

# Reconstructing the Past: A Century of Ideas About Emotion in Psychology

Maria Gendron

*Boston College, USA*

Lisa Feldman Barrett

*Boston College, USA and Massachusetts General Hospital/Harvard Medical School, USA*

## Abstract

Within the discipline of psychology, the conventional history outlines the development of two fundamental approaches to the scientific study of emotion—"basic emotion" and "appraisal" traditions. In this article, we outline the development of a third approach to emotion that exists in the psychological literature—the "psychological constructionist" tradition. In the process, we discuss a number of works that have virtually disappeared from the citation trail in psychological discussions of emotion. We also correct some misconceptions about early sources, such as work by Darwin and James. Taken together, these three contributions make for a fuller and more accurate account of ideas about emotion during the century stretching from 1855 to just before 1960.

## Keywords

affect, appraisal, basic emotion, emotion, history, psychological construction

"The past is never dead. It's not even past."

William Faulkner, *Requiem for a Nun* (1951/1975, p. 80)

Pick up most undergraduate textbooks in psychology (e.g., Baumeister & Bushman, 2008; Gleitman, Fridlund, & Reisberg, 1999; Myers, 1998; Niedenthal, Krauth-Gruber, & Ric, 2006; Oatley & Jenkins, 1996; Wade & Tavris, 2006) or review articles on emotion (e.g., Gergen, 1995; Hansell, 1989; Lazarus, 1993) and you will find a description of three main eras in the scientific study of emotion. First, there were the "golden years" of emotion research, marked by Darwin's 1872 publication of *The Expression of the Emotions in Man and Animals* (emotions are mental states that cause stereotypic bodily expressions). Darwin has largely been the inspiration for what is commonly called the "basic emotion" approach in the psychology of emotion. Darwin's book was followed by James' 1884 critique in "What is an Emotion?" (bodily activity produces emotion, not the other way around). James, in turn, was criticized by Cannon in his 1927 article "The James-Lange Theory of Emotions: A

Critical Examination and an Alternative Theory" (the body cannot cause emotion because visceral changes are too slow and too ambiguous to feel, and the same visceral changes occur in both emotional and nonemotional states). Next, behaviorism pushed psychology into the "Dark Ages," where nothing worthwhile was published on the topic of emotion for about 40 years, save some important neurobiology articles by Papez (1937) and MacLean (1949).<sup>1</sup> Finally, the 1960s saw a "renaissance" with Magda Arnold's (1960a, 1960b) *Emotion and Personality*, which is widely cited as the first "appraisal" model of emotion (see Box 1). Arnold's work was followed by Sylvania Tomkins' *Affect, Imagery, Consciousness* (1962, 1963), a modern articulation of the basic emotion view (see Box 2). This period also saw the publication of Stanley Schachter and Jerome Singer's (1962) article entitled "Cognitive, Social, and Physiological Determinants of an Emotional State," which is classified as an appraisal approach by some psychologists (see Box 3). As the conventional history goes, these three works rescued the science of emotion from the grips of behaviorism and set it on its

*Authors' Note:* Thanks to Rainer Reisenzein who pointed us to Titchener's discussion of Wundt's changing views. This manuscript was prepared with support from the National Institutes of Health Director's Pioneer Award (DP10D003312), grants from the National Institute of Aging (AG030311) and the National Science Foundation (BCS 0721260; BCS 0527440), a contract with the US Army Research Institute for the Behavioral and Social Sciences (W91WAW-08-C-0018), as well as by a Cattell Award and a Fellowship from the American Philosophical Society to Lisa Feldman Barrett. The views, opinions, and/or findings contained in this article are solely those of the authors and should not be construed as an official Department of the Army or DOD position, policy, or decision.

*Corresponding author:* Maria Gendron, 301 McGuinn Hall, Boston College, Chestnut Hill, MA 02467, USA. Email: [gendroma@bc.edu](mailto:gendroma@bc.edu)

**Box 1.**

Arnold (1960a, 1960b) is typically cited as the inspiration for the “appraisal approach” to emotion. Appraisal models assume that emotions are not merely triggered by objects in a reflexive or habitual way, but arise from a meaningful interpretation of an object by an individual. Appraisal models come in various flavors (see Barrett, Mesquita, Ochsner, & Gross, 2007), but all rest on the assumption that emotions are intentional states (they refer to an object or situation in the world) and the meaning analysis makes an emotion the kind of emotion it is. Frijda (1988) has called this the “law of situational meaning.” “Input some event with its particular meaning; out comes an emotion of a particular kind” (Frijda, 1988, p. 349). Some appraisal models, including Arnold’s, assume that appraisals are special cognitive mechanisms dedicated to emotion, although not all appraisal models make this assumption. Some older appraisal models assume that the meaning analysis triggers a basic emotional state, defined as a readiness to perform a particular diagnostic action (e.g., to strike out in fear; e.g. Dewey, 1985); when used in this way, to refer to a specific action, the term “action readiness” means something different than Frijda’s (1986) more modern usage (i.e., a relational theme that can be satisfied by any number of specific actions). Finally, at least in their modern instantiation, appraisals are assumed to be automatic; they need not be available to conscious awareness.

current course, solidifying the two main competing perspectives that essentially define the modern psychological approach to emotion. This basic emotion–appraisal dichotomy had enormous consequences for the study of emotion, shaping the questions that are asked, the research that is motivated, and the interpretation of findings.

We believe that the basic emotion–appraisal dualism has had one more significant consequence: it has endowed the field with a particular, oversimplified story about the history of emotion theory. Much of the richness and complexity of the field has been lost when viewed through the lens of this particular fault line. Importantly, this dualism obscures another important tradition in psychological work on emotion: the psychological constructionist approach. In this review, we attempt to remap the history of emotion in psychology to include this third perspective. In the process, we reintroduce the field to a wealth of scholarship generated during the so-called Dark Ages. In fact, over 100 works on emotion were published from 1900 to 1960 and many further elaborated the psychological constructionist approach.<sup>2</sup> In addition, we uncover the early roots of the modern day basic and appraisal approaches within the Golden Years that are typically neglected, and correct some misconceptions about early sources, such as work by Darwin and James. Ultimately, we aim to provide a fuller account of the history of theorizing about emotion within psychology, from just before Darwin until just before Arnold, by tracing the roots of these three theoretical traditions: basic, appraisal, and psychological constructionist. We do not use history to inform an understanding of the present, but rather to show how the present has informed our understanding of the past, largely by excluding an entire tradition from the historical record. In so doing, we introduce the field to an important psychological approach to emotion that makes different assumptions, and asks different questions, about what emotions are and how they work.

Although our goal is to provide a fuller historical account of the ideas that have populated the psychological approach to studying emotion, including the psychological constructionist approach, the present account is neither exhaustive nor comprehensive. David Hume used the term “experimental philosophy” in 1739 to refer to the domain of study that would eventually

become psychology, and many philosopher-scientists before Charles Darwin and William James wrote about emotion as they mapped the territory of psychology during the 18th and 19th centuries. We do not review the majority of those works here because, although they deal at length with the relation of mind to body, and mind to the outside world, most are tantalizingly vague and do not contain anything more than snippets of a conceptual model. Nor do we summarize all of the sources published during the Golden Years and Dark Ages, many of which deal with the relation of affective feeling to sensory processing (and are thus beyond the scope of this article). We do not review psychoanalytic models that assume emotions occur only when instinctual drives are blocked from expression (e.g., Freud, 1963) or from a failure to cope with some event in the world (e.g., Lazarus, 1966). We also do not include a discussion of the social constructionist approach. The social constructionist approach grew out of functionalist accounts of emotion (e.g., Dewey, 1894, 1895; Mead, 1895) because it emphasizes the social function of emotion. A fully formed social constructionist account of emotion did not emerge until Averill published his landmark article in 1980, and so falls outside the range of our review.<sup>3</sup> As a result, ours is a targeted review of ideas that are of central importance to the basic emotion, appraisal, and psychological constructionist traditions. Given our own limitations, we focus primarily on works that were published in English (either in the original, or by translation) and were not able to include writers such as Henle (1876), Horwicz (1872–1878), Maranon (1924), and Stumpf (1899).

## Psychological Construction Defined

The psychological constructionist approach to emotion has been theoretically rich and scientifically important. Psychological constructionist accounts are united in the assumption that emotions are psychical compounds that are constructed out of more basic psychological ingredients that are not themselves specific to emotion (Barrett, 2009). One ingredient common to many psychological constructionist models is sensory stimulation from inside the body or its corresponding mental feeling (affect). Models that discuss affect as a basic ingredient of emotion are

**Box 2.**

Tomkins (1962, 1963) is typically cited as the modern inspiration for the “basic emotion” approach. Basic emotion models assume that certain biologically privileged kinds of emotion are automatically triggered by objects and events in the world. Each instance of the same kind is presumed to share something biological in common: they are biologically analogous (all the instances look similar to one another) and/or homologous (they share a common cause). In the definition by analogy, all instances of emotion that bear the same name (e.g., “fear”) are supposed to show the same pattern of behavior, bodily activation, facial actions (called “expressions”), and/or (in some models) experience, so that people around the world can easily and effortlessly recognize the emotion. Emotional responses are rarely uniform, however, and basic emotion models deal with the variability in emotional responding by positing the existence of display rules (cultural norms influence the expression of emotion, e.g., Matsumoto et al., 2008) or some other kind of cognitive processing after the fact (Izard, Ackerman, Schoff, & Fine, 2000). Furthermore, the underlying diagnostic pattern for each emotion is presumed to issue from a common biological cause. In older basic emotion models, writers referred to these causes as “instincts.” In modern approaches, the homologies are dedicated neural programs or circuits that are assumed to be hardwired into the brain at birth or develop soon after. Although a few basic emotion models place the experience of emotion at the heart of an emotional episode (e.g., Panksepp, 1998), most models characterize experience as something that is triggered by emotion and therefore exists outside the boundaries of emotion itself. For example, the facial feedback hypothesis proposes that it is possible to induce an emotion by placing the face in a particular configuration (either in response to a stimulus, or by deliberate posing of the face), which in turn produces an emotional experience (Niedenthal, 2007; Strack, Steeper, & Martin, 1988; Tomkins, 1962, 1963).

sometimes referred to as “dimensional” models, on the mistaken assumption that emotions can be reduced to pleasant and unpleasant states or that affect alone provides a sufficient explanation for emotion. Most psychological constructionist models also posit a second, more cognitive or ideational ingredient. In some models, these ingredients combine in stages (e.g., Russell, 2003; Schachter & Singer, 1962; Wundt, 1897/1998). In other models, they combine and constrain one another like ingredients in a recipe, influencing and shaping one another to produce the final emergent product (e.g., Barrett, Ochsner, & Gross, 2007). Amidst their differences about the nature of the ingredients or how those ingredients combine, all psychological constructionist models presume that emotions can be broken down into primitives that are also involved in other mental states. Psychological constructionist models also focus on the incredible heterogeneity in emotional responding, and try to explain head-on why different instances of the same emotion word (e.g., “fear”) might look and feel nothing alike, and yet both are instances of the same emotion category. Historically, psychological constructionist models have been an attempt to unite a conceptual analysis of emotion with the experimental evidence. Specifically, psychological constructionist models aim to account for variability demonstrated empirically that has only been dealt with in a limited way by the other two traditions (Barrett, in press).

Psychological constructionist models are similar to appraisal models in that both consider emotion as an act of making meaning. In most psychological constructionist models, the emphasis is on making an internal sensory or affective state meaningful: an emotion emerges when a person’s internal state is understood in some way as related to or caused by the situation. The meaning might be instinctual (e.g., James, 1884, 1890/1998) or result from some additional process like categorization (e.g., Barrett, 2006b) or attribution (Russell, 2003). In the appraisal approach, in contrast, it is the situation, not the internal state of the body, which is the target of the meaning analysis; internal state changes

are assumed to result from and reflect this meaning analysis. Like appraisal models, many psychological constructionist models treat emotions as intentional states.

On the surface, psychological construction also appears similar to a strong form of social constructionism, in which emotions are mental events that are performances of culture. As social artifacts, no emotion category is assumed to be biologically basic. Similarly, in a psychological constructionist approach, emotion categories are assumed to be culturally relative, although the ingredients that go into making individual instances of emotion are assumed to correspond to biological systems (in one form or another) within the brain of a human being. Psychological constructionist models also differ from the weak form of social construction, where culture and social norms (e.g., display rules) are thought to shape the initiation and expression of biologically basic emotions, producing variability in emotional expressions. In contrast, psychological constructionist models hold that the biology does not distinguish one emotion category from another. Furthermore, in psychological construction, the ingredients that constitute the psychological states that people colloquially refer to as “emotion” also constitute other mental states that people refer to as “cognitions” (e.g., thoughts, beliefs, and memories).

Psychological constructionist models are similar to functionalist and behaviorist approaches in the assumption that behaviors and social context are important to emotions. Psychological constructionist models differ from these approaches, however, in that emotions are not ontologically reduced to behaviors or the social situation in which they occur. Psychological constructionist models are also similar to some neuroscience approaches in that physical states involving the body or brain are important to emotion, but emotion cannot be merely reduced to those states. Instead of defining emotion out of existence by saying that it is merely something else, a psychological constructionist view assumes that emotions are real, and that they are the phenomena to be explained.

**Box 3.**

The Schachter and Singer (1962) model has been described in various ways that are not altogether consistent. Theirs is a two-component model, where emotions result from the cognitive interpretation of general, unexplained arousal. This model is usually discussed in reference to one of the two components. In discussions emphasizing the cognitive interpretation aspect, Schachter and Singer are described as having a cognitive appraisal view (e.g., Myers, 1998; Niedenthal et al., 2006; Wade & Tavis, 2006). In discussions emphasizing the importance of arousal to emotion, their model has been vaguely characterized as a neo-Jamesian arousal-based or peripheral nervous system approach to emotion (e.g., Cornelius, 1996; Gleitman et al., 1999; Kappas, 2006; Mandler, 2003). However, Schachter and Singer are more appropriately classified as belonging to the psychological constructionist tradition, which we trace in the present review.

## Re-Mapping the History of Emotion in Psychology

In the pages that follow, we lay out a history of ideas about emotion in psychology, including the psychological constructionist approach, and in the process show that the so-called Dark Ages of emotion in psychology never really existed. As will become evident, the psychological constructionist approach has the potential to be generative for not only the study of emotion, but psychology in general by proposing that all mental states can be understood as emergent products of more general psychological processes.

Our discussion proceeds by theorist, roughly in chronological order from 1855 to just before 1960, highlighting how different authors contributed to the various assumptions that have shaped present day basic emotion, appraisal, and psychological constructionist traditions. Chronological ordering allowed us to provide a clear historical account of psychological ideas about emotion as they occurred (rather than through the lens of the present). Many of the theorists who were writing in a certain time period were actually writing in reaction to each other, so that different theoretical perspectives were unfolding over time and being shaped by these reactions. Proceeding by theorist, rather than by tradition, allowed us to show that often, the categories of the present do not adequately capture the ideas of the past, if for no other reason than theorists often contributed ideas to more than one emotion approach. For the interested reader, we have included three timelines, one for each tradition, showing where each theorist contributed to the various perspectives they helped craft (see Figure 1).

### The Golden Years Reconsidered: 1855 to 1899

The theoretical foundations of present day approaches to emotion can be found during the Golden Years, although the details of this period tell a somewhat different story than the one usually recounted. Charles Darwin indeed provided the inspiration for the basic emotion approach. But many of its central assumptions attributed to Darwin were either shaped by later theorists' interpretations, such as John Dewey and Floyd Allport, or were more clearly articulated by those writing several decades later, such as John Watson and William McDougall. David Irons, although rarely cited, was the clear inspiration for the appraisal approach to emotion during this period. The appraisal tradition

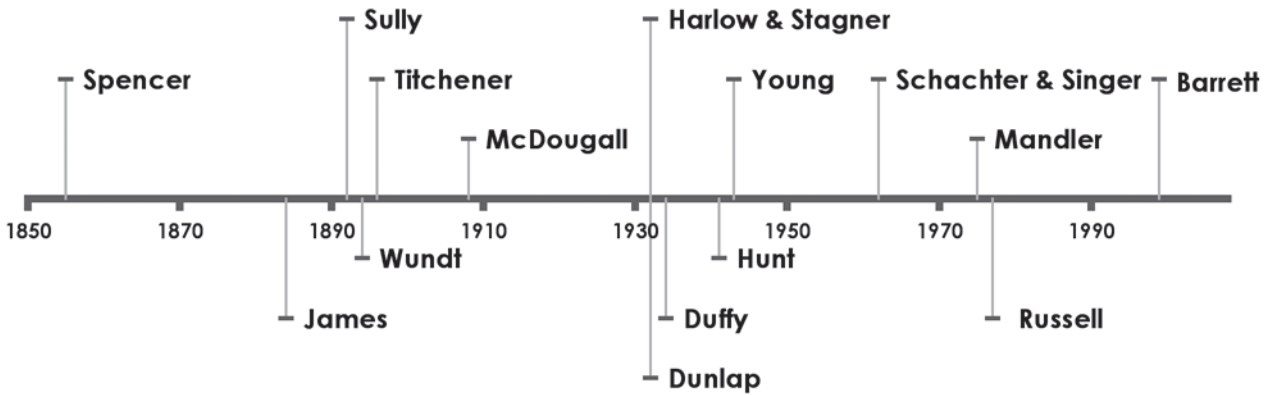
also had notable contributions from Dewey and Wilhelm Wundt's student, Edward Titchener. Some writers during the Golden Years also set the stage for a third psychological approach to emotion—the psychological constructionist approach.<sup>4</sup> Herbert Spencer and James Sully held psychological constructionist views on emotion, but during the Golden Years this approach was most clearly articulated by William James and Wilhelm Wundt. Whereas James focused on the importance of raw sensory processing of somatic, visceral, vascular, and motor cues from the body as the basic building blocks of the mind, Wundt focused on the mental counterpart of those internal cues, which he called “affect.” For the interested reader, we preview in Tables 1 through 3 the assumptions held by each author in terms of the basic emotion, appraisal, and psychological construction traditions, respectively.<sup>5</sup>

#### Herbert Spencer

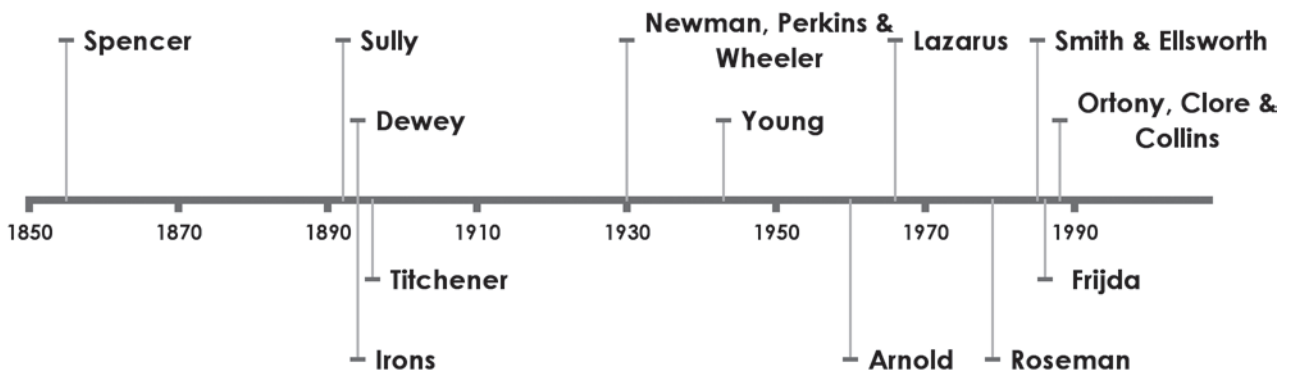
As early as 1855, philosopher-psychologist Herbert Spencer articulated two fundamental principles that would become the psychological constructionist approach to emotion. First, Spencer argued that the class of mental states that people refer to as “emotion” is not different in kind from the class of states that people refer to as “cognition,” even though people experience them as such. Instead, emotion and cognition differ in their emphasis on certain mental contents. Equating emotions with “feelings,” Spencer wrote: “Feelings are not, scientifically considered, divisible from other forms of consciousness” (1855, p. 584). He added that, “Memory, Reason, and Feeling, are different sides of the same psychical phenomena” (p. 585), so that “no act of cognition can be *absolutely* free from emotion . . . no emotion can be *absolutely* free from cognition” (italics in the original, p. 586).

Second, like all psychological constructionist models, Spencer (1855) argued that emotion and cognition arise from the same causes or “from the same root by the same process” (p. 590). Although he did not provide a comprehensive account of these more general causes, Spencer suggested that a current mental state experienced as emotion always involves mental representations of experiences past (a.k.a. memory) foreshadowing more modern psychological constructionist approaches (e.g., Barrett, 2006b) as well as other embodiment approaches to emotion (e.g., Barsalou, Niedenthal, Barbey, & Ruppert, 2003; Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005). Spencer wrote that:

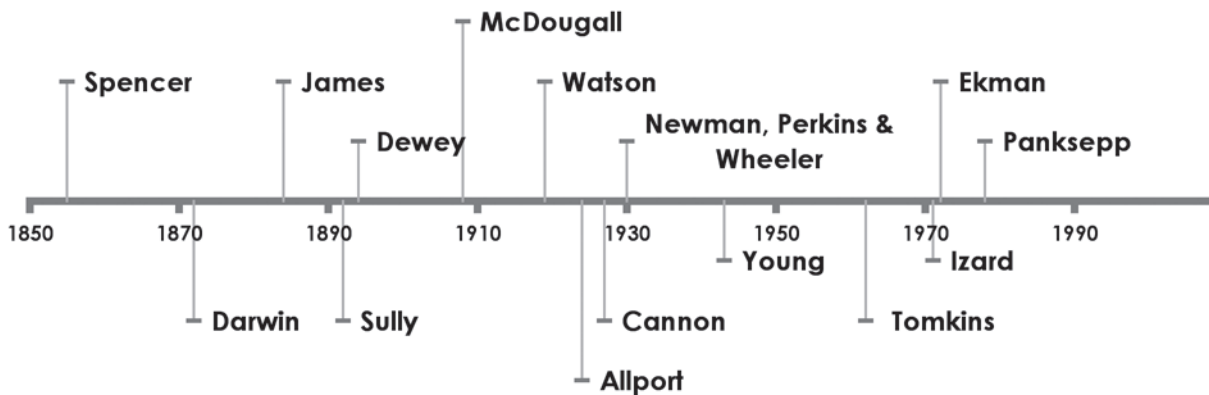
### Psychological Constructionist Theorists



### Appraisal Theorists



### Basic Theorists



**Figure 1.** The timelines in the figure depict the three traditions of emotion theorizing—basic, appraisal, and constructionist—that we trace in the present review from the Golden Years (1855–1899) through the Dark Ages (1900–1959) and from the Renaissance to the present day (1960–2008). Authors are placed on the timelines based on the present review of their particular model/assumptions about emotion. Those theorists who contributed to more than one tradition are represented in all of the appropriate timelines.

**Table 1.** Basic emotion innovations by theorist

Author	Theoretical innovation						
	Emotions defined by homology	Emotions are instinctual	Emotions defined by analogy	Patterns of response	Variability is epiphenomenal	Experience is epiphenomenal	Facial expressions functional
<i>The Golden Years</i>							
Spencer	○		○				
Darwin	○	○	○				
James		○					
Irons				○			
Dewey		○	○	○		●	
Wundt							
Titchener							
Sully			○	○			
<i>The Dark Ages</i>							
McDougall	●	●	●				
Watson	○		○	○	●	○	
Allport			○	○			●
Cannon	○						
Newman et al.			○	●			
Harlow & Stagner							
Dunlap							
Duffy							
Hunt							
Young				○			

*Note.* Filled circles indicate points made in their most innovative form. Open circles indicate either partial instantiations of a particular point or expansions on the theoretical innovation. Both McDougall and Cannon could be credited with an innovation for the point of homology since McDougall focused on homology across species with his idea that emotions derive from instincts and Cannon focused on homology within humans with his idea that emotions derive from a specific brain locus.

any group of nascent psychical changes, however much they may be represented in consciousness as prospective, are nevertheless, at the same time retrospective: seeing that they cannot be represented at all unless they have been previously presented in experience; and the representation of them is the same thing as a memory of them. (Spencer, 1855, p. 597)

Thus, for Spencer, memory was a psychological primitive involved in all mental states, including emotion.

Like many authors of his time, Spencer's writings contained a variety of assumptions that fit with more than one approach to emotion. Spencer can be best described as a psychological constructionist with basic emotion tendencies. For example, in an entertaining discussion of the relation between phrenology and psychology, Spencer argued, in much the same way as modern basic emotion theorists do, that different emotions probably have specific locations in the nervous system (he refers to the existence of places where various psychical elements or "simple feelings" combine to produce emotional states; 1855, p. 601).<sup>6</sup> Furthermore, Spencer also argued that feelings are assigned to different categories (like anger and fear) because of specific

bodily states (1894, p. 540). Spencer also foreshadowed John Dewey's idea of emotions as action tendencies when describing emotions as nascent actions. Unlike Dewey, however, Spencer did not completely reduce emotion to action tendencies.

### Charles Darwin

With his publication of *The Expression of the Emotions in Man and Animals* in 1872 (1965), Charles Darwin provided a source of inspiration to the basic emotion approach. Darwin wrote about emotion in a teleological fashion to make a particular point—humans are the product of natural selection, and have a common ancestry with other mammals (cf. Fridlund, 1992; for a discussion, see Russell & Fernandez-Dols, 1997). Darwin's name has been associated with a number of ideas that have inspired modern day basic emotion models. Some of these points were actually made by Darwin himself, whereas others were inferred by later writers.

Darwin argued that many movements and gestures in humans (and nonhuman animals), including sets of coordinated facial and body movements, are caused by internal mental states that are

**Table 2.** Appraisal innovations by theorist

Author	Theoretical innovation					
	Appraisals = Meaning analysis of situation	Special cognitive mechanism	Automatic	Triggers basic emotion	Emotions are states of action readiness	Emotions are intentional states
<i>The Golden Years</i>						
Spencer					○	
Darwin						
James						
Irons	●	●	●	○	○	●
Dewey					●	○
Wundt						○
Titchener	○				○	○
Sully				○		○
<i>The Dark Ages</i>						
McDougall				○	○	
Watson						
Allport						
Cannon						
Newman et al.	○			○		○
Harlow & Stagner						○
Dunlap						○
Duffy						○
Hunt						
Young	○			●		○

*Note.* Filled circles indicate points made in their most innovative form. Open circles indicate either partial instantiations of a particular point or expansions on the theoretical innovation.

seeking expression and hence are called “emotional expressions” (Robert Zajonc was the first to draw this inference from Darwin’s work, in 1985). Darwin reasoned that if humans share a common ancestral heritage with other mammalian species, then humans should give evidence of homologous behaviors, and he described emotional expression in these terms. For example, Darwin wrote “With mankind some expressions, such as the bristling of the hair under the influence of extreme terror, or the uncovering of teeth, under that of furious rage, can hardly be understood, except on the belief that man once existed in a much lower and animal-like condition.” (Darwin, 1872/1965, p. 12). To support his argument for natural selection, Darwin suggested at several points that emotional expressions in humans are simply vestiges of our evolutionary past, that, in the present moment, “may not be of the least use” (Darwin, 1872/1965, p. 48). The emphasis on the functionality of expressions came later with a reinterpretation of Darwin by Floyd Allport (1924), who we discuss later.

Despite the likelihood that Darwin never intended to craft a model of emotion, basic emotion theorists found inspiration in three ideas contained within *The expression of the emotions in man and animals*. First, by referring to a set of facial behaviors

as an “expression,” Darwin assumed that an emotional state seeks an outlet in behavior, so that the emotional state is embedded (or encoded) in behavior and can serve as a display of information to others. Russell, Bachorowski, and Fernandez-Dols (2003) have referred to this as a “lighthouse” model of emotion perception. The modern basic emotion perspective has prescribed very specific configurations of facial muscle movements that are proposed to correspond to different emotion categories in a one-to-one manner (Ekman, 1972; Izard, 1971; Tomkins, 1962, 1963). In fact, the extent to which perceivers’ agree with one another in their judgments of emotion when looking at other people’s faces (especially when perceiver and target are not from the same cultural context) is taken as an index of “accuracy” during “emotion recognition” rather than an index of “inter-rater agreement” during “emotion perception.” Studies of emotion perception are also routinely used to support the idea of universal emotion productions—that discrete emotion categories manifest in universal configurations of facial muscle movements.

Second, Darwin assumed that “expressions” are habits or reflexes that occur without the will or conscious intent of the organism (i.e., they are automatic). Basic emotion researchers

**Table 3.** Psychological constructionist innovations by theorist

Author	Theoretical innovation					
	General psychological ingredients	Not different in kind from other psychological categories	Meaning analysis of internal state	Construction occurs in stages	Emotions as emergent phenomena	Variability emphasized
<i>The Golden Years</i>						
Spencer	●	●				
Darwin						
James	○	○				●
Irons						○
Dewey						○
Wundt	○	○		●	●	○
Titchener		○		○		
Sully	○			○		
<i>The Dark Ages</i>						
McDougall		○				
Watson						
Allport						
Cannon						○
Newman et al.						○
Harlow & Stagner	○		●		○	○
Dunlap	○	○	○			○
Duffy	○	○	○		○	○
Hunt		○				○
Young						○

*Note.* Filled circles indicate points made in their most innovative form. Open circles indicate either partial instantiations of a particular point or expansions on the theoretical innovation.

often cite this as support for the view that emotions are complex reflexes that are prepared by evolution. Ironically, however, Darwin's reasoning on this point is Lamarckian rather than grounded in his idea of natural selection (see Cornelius, 1996; Russell et al., 2003). In the "principle of serviceable associated habits," Darwin wrote that over time (within a species, not within a single individual), a specific behavior serving some function (e.g., biting to attack) became associated with an internal state (e.g., anger) such that the behavior (e.g., opening of the mouth) occurs whenever that internal state is present (e.g., showing of teeth in anger). These associations are then passed down to the next generation. According to Darwin, an internal state continues to evoke a given behavior, even if that behavior is no longer functional. A similar observation can be made about Darwin's "principle of antithesis," where behaviors opposite those associated with an internal state become associated with an opposite internal state.

Third, Darwin has been interpreted as arguing that nonhuman animals have emotions like humans. Yet it was actually William McDougall, in his discussion of Darwin, who took this position

most clearly. Darwin's own writing was inconclusive on this point. At numerous points throughout his book, he directly refers to animals' emotional experiences. For example, he wrote, "A bull when enraged exhibits his rage only by the manner in which he holds his lowered head" (1872/1965, p. 129). Contradicting this statement, however, Darwin also cautioned,

Dogs, when a little impatient, often make a high piping note through their noses, which at once strikes us as plaintive; but how difficult it is to know if the sound is essentially plaintive, or only appears so in this particular case, from our having learnt by experience what it means! (1872/1965, p. 88)

This inconsistency suggests that Darwin may not have come to a final conclusion about emotion experience across species.

### *William James*

William James is one of the most widely cited historical figures in the science of emotion. James' definition of emotion famously stood in contrast to preceding philosopher-psychologists who believed that emotions were mental events that triggered physical



changes in the body. James wrote, “My thesis on the contrary is that the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur IS the emotion” (James, 1884, pp. 189–190). James’ opinion on the ordering of the emotional sequence was anticipated by philosophers such as Descartes (1649/1989; see Irons, 1895a), Spinoza (1677/1982) and Malebranche (1674–1675/1997; see Titchener, 1910), and a similar view was outlined simultaneously by Lange (1885/1922). From the outset, psychologists found the Jamesian view contentious, and a burst of commentaries followed his 1884 article. These criticisms of James, which focused on his claim about the ordering of the emotional sequence, served the purpose of highlighting certain points (e.g., emotions are reflexive) while obscuring others (e.g., the variability in emotional responding). From our point of view, the most important aspects of James’s model of emotion to be overlooked were his psychological constructionist assumptions.

William James crafted a well-elaborated psychological constructionist approach to emotion (cf. Mandler, 1990). He argued for the view that emotions (which he defined as experiences) emerge from more general processes “occurring in the motor and sensory centres” and against the existence of “separate and special centres, affected to them [emotions] alone” (James, 1890/1998, p. 473). His constructionist approach to emotion was typical of his more general approach to psychology: “A science of the relations of mind and brain” James wrote, “must show how the elementary ingredients of the former correspond to the elementary functions of the latter” (1890/1998, p. 28). James also argued that emotion words do not name biologically privileged categories, and so the categories themselves are not scientifically useful. Because the words naming commonsense emotion categories are merely descriptive, James argued that they should be dispensed with. The “trouble with emotions in psychology” he wrote,

is that they are regarded too much as absolutely individual things. . . . But if we regard them as products of more general causes (as “species” are now regarded as products of heredity and variation), the mere distinguishing and cataloguing becomes of subsidiary importance. (James, 1890/1998, p. 449)

In modern works on emotion, James is often referred to as a basic emotion theorist (e.g., Levenson, 1992). We believe this occurred for three related reasons. First, James wrote about emotions as instinctual reactions to the world (James, 1884). James wrote, “Every living creature is in fact a sort of lock, whose wards and springs presuppose special forms of key” (1884, p. 191). Just as specific keys are needed to turn specific locks and open specific doors, James suggested that stimuli in the environment are prepared to elicit a specific reaction which is perceived as a specific emotion. Unlike modern basic emotion approaches, however, James did not assume that reflexes were fixed across the horizon of evolution or within the lifespan of an individual. There is, James wrote, “nothing sacramental or eternally fixed in reflex action” (James, 1890/1998, p. 454). Furthermore, James emphasized the variability in emotional life. Although James’ writings are laced with detailed descriptions

of the bodily symptoms that characterize anger, grief, fear, and the like, he explicitly stated in several places that variability within each emotion category is the norm. According to James, there can be variable sets of bodily symptoms associated with a single category of emotion, so that he explicitly rejected the idea of a single set of bodily symptoms to describe instances of a given emotion category across individuals, or even within a single individual over time. He wrote, “Surely there is no definite affection of ‘anger’ in an ‘entitative’ sense” (1894/1994, p. 206).

Second, James is mistakenly thought of as a basic emotion theorist because people associate his ideas with those of Carl Lange. It is widely known that Lange, writing simultaneously with James, independently published an article proposing that emotions result from (and do not cause) vasomotor responses in the body (Lange, 1885/1922). Because of the similarity in their views, James and Lange have often been concatenated into a single perspective and Lange’s basic emotion leanings are often misattributed to James. Whereas James stressed that variability in emotional responding is the norm, Lange argued that emotions can be scientifically studied because there is an objective physiological signature for each emotion kind (i.e., he assumed discrete emotions were biologically primitive). In reference to Lange’s model of emotion, James wrote, “Dr. Lange simplifies and universalizes the phenomena a little too much” (1890, p. 446).

Third, James is cited as a basic emotion theorist in large part due to John Dewey’s attempt to reconcile Darwin (who proposed that states of the body and behaviors were caused by mental states of emotion) and James (who proposed that states of the body and behaviors were experienced *as* the emotion itself). Dewey (1895) criticized James for defining emotions as experiences (curiously, Darwin was exempt from this criticism). James, he said, did not distinguish between the “state of being angry” and “feeling angry.” It is not clear whether James actually thought there actually *is* a state of emotion that is separate from the person’s experience of that state. But Dewey, who assumed this distinction (and ontologically reduced emotion to a physical state), had a ready-made solution for solving the Darwin–James discrepancy that foreshadowed the solution offered sixty years later by Tomkins (1962, 1963): emotion is a state that is characterized as the tendency to act in a particular manner, and the afferent information from this state can be felt as an experience (see also Bull, 1945; Gray, 1935; Young, 1943). According to Dewey, Darwin must have been writing about the former (the emotion itself), and James the latter (the experience of the emotion). In Dewey’s hands, emotion became an object of consciousness, rather like a table or a chair—the object causes a person’s experience of it.<sup>7</sup>

James has also been described as an appraisal theorist because of his response to David Irons’ (1894) critique, in which Irons observed that the same object can elicit very different responses. “A variety of emotions is possible,” wrote Irons, “in a situation that remains objectively the same” (1897a, p. 251). James argued back that the total situation, rather than an object abstracted from a situation, serves as the key to unlock particular bodily changes (James, 1894/1994, p. 518). This clarification (or change in formulation, depending on your point of view) has been interpreted

as evidence that James believed some sort of meaning analysis was taking place (Ellsworth, 1994). Our interpretation is that James was saying that bodily responses are triggered not by a single object, but rather by perception of the object in context (for a discussion, see Reisenzein, Meyer, & Schutzwohl, 1995).

### *David Irons*

During the Golden Years, David Irons crafted the first coherent psychological exposition of an appraisal perspective on emotion. Irons published one article critiquing James' view that emotions are the perception of reflexive, instinctual responses (1894), as well as two additional articles elaborating on his own ideas about the nature of emotion (Irons, 1897a, 1897b). Although other authors of the time wrote about the need to reference an external situation or object (e.g., Bain, 1859/2006; Hamilton, 1859–1860; Mercier, 1884a, 1884b, 1885) or cognitions (e.g., Read, 1886; Stanley, 1886) when discussing the causes or classification of emotion, Irons outlined five arguments that together form the fundamental assumptions of the appraisal approach.

First, Irons argued that a meaning analysis (a “psychical disturbance” or “feeling attitude”) is the essence of emotion, because it intervenes between the object and the resulting physical changes. It is the meaning analysis that makes an emotion the kind of emotion it is. Irons observed that the physical changes for a given category of emotion (e.g., anger) are highly variable from instance to instance. Yet people experience the same kind of emotion each time, despite the variation in physical states, because there is a common “psychical” element—the meaning analysis of the object. Essentially, Irons argued that people assess an object's meaning in relation to the self, so that the same object can cause two different emotions or no emotion at all. Much as modern appraisal theorists have done (e.g., Frijda, 1986; Lazarus, 1991, 2001; Roseman, 1984, 1991, 2001; Scherer, 1984, 2001; Smith & Ellsworth, 1985; for a review see Ellsworth & Scherer, 2003), Irons offered a description of the types of appraisals that cause each emotion (Irons, 1897b). Anger occurs with the feeling of injury or objection, fear with the feeling of danger in the form of a threat that cannot be coped with. In his view, emotion categories are “primary” or basic only when their specific appraisal content can be specified. Other emotions that are without a clear feeling attitude (we can suppose Irons would call them “secondary” emotions) are constituted as combinations of these few primary emotions.

Second, Irons argued that this “psychical intervention” need not be (and is usually not) available to conscious awareness. This conception of a psychical intervention put Iron's very close to a modern day conception of appraisals as cognitive processes that are quick and automatic (see also Irons, 1897a, p. 250).<sup>8</sup>

Third, like many appraisal theorists, Irons emphasized that the experience of emotion is intentional—it points towards and references an object in the world. Emotions are not just caused by objects; they are the experience of an object in relation to the self. Irons wrote “An utterly objectless emotion is an impossibility in the nature of things; if there is no objective reference of some sort, there is no emotion” (Irons, 1894, p. 80).

Fourth, Irons argued that the meaning analysis is specific and particular to emotion and argued against James' idea that there are only general processes. According to Irons, emotions have “special conditions and effects” (1897a, p. 243). Emotion is an attitude that a person adopts towards an object that references the self (unlike a cognition) (Irons, 1897a). This foreshadows an assumption of some modern appraisal models, in which appraisals are literal cognitive mechanisms that are special to emotion and that cause emotion (e.g., Roseman, 1991, 2001, 2004; Roseman & Evdokas, 2004), and the notion that emotions are meaningful relationships between the self and the world (Frijda, 1986; Lazarus, 1991).

Finally, Irons argued that bodily changes are necessary but not sufficient for an emotion to occur. He wrote that,

There is no such thing as a perfectly definite set of organic changes constituting the expression of any particular emotion, and the “perpetual variation” of the bodily elements, while the character of the emotion remains unchanged, renders discrimination of the spiritual element not only possible but unavoidable. (Irons, 1894, p. 82)

Despite the fact that Irons acknowledged the potential variability in actions and bodily patterns within a single emotion category, at other times he seemed to assume that different psychical elements triggered biologically basic emotions (e.g., 1895b, p. 94; 1897a, pp. 253–254). In this emphasis on cataloging the existence of particular emotion forms, he foreshadowed Arnold (1960a, 1960b) and other modern appraisal theorists. Irons also stated that each emotion makes a certain type of conduct more likely (see Irons, 1897a, p. 255), putting him in sympathy with ideas from Dewey (1894, 1895), who we review next.

### *John Dewey*

John Dewey published two articles (1894, 1895) in which he attempted to reconcile Jamesian and Darwinian views of emotion, and in so doing contributed ideas consistent with both basic emotion and appraisal approaches. Dewey's analysis served to reinforce a singular idea—an object instinctually causes a readiness to act in a particular way, and this action readiness is the core of emotion (Dewey, 1895, p. 17). By redefining emotion as a state of readiness to perform a particular behavior, Dewey hit upon an assumption that was carried forth in many different works on emotion (e.g., Bull, 1945; Gray, 1935; Stout, 1899; Young, 1943), and takes center stage in modern appraisal models (Arnold, 1960a, 1960b; Frijda, 1986).<sup>9</sup> emotions are tendencies to behave in a certain way, and the conscious experience, physiology, and observable behaviors that result from action readiness are the symptoms of the emotion, but not the emotion itself. Like his contemporaries, Dewey acknowledged variability in how the symptoms configure with one another from instance to instance, although Dewey believed that typically these symptoms were coordinated with each other in time and intensity. This idea foreshadows those appraisal models that share basic emotion assumptions on the output end (where appraisals trigger stereotyped, coordinated packets of emotional response; e.g., Arnold, 1960a, 1960b; Roseman, 2001).

Dewey also wrote about emotion in a manner consistent with the appraisal perspective by emphasizing that emotions are intentional states (i.e., always refer to something in the world). For Dewey, the experience of emotion not only results from the physical manifestations of the urge to behave in a particular way, but it also includes the tendency to experience the object (and the world) in a particular way. Taking this idea one step further, Dewey did not believe that perception of the object causes the experience of emotion. For Dewey, the perception of an object is only *part* of the experience of emotion. With this extension of the idea that emotions are intentional, Dewey was charting new territory, outside any known emotion tradition. Dewey argued that it was a psychological fallacy (i.e., confusing the standpoint of the observer and the fact observed) to assume that there is a real distinction between the perception of an object and a person's response to the object (i.e., he argued that these are two sides of the same coin).<sup>10</sup> Experiencing the world as threatening does not cause the experience of fear—it *is* the experience of fear. This idea can be found in both modern psychological construction views (e.g., Barrett, Mesquita, Ochsner, & Gross, 2007; Lindquist & Barrett, 2008) and modern appraisal views, in which appraisals are regarded as the content of experience (e.g., Ortony, Clore, & Collins, 1988). As Dewey wrote,

The idea or the object is an abstraction from the activity just as much as is the "feel" or seizure . . . The reality, the coordination of these partial activities, is that whole activity which may be described equally well as that terrible 'bear,' or 'Oh, how frightened I am.' (1895, p. 20)

It may seem as if an object is apprehended which in turn produces bodily activity, but this is a trick of subjective experience. Dewey, like Irons, suggested that an emotion is always an intentional state, but he went further, suggesting that the perception of the object is not a cause of emotion but is a manifestation of the emotion itself.

### *Wilhelm Wundt*

Along with William James, Wilhelm Wundt is the other major figure of the Golden Years who crafted a psychological constructionist approach to emotion.<sup>11</sup> Most modern treatments of Wundt (1897/1998) focus on his model of "simple feelings" or what researchers now call momentary affective states, which he described as having three independent qualities: pleasant/unpleasant, arousing/subduing, and strain/relaxation.<sup>12</sup> Some combination of these properties can be found in what are often referred to as "dimensional" accounts of affect and emotion (e.g., Cacioppo & Gardner, 1999; Feldman, 1995; Russell, 1980; Russell & Barrett, 1999; Watson & Tellegen, 1985).<sup>13</sup> According to Wundt, valence, arousal, and intensity define a multidimensional affective space that people inhabit and are descriptive features of a unified state. Wundt's well-developed dimensional account of affect unfortunately overshadowed the other constructionist points he made about the nature of emotion.

First, Wundt emphasized that emotions are not static things or entities, but instead are "psychical compounds" or composites that are constituted out of "psychical elements" (that are simple

and irreducible in a psychological sense) (1897/1998, p. 91). Whereas James focused on raw somatic, visceral, vascular, and motor cues from the body as the basic ingredients of the mind, Wundt focused on two psychical elements, the mental counterpart to those internal cues: "affect," or simple feelings, and "sensations," by which he meant sensory input from the external world and the ideation that results.<sup>14</sup>

Second, Wundt described how affective and ideational compounds combine via a specific temporal course in a way that strongly foreshadows the kind of stage model described by Schachter and Singer (1962) (and carried forward in some newer psychological constructionist views, e.g., Russell, 2003). According to Wundt, emotions begin with an "inceptive feeling" that is affective in nature. The inceptive feeling is caused either by external sensory stimulation (what Wundt calls "outer emotional stimulation") or internal stimulation arising from associative or apperceptive conditions (what Wundt refers to as "psychical") (1897/1998, p. 171). Next, an "ideational process" distinguishes different emotional feelings from one another.<sup>15</sup> Although Wundt did not provide a clear definition of what an ideational process is, his writing is at least suggestive of some sort of embodied conceptualization (for a modern view, see Barrett, 2006b). "Ideas," argued Wundt, were the "revival of previous experiences" (1894/1998, p. 452). Finally, there is a terminal feeling, which is basically a more diffuse affective state that remains after the more intense feelings have dissipated—similar to a mood state.

Third, Wundt argued that the psychical elements combine to produce emergent emotional phenomena (in way that is reminiscent of more recent treatments of emotion, e.g., Barrett, 2006b; Clore & Ortony, 2008). "The attributes of psychical compounds," Wundt wrote, "are never limited to those of the elements that enter into them, but *new* attributes, peculiar to the compounds themselves, always arise as a result of the combination of these elements" (1897/1998, p. 91).

Fourth, Wundt emphasized that emotions are not different in kind from other mental states. Emotions and ideas, for instance, appear to be distinct from one another only because they are apprehended (perceived) as independent units of experience (based, perhaps, on which elements are foregrounded in consciousness, e.g., Baldwin, 1895). In actuality, however, Wundt believed that emotions and ideas are constituted out of the same basic ingredients. This assumption allowed Wundt to formulate the important hypothesis that affect (what he called "simple feelings") and cognition (what he called "sensation") are just two sides of the same mental coin. Internal and external sensations "do not indicate separate objects," wrote Wundt, but instead are "but different points of view from which we start in the consideration and scientific treatment of a unitary experience" (1897/1998, p. 2). He suggested that affective feelings were as influenced by externally-driven sensations (vision, hearing, touch, and so on) as by internally-generated sensations. Furthermore, he suggested that thoughts and perceptions were always affectively grounded when he wrote that simple feelings are the "affective tone of a sensation" (1897/1998, p. 75). People are, wrote Wundt, likely "never in a state entirely free

from feeling" (1897/1998, p. 92). The idea of continuous affect has also surfaced in more modern accounts. For example, Russell (2003) compared affect to temperature, which is always felt but only foregrounded when there are large increases in intensity. Based largely on a neuroanatomical analysis, Duncan and Barrett (2007) carried this idea further by suggesting that affect is a core feature of consciousness and contributes to the development and maintenance of a unified conscious field.

### *Edward Bradford Titchener*

Edward Titchener was Wundt's student, but his theoretical treatment of emotion has more in common with an appraisal approach than Wundt's constructionist account.<sup>16</sup> Titchener's writings on emotion were almost entirely in reaction to Wundt and are less of a formal model than many of the other theorists discussed in this paper. Titchener wrote that emotion (defined as a feeling and an action tendency) emerges after a vivid and intense ideation creates the perception of a situation. "We set out with a consciousness," wrote Titchener, which is "more or less pleasant or unpleasant. This consciousness is suddenly interrupted by an idea to which the attention is forcibly attracted (passive attention). The idea is immediately supplemented by other ideas," and mirrors or points to "a scene or situation in the physical world" (1896, pp. 229–230). Titchener then argued, in a way that is more reminiscent of Dewey's writing than Wundt's, that the perception of the "total situation or predicament" (1910, p. 471) provokes a feeling as well as a "bodily attitude" or disposition to act. In emotion, Titchener wrote, "an organism which is called upon to face a particular situation must do so by a particular bodily adjustment, a special bodily attitude or set of bodily movements were the adjustment of the organism to the situation" (1896, p. 230; for a similar quote, see 1910, p. 485). These physical changes enhance the affective change initiated by the ideation, producing a feeling that is vivid and intense enough to be foregrounded in consciousness and experienced as emotion (for a similar description, see also 1896, p. 230). The emotion, according to Titchener, is experienced as part ideational and part affective.

Titchener (1910, p. 490) resisted proclaiming how categories of emotion differ from one another, instead arguing that the categories named as "anger," "sadness," "fear," and so on, are drawn from popular usage and therefore do not have the degree of scientific precision needed to support the scientific discovery of what the fundamental or basic categories are (In making this observation, he took a position that was already well-articulated by both Wundt and James). Instead, like a true appraisal theorist, Titchener (1910, pp. 490–491) suggested that only by learning about and classifying the psychological situations commonly found in the world can science ever truly discover what the fundamental emotion categories are. Nonetheless, Titchener's appraisal account still has a psychological constructionist flavor because he argued that emotions and nonemotional affective states (or sense-feelings, as he calls them) are not different in kind, but differ only in intensity, vividness, and complexity. "Feeling," Titchener wrote, "is a simpler emotion, as emotion a more complex feeling" (p. 473).

### *James Sully*

Many philosopher-psychologists other than James and Wundt wrote extensively about emotion during the latter half of the 19th century and are not easily classified or assigned to a particular perspective (e.g., Bain, 1859/2006; Baldwin, 1895; Hamilton, 1859–1860; Henle, 1876; Herbart, 1891; Hoffding, 1891; Horwicz, 1872–1878; Lehmann, 1892; Lotze, 1886/1998; Mercier, 1884a, 1884b, 1885; Münsterberg, 1899, 1914; Read, 1886; Ribot, 1897; Stanley, 1886; Stout, 1899; for reviews of some of these writers see, Gardiner, Metcalf, & Beebe-Center, 1937; Lyons, 1980; Ruckmick, 1936). Perhaps for this reason, the majority of these authors are no longer read or cited. James Sully's (1892) *The Human Mind* is just such a study in contrasts. Some of Sully's writing has an undeniably psychological constructionist flavor, whereas other passages point towards appraisal and basic emotion views.

Sully, like Wundt, wrote that affect is a more general ingredient in all mental states, and in so doing made the quintessential psychological constructionist assumption that emotions emerge from more general processes. Sully wrote about affective feelings (pleasure and pain) as basic elements of consciousness that are "bound up" in physical symptoms and emotions, but also in "sensations, and their derivatives, percepts, and ideas" (1892, p. 7). "External objects only have value for us" Sully wrote, "when they touch our feelings" (1892, p. 1) so that "most of our common experiences are colored by some degree of feeling or affective ingredient" (1892, p. 3). Even thinking and other forms of ideation, according to Sully, have some affective tone because affective feelings arise from the consciousness of how an object or situation affects the self. Like many writers of the day, Sully compared affective feelings to externally driven sensory feelings like seeing or hearing or touch, noting that all can be characterized by their intensity, temporal course, and duration. But for Sully, affective feelings were more pervasive and diffuse.

Similar to many psychological constructionist views, Sully argued that emotions are distinguished from other forms of feelings by also having a noticeable perceptual or ideational component, what he called a "central" (vs. peripheral) or "representational" component. He wrote that, "It follows that emotion is in general describable as a mass or aggregate of sensuous and representative material, having a strongly marked and predominant concomitant of feeling or affective tone" (1892, p. 57).

Sully (1892) argued that the initial stage of an emotion (which he defined as a psychological construction) triggers additional changes in the body in a way that is reminiscent of Dewey and of modern appraisal approaches to emotion. Sully wrote:

We may say, then, that an emotion is a complex psychical phenomenon made up of two factors, or as we may call them, stages: (a) a primary stage of central excitation; and (b) the secondary stage of somatic resonance. The first includes the sensuous effect of the initial peripheral stimulation, together with the representative elements associatively cojoined with this. Thus, in the case of a sudden fear, the primary stage includes the immediate effect of the sudden sensory stimulation, viz. mental shock, or a momentary overpowering of the attention, with vague representations of harm; whereas the secondary stage includes all the modifications in tension

of muscle, organic function, brought about by the shock. . . . It follows that emotion is in general describable as a mass or aggregate of sensuous and representative material, having a strongly marked and predominant concomitant of feeling or affective tone. (1892, p. 57)

Sully's stages are reminiscent of Dewey's notion that physiological changes are not the emotion itself but occur after the emotion (which is an action tendency). Sully's description of stages is also similar to that of Scherer (2001, p. 92), who argued that "emotion interacts with phylogenetically older response mechanisms such as reflexes and fixed action patterns," so that emotion itself may not be a reflex, but can trigger one.

Despite his psychological construction and appraisal leanings, Sully also articulated the basic emotion assumption that emotions have a particular bodily quality that distinguishes each category from another. According to Sully, physical resonances give the emotion its particular quality as fear, anger, love, and so on. That being said, Sully noted the variability and complexity among emotional responses that have the same name (e.g., fear), which left him pessimistic about finding a clear and consistent classification of emotional kinds.

### Summary

Throughout the Golden Years, there was tremendous diversity in the psychological ideas about emotion. The foundations of the basic emotion view were clearly in evidence. Darwin is typically cited as the foundation of the basic emotion approach, and indeed, his writings did sketch a set of ideas about human emotional expressions as vestiges of mammalian evolution. In addition, a handful of other writers (most notably Dewey, but to some extent Spencer and Sully) also contributed to the development of the basic emotion approach. James, who is often cited as a basic emotion theorist, actually contributed very little other than the idea that emotions are "instinctual." The Golden Years also provided a clear formulation of the appraisal perspective six decades before Arnold (1960a, 1960b), who is usually credited with founding that approach. Irons provided the quintessential insight that meaning makes an emotion the kind of emotion it is, and ideas common to the appraisal perspective were further elaborated by Dewey, and to some extent Titchener. Most importantly, it is also possible to see the emergence of a third distinct approach to emotion, which is best described as a psychological constructionist approach. Unlike the basic emotion and appraisal views, the psychological constructionist approach began with the idea that emotions are psychical compounds resulting from the combination of basic psychological processes that underpin other types of mental states as well. James and Wundt both had clear psychological constructionist models, and psychological constructionist assumptions can also be seen in the writings of Spencer, Titchener, and Sully. That being said, some theorists, such as Sully and Titchener, defy exclusive classification into any of the three traditions (which is why we mention them on more than one occasion). As psychology left the Golden Years, the groundwork was laid for the basic emotion, appraisal, and psychological constructionist approaches. According to the usual history, a period devoid of theorizing about emotion—the Dark Ages—followed. In our discussion below, however, those years do not seem so dark after all.

## The Dark Ages: 1900 to 1959

During the early part of the Dark Ages (roughly 1900 to 1930), the basic emotion approach moved past generic assumptions to take on many of the specific ideas that mark its distinctiveness as a coherent theoretical approach to understanding emotion. William McDougall emphasized that each kind of emotion is rooted in a biologically basic instinct (or urge to act) that humans share with all other mammals. John Watson reduced emotions to physical states. Floyd Allport contributed a key element of a basic emotion approach with his introduction of the facial feedback hypothesis about 40 years before Tomkins reintroduced the idea in the 1960s. Walter Cannon contributed the idea that emotions are a special kind of psychological state that had to be explained by special (brain) mechanisms. Edwin Newman and colleagues defined emotions as coordinated, stereotyped packets of experience, physiology, and behavior that could be easily recognized by other people.

In the latter part of the Dark Ages (from roughly 1925 to 1945), however, many writers reacted against the basic emotion view by arguing that emotions are not natural kinds. Their primary source of evidence was the consistent observation that stereotyped expressions of emotion (whether in the body, face, or behavior) could not be empirically identified. Harlow and Stagner (1932) wrote, "*emotions, as patterns of response, do not exist*" (p. 572, italics in the original). The variety of views during this entire period can be grouped into psychological constructionist, behaviorist, and appraisal examples. As in our section on the "Golden Years," the interested reader can refer to Tables 1 through 3 to see a classification of the assumptions held by each author in terms of the basic emotion, appraisal, and psychological construction traditions, respectively.

Some authors used the observed variability in emotional responding as a spring-board to propose psychological constructionist models of emotion to account for the variability observed within each category (e.g., Duffy, 1934b; Dunlap, 1932; Harlow & Stagner, 1932, 1933). More recent articles on the same topic (e.g., Barrett, 2006a, 2006b; Russell, 2003) bear a striking resemblance to these older articles, despite being written some 70 years later and without the benefit of knowledge about that earlier work.

Other authors provided a behaviorist interpretation for the failure to find discriminable and stereotyped patterns of response for each emotion category (e.g., Dashiell, 1928; Klineberg, 1940; Meyer, 1933; Sherman, 1927). For example, Sherman (1927) and Dashiell (1928) argued that an emotion word refers to the social significance of a behavioral response (rather than to a pattern of behavior and physiology corresponding with an emotion entity). In his textbook, *Social Psychology*, Klineberg (1940) argued in a similar manner that the social, and in particular the cultural, context is the major determinant of the amount of overt emotional behavior performed. With the benefit of hindsight, one can see in these writers rudimentary ideas that were expanded within the social constructionist perspective that emerged after the so-called renaissance of psychological approaches to emotion. In their original form, however, these works emphasized output, in particular overt behavior, and were not models of emotion.

In a similar way, other authors accounted for the observed variability in emotional responding to by arguing that eliciting conditions, rather than the biobehavioral response, distinguish different kinds of emotion from one another. Although strictly speaking these articles do not fall within the appraisal tradition (because they do not make reference to cognitive mechanisms within the head of the perceiver), they are close nonetheless. In his empirical article, for example, Landis (1924) argued that the emotion words refer to the situations in which responses occur, rather than to the behaviors (e.g., facial muscle movements) that are observed. Dunlap (1932) also argued that emotion words refer to situations, in that they serve the function of describing the aspect of the situation someone is attending to. The most well articulated view of this sort came from Paul Young (1943), who we discuss below. His view is consistent with some appraisal models in which appraisals are descriptions of situations where emotions occur (e.g., Ortony et al., 1988) rather than the literal cognitive mechanisms that cause emotion.<sup>17</sup>

### *William McDougall*

McDougall (1908/1921, 1923) was a self-described champion of common sense approaches to understanding behavior, particularly when it came to understanding emotion. His goal was to make the “common-sense” explanation of behavior “refined” and “more definite and systematic” (1923, p. 127) (for another defense of common sense categories, see Hebb, 1946). In so doing, McDougall refined the concepts of instinct and stereotypic responding within the basic emotion tradition (see also Shand, 1914; Tolman, 1932; for an older and less informative version, see Ribot, 1897).

McDougall argued that emotions were instincts or impulses to perform a particular action. Whereas James and Dewey used the concept of instinct to refer to a wide variety of responses that are elicited automatically and do not require cognitive mediation, McDougall took the term a step further by using it to refer to a limited number of “certain innate or inherited tendencies which are the essential springs or motive powers of all thought and action . . . probably common to the men of every race and every age” (1908/1921, p. 20). “When we are afraid,” McDougall wrote,

we feel the impulse to retreat or escape from the object that frightens us; when we are angry, we feel the impulse to attack the object that angers us; when we are curious, we feel the impulse to draw nearer and examine the object that excites our curiosity. (1923, pp. 320–321)

The instincts that McDougall referred to could well be described as fixed action tendencies. To McDougall, the experience of emotion was the combination of “the affective quality of each instinctive process and the sum of visceral and bodily changes in which it expresses itself” (i.e., the response caused by the instinct; McDougall, 1908/1921, p. 48). Furthermore, McDougall used the concept of instinct to define which emotions are biologically basic. “The operation of each instinct,” he wrote, “no matter how brought into play is accompanied by its own peculiar quality of experience which may be called a primary emotion” (1923, p. 128). Secondary emotions were combinations of instincts, and “derived emotions” were varieties of feeling that

arise during a strong instinct but are not specific to any one (such as joy, sorrow, hope anxiety, surprise, regret).

McDougall elaborated on the ideas about emotional expression that Darwin merely sketched. He argued that the bodily changes accompanying each instinct, which he referred to as the “expressions of emotion,” were adaptations of a species. Once again, McDougall took things a step further. Whereas Darwin argued that the *expressions* of emotion are homologous across mammalian species, McDougall argued that the *causes* of emotion are shared among these species. McDougall not only argued that these instincts are homologous in other mammals, but he went further to suggest that if animals have instincts similar to our own, then they must also experience emotion in the way that humans do. On this point, McDougall argued that “whenever we see an animal aroused to some train of instinctive activity, we may assume that it experiences some emotional excitement” (1923, p. 129). With the assumptions of mammalian homology in emotion mechanisms and common emotion experience, McDougall’s view foreshadows Panksepp’s (1998) basic emotion model, with many of the instincts listed by Panksepp contained in the list offered by McDougall (1923).

Based on the logic that there are a small number of privileged instincts, each of which produces a stereotyped response, McDougall argued that the bodily expressions of emotion (i.e., the manifestations occurring as the person attempts to enact the instinct) are consistent and specific for each emotion (for each instinct, McDougall, 1923, p. 322). This diagnosticity allows humans to recognize emotions in other people and in themselves. Following his theme of reifying common sense, McDougall wrote,

I do not propose to attempt any description of the emotional qualities nor of the bodily expressions of “the emotions.” If the reader does not know what it is to be afraid, or angry, or disgusted . . . No amount of description, however eloquent, will enlighten him. (1923, pp. 328–329)

McDougall reinforced the basic emotion assumption that emotions can be defined by analogy and thus be diagnosed from their external symptoms.

Nonetheless, McDougall was not your run of the mill basic emotion theorist. Despite his view that emotions could be diagnosed by their pattern of expression, McDougall insisted that an emotion was not a mental thing or an entity, but instead is “a mode or quality of experience” (1923, p. 315). He argued that emotions are not fundamentally different in kind from sensations, ideas, and concepts, because all mental activity involves some conation or “persistent striving toward a goal with variation of means” (p. 317). The idea that emotions are not different in kind from other mental states is one of the central assumptions of the psychological constructionist approach. McDougall also emphasized emotional variability; he allowed that objects do not trigger emotions in an obligatory way (so that emotions do not inform us about the objective nature of an object). Instead, he argued that “in the presence of the same object, the emotional experiences of different persons may be very different, and even those of the same person on successive occasions may vary widely with changes in his general condition” (p. 315). McDougall did not specify the processes by which a single

object can come to trigger different instincts in different people (or in the same person at different points in time), but the idea that a psychological process can trigger basic emotional responses is very similar to more modern appraisal views such as Arnold (1960a, 1960b) and Roseman (2001). His idea that emotions are fundamentally motivations to act is also similar to Frijda's (1986) idea of action tendency.

### John Watson

At the outset, psychology was a discipline defined by the study of feeling, will, intellect, and action. With its break from philosophy and efforts to establish itself as an empirical science, there was an increasing emphasis on observable behaviors. Methodological behaviorism was born, with John Watson as its champion. Although Watson's behaviorism has fallen from favor, his treatment of emotion contributed a founding assumption to the basic emotion approach: emotion words refer to instances that have distinctive and characteristic patterns of overt behavior and peripheral physiology. Like Dewey and McDougall, Watson ontologically reduced emotion to something else. Whereas Dewey and McDougall redefined emotion as something unobservable (the instinct to perform a particular action), Watson reduced emotion to something observable.

From a theoretical standpoint, Watson defined emotion in terms of physiological patterns, elicited in a reflex-like fashion. In a passage that displays a great similarity to McDougall's view, Watson wrote: "An emotion is an hereditary pattern-reaction involving profound changes of the bodily mechanism as a whole, but particularly of the visceral and glandular systems" (Watson, 1919, p. 165). From a methodological standpoint, however, Watson relied more on outward behavioral manifestations such as crying, moving of the limbs, and so forth, to characterize different emotions and distinguish them from one another. By specifying a "pattern-reaction," Watson defined emotion categories by analogy, assuming that exactly the same response would take place in the same sequential order each time a given emotional stimulus (in context, of course) was presented.

Watson believed that emotional pattern-reactions for love, fear, and anger were inherited (see also Ribot, 1897), but were quickly modified and inhibited by environmental shaping both on the input and output side. On the input side, Watson (1919) argued, like James, that the stimulus for emotion is an object in its context (i.e., the entire situation) and suggesting that the context shapes whether the organism is sensitive to a stimulus or not. For Watson, context meant both the external surroundings as well as the person's particular history with the object (which he referred to as the internal context). This contextualizing of stimuli accounts for variability in an individual's response to a given stimulus on different occasions.

On the output side, Watson argued that the diagnostic, overt pattern-reaction corresponding to each emotion word is rarely observed in adults because environmental shaping and inhibition quickly modify it. As a result, diagnostic patterns would be more frequently found in infants. This argument foreshadowed a similar point made by Tomkins (1962, 1963) and Izard (1971), resonates with the basic emotion concept of display

rules that alter the expression of emotion rather than its true nature (e.g., Matsumoto et al., 2008). In Watson's view, the pattern-reactions are the platonic norm for emotion amidst a tremendous amount of observed variability in actual responding. Among all the variability, Watson assumed that the pattern reactions must be there, even though he couldn't see them—very ironic for a behaviorist.

### Floyd Allport

Floyd Allport provided an account of emotion that had a particular focus on the face (Allport, 1922, 1924), another hallmark of the modern basic emotion tradition (e.g., Ekman, 1972; Izard, 1971; Tomkins, 1962, 1963). Unlike Lange (and to some degree Watson) who believed that physiology can distinguish between the basic emotions, Allport argued that autonomic nervous system activity only distinguishes pleasant and unpleasant affect (with sympathetic nervous system involvement for negative states and parasympathetic for positive). With a Jamesian flair, Allport wrote that the afferent sensory information from facial behaviors and body postures (what he called "somatic postures") serve the function of distinguishing affective responses into discrete emotion responses. Allport wrote,

*the differentiating factor arises from the stimulation of the proprioceptors in the muscles, tendons, and joints of the somatic part of the organism; and that afferent impulses from these somatic patterns of response add to the autonomic core of affectivity the characteristic sensory complexes by which one emotion is distinguished from another of the same affective class.* (1924, pp. 91–92, italics in the original)

"The emotion of fear is the way the body feels," he argued, "upon reacting to a terrifying situation" (Allport, 1924, p. 85). In discussing how afferent information from facial muscle movements contributes to the distinctive feeling of each emotion, Allport introduced the rudimentary elements of the first facial feedback hypothesis. He explained that "return afferent impulses from these responses add in consciousness the distinguishing qualities which serve to differentiate the emotion of anger from that of fear" (Allport, 1924, p. 92).

In his chapter devoted entirely to facial and bodily expression, Allport focused his discussion almost exclusively on the psychological import of face.<sup>18</sup> He argued that facial muscle movements configure to produce hundreds of possible expressions, but that all this variability can be distilled down into six elementary "roots"—pain-grief, surprise-fear, anger, disgust, pleasure, and various attitudes (this is the group of neutral expressions). Like some modern basic emotion theorists (e.g., Ekman, 1972; Tomkins, 1962, 1963), Allport argued that emotion is related to facial muscle movements in a one-to-one manner and provided a descriptive list of muscle movements that correspond to each emotion category. He also observed that people are not good at correctly naming configurations of facial muscles when asked to freely label them, although they can match a word to a face with higher rates of accuracy (for a modern discussion, see Russell, 1994). He foreshadowed the importance of emotion language in emotion perception, however, when he stated that "although the ability to correctly name

a facial expression is generally low, the meaning of it is readily seen when its true name is given" (1924, p. 225; for a review, see Barrett, Lindquist, & Gendron, 2007). This quote by Allport can be interpreted as meaning that although the statistical regularity across facial expressions may be low, the label helps to cohere these perceptually variable instances into a category.

The single most important impact of Allport's work is not one that he is generally given credit for: Allport altered Darwin's legacy in the basic emotion tradition by arguing that emotional expressions are functional. Darwin wrote that emotional expressions are vestiges of the past which are no longer functional in their present social context. In contrast, Allport argued that facial expressions can become useful for purposes other than their original, vestigial, function. Specifically, he suggested the "*possibility of the facial movements becoming important in adaptation to the social environment*" (Allport, 1924, p. 211, italics in the original). This reinterpretation of Darwin has had a kind of viral influence on the way that Darwin's *The expression of the emotions in man and animals* is cited in modern psychological works on emotion. It has cultivated the false assumption that Darwin himself thought of "expressions" as functional. Although the basic emotion tradition of examining facial expressions of emotion is typically traced back to Darwin, Allport may be a more appropriate point of reference for this tradition.

### Walter Cannon

Writing in reaction to James, Cannon made a number of now-famous criticisms of what he called James' "peripheral theory" of emotion. Like Irons and Dewey, Cannon did not really craft his own fully developed model, but instead focused his attention on criticizing James. Nonetheless, Cannon's writing was important to the basic emotion approach for several reasons. First, he proposed (mistakenly) that emotion was localized to a specific location in the central nervous system (as did many others during this time; for a review, see Harlow & Stagner, 1932). Following in Cannon's footsteps, the search for a neuroanatomical locus of emotion was later taken up by Papez (1937), MacLean (1949), and in more modern works by Panksepp (1998), LeDoux (2000) and others. Second, Cannon assumed that emotions were a special kind of psychological state that had to be explained by special mechanisms. He criticized James's idea that changes in the body constitute emotion by observing that the same visceral changes occur both in emotional and in nonemotional states. This is only a criticism, however, if one assumed in the first place that emotions are different in kind from other psychological states.

### Edwin Newman, Theodore Perkins, and Raymond Wheeler

Newman, Perkins, and Wheeler (1930) systematically critiqued Cannon's analysis of James and in the process elaborated on an idea that echoed earlier writers and became yet another cornerstone of the basic emotion approach: different emotional states can be characterized by a syndrome of outputs (e.g., behavior, physiology, feeling) that are coordinated in time and intensity. Furthermore, like all basic emotion researchers, Newman et al.

crafted a view of emotion that reflected the tension between a belief in discrete emotions with stereotyped outputs and the very real and tremendously large variability in responses that are actually observed.

Whereas prior work emphasized a *single* response modality in distinguishing emotional states (e.g., either visceral and other "organic" changes, Lange, 1885/1922; physical resonances, Sully, 1892; observable behaviors, Watson, 1919; impulses for those behaviors, McDougall, 1908/1921; motor sensations, Warren, 1922; or facial behaviors, Allport, 1924), Newman et al. (1930) emphasized a coordinated *pattern* of response. And unlike Dewey, who described coordinated outputs as a by-product of emotion (with action tendencies distinguishing one emotion from the next) Newman and colleagues viewed the pattern across outputs as disambiguating one emotion from another. According to Newman et al., a single response was necessary, but not alone sufficient, to make an emotional response the kind of response that it is. Newman et al. wrote: "we can no more expect to find a single condition responsible for a thing like emotion than we can find a simple physiological basis of self, perception, meaning, character, intelligence or any other one of a dozen psychological 'entities'" (Newman et al., 1930, p. 316).

Consistent with the appraisal perspective, however, Newman et al. did not rely on physical components alone to distinguish one emotion from another; they also included a psychological component to their diagnostic emotional patterns. They suggested that organic and behavioral responses alone might not differentiate one emotion from another, acknowledging that there is tremendous variability in response, with all emotions becoming more similar in their organic changes with increasing intensity. They also acknowledged that the same organic changes can occur in nonemotional states. To resolve the discrepancy between their beliefs and observations, Newman et al. argued that emotions are not just your run of the mill collections of physical and behavioral cues—emotion also involves a goal to act on an object; this goal completes the pattern for each emotion. In their view, a mental representation of a goal or object was the *crucial* part of the syndrome that distinguished different kinds of emotion from one another. Newman et al. wrote that if there "*is no goal, nothing to be afraid of, joyful about, or angry at*" (p. 317, italics in the original), then there is no fear, or joy, or anger—there is only a handful of physical sensations. Organic and postural cues contribute to creating an emotional state only when the goal is present and the pattern is complete (1930, p. 318). Fear of a thump in the night is distinct from fear of a yelling boss, but both are fear as long as there is an object of danger. The particular meaning (not just the stimulus that meaning is assigned to) is important to making an emotion the kind of emotion it is. This is highly consistent with the appraisal point that emotions are defined by the meaning (and associated goals) we assign to stimuli/situations, rather than some fixed relationship between a stimulus and an emotional response.

### Harry Harlow and Ross Stagner

In contrast to those writers of the Dark Ages who held basic emotion assumptions, Harry Harlow and Ross Stagner wrote two articles, one on affective feeling (1932), and a second on emotion



(1933), in which they crafted a psychological constructionist approach to emotion. Building on the ideas articulated by Wundt, Harlow, and Stagner (1932) characterized emotions as complex experiences derived from simpler components (for a similar but more abbreviated treatment, see also Conklin & Dimmick, 1925). They began by arguing that affective responses (described as conscious feelings of valence and arousal) exist and can be objectively verified in studies of physiology and behavior, foreshadowing a similar point made by Russell (2003) and Barrett (2006b). Harlow and Stagner (1932, 1933) went on to argue that emotions occur when these conscious affective states are combined with a conscious representation of the stimulus or stimulating situation, making emotion an intentional state. They wrote: “the specific emotions can only be differentiated in terms of the perception of the stimulus and its meanings” (1932, p. 572), and that

the individual must not only feel, but he must feel with relation to some known stimulus. If we feel excited without knowing why, we report no emotion, but if we feel excited in a situation calling for attack, we report “rage.” (1933, p. 191)

As a result, they argue, infants feel only affect because they have not yet gained the appropriate knowledge to allow them to feel emotion.

Like many writers throughout the ages, Harlow and Stagner (1933) asked: “If two emotions are both unpleasant and exciting, by what criteria do we decide that one is fear and another is rage?” The answer, they say, is in cognition. “It seems probable, then, that the verbal designations applied to specific emotional experiences, as fear, rage, love, etc., are determined purely and simply by cognition of the external stimulus and its meaning” (1933, p. 192). Furthermore, they argued,

There is nothing about “rage” as such, that entitled it to a specific name. Descriptively, rage is a state of unpleasant excitement in a situation calling for attack. If the situation calls for retreat, the emotion is known as fear. (1933, p. 193)

This description is a clear forerunner to modern psychological constructionist views (e.g., Barrett, 2006a; Russell, 2003), as well as some appraisal views (e.g., Ortony et al., 1988) where appraisals are the descriptions of psychological situations in which particular emotions are experienced (rather than the literal cognitive mechanisms that cause emotions).

Like the other constructionist approaches before them, Harlow and Stagner did not describe the process by which affect and cognitions combine. Nonetheless, in true psychological constructionist fashion, they went on to argue (referring to Gestalt psychology) that affect and cognition are at work simultaneously (not in stages) and fuse, so that they cannot be differentiated in consciousness, which is why emotional states are experienced as unanalyzable entities. Furthermore, they argued that emotions are not innate, but instead develop out of unconditioned affective responses (i.e., affect forms the biological basis for emotion). Like Watson, they argued that “the conditioning processes by which all emotions are acquired, modify the unconditioned

affective pattern by enormously extending the range of stimuli that will elicit it . . . usually by ‘damping’ the violence of the unconditioned affective response” (1933, p. 190) or by modifying it in some way.

### *Knight Dunlap*

Taking a similar (but perhaps more extreme) psychological constructionist view to Harlow and Stagner, Knight Dunlap (1932) argued that emotion words do not signify psychological entities. Given the variability in bodily responses within a category of emotion, Dunlap wrote:

The search for “primary emotions” is as much an anachronism in psychology today as is the search for the soul; and it is a search of the same sort. We must face the fact that the “emotions” are names to which correspond no concrete realities. (1932, p. 573)

Furthermore, Dunlap argued that emotions are not “discretely distinguishable in kind from one another,” but instead are psychological complexes constituted out of

*n* elements, any one of which may vary in a graded way, so that the total variation is poly-dimensional but without discriminable steps or jumps. The value of *n*, and the nature of the elements, if any, remains to be determined. (p. 576)

Dunlap made a passing reference to affect and to cognitive or ideational processes as psychological properties of importance in emotion, but unlike Harlow and Stagner and Wundt, he offered no systematic view on what the basic ingredients of emotion are.

Like several other writers of his time, Dunlap saw emotion words as having a teleological function—they signify the situations in which people experience complex responses. This view was consistent with a psychological constructionist perspective where emotions are situated conceptualizations of affect (e.g., Barrett, 2006b). Dunlap did not argue that situations evoke emotions, but rather he believed that people assign a name to their psychological state “in accordance with our estimation of the situations in which they arise” (1932, p. 574). This estimation, in turn, depends on the features of the situation that people focus on or give their attention to. Dunlap wrote,

If a person threatens me, and I emphasize his part in the portended happening I may still “fear” him, if I admit his greater power. Or I may be ‘angry’ at him. It all depends on the way I think about the situation, not on the actual state of feeling . . . I may apprehend my situation primarily as one in which my welfare is threatened. I call my inner response *fear*. You may apprehend my situation as one in which I fight against the threat; you say I am *angry*. Which is correct? The answer may be: Both! (1932, p. 574, italics in the original)

Dunlap described emotion as a conceptualization of an *internal state* that is aided by specific situational information, as it is relevant to the perceiver. His description also reflects the psychological constructionist premise that there is no necessary relationship between affect and a given emotion category, such that affect may constrain but does not dictate the emotion.

From Dunlap's perspective, there is no such thing as an accurate emotion. The way that an affective state is categorized is rooted in the particular situation. In a more modern form, we might say that categorization is based on the accessibility of particular conceptual content (e.g., Barrett, 2006b).

### Elizabeth Duffy

Duffy made three notable contributions to the psychological constructionist approach to emotion, which built upon earlier views (most clearly James). First, she questioned whether emotion was different in kind from nonemotional states (such as volition and ideation; Duffy, 1934a, 1934b, 1941). She argued that every element present in emotion (e.g., feeling, somatovisceral changes, behavior) is also present in nonemotional, psychological states. Duffy wrote that,

Though the term "emotion" is assumed to denote a unique state of the organism, no one of these criteria has been successful in delimiting this state in such a way as to make it appear different in kind from other states. (1934b, p. 186)

"Emotion," she wrote in 1941, "has no distinguishing characteristics" (p. 292).

Second, like her contemporary William Hunt (who we discuss next), Duffy argued that emotion words are imprecise descriptions of human experience and are not entities with causal sequences. Psychologists should be no more willing to base their science on these words than a physicist should rely on the words "hot" and "cold" to provide precise measurements of temperature (Duffy, 1934a).

Third, and perhaps most importantly, Duffy argued that abandoning the idea of emotions as special does not mean abandoning the scientific study of phenomena that people refer to with emotion terms. Duffy clearly articulated the view, held by all psychological constructionists, that studying the ingredients of emotion has scientific value, even if these ingredients do not distinguish emotional states from nonemotional ones. Duffy wrote:

if we should cease now to employ the present loose concept of emotion, we should not thereby cease to study visceral changes or changes in the intensity and coordination of other reactions frequently mentioned in descriptions of "emotion." But we should study these phenomena in their own right, and under precise labels that do not mean different things on different occasions and to different writers. (1934a, p. 103)

The goal of psychology, Duffy argued, should be to identify "the simple, irreducible aspects common to all behavior" (1934b, p. 194).

More recently, these have been called "psychological primitives," or the basic ingredients of mental life (Barrett, 2009). Duffy believed that a science focused on psychological ingredients would be more productive than a science focused on common sense emotion categories. "Perhaps, when we formulate our questions better," she wrote, "nature will be more obliging in her replies" (Duffy, 1941, p. 293).

At the outset, Duffy was reluctant to hypothesize about the nature of these basic ingredients. "It is obviously impossible to

propose at the time even a tentative list of the dynamic fundamentals of behaviour," she wrote in 1934, "their formulation awaits further experimentation and analysis." (1934b, p. 194). But in 1941, Duffy proposed two fundamental processes for mental life. First, all mental states have an associated energy level that is required to deal with the requirements of the situation (also characterized as the degree of reactivity in the individual and the intensity of response). Duffy developed this idea into the concept of arousal or activation in 1957 (referring to the intensity of internal arousal rather than the vigor with which overt behaviors are performed). Schachter (1959) and then Schachter and Singer (1962) used this formulation of arousal in their own psychological constructionist approach to emotion.

In suggesting a second ingredient, Duffy added that all mental states require an interpretation of the current situation (which is linked to the person's goals and background). People perceive their psychological states as emotional when there is a sudden or extreme change in energy level *and* when those changes are perceived as being caused by a certain situation (i.e., they have an external reference) (Duffy, 1941). Emotions are perceived when "how the body feels" becomes

part of a more comprehensive whole which includes the *interpretation* of the *stimulus situation*, *expectations* of future developments in the situation, and the *set* of the individual for response to that situation. Without this characteristic context for the visceral sensations the individual who experiences visceral changes is likely to be uncertain as to whether or not he is experiencing "emotion." (1941, p. 290, italics in the original)

In many ways, Duffy's ideas closely foreshadow our lab's own psychological constructionist approach to emotion, in which affective changes are conceptualized as an emotion (Barrett, 2006b, 2009, in press; Barrett & Bliss-Moreau, 2009; Barrett, Lindquist, Bliss-Moreau, Duncan, Gendron et al., 2007; Barrett, Mesquita, et al., 2007; Barrett, Ochsner, & Gross, 2007).

### William Hunt

Every so often, it seems, someone in psychology reviewed the research literature on emotion to conclude that discrete emotional states cannot be clearly distinguished in biology or behavior (e.g., Mandler, 1975; Ortony & Turner, 1990; Russell, 2003; Barrett, 2006a). In 1941, it was Hunt's turn. He reviewed the scientific literature for evidence of diagnostic visceral responses and facial behaviors and concluded that such responses and behaviors do not give evidence of clear and distinct categories of emotion. In the process, Hunt made two additional observations that are important to a psychological constructionist approach to emotion.

First, like all psychological constructionists, Hunt (1941) argued that emotions were not a special kind of mental event. Reacting against the basic emotion models proposed by McDougall and others, Hunt argued that emotions are not situations of emergency with biological importance (where current behavior is suspended and replaced with innate, patterned responses designed to resolve the emergency). Ironically, Hunt believed this kind of theorizing was a thing of the past. He wrote: "we are no longer so apt to think of emotion as a 'thing'

*sui generis*, unique and clearly separable from other psychological phenomena” (1941, p. 249, italics in the original). He also argued that definitions of emotion of the basic emotion variety are more statements of faith than fact. To treat such definitions as scientific would be to misunderstand their purpose—which is to inspire research. Hunt wrote “under the stimulus of this concept much experimental work has been done, and many things have been learned about human behavior” (1941, p. 271).

Second, Hunt not only highlighted the variability in emotional responding, but he specifically pointed out that different experiences are often referred to by the same name. There is tremendous variability in the experience of “anger” both within and across people, even as people refer to these experiences with the same word. The same experience in two different people might be referred to by different names (emotion in one person, but a physical state in others). In describing this state of affairs, Hunt wrote, “the only universal element in any emotional situation is the use by all the subjects of a common term of report (i.e., ‘fear’)” (1941, p. 266). He did not go on to consider the psychological power of words in this regard, however (for a discussion of this issue, see Barrett, Lindquist, & Gendron, 2007). Hunt’s observations imply, however, that reports of subjective experience should go beyond the categorical labels and should involve more fine-grained descriptions that truly capture the variability in experience (for a modern take on this idea, see Barrett, Mesquita, et al., 2007).

### Paul Young

Young (1943) charted the territory between the appraisal and basic emotion perspectives by incorporating assumptions of both theoretical camps into his treatment of emotion. Like modern theorists from both perspectives, Young argued that the category “emotion” refers to a special class of psychological states that can be defined by necessary features, which when occurring simultaneously are sufficient to say that an emotion has occurred. Young wrote “*an emotion is an acute disturbance of the individual, psychological in origin, involving behavior, conscious experience, and visceral functioning*” (1943, p. 51, italics in the original). This tripartite definition of emotion, referencing the physiology, behavior, and experience (similar to Newman et al.’s componential perspective) has become the standard definition of emotion in the field of psychology. Psychologists continue to characterize emotion as a special mental event involving integrated changes in feeling, behavior, and physiology (despite consistent empirical evidence to the contrary). Three aspects of Young’s writings are notable.

Building on the appraisal tradition laid down by Irons, Young proposed that emotion patterns arise from a psychological cause (an organism’s relation to the world at a particular point in time). Young stated that “emotions arise from the total psychological situation” (p. 404), although he did not elaborate on the psychological mechanisms that produce a perception of the “total psychological situation.”

According to Young, common sense terms, like anger, sadness, and fear, correspond to the occurrence of specific behaviors in relation to the situation. “The common accepted distinctions among the main varieties of ‘emotion,’” wrote

Young, “are really distinctions among forms of *emotional behavior*. These distinctions are usually drawn in terms of the psychological situation and the individual’s organized response to it” (p. 403). Like Frijda’s (1986) notion of action readiness, Young believed that fear is associated with the impulse to escape, anger with the impulse to aggress, and so on. Like the physiologist Paul Obrist (1981), who argued that physiological responses follow actual or anticipated behavior, Young believed that somatovisceral patterns correspond to impulses to perform specific behaviors, rather than to the emotion words that people use in common parlance.

Finally, Young introduced the novel distinction between exciting (proximal) causes for emotion (having to do with the state of the world or the body) and predisposing (distal) causes (having to do with the past history of the individual). Young argued that distal causes are more like “attitudes” that

profoundly influence our perceptual world, color all our memories and thoughts, and even make our actions and affective reactions in good part what they are . . . the psychologist must distinguish between such attitudes as fear, resentment, love, disgust, and amusement (chronic dispositions to respond in specific ways) and acute, temporary states of emotional disruption which are called by the same name. (1943, p. 404)<sup>19</sup>

For Young, emotions are distinct from reactions that arise from more pervasive dispositions.

### Summary

As it turns out, then, the “Dark Ages” of emotion in psychology were not really that dark after all. Ideas relating to all three theoretical traditions continued to be discussed and elaborated. Developments in the basic emotion and psychological constructionist traditions appear to have come in two distinct waves, with an early focus on the basic emotion approach and a later reaction against it in the form of psychological constructionism. Developments in the appraisal tradition were spottier throughout this time period.

Yet many of the important ideas from the past were lost, only to be reinvented again in modern terms. In one prescient passage, Hunt wrote:

Emotion has always been a fertile field for theoretical treatments, and the last few years have been no exception. There seems to have been less novelty and less progress here, however, than in the experimental approaches. What has been done has been more in the rephrasing and restate [*sic*] of older views rather than in the introduction of new concepts and the suggestion of new relationships. (1941, p. 268)

It is very difficult to say why so many important works are no longer cited and why the field of emotion labors under the misconception that the scientific study of emotion experienced a drought during the early half of the 20th century. The dominance of behaviorism, and thus a lack of interest in phenomenology, may have led to the false assumption that emotion as a topic of psychological inquiry was off the table. This is certainly consistent with how both Tomkins and Arnold discussed the influence of behaviorism on the field. In the beginning of his four volume series, Tomkins wrote, “that behaviorism slighted the role of affects is obvious” (1962, p. 5), helping generate the

myth that the scientific study of emotion suffered needlessly from the blight of behaviorism. Arnold also depicted the emotion field as barren prior to her work, writing there was an “eclipse of theoretical interest in emotion” (Arnold, 1960a, p. 10). It is true that behaviorism did not seek to understand the phenomenology of emotion and that the study of emotion took a mostly reductionist turn in the early 20th century. But it is a misrepresentation of the literature to argue that the Dark Ages of emotion ever existed. Or that behaviorism was its cause.

As the psychology of emotion emerged from the so-called Dark Ages into the Renaissance, the number of conceptual and empirical works on emotion increased exponentially. One particularly important idea, the proposal of general psychological ingredients, was eclipsed by the psychological constructionist model of Schachter and Singer (1962). Unlike previous models, Schachter and Singer did not emphasize general ingredients in their model of emotion. Instead, unexplained physiological arousal was assumed to always lead to the cognitive labeling of that arousal as an emotion (unless there was some other external explanation such as an injection of adrenalin). Importantly, physiological arousal was not proposed by Schachter and Singer as a potential ingredient in other types of mental states. Nonetheless the model proposed (and tested) by Schachter and Singer has become the most visible example of a psychological constructionist approach.

## Looking Forward

Our review of the historical works alters the psychological landscape of emotion theorizing in four ways. First, the basic emotion perspective, usually traced back almost exclusively to Darwin, actually emerged more slowly with fundamental assumptions being articulated by theorists such as Dewey, Watson, Allport, and McDougall. Second, the appraisal perspective, usually traced back to Arnold and attributed to the cognitive revolution in psychology, actually has roots in the psychological literature much earlier, with important works by Irons and Dewey in the Golden Years and Young during the Dark Ages. Third, basic emotion and appraisal traditions are not the only approaches to emotion that can be found in the historical literature. A third tradition of emotion theorizing—a psychological constructionist approach—was clearly articulated during the first century of psychology. Psychological constructionist works have been referred to by various names that refer to the psychological ingredients discussed by a given author (e.g., “neo-Jamesian” or “dimensional”), but these labels miss the fundamental assumptions that characterize a psychological constructionist perspective: all psychological states, whether called emotion or not, are constructed (or emerge) from the operation of more basic psychological mechanisms. It is these psychological ingredients, and the processes by which they combine, that psychology should target in its scientific approach to emotion. Fourth, and perhaps most importantly for the field of emotion, the dichotomies that define modern ideas about emotion (e.g., basic emotion vs. appraisal, evolutionary vs. social constructionist, dimensional vs. discrete, experience vs. expression) may be more of a fiction of our current beliefs and preferences than an accurate representation of what was written in the past.

The psychological constructionist approach may also prove to be generative for psychological research in general. The same psychological ingredients in emotion may be implicated in other psychological phenomena in surprising ways. For example, the affective system might influence processes that are assumed to be nonemotional, like vision (Barrett & Bar, 2009; Duncan & Barrett, 2007). Further, historically nonemotional processes like language may play a role in the experience and perception of emotion (Barrett, 2006b; Barrett, Lindquist, & Gendron, 2007). The psychological constructionist approach also breaks down the boundary that psychology has erected between cognition and emotion by hypothesizing that the same psychological ingredients are involved in both (Barrett, 2009; Duncan & Barrett, 2007). Finally, psychology may be better able to speak to the neurosciences if a psychological constructionist approach is adopted (Barrett, 2009). The brain might better respect the psychological ingredients involved in the mental states called “feeling” or “thinking” than those phenomena that the ingredients create.

## Notes

- 1 Cornelius also used the term “Dark Ages” to refer to Paul Ekman’s description of the period between 1930 and 1960, when it was largely assumed that facial behaviors (or “emotional expressions” as they are usually called) were, for the most part, culturally determined (Cornelius, 1996, p. 39).
- 2 A handful of chapters and books have provided some coverage of articles and books published in the Dark Ages. However, these papers/books were largely dismissed because they (1) were heavily influenced by and tailored to the authors’ preferred perspective (e.g., Arnold, 1960; Ekman, Friesen, & Ellsworth, 1972); (2) used the typical introductory text framing, classifying articles as Darwinian (basic emotion), Jamesian (arousal theories, or a focus on the sequence of emotion), or cognitive (appraisal, cognitive primacy debate) (e.g., Cornelius, 1996); or (3) have organized the review around the “component” of emotion (e.g., phenomenological, behavioral, physiological, etc.) that was emphasized in each particular model (e.g., Lyons, 1980; Parkinson, 1995; Strongman, 1996).
- 3 Averill (1980) noted that an inspiration for his social constructionist standpoint on emotion came from Henry Theophilus Finck (1887, 1899). Finck was a music critic, however, and did not have a fully formed social constructionist theory of emotion. His writing focused specifically on love.
- 4 For example, the psychological constructionist approach that our lab has developed over the past several years (Barrett, 2006b, 2009, in press; Barrett, Lindquist, & Gendron, 2007; Barrett, Lindquist, Bliss-Moreau, et al., 2007; Barrett, Mesquita, et al., 2007; Barrett, Ochsner, & Gross, 2007; Duncan & Barrett, 2007; Lindquist & Barrett, 2008) proposes that anger, sadness, fear, and so on are observer-dependent psychological categories and that instances of these emotions live in the mind of the perceiver. This is not to say that emotions like anger exist only in the mind of the perceiver. Rather, it is more correct to say that they cannot exist without a perceiver. To the question “Is my dog angry when he growls?” we would answer “yes” from the human point of view, assuming the perceiver has a normally functioning brain that can categorize and that has learned a category corresponding to the word “anger.” From the dog’s point of view, however, the answer is probably “no.” From the perspective of a chimp, the answer is more debatable. Leaving aside, for the time being, the question of what social categories nonhuman primates possess, the hypothesis we put forward is this: People can experience themselves as angry or can see another person’s face as angry or see a rat’s behavior as angry, but anger does not exist independently of someone’s perception of it. Without a perceiver, emotions do not exist. That being said, emotions are still real, in the way the

- observer-dependent phenomena (or nominal kinds) like money, or reputations, or marriages, are real.
- 5 Both appraisal and psychological constructionist views assume that emotions are intentional states. Since this assumption is more traditionally associated with the appraisal view, we include it in Table 2. Similarly, psychological constructionist and some appraisal views assume that emotions are emergent phenomena. Since this assumption is more consistently made in psychological constructionist views, we include it in Table 3.
  - 6 Spencer was among a handful of early theorists who argued for a localization of emotion in the central nervous system (for a review see Pepper & Markowitsch, 2001).
  - 7 This is an example of what John Searle (1992) calls “ontological reduction by redefinition.” Emotion was redefined as a physical or functional state of the body (e.g., the state of being angry), and the experience of emotion was reduced to nothing more than the perception of this biological state (e.g., a feeling of anger). Everyday words for emotion, such as “anger,” “sadness,” and “fear” were then used as technical terms to refer to both to conscious events and to behavior/bodily events. Older models, such as Dewey’s, and later updates, like that proposed by Young (1943) and Bull (1945), argued that objects in the world trigger an emotion, which is a state constituted as a tendency to act (Dewey, 1894, 1895) or a motor attitude (Bull, 1945; Young, 1943). This disposition to act is experienced as an emotion. Behaviorist models (e.g., LeDoux, 1996, 2000; Rolls, 1990; Watson, 1919) took ontological reduction to the extreme, placing the experience of emotion outside of the scientific definition of emotion altogether. It is interesting to note that without Dewey and Bull’s emphasis on the experience of emotion, their discussion of emotions as action tendencies is reminiscent of B. F. Skinner’s logical behaviorism approach, where emotions are nothing more than predispositions to act in a particular way (e.g., Holland & Skinner, 1961).
  - 8 Like many philosopher-psychologists (e.g., Dewey, 1895; Lambie & Marcel, 2002), Irons points out that the meaning of an object can be seen as a property of the object itself (it is mistakenly sunk into the object; Irons, 1894, p. 87) and this is why it seems to James as if there is no special class of perceptions that cause emotion. It is the mistake that results from what is now called “world-focused emotion.”
  - 9 Dewey described discrete emotion states as corresponding to a readiness to perform specific behaviors that are adapted to certain kinds of situations. Frijda (1986) suggested that emotions are motivations to engage the world in a particular way, and these motivations could be satisfied by any number of behaviors.
  - 10 With this idea, Dewey introduced what modern philosophers call “first-order,” “nonreflective,” “phenomenal,” or “world-focused” emotion (Chalmers, 1996; Lambie & Marcel, 2002) where the world is experienced as threatening (in fear), a person is experienced as offensive (in anger), or the situation is experienced as full of loss and sorrow (in sadness). World-focused emotion stands in contrast to “second-order,” “reflective,” or “self-focused” when emotion is experienced as one’s own reaction to the world; in self-focused emotion, the self is explicitly referenced in the experience, and emotion experience can be labeled with emotion adjectives (e.g., “I am afraid,” “I am angry,” “I am sad”).
  - 11 Although he appears after James in this review, Wundt published the first edition of *Grundzüge der Physiologischen Psychologie* in 1874, which served as a source of inspiration for James’ writing. In this original work, Wundt emphasized internal sensory cues from the body as the basic building block of the mind, whereas later editions focused on their psychological counterpart (“affect”).
  - 12 According to Titchener (1908), there were actually earlier formulations of this dimensional account in Wundt’s work dating back to 1874.
  - 13 One ongoing debate within different dimensional accounts of affect centers on whether pleasure and displeasure are on a bipolar dimension, or whether pleasure and displeasure represent two statistically unrelated and psychologically independent dimensions of experience. For a recent summary of the debate, see Barrett and Bliss-Moreau (2009).
  - 14 William James did discuss the affective nature of consciousness or *Gefühlston* (1894/1994, p. 207) but its relation to somatovisceral signals and its role in constituting emotion are not clear in his writings. For one of the first discussions that furnishes a corresponding affective aspect to James’ somatovisceral activations, see Titchener’s (1910) discussion of Münsterberg’s *Beiträge zur experimentellen Psychologie* and *Grundzüge der psychologie* (1900) as well as his discussion of James (p. 477).
  - 15 Wundt did not elaborate on the nature of “ideation” in his model, so it is unclear whether ideation was in reference to affective changes, the stimulus/situation, or both.
  - 16 There are three other points of note where Titchener diverges from Wundt on his model of affect. First, Titchener believed that affect had only one property—hedonic valence—on the somewhat flawed reasoning that pleasure and displeasure were the only properties clearly accessible to introspection (Titchener, 1910). Second, Titchener more directly discussed the relation between affect (as a psychological feeling) and somatovisceral stimulation (as an internal physical feeling), and in so doing tried to deal with the mind–body problem head on. Emotion, Titchener wrote, “consists of a strong affection, and a simultaneous association of ideas, some of the part processes in which are always organic sensations” (Titchener, 1896, pp. 230–231). Finally, Titchener foreshadowed Fredrickson’s (1998, 2004) idea that people experience a broadening of thought and attention during pleasant (when compared to unpleasant) affective states, Ellis and Ashbrook’s (1988) proposal that dysphoric states limit attentional resources, and Clore and colleagues’ more general point that mood may affect “every stage of the information processing sequence, from selective attention to information, to the encoding of information and its subsequent retrieval from memory” (Clore, Schwarz, & Conway, 1994, p. 369). Titchener (1896) wrote: “pleasant experience means that the physical conditions are favourable to the arousal of a large number of ideas; the having of an unpleasant experience, that they are unfavourable” (p. 231). Titchener believed that pleasant affective states allowed people to have a number of ideas simultaneously, whereas “we brood upon one narrow set of ideas” (1896, p. 231) in negative affective states.
  - 17 Because the behaviorist tradition loomed large in psychology during the Dark Ages, most authors did not theorize about mental mechanisms that might cause people to perceive the situation in a specific way. As a result, the appraisal approach to emotion did not gain much theoretical traction until the Renaissance period, as part of the cognitive revolution in psychology. Beginning in 1960, Magda Arnold (and many other theorists for several decades afterwards) focused on cognitive evaluations as the mental mechanisms that create the social situation that triggers emotion, returning the field to Iron’s late 19th-century idea that a meaning analysis causes emotion.
  - 18 Whereas Allport focused on sensory cues from muscles of the face, Howard Warren (1922) focused on cues from the muscles of the body. Warren argued that objects in the world simultaneously trigger somatovisceral sensations (what he called “systemic” bodily reactions) as well as an innate behavioral “attitude” that results in particular muscular sensations. The somatovisceral sensations then result in an affective feeling that pervades all perception and thought, but is only transformed into a special state called an emotion when it is joined by motor sensations (which give the emotion its characteristic experience). Warren discussed three primary emotions: defensive (fear), aggressive (anger), and reproductive (love), as well as two other classes: expressive (joy) and social (gratitude) that can be found in humans.
  - 19 Young’s use of the term “attitude” is more similar to Nina Bull’s (1951) use than to Dewey’s (1895).

## References

- Allport, F. H. (1922). A physiological-genetic theory of feeling and emotion. *Psychological Review*, 29, 132–139.
- Allport, F. H. (1924). *Social psychology*. New York: Houghton Mifflin.

- Arnold, M. B. (1960a). *Emotion and personality: Vol. 1. Psychological aspects*. New York: Columbia University Press.
- Arnold, M. B. (1960b). *Emotion and personality: Vol. 2. Physiological aspects*. New York: Columbia University Press.
- Averill, J. R. (1980). A constructionist view of emotion. In R. Plutchik & H. Kellerman (Eds.), *Emotion: Theory, research, and experience* (Vol. 1, pp. 305–339). New York: Academic Press.
- Bain, A. (2006). *The emotions and the will*. New York: Cosimo. (Original work published 1859)
- Baldwin, M. (1895). Types of reaction. *Psychological Review*, 2, 259–273.
- Barrett, L. F. (2006a). Emotions as natural kinds? *Perspectives on Psychological Science*, 1, 28–58.
- Barrett, L. F. (2006b). Solving the emotion paradox: Categorization and the experience of emotion. *Personality and Social Psychology Review*, 10, 20–46.
- Barrett, L. F. (2009). The future of psychology: Connecting mind to brain. Invited contribution, *Perspectives in Psychological Science*, 4, 326–339.
- Barrett, L. F. (in press). Variety is the spice of life: A psychologist constructionist approach to understanding variability in emotion. *Cognition & Emotion*.
- Barrett, L. F., & Bar, M. (2009). See it with feeling: Affective predictions in the human brain. *Royal Society Philosophical Transactions B*, 364, 1325–1334.
- Barrett, L. F., & Bliss-Moreau, E. (2009). Affect as a psychological primitive. *Advances in Experimental Social Psychology*, 41, 167–218.
- Barrett, L. F., Lindquist, K., & Gendron, M. (2007). Language as a context for emotion perception. *Trends in Cognitive Sciences*, 11, 327–332.
- Barrett, L. F., Lindquist, K., Bliss-Moreau, E., Duncan, S., Gendron, M., Mize, J., et al. (2007). Of mice and men: Natural kinds of emotion in the mammalian brain? *Perspectives on Psychological Science*, 2, 297–312.
- Barrett, L. F., Mesquita, B., Ochsner, K. N., & Gross, J. J. (2007). The experience of emotion. *Annual Review of Psychology*, 58, 373–403.
- Barrett, L. F., Ochsner, K., & Gross, J. (2007). The automaticity of emotion. In J. Bargh (Ed.), *Social psychology and the unconscious: The automaticity of higher mental processes*. New York: Psychology Press.
- Barsalou, L. W., Niedenthal, P. M., Barbey, A. K., & Ruppert, J. A. (2003). Social embodiment. In B. Ross (Ed.), *The psychology of learning and motivation* (Vol. 43, pp. 43–92). San Diego, CA: Academic Press.
- Baumeister, R. F., & Bushman, B. J. (2008). *Social psychology and human nature*. San Francisco, CA: Wadsworth.
- Bull, N. (1945). Towards a clarification of the concept of emotion. *Psychosomatic Medicine*, 7, 210.
- Bull, N. (1951). *The attitude theory of emotion*. New York: Nervous and Mental Disease Monographs.
- Cacioppo, J. T., & Gardner, W. L. (1999). Emotion. *Annual Review of Psychology*, 50, 191–214.
- Cannon, W. B. (1927). The James-Lange theory of emotions: A critical examination and an alternative theory. *American Journal of Psychology*, 39, 106–124.
- Chalmers, D. J. (1996). *The conscious mind*. New York: Oxford University Press.
- Clore, G. L., & Ortony, A. (2008). Appraisal theories: How cognition shapes affect into emotion. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 628–642). New York: Guilford Press.
- Clore, G. L., Schwarz, N., & Conway, M. (1994). Affective causes and consequences of social information processing. In R. S. Wyer & T. Srull (Eds.), *Handbook of social cognition* (2nd ed., pp. 323–417). Hillsdale, NJ: Erlbaum.
- Conklin, V., & Dimmick, F. L. (1925). An experimental study of fear. *The American Journal of Psychology*, 36, 96–101.
- Cornelius, R. R. (1996). *Research and tradition in the psychology of emotion: The science of emotion*. Upper Saddle River, NJ: Prentice Hall.
- Darwin, C. (1965). *The expression of the emotions in man and animals*. Chicago, IL: University of Chicago Press. (Original work published 1872)
- Dashiell, J. F. (1928). Are there any native emotions? *Psychological Review*, 35, 319–327.
- Descartes, R. (1989). *The passions of the soul* (S. Voss, Trans.). Indianapolis, IN: Hackett Publishing. (Original work published 1649)
- Dewey, J. (1894). The theory of emotion. I. Emotional attitudes. *Psychological Review*, 1, 553–569.
- Dewey, J. (1895). The theory of emotion. II. The significance of emotions. *Psychological Review*, 2, 13–32.
- Duffy, E. (1934a). Is emotion a mere term of convenience? *Psychological Review*, 41, 103–104.
- Duffy, E. (1934b). Emotion: An example of the need for reorientation in psychology. *Psychological Review*, 41, 184–198.
- Duffy, E. (1941). An explanation of “emotional” phenomena without use of the concept “emotion.” *The General Journal of Psychology*, 25, 283–293.
- Duffy, E. (1957). The psychological significance of the concept of “arousal” or “activation.” *Psychological Review*, 64, 265–275.
- Duncan, S., & Barrett, L. F. (2007). Affect as a form of cognition: A neurobiological analysis. *Cognition & Emotion*, 21, 1184–1211.
- Dunlap, K. (1932). Are emotions teleological constructs? *The American Journal of Psychology*, 44, 572–576.
- Ekman, P. (1972). Universal and cultural differences in facial expressions of emotions. In J. K. Cole (Ed.), *Nebraska symposium on motivation, 1971* (pp. 207–283). Lincoln, NE: University of Nebraska Press.
- Ekman, P., Friesen, W. V., & Ellsworth, P. (1972). *Emotion in the human face*. New York: Pergamon Press.
- Ellis, H. C., & Ashbrook, P. W. (1988). Resource allocation model of the effects of depressed mood states on memory. In K. Fielder & J. Forgas (Eds.), *Affect, cognition and social behavior* (pp. 25–43). Toronto: C. J. Hogrefe.
- Ellsworth, P. C. (1994). William James and emotion: Is a century of fame worth a century of misunderstanding? *Psychological Review*, 101, 222–229.
- Ellsworth, P. C., & Scherer, K. R. (2003). Appraisal processes in emotion. In R. J. Davidson, K. R. Scherer & H. H. Goldsmith (Eds.), *The handbook of affective science* (pp. 572–595). New York: Oxford University Press.
- Faulkner, W. (1975). *Requiem for a nun*. New York: Random House. (Original work published 1951)
- Feldman, L. A. (1995). Valence focus and arousal focus: Individual differences in the structure of affective experience. *Journal of Personality and Social Psychology*, 69, 153–166.
- Fink, H. T. (1887). *Romantic love and personal beauty*. London: Macmillan & Company.
- Fink, H. T. (1899). *Primitive love and love stories*. New York: Charles Scribner & Sons.
- Fredrickson, B. (1998). What good are positive emotions? *Review of General Psychology*, 2, 300–319.
- Fredrickson, B. (2004). The broaden and build theory of positive emotions. *Philosophical Transactions of the Royal Society of London*, 359, 1367–1377.
- Freud, S. (1963). The complete introductory lectures on psychoanalysis. In J. Strachey (Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vols. 15 & 16). London: Hogarth Press. (Original work published 1914–1917)
- Fridlund, A. J. (1992). The behavioral ecology and sociality of human face. In M. S. Clark (Ed.), *Emotion: Review of personality and social psychology* (Vol. 13, pp. 90–121). Newbury Park, CA: Sage.
- Frijda, N. H. (1986). *The emotions*. New York: Cambridge University Press.
- Frijda, N. H. (1988). The laws of emotion. *American Psychologist*, 43, 349–358.
- Gardiner, H. N., Metcalf, R. C., & Beebe-Center, J. G. (1937). *Feeling and emotion*. New York: American Book Co.
- Gergen, K. J. (1995). Metaphor and monophony in the 20th-century psychology of emotions. *History of the Human Sciences*, 8, 1–23.
- Gleitman, H., Fridlund, A. J., & Reisberg, D. (1999). *Psychology* (6th ed.). New York: Norton.
- Gray, J. S. (1935). An objective theory of emotion. *Psychological Review*, 42, 108–116.

- Hamilton, W. (1859–1860). *Lectures on metaphysics and logic*. London: Blackwood.
- Hansell, J. H. (1989). Theories of emotion and motivation: A historical and conceptual review. *Genetic, Social, and General Psychology Monographs*, 115, 429–448.
- Harlow, H. F., & Stagner, R. (1932). Psychology of feelings and emotions. I. Theory of feelings. *Psychological Review*, 39, 570–589.
- Harlow, H. F., & Stagner, R. (1933). Psychology of feelings and emotions. II. Theory of emotions. *Psychological Review*, 40, 184–195.
- Hebb, D. O. (1946). Emotion in man and animal: An analysis of the intuitive processes of recognition. *Psychological Review*, 53, 88–106.
- Henle, J. (1876). *Anthropologische vortrage* [Anthropology lectures]. Braunschweig: Druk und Verlag von Friedrich Vieweg und Sohn.
- Herbart, J. F. (1891). *A text-book in psychology*. New York: D. Appleton & Company.
- Hoffding, H. (1891). *Outlines of psychology*. New York: Macmillan.
- Holland, J. G., & Skinner, B. F. (1961). *The analysis of behavior*. New York: McGraw-Hill.
- Horwicz, A. (1872–1878). *Psychologischer Analysen auf physiologischer Grundlage*. Halle: C.E.M. Pfeffer.
- Hunt, W. A. (1941). Recent developments in the field of emotion. *Psychological Bulletin*, 38, 249–276.
- Irons, D. (1894). Prof. James' theory of emotion. *Mind*, 3, 77–97.
- Irons, D. (1895a). Descartes and modern theories of emotion. *The Philosophical Review*, 4, 291–302.
- Irons, D. (1895b). The physical basis of emotion: A reply. *Mind*, 9, 92–99.
- Irons, D. (1897a). The nature of emotion. *The Philosophical Review*, 6, 242–256.
- Irons, D. (1897b). The primary emotions. *The Philosophical Review*, 6, 626–645.
- Izard, C. E. (1971). *The face of emotion*. New York: Appleton-Century-Crofts.
- Izard, C. E., Ackerman, B. P., Schoff, K. M., & Fine, S. E. (2000). Self-organization of discrete emotions, emotion patterns, and emotion-cognition relations. In M. D. Lewis & I. Granic (Eds.), *Emotion, development, and self-organization: Dynamic systems approaches to emotional development* (pp. 15–36). Cambridge: Cambridge University Press.
- James, W. (1884). What is an emotion? *Mind*, 9, 188–205.
- James, W. (1998). *The principals of psychology*. Bristol: Thoemmes Press. (Original work published 1890)
- James, W. (1994). The physical basis of emotion. *Psychological Review*, 101, 205–210. (Original work published 1894)
- Kappas, A. (2006). Appraisals are direct, immediate, intuitive, and unwitting . . . and some are reflective . . . *Cognition & Emotion*, 20, 952–975.
- Klineberg, O. (1940). *Social psychology*. New York: Henry Holt & Company.
- Lambie, J. A., & Marcel, A. J. (2002). Consciousness and the varieties of emotional experience: A theoretical framework. *Psychological Review*, 109, 219–259.
- Landis, C. (1924). Studies of emotional reactions: II. General behavior and facial expressions. *Comparative Psychology*, 4, 447–501.
- Lange, C. G. (1922). The emotions: A psychophysiological study (I. A. Haupt, trans.). In K. Dunlap (Ed.), *The emotions* (pp. 33–90). Baltimore, MD: Williams & Wilkins Company. (Original work published 1885)
- Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Lazarus, R. S. (1993). From psychological stress to the emotions: A history of changing outlooks. *Annual Review of Psychology*, 44, 1–21.
- Lazarus, R. S. (2001). Relational meaning and discrete emotions. In K. R. Scherer, A. Schorr & T. Johnstone (Eds.), *Appraisal processes in emotion* (pp. 37–67). New York: Oxford University Press.
- LeDoux, J. E. (1996). *The emotional brain: The mysterious underpinnings of emotional life*. New York: Simon & Schuster.
- LeDoux, J. E. (2000). Emotion circuits in the brain. *Annual Review of Neuroscience*, 23, 155–184.
- Lehmann, A. (1892). *Die hauptgesetze des menschlichen gefuhlslebens*. Leipzig: ubers, vom Danischen von F. Bendixen.
- Levenson, R. (1992). Autonomic nervous system differences among emotion. *Psychological Science*, 3, 23–27.
- Lindquist, K. A., & Barrett, L. F. (2008). Constructing emotion: The experience of fear as a conceptual act. *Psychological Science*, 19, 898–903.
- Lotze, R. H. (1998). *Outlines of psychology*. Bristol: Thoemmes Press. (Original work published 1886)
- Lyons, W. (1980). *Emotion*. New York: Cambridge University Press.
- MacLean, P. D. (1949). Psychosomatic disease and the visceral brain: Recent developments bearing on the Papez theory of emotion. *Psychosomatic Medicine*, 11, 338–353.
- Malebranche, N. (1997). *Search after truth* (T. M. Lennon & P. J. Olscamp, trans.). Cambridge: Cambridge University Press. (Original work published in French 1674–1675)
- Mandler, G. (1975). *Mind and emotion*. New York: Wiley.
- Mandler, G. (1990). William James and the construction of emotion. *Psychological Science*, 1, 179–180.
- Mandler, G. (2003). Emotion. In D. K. Freedheim & I. B. Weiner (Eds.), *Handbook of psychology, Vol. 1 History of psychology* (pp. 157–176). Hoboken, NJ: John Wiley & Sons.
- Maranon, G. (1924). Contribution a l'etude de l'action emotive de l'adrenaline [Contribution to the study of the emotive action of adrenalin]. *Revue Franaise d'Endocrinologie*, 2, 301–325.
- Matsumoto, D., HeeYoo, S., Fontaine, J., Anguas-Wong, A. M., Arriola, M., & Ataca, B. et al. (2008). Mapping expressive differences around the world: The relationship between emotional display rules and individualism versus collectivism. *Journal of Cross-Cultural Psychology*, 39, 55–74.
- McDougall, W. (1921). *An introduction to social psychology*. Boston: John W. Luce. (Original work published 1908)
- McDougall, W. (1923). *An outline of psychology*. London: Methuen.
- Mead, G. H. (1895). A theory of emotions from the physiological standpoint. *Psychological Review*, 2, 63–64.
- Meyer, M. F. (1933). The whale among the fishes—the theory of emotions. *Psychological Review*, 40, 292–300.
- Mercier, C. (1884a). I. A classification of feelings. *Mind*, 9, 325–348.
- Mercier, C. (1884b). II. A classification of feelings. *Mind*, 9, 509–530.
- Mercier, C. (1885). A classification of feelings. *Mind*, 10, 1–26.
- Munsterberg, H. (1899). *Psychology and life*. Boston: Houghton, Mifflin.
- Munsterberg, H. (1900). *Grundzuge der psychologie* [Principles of psychology]. Leipzig: J. A. Barth.
- Munsterberg, H. (1914). *Psychology: General and applied*. New York: D. Appleton & Company.
- Myers, D. G. (1998). *Psychology* (5th ed.). New York: Worth Publishers.
- Newman, E. B., Perkins, F. T., & Wheeler, R. H. (1930). Cannon's theory of emotion: A critique. *Psychological Review*, 37, 305–326.
- Niedenthal, P. M. (2007). Embodying emotion. *Science*, 316, 1002–1005.
- Niedenthal, P. M., Barsalou, L. W., Winkielman, P., Krauth-Gruber, S., & Ric, F. (2005). Embodiment in attitudes, social perception, and emotion. *Personality and Social Psychology Review*, 9, 184–211.
- Niedenthal, P. M., Krauth-Gruber, S., & Ric, F. (2006). *Psychology of emotion: Interpersonal, experiential, and cognitive approaches*. New York: Psychology Press.
- Oatley, K., & Jenkins, J. M. (1996). *Understanding emotions*. Oxford: Blackwell.
- Obrist, P. A. (1981). *Cardiovascular psychophysiology: A perspective*. New York: Plenum Press.
- Ortony, A., Clore, G. L., & Collins, A. (1988). *The cognitive structure of emotions*. Cambridge: Cambridge University Press.
- Ortony, A., & Turner, T. J. (1990). What's basic about basic emotions? *Psychological Review*, 97, 315–331.
- Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. New York: Oxford University Press.

- Papez, J. W. (1937). A proposed mechanism of emotion. *Archives of Neurology & Psychiatry*, 38, 725–743.
- Parkinson, B. (1995). *Ideas and realities of emotions*. London: Routledge.
- Pepper, M., & Markowitsch, H. J. (2001). Pioneers of affective neuroscience and early concepts of the emotional brain. *Journal of the History of the Neurosciences*, 10, 58–66.
- Read, C. (1886). Mr. Mercier's classification of feelings. *Mind*, 11, 76–82.
- Reisenzein, R., Meyer, W. U., & Schützwohl, A. (1995). James and the physical basis of emotion: A comment on Ellsworth. *Psychological Review*, 102, 757–761.
- Ribot, T. A. (1897). *The psychology of the emotions*. London: Scott.
- Rolls, E. T. (1990). A theory of emotion, and its application to understanding the neural basis of emotion. *Cognition & Emotion*, 4, 161–190.
- Roseman, I. J. (1984). Cognitive determinants of emotion: A structural theory. *Review of Personality and Social Psychology*, 5, 11–36.
- Roseman, I. J. (1991). Appraisals, rather than unpleasantness or muscle movements, are the primary determinants of specific emotions. *Cognition & Emotion*, 5, 161–200.
- Roseman, I. J. (2001). A model of appraisal in the emotion system: Integrating theory, research, and applications. In K. R. Scherer, A. Schorr & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 68–91). New York: Oxford University Press.
- Roseman, I. J. (2004). Appraisals, rather than unpleasantness or muscle movements, are the primary determinants of specific emotions. *Emotion*, 4, 145–150.
- Roseman, I. J., & Evdokas, A. (2004). Appraisals cause experienced emotions: Experimental evidence. *Cognition & Emotion*, 18, 1–28.
- Ruckmick, C. A. (1936). *The psychology of feeling and emotion*. New York: McGraw-Hill.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39, 1161–1178.
- Russell, J. A. (1994). Is there universal recognition of emotion from facial expression? A review of the cross-cultural studies. *Psychological Bulletin*, 115, 102–141.
- Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review*, 110, 145–172.
- Russell, J. A., Bachorowski, J., & Fernandez-Dols, J. M. (2003). Facial and vocal expressions of emotion. *Annual Review of Psychology*, 54, 329–349.
- Russell, J. A., & Barrett, L. F. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology*, 76, 805–819.
- Russell, J. A., & Fernandez-Dols, J. M. (1997). What does a facial expression mean? In J. A. Russell & J. M. Fernandez-Dols (Eds.), *The psychology of facial expression: Studies in emotion and social interaction, 2nd series* (pp. 3–30). New York: Cambridge University Press.
- Schachter, S. (1959). *The psychology of affiliation*. Stamford: Stamford University Press.
- Schachter, S., & Singer, J. E. (1962). Cognitive, social, and physiological determinants of an emotional state. *Psychological Review*, 69, 379–399.
- Scherer, K. R. (1984). Emotion as a multicomponent process: A model and some cross-cultural data. In P. Shaver (Ed.), *Review of personality and social psychology* (Vol. 5, pp. 37–63). Beverly Hills, CA: Sage.
- Scherer, K. R. (2001). Appraisal considered as a process of multilevel sequential checking. In K. R. Scherer, A. Schorr & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 92–120). New York: Oxford University Press.
- Searle, J. (1992). *The rediscovery of the mind*. Cambridge: MIT Press.
- Sherman, M. (1927). The differentiation of emotional responses in infants. *Journal of Comparative Psychology*, 7, 265–284.
- Shand, A. F. (1914). *The foundations of character*. London: Macmillan.
- Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology*, 48, 813–838.
- Spencer, H. (1855). *Principals of psychology*. London: Longman, Brown, Green & Longmans.
- Spencer, H. (1894). *Principals of psychology*. New York: D. Appelton & Company.
- Spinoza, B. (1982). *Ethics* (S. Shirley, Trans.). Indianapolis, IN: Hackett. (Original work published 1677)
- Stanley, H. M. (1886). Feeling and emotion. *Mind*, 11, 66–76.
- Stout, G. F. (1899). *A manual of psychology*. New York: Hinds & Noble.
- Strack, F., Steeper, S., & Martin, L. L. (1988). Inhibiting and facilitating conditions of the human smile: A nonobtrusive test of the facial feedback hypothesis. *Journal of Personality and Social Psychology*, 54, 768–777.
- Strongman, K. T. (1996). *The psychology of emotion: Theories of emotion in perspective*. Chichester, UK: John Wiley & Sons.
- Stumpf, C. (1899). Über den Begriff der Gemuthsbewegung. *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, 21, 47–99.
- Sully, J. (1892). *The human mind: Vol. 2*. London: Longmans, Green, & Company.
- Titchener, E. B. (1896). *An outline of psychology*. New York: Macmillan.
- Titchener, E. B. (1908). The tri-dimensional theory of feeling. *The American Journal of Psychology*, 19, 213–231.
- Titchener, E. B. (1910). *A text-book of psychology*. New York: Macmillan.
- Tolman, E. C. (1932). *Purposive behavior in animals and men*. New York: Century.
- Tomkins, S. S. (1962). *Affect, imagery, consciousness: Vol. 1. The positive affects*. New York: Springer.
- Tomkins, S. S. (1963). *Affect, imagery, consciousness: Vol. 2. The negative affects*. New York: Springer.
- Wade, C., & Tavris, C. (2006). *Psychology* (8th ed.). Upper Saddle River, NJ: Pearson Education.
- Warren, H. C. (1922). *Elements of human psychology*. Cambridge: Riverside Press.
- Watson, J. B. (1919). A schematic outline of the emotions. *The Psychological Review*, 26, 165–196.
- Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, 98, 219–235.
- Wundt, W. (1903). *Grundzüge de physiologischen Psychologie*. Leipzig: Verlag Von Wilhelm Engelmann. (Original work published 1874)
- Wundt, W. (1998). *Lectures on human and animal psychology* (S. E. Creighton & E. B. Titchener, trans.). New York: Macmillan. (Original work published 1894)
- Wundt, W. (1998). *Outlines of psychology* (C. H. Judd, trans.). Bristol, UK: Thoemmes Press. (Original work published 1897)
- Young, P. T. (1943). *Emotion in man and animal: Its nature and relation to attitude and motive*. New York: John Wiley & Sons.
- Zajonc, R. (1985). Emotion and facial efference: A theory reclaimed. *Science*, 228, 15–21.