their self-determination, defined by their enclosed (and yet "transparent") interiority.[55] Colonized subjects must be made "transparent," self-determining in accordance with European Enlightenment norms of autonomy. Other writers and theorists, such as Sianne Ngai and Mel Y. Chen, have made similar arguments, claiming that affect and emotion are inevitably organized in hierarchies—one's ability to affect and be affected is not neutral and universal but unfolds along raced and gendered lines, differentiating between a properly sentimental (white) subject and, to use Ngai's words, an "overemotional racialized subject."[56] Kyla Schuller and Erica Fretwell have placed these arguments in relation to nineteenth-century psychophysics and psychology, arguing that the early study of sensation in psychology framed the ability to affect and be affected as one in which sensory capacity—the ability for a body to "properly" make sense "impressions"—is linked with race, particularly. One can be affected too much or too little. Capacity is not a universal. Normative definitions of sensation and affection can be, and have been, used to exclude particular bodies and populations from social life throughout modern existence.[57]

Xine Yao has proposed that the tendency characterized by these writers, along with earlier arguments by Sara Ahmed and Lauren Berlant that demonstrate how emotion and sentimentality can serve to exclude and discriminate, be characterized as an "antisocial turn" in affect studies.[58] Referencing arguments from queer theory and their characterization as an "antisocial" critique, such as those of Leo Bersani and Lee Edelman, who frame queerness as negation,[59] Yao argues that these authors all demonstrate how the privileging of a universal, neutral affect leads specific bodies to, in Fretwell's words, "differentially amass ontological weight," which subsequently requires an analysis "of how gendered, raced, and disabled being (rather than gender, race, and disability as such) becomes 'a problem.'"[60] The antisocial turn in affect studies, then, foregrounds these "problems," bodies and modes of being considered "disaffected" or "antisocial," examining how other modes of feeling and relating cannot be acknowledged by affect studies as commonly defined, which—in the model descending from Massumi and Sedgwick and their appropriations

of psychology—has a tendency to understand the body's capacity to affect and be affected as an evenly distributed universal.

My argument, however, is slightly different from these authors. I, too, reject affect as a cognitive universal and, in this book, I occasionally privilege bodies seen as "problems" in terms of their affective capacities—something I share with the "antisocial turn" in affect studies, most obvious in chapter 3, which examines the construction of "psychopathy," a "pathology" defined by its inability to experience empathic affect. The distinction between these other authors and what I offer here, though, emerges from how I am interested not just in the history of psychology and its policing of emotional life but in the epistemological role of technological instruments in shaping (and making "objective") the normative boundaries upon which this policing can take place. This leads me not just to question the power of the human sciences to differentially organize bodies and their capacities but to question the very possibility of knowing a body's capacities beyond the limits of instrumental measurement. I am not just interested in how affect invests in different bodies differently—even though I agree with and often follow this argument in these pages. I am interested in how the very definition of "affect," its legitimation as a material concept to describe the body and its relations, becomes, when properly contextualized, a range of incoherent, irreducible statements that are less about the capacities of bodies than the capacities of media to measure.[61]

If, as Bachelard argues, instruments are theories materialized, then the "theory" with which we begin shapes our ultimate arguments in the end, even if we approach history archaeologically, attempting to avoid rigid genetic determinisms in our analysis. Taking "theory" here to mean not just scientific theory, not just an imagined ideal, but a contextual, situated way of being, my beginning is not with the seeming rationality of Enlightenment science as it attempts to control and manage colonized populations, the beginning of most of the authors I reference above. I instead start with how emotional expression was taken up as a *problem* in German psychophysics and early American psychology. In my history, we will see, the "transparency" of the European subject was an impossibility to be solved through technical instruments. The self-contained, rational subject was not always an ideal in European thought, or, at least, was not something understood to exist without a form of technical realization—one just needs to turn to German Romanticism and German aesthetic theory, both of which were major influences on early American psychology, to see how.

Descending from Romanticism and German aesthetics, emotion became a scientific problem because outward expression could never be said to transparently display interiority, as the autonomy of the subject was seen as a barrier to collective existence.

This is not to say that I radically disagree with any of those I mention above, but, again, that my starting point is not with a rationalist exclusion or policing of the affective, and not with attempts to define (raced, gendered) capacities for sensation. Instead, I begin with the almost irrationalist emphasis on the power of *art* to generate feeling, to express emotion, something associated with the Romantic coining of *Einfühlung*, or "feeling-into," as a desirable goal for art and representation—a concept that descends from Enlightenment problems of national belonging but ultimately rejects Enlightenment rationality and autonomy, a concept that would come to directly shape early German experimental psychology and its influence on American psychology. Or, as I'll detail momentarily, I begin with how the turn to emotion in European thought emerges from the failure of Enlightenment rationality to understand the power of art to generate emotional responses in audiences—how presumedly autonomous individuals could be overtaken by an aesthetic experience, and how this loss of individual autonomy in the face of aesthetic spectacle was framed as socially desirable. While Yao and Schuller focus on *sentimentality* and *sympathy,* normative and restrained forms of emotional experience that involve identification of one with another, I hope to reframe what we might mean by affect as well as *empathy,* the word coined in English as the translation of *Einfühlung*, a term that carries with it presumptions about a loss of individuality and a direct movement from one into another. Today, more than sentiment or sympathy, empathy has come to be a kind of master term to describe the ability to cognitively experience relation.[62] Empathy produces the bonds that bring people together. It forms the foundations of sociability as the material thing that unites members of a collective body.[63] While empathy cannot be said to be precisely the same thing as "affect" or "emotion" more broadly, sentiment and sympathy cannot, either. But my turn to empathy here is intended to foreground its role in shaping foundational problems in German aesthetics that would be taken up in American psychology, problems that would become foundational for the study of emotion as such. How can one be affected by an artwork? How can one be affected by others? How can affection bridge seemingly separate interiorities, bringing isolated individuals together beyond sentimental identification? Even more

significantly, the history of empathy demonstrates an essential mediation to emotional relations, one that moves from a work of art to, in American psychology, an instrument in a laboratory.

The German Aesthetic State and *Einfühlung*

The twentieth-century transformation in American emotional life examined in this book revised a set of problems posed much earlier, problems that linked shared feeling and national belonging with the contemplation and judgment of art. Or, experimental work in American psychology was a continuation of a project that emerged from nineteenth-century German aesthetics, the quest for an "aesthetic state," in which the public communication of sensation grounds the possibility of a national public.[64] This link among emotion, sensation, and national belonging resonates with arguments made by Schuller and Fretwell, among others,[65] but I am less interested in a normative sensory capacity as a precondition for the communication of emotion and sensation as I am in the material, technical production of this aesthetic state. If one line in the history of psychology—the study of sensation—framed the normative correction of bodies and sensory capacity as grounding inclusion in a liberal polity, what I focus on here is how this aesthetic state was often framed as only possible through technical, aesthetic mediation, eventually moving from art to the instrumental, experimental methods of psychological research.

Around 1900, several German psychologists—particularly Theodor Lipps, whose work brought together aesthetic theory, Husserlian phenomenology, and experimental psychology—linked aesthetics with the earliest experimental psychological research in Germany: Gustav Fechner's psychophysics and the methods derived from Wilhelm Wundt's Psychological Institute, the influential laboratory of experimental psychology at the University of Leipzig. The problems that psychologists such as Lipps attempted to solve derived from questions central to modern German philosophical thought: What is the relation between art and nation? Can art be used to educate and bond disparate individuals into one?[66] The solution Lipps provided was to be "proved" through the methods of experimental psychology. This was a problem not just of the communication of sensation, or proper aesthetic perception, but of the movement between mental interiors to visible exteriors. The problem of binding different individuals together was not merely about the ability to sense, but the ability to correlate external appearances with internal emotional states.

A century before Lipps, several German-language writers began to link the creation of a national identity with the education of aesthetic judgment. These authors all seemed to wonder, if in subtly distinct ways: How might art serve to unify distinct individuals, producing a coherent national identity, one linked with Enlightenment values? How might aesthetic experience be harnessed for moral education, education that advances both collective identity and individual self-mastery? "*Sapere aude!* Have courage to make use of your *own* understanding!" So goes Immanuel Kant's "motto of enlightenment."[67] Yet this free use of reason, of daring to know, is not merely a celebration of the rational capacities of an individual, cut off and independent from others. Thinking for oneself, Kant suggests, is the route to guarantee *obedience* to the state and to authority.[68] This link sketched by Kant, which would articulate individual reason and collective obedience, was further developed by Friedrich Schiller, who saw "aesthetic education" as leading an individual into "a regularity of conduct without which nature could never achieve its great aim of uniting men into a whole . . . To unite men truly and inwardly requires another, positive bond, that of social character, or the communication of sensations, and the exchange of ideas."[69] With Schiller, Kantian rationality became the production of a collective identity through the sharing of aesthetic experience.[70] Here we can see how the emotional disinterestedness and autonomy emphasized by Kantian judgment was already being undermined. While Kant and Schiller mostly focus on sensation, leading to the scientific genealogy of sensation and impression described by Schuller and Fretwell, a larger problem that emerged here was the belief that rational autonomy must be placed in service of collective life, a link that would be fostered by the arts. And this emphasis on the arts must grapple with the well-known fact that in some arts—like theater—the emotions experienced by the audience did not inherently match those of the performers. With theater, the question of "sympathy" and the "communication of sensations" among individuals must address the problem of interiority. The transparency of interiority, rather than defining the rational Enlightenment subject, became a problem to be addressed through technical means.

In 1767, Gotthold Ephraim Lessing, already a popular writer and critic at the time, was hired by the Hamburg National Theater to serve as an in-house critic. In this role, Lessing would regularly publish a periodical, the *Hamburgische Dramaturgie,* for the theater's patrons. Lessing would argue for the necessity of emotion in performance to arouse the

compassion of the audience, allowing it to serve as a "school of the moral world."[71] Was it necessary for an actor to genuinely feel the emotions they were intending to express? Was it even possible for an actor to genuinely communicate and express the emotion they were experiencing? Lessing's answer was inventive, suggesting that dramaturgical technique could induce in the actor as well as the spectator intended emotions, which would serve to unite performer and audience:

> Among an actor's abilities, feeling is undoubtedly always the most questionable. It can exist where one does not perceive it; and one can believe that one sees it where it does not exist. For feeling is something interior, which we can only judge by its outward manifestations. It is quite possible that certain things in the construction of the body either simply do not allow for these manifestations, or they weaken them and render them ambiguous. The actor could have a particular facial structure, particular facial expressions, or a particular tone that we tend to associate with completely different capacities, different passions, and different sentiments than those he ought to express and demonstrate at a given moment. In such a case, regardless of how much he feels, we will not believe him, because he is in a state of contradiction with himself.[72]

The actor may be feeling what they're performing, and yet their body may distort the observer's perception. This is an argument that, while not indebted to Lavater's physiognomy, certainly resonates with its assumptions.[73] The body projects "character," which may be at odds with the emotion (or character) the actor intends to portray. Some actors may be adept at simulating emotion, but not all are equivalently trained (or capable) at simulation. Lessing presumes an inherent inequivalence between interior states and exterior performance—an inequivalence essential to almost all questions of performance and audience reception.

In his dramaturgical essays, Lessing would thus propose a series of performed emotions, which would result in "modifications of the soul that bring about certain changes in the body," changes "powerful enough in the moment of performance to bring about some of the involuntary changes in the body from whose presence alone we believe we can dependably infer a person's inner feelings."[74] These "aesthetics of compassion" would generate a shared feeling between performers and audience, which would enable the moral development of the audience.[75] What is the social and moral purpose of art? What is the social and moral significance of emotion, of sympathy, of compassion? What is the relationship between

performed emotion and real emotion? Lessing's answers were Aristotelian—the goal of theater should be to cultivate *mimesis,*[76] a mimesis that would unify audience and performer, educating through emotion. But the ability to express and convey emotion is not innate. To foster mimesis one needs a performance technique in which the body's gestures *precede* and produce the feeling of emotion, both in the performer and in the spectator. The problem here is not just sensation, but expression—an expression that requires mediation.

Around a decade after Lessing began his position at the Hamburg National Theater, Johann Gottfried Herder, the philosopher and student of Kant, proposed a different solution to the problem of art, nation, and aesthetic sentiment. In several books published in 1778, Herder began to describe beauty as a form of inner transposition, or *Versetzung,* into the figure an observer contemplates. This contemplation allows the viewer access to both that which is observed as well as oneself, as "we can only feel ourselves inside others *(hineinfühlen).*"[77] Aesthetic judgment emerges from an intersubjective relation, in which sensation would allow one "inside" of another, feeling "into" them. A term Herder would occasionally use, *Einfühlung,* captures this experience. *Einfühlung* is literally translated as "in-feeling" and was proposed to describe a sense in which an observer would project themselves into another. One would grasp one's own autonomous feelings only through one's relations—and experience within—others. Most often, this "other" was a work of art, not another person. While *Einfühlung* initially appeared in early German Romantic thought, it was more fully developed as a concept by philosopher Robert Vischer. In his 1873 dissertation, *On the Optical Sense of Form,* Vischer suggested, when observing a work of art, "I entrust my individual life to the lifeless form. . . . I am mysteriously transplanted and magically transformed into this other."[78] Vischer's initial theorization was expanded in the writings of his contemporaries to describe various implications of a viewer transporting themselves or "feeling-into" many kinds of art. Art (theatre, sculpture, painting, architecture) enables shared sensation by allowing different individuals access to the work's interiority, generating a communal whole through absorption into a work.

Einfühlung refers to the feeling that would emerge from spectatorship if a work were successfully mimetic. The role of mimesis would bind one to others, producing a sense of national solidarity, through the contemplation of an artwork. *Einfühlung,* then, is a term to evaluate techniques for the aesthetic production of national identity—ones that emerge not

just from proper sensory capacities of an observer but from a proper technical and aesthetic mediation that permits one to transcend individual autonomy, entering into something (or someone) else. The mediation of the work of art was necessary for the communal entering-into of others. Nearly a century after Lessing and Herder, and with the emergence of psychophysics and experimental psychology in Germany, this feeling-into would become a principle to describe *all* intersubjective relations in the psychological aesthetics of Theodor Lipps. Not just aesthetic relations, and not just for national community. Not only would the spectator or observer feel-into the work (which would act as mediator in binding different consciousnesses together), but the possibility of intersubjective relation was grounded in this psychic projection into another, a projection that would yoke observer and observed into a singular sharing of experience—and yet, we will see, this feeling-into inevitably defers to techniques of mediation. Today, what was once described with the word *Einfühlung* is now described with the term "empathy."[79] Making *Einfühlung* into empathy was not something that happened easily, since it was never always clear what *Einfühlung* described in the first place. Because of the writing style of these authors, it is difficult to identify if *Einfühlung* referred to a unique concept distinct from similar German agglutinates, many of which appeared to be different terms used to describe the same phenomena—of feeling-into or alongside an artwork that would then bind different people into a single, shared collective of sensation. Regardless, the proposal of *Einfühlung* as an ideal aesthetic condition, combined with technical, practical means for bridging interiority and exteriority proposed by dramaturges like Lessing, suggests that, after Romanticism, emotional interiority and rational autonomy were not inherently ideals, but rather were *problems,* problems to be addressed with the emerging technical methods of experimental psychology.

Einfühlung and Empathy

Einfühlung gained some stability in translation. The British-born psychologist Edward Titchener coined the neologism "empathy" to translate *Einfühlung* into English in 1909.[80] Titchener was a student of Wilhelm Wundt and a major figure in the institutional creation of American psychology, developing the largest doctoral program in psychology at the time, at Cornell University. He first defined empathy in his *Lectures on the Experimental Psychology of the Thought-Process,* claiming that the

German term had a unique, conceptual specificity different from the classical concept of "sympathy," or, in German, *Mitfühlung*, which referred to a kind of "fellow-feeling." Lipps often seemed to use the two terms interchangeably, but Titchener, in offering empathy as a translation for *Einfühlung*, produced empathy as distinct from sympathy, with the former referring to a kind of direct entering-into of another, the latter referring to a kind of feeling-alongside another.[81]

Proposing a concept to describe the experience of emotionally entering-into another person doesn't appear to have been Titchener's intended goal with his neologism. Folk understandings of empathy today, along with some neuropsychological versions of this concept, seem to replicate the idea of "feeling-into" another (be it through "walking in another's shoes" or through the cognitive mimesis produced by so-called mirror neurons).[82] But Titchener's initial coining of empathy in his lectures refers to something distinct from its contemporary usage. Titchener was trying to describe how the observation of an image often includes the sensation of embodied motion along with judgments of quality represented visually. When looking at a particular image, Titchener remarks,

> not only do I see gravity and modesty and pride and courtesy and stateliness, but I feel or act them in the mind's muscles. This is, I suppose, a simple case of empathy, if we may coin that term as a rendering of *Einfühlung*; there is nothing curious or idiosyncratic about it; but it is a fact that must be mentioned. And further: just as the visual image may mean of itself, without kinaesthetic accompaniment, so may the kinaesthetic image occur and mean of itself, without assistance from vision.[83]

We might think of Titchener's translation in terms of art historian Aloïs Riegl's distinction between the optic and haptic. The optic takes a visual image as *exclusively* visual, the haptic emphasizes space and produces an embodied sense of movement in the observer.[84] Yet this distinction in Riegl is often unclear. Sometimes, touch and vision are rendered distinct, sometimes "touch becomes effectively a subset of vision," and sometimes touch is distinct from but subsumed by sight.[85] Regardless, Riegl—like the German art historians, aesthetic theorists, and psychologists invested in theorizing *Einfühlung*, such as Heinrich Wölfflin, Lipps, and Vischer—was clearly moving away from sight as a sense that could be completely separated from the body's other senses, especially that of movement and touch.[86] What Titchener is suggesting follows the ambiguities in Riegl's understanding of haptic visuality. The visual and kinaesthetic,

the optic and the haptic, while often linked, may be differentiated. Empathy, here, refers to how the "meaning" of an image is reproduced as a cognitive simulation in the body of the observer—empathy is, at this point of Titchener's lectures, explicitly kinaesthetic, about a literal feeling of movement. "Feeling-into" a work of art is not a metaphor.

Titchener elaborates this idea later in his lectures, asking, "What do we experience when we have a 'feeling of relation'?" He then proceeds to talk of a particular memory of sitting "behind a somewhat emphatic lecturer" who repeated the word "but" repeatedly. "My 'feeling of but' has contained, ever since, a flashing picture of a bald crown, with a fringe of hair below, and a massive black shoulder." This memory isn't solely visual, even if Titchener describes it as a "picture." Rather, "In this particular instance, the picture is combined with an *empathic attitude* and all such 'feelings'—feelings of if, and why, and nevertheless, and therefore—normally take the form, in my experience, of motor empathy. I act the feeling out, though as a rule in imaginal and not in sensational terms."[87] Feelings of relation were initially described by William James, though James proposed this idea to suggest feelings of "and" or "if" or "but" indicate the lived experience of his radical empiricism—that these conjunctive feelings demonstrate how one's experience overflows the boundaries of one's body.[88] Titchener sees these conjunctive feelings as individualistic associations of memory and how one enters-into their own recollections. Relation, for James, exceeds the individual body; relation, for Titchener, exists within an individual, referring to the imaginary kinaesthetic relation one has to one's own self-consciousness.

Titchener believed these sensations of motor empathy could be isolated, defined, and—while he is yet to do so at the time of his lectures—measured. The reasons for working to measure these sensations are overtly aesthetic, and particularly about *judgment*. "I wish that I could offer some positive contribution to the psychology of judgment," Titchener remarks after explaining his definition of empathy, "but the insuperable difficulty there is that we do not yet know what judgment is. It is an anomalous position!"[89] The words we use that are foundational for judgment—but, if, why, therefore—work to associate, linking words and memories and images and things. For Titchener, these conjunctions are *empathic* but only empathy for one's own self. Empathy is a feeling of presence, for kinesthetically feeling-into the visual images of *one's own memories*. This definition of empathy has little in common with how we use the term today, but it has much to do with the German understanding of a physical

sense of motion provoked by an image.[90] Titchener, in many ways, strips the collective dimension from empathy and *Einfühlung,* though this comes from how he unintentionally foregrounds the role of mediation in the transmission of sensation and emotion.

From Aesthetic Experience to Mechanical Objectivity

How did we get from Titchener's individualized description of motor empathy, its relation to aesthetic experience, to a concept that refers to emotional linkages between distinct individuals? At one point in his lectures, Titchener uses empathy to describe something different than this sense of imagistic movement, when he discusses the methodology of the German psychologist Karl Bühler, the *Ausfragemethode,* or "inquiry method." Bühler wanted to know what is consciously experienced when someone thinks. He developed a question-and-answer technique, in which he would make a set of deliberately chosen "observers" read aphorisms of Friedrich Nietzsche, or poetry, or answer an abstract question—albeit one to be answered with a yes or a no. (These questions included, "Can our thought apprehend the nature of thought? Does Monism really involve the negation of personality?" Or, more simply, "Do you understand? Do you agree with this?"[91]) Nietzsche, poetry, and metaphysical questions—Bühler assumed—cause thinking to happen. Bühler would time responses with a stopwatch, then ask his observers to describe the experience of his experiment.

As Titchener explains, Bühler believed that the "experimenter must be in full sympathy with his observers; he must think, by empathy, as they think, understand as they understand, speak in their language."[92] What might this mean? In this quote, Titchener seems to be conflating a mental simulation of motion provoked by an image—which is what all his other uses of empathy refer to—with the simulation of being and knowing another person, the experience of their thought, though this knowing might still be essentially kinaesthetic. This simulation is something Titchener ultimately condemns. Titchener describes Bühler as a psychologist whose experimental method "served to retard rather than to advance the progress of our knowledge."[93] While he provided "a revolutionary attempt to rewrite the psychology of thought from the beginning," Bühler's work suffered because, while he began by employing timing devices—material technologies of measurement, that is—he was "at first merely to mention them and later to drop them altogether, and Bühler so shapes his method

that anything like an experiment in the ordinary sense of the term, and regulation or regular variation of conditions, is impossible."[94] Empathy's simulations, Titchener seems to be arguing, do not substitute for the measurement of a technology, do not substitute for the techniques of laboratory research.

Titchener's discussion of Bühler should strike us as significant for several reasons. First, Titchener coins the term "empathy" to refer to a number of distinct ideas (a problem that persists throughout the entire history of this concept).[95] Empathy is both a way of feeling-into another person (which is how Titchener uses "empathy" when talking about Bühler) but also the feeling of motion from a visual image (which Titchener uses to talk about memories and association, and has overt relations to the earlier aesthetics of *Einfühlung* in German philosophy). Second, the major distinction between these senses of empathy lies in not their experience, but in *measurement through instruments*. Psychology becomes a science through quantification via instrumentation.[96] The experience of feeling should be bracketed to produce knowledge about feeling, bracketed by mechanically objective means in which the experience of the experimenter does not come into play. Bühler's method acknowledged the inability of the experimenter to understand "thought" as another's lived experience, and thus the experimenter must simulate and try to grasp the subjectivity of another. Titchener, on the other hand, saw the instrument as a means for revealing knowledge that otherwise could not be circulated or public. The role of art in the initial theorization of *Einfühlung*, as a physical mediation that enabled the synthesis of others and the sharing of feeling, was given to the instruments of the lab in Titchener's attempt to make psychology a science. The synthetic ability of an artwork to assemble the nation, in which aesthetic contemplation is the privileged mode for achieving knowledge and feeling of others, is reinvented by Titchener, privileging the ability of a medium to objectively measure feeling without also transmitting shared experience.

These different authors did not argue precisely the same thing about *Einfühlung* and, eventually, empathy.[97] But we can outline the emergence of a broad discursive formation that guided early work in American experimental psychology and its debt to German aesthetics. We see the emergence of various scientific norms about experimentation that come from a bracketing of the feelings and relations of all those in the laboratory—a fact that is particularly strange when the object of research is emotion. Gertrude Stein, in her "Radcliffe Manuscripts," written for a

sophomore composition course, has a section dated December 19, 1894, titled "In a Psychological Laboratory." This fragment reflects on some of Stein's experiences as a subject of psychological study in the lab at Harvard, observed by pioneering psychologists William James, Hugo Münsterberg, and their students (of which Stein is included). "One is all things to all men in a laboratory," Stein remarks:

> At one moment you find yourself a howling mob, emitting fiendish yells, and explosive laughter, starting in belligerent attitudes hammer in hand and anon applauding violently.
>
> Before long this vehement individual is requested to make herself a perfect blank while someone practices on her as an automaton.
>
> Next she finds herself with a complicated apparatus strapped across her breast to register her breathing, her finger imprisoned in a steel machine and her arm thrust immovably into a big glass tube. She is surrounded by a group of earnest youths who carefully watch the silent record of the automatic pen on the slowly revolving drum.
>
> Strange fancies begin to crowd upon her, she feels that the silent pen is writing on and on forever. Her record is there she cannot escape it and the group about her begin to assume the shape of mocking fiends gloating over her imprisoned misery. Suddenly she starts, they have suddenly loosened a metronome directly behind her, to observe the effect, so now the morning's work is over.[98]

While the object may be the feeling of relation, the experience of this relation must be excluded. As such, the lab requires a technical reduction of experience to that which can be measured and inscribed, a technical reduction that registers the subject and imprisons her. The experience of the subject comes as a series of surprises—disjointed, and yet unending. The mechanical objectivity of the device must stand in for the senses of a human being. Relations between researcher and researched are framed as if by a barrier, one erected to "know" the interiority of the other, to "know" the biology and neurology of relation. These relations are, in this case (and in numerous others) marked by inequalities of gender and, in others, by inequalities of race.[99] The instrument inscribes, writes, *composes,* the subject and their affects, a writing that exceeds the subject and endures, trapping her.

This early work on empathy and emotion was guided by a set of problems that emerged from the German context. What might it mean to measure what it feels like to relate to another person? What might it mean to measure what it feels like to relate to one's own memories,

which, in Titchener's lectures, are imagistic and visual? And while questions of nation and solidarity—so central for the German theories of aesthetics that begin the entire attempt to describe something like empathy—vanish in Titchener's description of experimental psychology, does the idea of an empathic (and affective) relation presume something must be excluded?[100] We can already see how the physical mediation of relation is both presumed and excluded, but are there other exclusions at stake as well?

We will return to Titchener later in this book, but his claims about emotion and measurement are foundational for the arguments I make throughout these pages. To make the body's interiority an object of scientific knowledge—the capacities of a body to affect and be affected, to express emotion and understand emotion, to empathize and relate to others at a level prior to conscious, interpretive knowledge—one cannot approach these affects and emotions on their own. One defers to the capacities of an instrument, an instrument that must inevitably be forgotten as an essential mediator in producing the truth of the body. In the following chapters, I draw out several material techniques of experimental research, along with how they relate to the judgment of aesthetic experience and the symbolic possibility of writing the physiology of the human body. What might it mean to have a genuinely materialist theory of affect, emotion, and empathy, one that accounts for the practices—the cultural techniques, the physical "operative chains"—that precede and produce these concepts?[101] One that situates these practices historically, drawing out not continuities but discontinuity and difference? What are the implications of these techniques and their erasure?

The qualities of tools used in psychological research determine how an emotion is understood by psychological researchers. Is an emotion something that precedes consciousness? Are there a set of limited, distinct, and universal emotions that are expressed on the human face? Is the presence or absence of emotion found in the ability to predict and associate cause and effect? These three questions derive from three instruments used in experimental research: William James and his use of the planchette (a spiritualist toy) in the few experimental studies he performed for his monumental *Principles of Psychology*; photographs of actors performing posed emotions, which provide the grounds for a large amount of early experimental research in the United States, leading to Ekman's "affect program theory"; and the use of the Offner Dynograph—an electroencephalograph-adjacent technology for transducing

and inscribing a range of biological signals—in studies of psychopathy. Looking closely at these moments demonstrates radically different definitions of what an emotion or affect might be. And yet these incommensurate understandings of emotion, which develop out of the instruments used in experimental research, are framed as guiding a coherent and singular model of emotion and affection, a model that has in the past several decades become foundational for the humanities and social sciences. The fourth tool this book describes—the "E-Meter" of Scientology—is used as a counterpoint against these other three moments, a counterpoint that demonstrates how, why, and when this technical metaphysics began to fail.

Affect Theory and the Material History of Psychology and Psychiatry

As I've referenced above, a major goal of this book is to challenge how some cultural theorists discuss "affect," embodied in the range of arguments grouped together as "affect theory." But it does this obliquely, through a series of historical cases designed to claim that any affective "ground" is unsteady and shifting, at best. The above discussion, linking a problem in the history of German aesthetics with the emergence of American experimental psychology, opens my archaeological critique of empathy and affect through its unintentional foregrounding of an essential mediation in the apprehension of interiority and relation. In the coming chapters, I'll follow how attempts to experimentally demonstrate *whether or not* people act without conscious awareness (chapter 1) and *whether or not* observers can identify emotions performed by actors (chapter 2) became experiments to demonstrate that this ability is so ingrained in human (and animal) cognition that it is foundational for any bio-ontological ground of relation, and how those that "lack" this affective capacity become marked as dangerous and subhuman (chapter 3). As well, I'm also interested in how these "technological" and "objective" claims have been used to legitimate specious metaphysical arguments as if they were "science" all the same (chapter 4).

Because I make my critique through specific, relatively distinct historical moments, I feel I must highlight how my archaeology relates to our present. I've already mentioned how affect and emotion have a particular relevance today when it comes to what might be called "emotional capitalism" and "affective computing." But, even more broadly, the past two to three decades in the theoretical humanities have been guided by attention to this "thing" called affect. I do not think anyone would find

this claim controversial. I've mentioned above some of the basic outlines of affect theory associated with theorists such as Brian Massumi and Eve Sedgwick already, along with an emerging critique of this body of work that this book could be associated. But, before I turn to the historical cases covered in each chapter, I want to describe in additional depth how my critique relates to affect theory more broadly, since I emphasize situated (and relatively distinct) historical cases rather than "theory" as such. I'd also like to expand on some of the theoretical and methodological implications I see guiding my arguments. If one is not particularly interested in questions related to these methodological, epistemological, and theoretical issues, and is primarily interested in the historical and technical details of my specific cases, then I imagine one could skip the remainder of the introduction, even though it is at this point that I'll outline most directly the stakes of my critique of affect. As well, some readers may note that I hesitate to give a singular or truly coherent definition of affect—this is because one of the goals of writing this book is to claim that "affect" is ultimately a situated concept, incoherent at a general, ontological scale.

Often, affect is framed as descending from Spinoza's *Ethics*. The affects refer, to use Spinoza's words, to the means "by which the body's power of acting is increased or diminished, helped or hindered."[102] Affect guides capacities for compassion, for sharing pleasure and pain, for love and hatred.[103] Other sources for affect theory include William James's psychological work, and especially the theory of emotion known as the "James-Lange" theory, which argues that the embodied sensation of an emotion precedes conscious awareness of that emotion.[104] Perhaps most surprisingly, another source for affect theory (if one not often acknowledged) is the pessimistic philosophy of Arthur Schopenhauer. His "Prize Essay on the Basis of Morals" suggests that all of life is comprised of a single unified preconscious energy, termed "will," and the misery produced by the conflict between conscious perception and the force of preconscious will can only be rectified by cultivating a compassion for all life.[105] One could go even further back in the Western philosophical tradition—to Epicurus, or to Lucretius—and find similar arguments. The sources for affect theory suggest a hard split between some "substance" (which goes by the name "affect" or "will" or "the body," among other names used by other philosophers not mentioned here) and conscious intention, perception, knowledge, and language.[106] Affect theory is a frame that negotiates, though does not undermine, a range of dualisms, either Cartesian (with

a split between mind and body) or Kantian (with a split between phenomena and noumena), inverting the privilege to these categories given by Descartes and Kant. Affect theory emphasizes body rather than mind, or the inaccessible noumena rather than conscious rationality that judges phenomena.[107]

The subtle distinctions between these many sources, the fact that Schopenhauer's "will" is not completely identical to Spinoza's *affectus*, for instance, leads me to agree with Eugenie Brinkema's suggestion that "we might be better off suggesting that the 'turn to affect' in the humanities is and has always been plural."[108] Yet there are still broad, relatively common tendencies within affect theory. My focus is on affect theory's appropriation of a particular lineage from the legacy of psychology, which it uses to legitimate affect as a material, neurological "substance" rather than a metaphysical ground. The terms once used by Schopenhauer and Spinoza have been supplemented (and buttressed) by the fact that James and those following in his footsteps would foreground the materiality of the brain and body to do away with what once appeared as a dualist metaphysics. Instead of a metaphysical force, substance, or energy, affect becomes something located in the brain, even though it transcends individual bodies and precedes consciousness. I would argue that this neurological, psychological ground is implied whenever affect is framed as material. Yet in looking toward the history of affect and emotion in psychology, at no point can affect be legitimated as material, or even nondualist, without several conceptual and political problems.[109] This deferral to brain and body presents as physical what is inherently metaphysical. In its deferral to the brain and cognition, affect theory is a theological or idealist philosophy, not a materialist or realist one. As I will discuss in chapter 1, James's embrace of religion and spiritualism (along with his ultimate rejection of experimental methods) seems to signal his understanding of this, of the limits of a truly biocognitive materialism. Today's attempts to ground affect in the arguments of psychology and neuropsychology, on the other hand, follow the tradition of Titchener, even if they cite James instead.[110] The instrument produces a material object called affect, in which this original material context is forgotten.

This book has two possible interpretations, which I see as linked: a "strong" interpretation and a "weak" interpretation. While I use these terms for their colloquial opposition, I also am thinking of the "Strong Programme" in the sociology of science, its insistence on emphasizing broader contexts and treating "irrational" arguments the same as "rational" ones,[111]

and the "weak thought" of Gianni Vattimo, in which one attempts to avoid any singular, metaphysical foundation, treating any and all positions with some level of irony.[112] The weaker interpretation of this book suggests that any knowledge about affect as a sensible object has only been made through technologies and practices that register, inscribe, and document something called "affect" or "emotion."[113] Affect is inevitably linked with symbolic inscription, and the only reason we can speak of affect at all is because of how the body's capacities are written down symbolically. Specific means of inscription directly transform what affect *is*, so when one speaks of the nonlinguistic, autonomous, or innate capacities of the affective body, one also speaks of the material effects of technologies used in psychological research, the material effects of technologies designed to *write symbolically*. One most assuredly is *not* theorizing any unmediated capacity of the human body that exists prior to these means of inscription—affect, and mediation, exist multiply, undermining the possibility of claiming any neurocognitive foundation for relation. There are only multiple forms of "affects" derived from multiple, situated technologies, found in specific, isolated laboratory settings. This is the process I'm referring to whenever I mention the Affect Lab, and the process that Titchener began when he outlined multiple senses of empathy.[114] The strong interpretation of my argument claims that affect is little more than a metaphysical placeholder. It can exist only outside culture, else it is corrupted by language or corrupted by conscious thought. Affect is a specter that haunts contemporary cultural theory, pointing toward a final, material synthesis of body and mind that only arrives after the discarding of intentionality, agency, and interpretation, effectively eliminating "mind" altogether. It is a signifier for a posthumanism that sees a future completion of being in the emptying out of interiority.[115] The weaker interpretation grounds the stronger one. If affect is only known through means for symbolically inscribing the body, then attempts to locate it beyond the symbolic or outside of language requires deferral to some substance that can be neither known nor understood. Material, symbolic technologies in psychological affect research demonstrate how affect theory is best understood as a set of theological arguments masking itself as a turn to the materiality of biology. It can only make its claims by relying on the materiality of media but also by placing this materiality under erasure.

One can accept the weak version of the argument (that there are only situated "affects" and never affect as such) without accepting the strong

version (that "affect" is a metaphysical substance that the deferral to psychology falsely frames as material or physical). But the overall point of the book is to advance the strong version of the argument. The importation of affect into the theoretical humanities and social sciences throughout the past two decades or so makes the brain into a fetish, one that permits a redirection of cultural theory beyond the symbolic generation of meanings and ideologies. Affect, as an ontological ground that overflows, bridges, shatters, and remakes bodies, an intensity that is felt prior to awareness rather than consciously known, a force that moves the body but does not speak through language, is thus regularly defined through reference to the neurological.[116] To avoid the trap of the symbolic—which includes the inscriptions performed by laboratory instruments—the materiality of the biological stands in to legitimate claims that, a century ago, were once speculative ideations about psychic contagion, mindreading, or meditations on shared existence enabled by a pantheistic god.[117] These metaphysical speculations are now assumed grounded in the physical, located in the biological capacities of the brain.

References to the scientific and the psychological in cultural theory often cannot address the historical and material specificity of the scientific and the psychological, simply ignoring historical processes that enable laboratory observations to become scientific fact. Affect theory approaches the legacies of the sciences as fields from which interesting ideas may be poached, as if the sciences should be positioned as little more than a fertile ground for counterintuitive statements about the human body for those who study culture. A turn to the biological, once a cutting provocation designed to ruffle feathers about what theory "knows,"[118] has become so entrenched among some theorists of culture that an attempt to historicize and understand the limits of science is neglected as irrelevant to the project of theory, even when science is drawn on uncritically as a source for normative claims about the body and its capacities.[119] Science, in its ostensible charting of an empirical real, becomes something that fills in gaps that would otherwise require a turn to theological rumination, acting as an ontotheological given that legitimates other claims about the body and culture.

Thus affect theory abandons a historical attempt to grasp the sciences as a wide range of contested fields with their own materialities and politics. In so doing, it assumes "affect" to exist without question, as an object without history, without contingent methods necessary for its production. It assumes the neurological function of the brain is universally

understood, as if the ability to generate intensities that overflow the body and bind different individuals together without recourse to the symbolic is just something science "knows." At a foundational level, narratives about affect and the brain in the sciences—and not the physicality of the brain itself—guide assumptions about what "affect" even is, placing the materiality of the brain, be it the amygdalae, the insula, or another part of the so-called "empathy circuit," into a matrix that undermines many of the claims made about affect existing outside of the symbolic.[120] And this is not even to mention that even though emotions are "embodied," historical and anthropological research on the emotions suggests that they manifest and are experienced quite differently in different contexts.[121] So, when cultural theorists look to neuroscience and neuropsychology for a holy grail of "affect" as a realm of bodily intensity that exists beyond language, they often do so in a way that obliterates from existence not only historical and cultural specificity, but the everyday, material life of the laboratory, which includes machinery, narratives, bodies, and experiences that all have to be negotiated in the name of producing something that can be called "affect." The cultural theorization of affect, when it defers to the biological, tends to remove the constitutive role of culture from theory.[122]

To speak of something called "affect" that somehow moves and escapes signification denies the very methods upon which any knowledge of the body has been produced throughout the entire history of research into the emotions. It transforms the physical practices of the sciences into ideal speculation about forces that autonomously move between bodies, bridging and remaking them independently of any specific agency. Mechanisms of inscription from over a hundred years of research into the body and its emotions are designed to make the movements of the body into scientific knowledge.[123] Yet saying affect exists outside of these methods assumes affect to be a quality forever divorced from context, not the product of statements produced through very specific conjunctions of bodies and machines.

Ontological Exclusions and the Media Archaeological Method

As I noted above, the binding powers of empathy, in which feeling links one with another, requires a fundamental exclusion. The four chapters that follow rely primarily on the documentation given by scientists (and pseudoscientists) to describe their experimental processes, discovering

some of these exclusions. It is difficult, if not impossible, to reconstruct everyday laboratory practices from scientific reports. (Gertrude Stein's "In a Psychological Laboratory" is important because it manages to capture some of the experiences obliterated in scientific documentation.) Despite a wealth of details given about procedures and techniques, contingency is removed in the name of generalities that can be repeated through observation, generalities that require physical reality to be reduced and abstracted into guiding principles that enable the reproduction of similar conditions multiple times over. The "empiricism" of the lab is, as it was classically, about sense and experience, about the isolation of a specific "thing," cut off and differentiated from the rest of the world, observable in and of itself, outside of contextual or historical specificity.[124] The practices of the lab identify specific objects through tools and methods that measure and, thus, determine the limits of objects and the limits of our knowledge about them. The production of objects requires the exclusion of a vast range of experiences that characterize everyday life, experiences that do not enter "empirical" knowledge simply as a side effect of the techniques of the lab.

We rarely encounter the feelings and beliefs of individuals that implicitly guide scientific knowledge, at least directly, their "fiendish yells," their "explosive laughter," or their violent "applauding." We seldom confront the aberrational frustrations that emerge when a particular body is placed into an apparatus and transformed into a machine to produce knowledge. In scientific documents, we almost never hear of the "laborants, operators, artificers, and servants" in the history of science, those Steven Shapin terms "invisible technicians" that make scientific research happen.[125] We only occasionally hear of the pain that may come from an electrical shock, or the anxiety and boredom expressed in the isolation of an fMRI machine. Procedures that may be quite strange or even violent are framed in language that appears "neutral," or "scientific," or "objective." Accounts of laboratory practice minimize the power of narrative to guide observation, or discount the material force of technology to shape precisely whatever scientific truth is recorded. Chance and singularity are written out of existence for principles that, ideally, transcend the circumstances of their invention.

These assertions are well known to the history of science and are regularly acknowledged by scientists themselves. There are many attempts to place laboratory practices in the foreground of scientific knowledge, recognizing that science is something that happens at the intersection of

human bodies and technical inscription.[126] There is no scientific knowledge without the technologies of the laboratory, no empirical understanding without tools that write down and shape what can be seen and said.[127] This is especially true of emotions research.[128] There is no "affect"—in the sense of an object that can be known, debated, and spoken of—outside of the material fact of its registration and documentation.

This is to say, this book should be thought of as a contribution to the field of "media archaeology"[129] that draws out commonalities in some strains of media archaeological research with the tradition of "epistemological critique" in the history of science and medicine.[130] It is a focus on instruments and inscriptions that unites these fields. I do so here to highlight a range of historical moments that might be otherwise considered dead ends, disreputable, or insignificant, deriving an alternative history of modern life, an orientation that guides much of what goes by the name "media archaeology." It might be said that I'm interested in, following a more "orthodox" sense of Foucauldian theory, the "apparatus" or *dispositif* of the psychology of affect. In philosopher Giorgio Agamben's interpretation of the apparatus, he uses this term to refer both to specific inscription technologies as well as broader milieus of legibility—the apparatus would include not just the specific tools used at a particular moment but broader discursive formations and even language itself.[131] While I generally agree with this understanding of an apparatus, which bleeds outward from specific instruments—an approach I share in this book—I hesitate to completely endorse Agamben's arguments in this specific case. This is primarily because the history of psychology in America—as is often the case for the history of sciences more broadly—has regularly employed tools and techniques that are "illegitimate" in one sense or another, in places that are not "scientific" in one sense or another. While Agamben seems to argue that apparatuses are there to discipline, control, and separate the human from a nondeterminative openness that characterizes existence (a ground that relates to Agamben's debt to Heidegger), he doesn't account for how the truth of any particular process itself needs to be legitimated, how the apparatus intersects with what Foucault called sites of veridiction, local practices that differentiate and judge the true and the false.[132] Agamben doesn't address how particular apparatuses can be *wrong,* and how this wrongness, this untruth, this *error,* is essential for the production of the true.[133] As François Delaporte notes, in describing the materiality of scientific practice, "Since in research matters no solutions are given in advance, one must improvise as musicians

do."[134] Or, as Paul Feyerabend argues in his "anarchistic" philosophy of science, scientific developments throughout history "occurred only because some thinkers either *decided* not to be bound by certain 'obvious' methodological rules, or because they *unwittingly broke* them."[135] The story I provide here affirms this commitment to scientific improvisation and anarchy, and of an essential—but contingent—linkage between instrument and veridiction. But it also stresses the limits of this anarchism, of how the history of psychology has continuously policed the boundaries between authority and falsity, a boundary that has been permeable and fluid throughout psychology's modern development. Thus while the chapters that follow center on particular instruments, a major point of each case is to draw out the historical and contextual factors that permitted—or refused—to let a particular inscription become "scientific."

As was the case for Friedrich Kittler's histories of psychophysics and psychoanalysis, the normative claims of the body we have are derived from the varied technological a priori employed at a specific moment in time. It is not so much that we don't yet know what a body can do, to refer to a Spinozist cliché, but that we *only* know what a body can do only by way of the systems that write the body, that inscribe it, that store it, that transmit it. Affect, then, rather than an attribute of the body that escapes symbolic processing, is another domain invented and remade by the tools that representationally transduce, inscribe, store, and transmit the energies of the nervous system. Just because our technologies no longer write language does not mean that something called "affect" escapes the symbolic processing of machines. We only know of affect because of our ability to record and store the body's movements, inscribed as signifiers that point to writing beyond language.

Emotion, Affect, and the Metaphysics of Presence

One final caveat: As I mentioned above, I am using words such as "emotion" and "affect" (somewhat) interchangeably in these pages. This is counter to the trends of affect theory, which often presumes a hard distinction between these terms, so I feel a bit more needs to be said on my reasoning in doing this and also on how the terms of affect theory relate to, but remain somewhat different from, the terminology of psychologists. For affect theorists, an emotion is something qualified by subjective experience, something that we understand and categorize through the symbolic. Affect is an intensity outside of this categorization. Recent critics of affect

theory have noted that this distinction flies in the face of contemporary psychology,[136] uncritically reproduces a Cartesian mind-body split,[137] or denies contextual specificity, where affect becomes a uniform capacity of the body outside of history, outside of the contingencies that characterize culture.[138] Language and representation, after all, are not things that exist on top of or separate from brain activity but are fundamentally part of cognition,[139] and the history of consciousness tells us that something called cognition is, likewise, inevitably changing over time.

Emotions research in psychology has a similar differentiation to the one affect theory makes between "affect" and "emotion," which is the distinction between an "emotion" and a "feeling." Yet this differentiation in psychology suggests the neurology of an emotion is linked with, but distinct from a subjective account of what a body does. A feeling, for instance, is what an emotion feels like to a specific individual. An emotion is in the body's material, neurological response to various stimuli. Now, this may mean that emotions are hardwired in the brain and would exist (given "proper" development) regardless of any symbolic process of differentiation. It also may tell us that the emotions are shaped through the plasticity of the brain and fundamentally coevolve with language and subjective experience. Is a feeling merely a side effect of a physical emotion? Or does subjective experience shape the materiality of the brain? Can there be a causal chain between the two? Are they ontologically intertwined? These are questions upon which different psychologists and neuroscientists disagree. Yet no version of this differentiation in psychology presumes a hard, fast, and rigid—or at least settled—bifurcation between language and physiology, though it does presume a difference between subjective accounts of experience and the seemingly "objective" study of the body's structure and behavior (a difference that descends from Titchener, among others). The biological processes that constitute the emotions are never directly experienced, after all. I never experience my personal feelings of "happiness," or of "sadness," or of any other possible feeling, in the literal terms of my body's neurology, though I may have some sensed awareness of blood moving through my veins, my heart beating quickly, and so on.[140] A difference between experience and physiology seems warranted, even if they both have a shared material ground, especially since this difference does not require the explanation of a feeling, filtered through language, to describe the material movements the body itself is making.

Making a hard distinction between affect and emotion is quite different. This differentiation in affect theory perpetuates something like what

Jacques Derrida once referred to as the "metaphysics of presence."[141] In affect theory, language is that which reduces or captures the affective experience of the body. Symbolic expressions of the emotions are lesser than a wild and free affectivity that exists beyond signification. Attending to the affective, some claim, provides a more primal, more sensual, and perhaps more authentic understanding of the relational experience of the world itself than can possibly be given through the symbolic.[142] This suggests that a world prior to language is more full, or more present than the world of speaking and thinking through the symbolic. Moving—not speaking, not writing—is the most foundational, essential capacity of the human body, and to speak or to write is to freeze or destroy the relational capacities invoked by movement. Ironically, this position can only be articulated in language, by those who speak, and it ends up privileging the subjective experience of particular positions that are supposedly uncontaminated by language—namely, the experience of infants or autistics, both of whom are then Orientalized as closer to the affective holism of nature.[143] Affect, thus, is a perpetuation of a metaphysics that has grounded Western thought since the time of Plato, in which presence is assumed degraded through the name of various technologies and tools that mediate relations, in which specific articulations of otherness are fetishized as more authentic, primal states, closer to nature.[144] Language, in particular, is presumed to be that which reduces or restricts the body and its capacities, a straightjacket or prison from which we must struggle to liberate ourselves.

The deferral to the brain and the neurological is a prophylactic against accusations of this metaphysics. The empirical facticity of neurology is presented as the truth of cognition, while language and symbolic order are sidelined as techniques overlaid onto the brain, reducing its ability to feel and move. The attack on language, in which speech and writing are both technologies that lack presence in the face of the affective fullness of the body's movements, is thus legitimated through the materiality of the brain, even though the legacy of the sciences invoked by affect theory are themselves neglected beyond a philosophical alibi that obscures the perpetuation of a metaphysics of presence. If the sciences were genuinely acknowledged, then the sheer centrality of machines that write the body would be obvious as a determining technique that produces "affect" from the outset. But instead, an unspeaking, moving brain becomes a fully present form of existence, while the symbolic degrades the neurobiological movements autonomously undertaken by the body.

The historical reconstruction offered in the following pages denies the existence of something called "affect" outside of the techniques of the Affect Lab. The body and its capacities only exist within the situated, material assemblages through which the body becomes an object of knowledge. The body is embedded in the dual articulation of materiality and the symbolic; the body is spoken and written through the means with which it is inscribed.[145] This book demonstrates how the forms through which we organize and experience our world are shaped by the physical capacities of media. Media inscribe and reveal what can be seen and said—and felt, and affected. We cannot, should not, *must not* embrace a metaphysics that suggests the intensity of affect is more present than communication via symbols. Concepts and bodies are, inevitably, the product of the tools, techniques, and technologies that are "culture."[146] There is no affect without culture, without language, without media, without the techniques of the Affect Lab.

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