Functionalism Cannot Save the Classical View of Emotion

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> "The past is never dead. It's not even the past." – William Faulkner, *Requiem for a Nun* (Faulkner, 1975, p. 80).

Ralph's theoretical approach embodied the *assumptions* of the classical view, which are generally consistent with a cherished (Western) theory of human nature end (Barrett, 2017). These assumptions allow the classical view to "ring true" – to appear obvious and therefore pleasing -- when compared to the seemingly complex and counter-intuitive constructionist approach to understanding emotion. As an approach to understanding emotions, Ralph employs a version of *functionalism*. At the turn of the 20th century, functionalism was pressed into service to rescue the classical view of emotion in the face of mounting disconfirming evidence. And so it is today (for a list of disconfirming evidence, see Table 1 in Barrett, this issue). But functionalism brings with it a set of philosophical assumptions. When scientists like Ralph and I debate the nature of emotion, we are really deliberating over the validity of these assumptions (see Table 1). My goal here is to highlight them, and offer my point of view, in hopes of moving the dialogue forward. I discuss Ralph's classical view of emotion as an attempt to defend these assumptions while at the same time remaining responsive to the accumulating empirical evidence that calls them into doubt.

Classical view assumptions

1. Functionalism is teleology. Ralph's ideas about emotion rely on teleology. Teleology, when applied to psychological categories, is the assumption that a mental category was *designed* (these days, by evolution) to serve an adaptive (functional) purpose (it is sometimes called the "intentional design stance", e.g., Keleman, Rottman, & Seston, 2013). Teleology makes good common sense, but it reflects erroneous causal reasoning that interferes with a correct understanding of evolution and natural selection (e.g., Keleman et al., 2013). I'll add a related concern: The evolved function of any biological category is a human *inference*, especially where emotions are concerned. Teleological approaches offer *a mental inference to explain the causes behavior*, focusing on the needs or goals of an animal (e.g., neurons in the amygdala contain the circuit for fear that evolved as a protection from threat and danger), instead of offering a physical explanation (e.g., neurons in the amygdala help to control the pattern generator that coordinates actions to produce freezing behavior that is sometimes, but not always, present during fear). The evolutionary biologist Ernst Mayr made a cogent argument for avoiding teleology and functionalism when studying the features that contribute to the adaptedness of an organism (e.g., Mayr, 2007, p. 48) because they encourage metaphorical language that cannot be verified in physical terms. For example, causal ascriptions like "eyes widen in fear to increase vigilance and detect possible threats" and "a heart races in fear to facilitate escape from a predator when necessary" are *mental inferences* or *attributions* (Ralph's term) of psychological function (i.e., inferences about the adaptive role that the feature plays in the life of the animal). By contrast, inferences of physiological function, such as "eyes widen to expand peripheral vision" and "a heart pumps blood and increasing during running" are examples of *action identification* (Vallacher & Wegner, 1987). Action identification is the level of explanation that Mayr advocated when studying adaptive features.

Given the role of human inference in functionalism's causal accounts of behavior, we can understand functionalism, scientifically, as an act of meaning making. We observe the movements of an animal (human or non-human) and then automatically, with no effort or sense of agency, infer

that the animal is emitting discrete behaviors, in line with their own goals. There is nothing wrong with this, in principle. It is, after all, how normal perception works. The problems arise when as scientists, we fail to appreciate our own hand in what we observe. The distinction between *action identification* vs *mental inference* is lost on many biologists who seem not to appreciate the power of their own meaning making capacities and the role it plays in their own scientific activities. In science, as in life, it is never a good idea to have too much confidence in your own perceptions to reveal reality. That is the path to *naïve realism*. Naïve realism mistakes experience for physical reality.

2. Definitions of emotion are stipulated, not discovered. In philosophy, a stipulation is definition by fiat. It is only the stipulation -- a mental inference linking observed actions (e.g., freezing) to certain function or goals (e.g., for fear) -- that allows scientists to claim that the circuitry for the actions is actually evidence for emotion circuits. You can't shock a rat, measure freezing and use the data to understand "fear" unless at the outset you stipulate that fear is elicited by a shock and causes freezing. What you learn (or fail to learn) about emotion in any experiment is determined by how you define emotions in the first place. When scientists debate about the nature of emotion, we are usually wrestling with our a priori stipulations.

Stipulating that an emotion state is defined by the goals or functions that it serves does not move science forward. Most emotion categories are associated with more than one goal or function, depending on the context. For example, anger has been associated with (but not limited to) overcoming an obstacle that someone blameworthy has put in your path, winning a competition or enhance performance in some way, protecting against a threat, dealing with an offense or with someone who acted unfairly, desiring aggression, appearing powerful or signaling dominance, lashing out in frustration, and even enhancing self-insight (see Barrett, 2017). So how do scientists know what the correct goal is for each emotion category? The answer is simple: the function of fear, or anger, or any emotion is, in a very fundamental way, part of its *stipulated* definition in a given context (meaning, it can be any one of a number of goals, depending on the interests and proclivities of the researcher in a given experimental context).

3. The classical view of emotion is non-falsifiable. We have encountered essentialism before in this discussion: essentialism is the belief that a category of instances of the same type (e.g., instances of fear) share a deep, immutable causal mechanism that makes them what they are. *Psychological essentialism* (Medin & Ortony, 1989) allows people to posit a hypothetical or unseen essence when the causal mechanism cannot be identified or in the absence of any evidence whatsoever of what the essence might be. For example, Ekman's hypothetical affect program, Panksepp's hypothetical FEAR system, and Ralph's "central emotion state" or "functional emotion state" are all examples of psychological essentialism. In scientific inquiry, psychological essentialism is problematic, because it inoculates believers against disconfirming evidence, allowing them to continue to believe in the existence of emotion essences, despite accumulating evidence that disconfirms them (Barrett, 2017). But let's face it: scientists have been searching for the physical essences of emotions, in one form or another, for over a century, and the classical view remains, as always, in doubt. If emotion states are so crucial to our survival, they should not be that difficult to see when placed under the lens of scientific scrutiny.

Conclusion

The scientists of the classical view believe they offer a theory of emotion that is free of concepts, when in reality they use received concepts so automatically and fluidly that they seem no longer

truly aware of doing so. All science relies on human concepts, and this is a true for the astronomy as it is for the science of emotion (e.g., celestial bodies are perceiver-independent, but planets are not; Pluto's recent demotion from "planet" to "dwarf planet" is a case in point). Science is not a body of facts that pop up, like little lightbulbs, to illuminate a golden path to universal truth. A scientist's concepts are her flashlight, determining what variation she observes as signal and what she ignores as error. So it is a mistake to assume that astronomy merely involves observing the sky through the lens of a telescope. There is also the invisible lens of a scientist's own concepts (or some other scientist's concepts), whether he realizes it or not. Ralph's summary of the classical view (this issue) illustrates that as scientists, we are never quite as objective as we think we are. We always see our subject matter through the somewhat foggy lenses of our own experiences, whether we realize it or not. And so our scientific findings are never quite as value neutral as we hope they will be.

Emotions, as they appear to you, are not the fundamental reality of the brain's architecture. They are mental features that are a product of that reality. This is a hard won realization. It requires giving up certain assumptions and embracing others, and above all, it requires learning a new set of concepts. Until then, the classical view of emotion will remain seductive, so obviously true and beyond doubt that no amount of disconfirming evidence will shake the foundations of your confidence that your experience reveals the truth.

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Table 1

Apparent Agreements

We agree……	**But…..**
Developmental and comparative data are crucial to solve the scientific mystery of emotions.	The classical and constructionist views of emotion understand the value of developmental and comparative data in very different ways. The classical view assumes that emotions are species-general whereas the theory of constructed emotion assumes that emotions emerge from the complex dynamics of species-general and species-specific processes.
Emotions do not emit behaviors in any kind of pre-conceptual way. Human perceivers make sense of the animals actions. Emotions are attributed (Ralph's word) or inferred (my word) by the scientist to explain and predict behavior, but these perceptions reveal the physical reality of emotions. Emotions are causal explanations for why a behavior occurred.	The classical and constructionist views agree that emotions are causal explanations for why a behavior occurred, but not in a mechanistic stimulus-response sort of way. We disagree on whether attributions (which are human experiences) are a magnifying glass that reveals what is really out there in the natural world, or whether human inferences result from meaning making activities, which themselves are part of the natural world, and that are ingredients that create emotions out of mere sensations and movements (just like meaning making creates vision from wavelengths of light, sounds from changing air pressure, and smells from chemical compounds, and so on). The classical view assumes that human attributions (i.e., the human experience when watching the animal) reveals what is going on in the animal's brain.
In scientific endeavors, the word "emotion" should be used exactly like the word "vision" or "memory."	Classical and constructionist views use very different understandings of how vision and memory work (for a discussion, see (Anderson, 2014; e.g., Gilbert & Li, 2013; Schacter & Addis, 2007).
Commonsense (folk psychology or faculty psychology) concepts that come from human experience do not provide a solid guide for scientific study.	I suspect Ralph and I disagree about who, of the two of us, is reifying experience and dipping their toes into the murky abyss of folk psychology.

Emotions can exist without any awareness of them.	The theory of constructed emotion utilizes the philosophical distinction between consciousness and awareness, whereas the classical view appears to conflate the two. People can be emotional without awareness, but not without consciousness. There are gradations of consciousness, of course, but if you are unconscious, you are asleep or in a coma. The experience of emotion that is not in awareness is called "world-focused" emotion (Lambie & Marcel, 2002).