

BACHELORARBEIT ZUM THEMA

EMBODIMENT OF EMOTION  
AND ITS ROLE IN COGNITION  
DIFFERENTIATING EMOTION WITHOUT AND WITHIN

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## I. WHAT IS EMOTION?

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If we are looking at the word itself, its Latin roots are obvious, *e-* and *motion*, ‘outward’ and ‘movement’, some sort of moving or being moved outwardly. There are also some idioms that are similar: being *moved* to tears by a play that is *moving*, *stirring* or *rousing*, for example. The English language lacks a direct translation for the German *Gemüt*, which is that what is moved, and might substitute the soul, spirit, mind or heart. But what can easily be overlooked is that *emotion* is not as old a word as it looks like, and indeed, only came to its modern meaning in the 19<sup>th</sup> century<sup>1</sup>.

It replaced concepts such as *appetite*, *passion*, *affection*, *affect*, *sentiment*, *disturbance*, *movement*, *perturbation* or *upheaval*<sup>2</sup> – while we can understand these terms today, they are poetic, archaic and not in common use. Often used synonymously, instead, is *feeling*, completely shifting the focus from desires, behaviours and dispositions to the phenomenology, the inner experience<sup>3</sup>.

With emotion such a modern category, the question arises: What unites the phenomena subsumed under its umbrella? What distinguishes them from others? And what distinguishes them from each other? In this paper, I will aim to explore different such distinctions and look for unifying factors. I will pay particular attention to the relationship of mental and physical states in the context of emotion.

There are many approaches to answering these questions, so I will first give an overview of methods of studying emotion, along with major insights they gleaned. I also conducted some explorative research in the form of a survey of my own, whose methodology and results I will present. Then I will explain different (types of) theories of emotion in broad strokes, and try to consolidate them by evaluating distinctions they make within emotional phenomena: basic and complex, conscious and subconscious, intentional and dispositional, pleasant and unpleasant. Lastly, I’ll explore possible avenues of distinguishing emotions from other phenomena: from (other) physical states, perceptions, beliefs, desires, and epistemic states like doubt or confusion.

Due to limits of space and time, this work cannot be exhaustive in its aim. There are some aspects that will have to remain unexplored. One sort of distinction that I will only touch on is differentiating among different emotions, i.e. what distinguishes fear from joy, anger from disgust. I will consider phenomenology an inherent feature of emotions – that there is a way they feel like – but not discuss their precise nature.

I will not answer questions of metaphysics – whether mental and physical states are fundamentally distinct, whether the mind is a different substance of the body is in my opinion of no interest to my question<sup>4</sup>. Neither will I talk about rationality. Traditionally, emotion has often been seen as an antithesis to rationality, which is realized in the complete absence (or complete disregard) of emotion<sup>5</sup>, but for the most part, modern theorists have aimed to redeem

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1 Dixon 2003, pp. 104.

2 Dixon 2003, p. 2., Scarantino & de Sousa 2021, para. 2.

3 I will use ‘phenomenology’ throughout to refer to qualia, to the subjective character of experience, not to the discipline of philosophy.

4 When I use physical and mental as opposites I make no claim as to the reducibility of mental processes to physical. In those places, ‘physical’ is to mean concerning the viscera, muscles, and sensory organs.

5 Augustine 426 [1955], Liber IX: Caput IV. Augustine lists *πάθος*, perturbations, affections, affects and passions as synonyms of each other.

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them<sup>6</sup>, and even developed standards of rationality for them<sup>7</sup>. While this purports a distinction of rational and irrational emotions, neither of them is in question of being called emotion in the first place, and as such rationality is of no interest for this paper.

Another excluded topic is morality, empathy and social interaction. Clearly, interpersonal relations play a strong role both in causing and expressing emotion<sup>8</sup>, but I believe the main facets herein explored – mental and physical states – are not dependent on social interaction. Similarly neglected will remain the evolutionary perspective, the biological functions of emotion and precursors or equivalents of emotion in animals.

## II. METHODS

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What we discover depends on what we look for – the methods of investigating emotion themselves make claims about what emotion is. When we observe behaviour, we presuppose a behavioural component; when scanning the brain, we expect to find emotion in brain activity. Similarly, some components may be hidden from view by virtue of looking elsewhere. It is worth noting that results of such endeavours cannot by themselves tell us what emotion *is* (which is primarily a matter of definition), and only very rarely give indication of what might be cause or consequence (by observing temporal order, for example). But they can each tell us about different aspects of emotion. In this section, I will give a short overview of different methods of investigation, their scope and limits and some central insights they provide. In practice, though, these methods get only sometimes applied on their own, and we can often see them being combined.

### II.1 INTROSPECTION

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Introspection is the observation of the self and as such extraordinarily suited to study phenomena that have components not detectable to an outside observer. It gives unique access to phenomenal qualities, to qualia, to one's thoughts, beliefs, memories and perceptions.

There are a number of obvious pitfalls. Not every mental process is accessible to introspection at all. Any process without involvement of consciousness will stay hidden or be subject to observation effects. Directing the attention to the self is changing the self<sup>9</sup> – for example, we cannot both observe ourselves and something external at full attention.

Introspection is notoriously unreliable when it comes to matters of decision-making<sup>10</sup>, to memory<sup>11</sup> and to perception<sup>12</sup>. While we cannot lie to ourselves about our own experiences, they don't necessarily reflect reality. Results can be greatly influenced by presuppositions about the mind. While phenomenologists aim to suspend their beliefs in the process of introspection<sup>13</sup>, this may well fail and inadvertently reveal more about the introspector's intuitions and beliefs than their experience<sup>14</sup>. Furthermore, introspection produces just one person's experience, and may not generalize<sup>15</sup>. Comparing a number of different perspectives may

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6 Dixon 2003, p. 2.

7 Scarantino & de Sousa 2021, para. 10.1.

8 For example "people laugh 30 times more frequently in social than in solitary situations", Provine & Emmeroy 2006, p. 403.

9 For example, by activating the so-called *default mode network* (DMN), Herwig et al. 2012.

10 Nisbett & Wilson 1977, pp. 231.

11 Gazzaniga et al. 2014, p. 633.

12 From Descartes (Descartes 1901 [1641], p. 52) to saccadic masking (Irwin & Brown 1988, p. 276), there is no dearth of examples.

13 Husserl calls this epoché, Beyer 2020, para. 6.

14 The subjective experience of one's own psyche is, in itself, culturally relative, see Alexander 2020.

15 Dennett 1991, p. 67.

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ameliorate this, but researchers making use of it may differ from the general population<sup>16</sup>, on aggregate.

Any phenomenological account must therefore be corroborated by other methods of investigation – it can tell us how things *feel*<sup>17</sup>, but not how things *are*. No singular account of feelings is likely to capture all of what it means or could mean to experience emotion, unless we assume that all people experience them the same way. I will occasionally make use of introspection myself, to cast doubt on the universality of a statement. My own experiences may not always be typical, common or normal, but they are *possible* experiences.

## II.2 BEHAVIOUR OBSERVATION

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Some problems of subjectivity can be solved by observing others instead of the self. Popularized by behaviourism in the beginning of the 20<sup>th</sup> century, the aim was to abolish the subjectivity of introspection completely by relying purely on what can readily be observed by outsiders<sup>18</sup>. This helps alleviate cultural and individual bias; the larger sample size<sup>19</sup> makes findings more robust, but they also forfeit nuance and idiosyncrasies, for better or worse. Where a phenomenologist might offer a rich description of the many felt qualities of emotion, behaviour observation seems a rather blunt tool that can merely describe visible action. Emotions that are not expressed will fail to show up in observation, and while we know ourselves to have rich inner lives with complex motivations, desires and reactions to our environment, the behaviourist will interpret this as a mere input-output relation of our natural dispositions and our environment to our actions. Internal experiences vanish into the black box<sup>20</sup>. Implied, therefore, is that (all) emotion is expressed and can be classified via these expressions.

An early scientist – long before behaviourism's rise in psychology and indeed long before psychology became a science of its own in the 19<sup>th</sup> century – to make use of this method was Charles Darwin, who – besides animals and their adaptation to their environment – observed facial expressions in different cultures during his travels with the *Beagle* and discovered their universality. He concluded that the emotions themselves are universal in humans<sup>21</sup>, and their expressions furthermore not arbitrary, but signals to the preparedness of behaviour, e.g. the exposed teeth in the raised upper lip of anger shows off the tools of a possible attack<sup>22</sup>.

Behavioural observation describes emotion as dispositions towards actions and classifies them by the type of action promoted and their facial expressions. Though they require some consideration of internal states, distinctions can be made along the lines of voluntary and involuntary<sup>23</sup>, as well as truthful and feigned expressions<sup>24</sup>.

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16 Of course, it is not only researchers making use of introspection. In laypeople it both reveals and produces intuitions and gives rise to folk theories of emotion.

17 The research question is not particularly concerned with how emotions feel, exactly, apart from the fact that they do and that these feelings are considered characteristic for different emotions.

18 Dehaene 2014, pp. 11.

19 That is, sample sizes occasionally larger than one.

20 A black box is the description and analysis of a system purely based on input and output values, with no knowledge or no consideration of internal mechanisms.

21 He also found copious evidence for emotion or something like emotion in animals, who display much of the same expressions as we do. In contrast, Darwin found gestures to be differing across cultures.

22 Ekman 2009, pp. 3449.

23 A distinction that is surprisingly difficult to maintain, as social learning imposes affectations onto even involuntary reflexes, Provine & Emmeroy 2006, pp. 403.

24 I will be exclusively focusing on honestly experienced emotion.

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### II.3 LANGUAGE ANALYSIS

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It is not just behaviour that can be observed, but also everyday language use. Language cannot tell us about the true nature of emotion or how they work, biologically or neurologically, but the way emotions are commonly described and idioms around them give access to (often unconscious) folk theories, and identify aspects shaped by culture rather than nature. There are two basic ways of analysing language to these ends: Comparing concepts and idioms across time and languages, and analysing emotional expression and description within a language.

Literature analysis of ancient texts can unearth differences in thinking of emotion that shed light on them by virtue of their foreignness, or by commonalities with modern thinking. For the stoics, the affects pre-empt reason and involuntarily move the mind of the emotion-haver, whom it befits to proceed to ignore them, as they invariably lead them astray. While they may call forth mental images and fantasies, they are themselves maximally different from thoughts and thinking<sup>25</sup>.

The ancient conception of what we now call soul (which in turn partly overlaps with our concept of mind) has not been a single unified concept, but rather multiple different entities. One of them is the θυμός, the “generator of motion or agitation”<sup>26</sup>. But there is no distinction of the movement of limbs and the movement of the mind, motion and emotion are used interchangeably. It is the θυμός that leaves when an animal dies, as it is what animates it, whereas in humans it is the ψυχή that leaves the body at death, and the νόος that hosts thoughts and ideas<sup>27</sup>. The action – that which we are driven to, which we are moved to do by emotion – takes the forefront in these conceptions, in which emotion can’t be said to be a mental state at all.

Looking into modern times, tracing the origins of the word ‘emotion’ itself shows it to be an umbrella term for a host of different terms with higher specificity<sup>28</sup>. Some of the distinctions I will explore in section 5 and 6 separate what used to be distinct before. The unity of emotion can be called into question, and so can the narrative of a traditional opposition of emotion and reason<sup>29</sup> – identifying the perturbances of antiquity with all of today’s emotion changes the meaning of those claims quite profoundly<sup>30</sup>.

But all of today’s emotion isn’t a particular coherent or well-defined category either, with lots of controversy whether this or that can be said to be one or not, as later chapters will show. Neither ‘emotion’ nor the names of particular emotions are universal or have exact matches in other languages<sup>31</sup>.

Analysing idioms and expressions shows a number of conceptual metaphors about emotions that are related to their physiological symptoms. Some of them are general, like seeing the *Body as a Vessel*, more are specific to particular emotions. One such example is *Anger is Heat*, as exemplified in phrases like ‘hot-headed’, ‘boiling with rage’ or ‘simmering anger’, which corresponds to the rise in body temperature that accompanies anger. These expres-

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25 Augustine 1955 [426], Liber IX: Caput IV. *Mind, reason, fantasies* etc. in this text don’t neatly map onto our modern understanding of the words, neither do *affects*, which are primarily physical and motivating episodes, and do not encompass all of what we now consider emotion.

26 Snell 2013 [1946], p. 9.

27 Snell 2013 [1946], pp. 8.

28 Dixon 2003, p. 2.

29 Dixon 2003, p. 3.

30 Dixon 2003, p. 27.

31 Prinz 2004, p. 79, Shargel 2014, p. 136.

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sions are not arbitrary, and the internal models and frames of emotion that they hint at are deeply embodied<sup>32</sup>. Despite language being generally considered the realm of the mental, we can find numerous evidence for the primacy of the physical here.

## II.4 LESION STUDIES

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In contrast, it is the study of the body that more readily puts emotion with thought, belief and will in the domain of the mind and consequently the brain, once notions of humours and wandering uteri were laid to rest. As a notoriously complex organ with a wide array of functions, studying the brain in regards to emotion, exclusively, is an ambitious endeavour. One very fruitful avenue, accessible even without a lab and modern equipment, has been the study of lesions. Looking at naturally occurring<sup>33</sup> localized damage to the brain, inferences to the function of different areas of the brain can be made. While locally contained, non-fatal injuries that limit impairment such that study is possible<sup>34</sup> are rare, they have been invaluable for research. In lesion studies, the aim is to observe which impairments tend to co-occur. Symptoms that only emerge in combination with each other imply that one particular brain area is responsible for both, and that there is some functional connection.

One particularly famous case was that of the railway worker Phineas Gage, whose frontal lobe was damaged in 1848 in a rather spectacular accident, and whose subsequent behaviour was markedly different<sup>35</sup> in a way described by Antonio Damasio as “flawed reason”<sup>36</sup>, though we might more aptly describe it as inhibited impulse control. An important conclusion from his case is that emotion plays a role in decision-making, and that the somatosensory cortex, the ventral and medial prefrontal cortex, the anterior cingulate cortex and the amygdala all play a role in both emotion and decision-making<sup>37</sup>.

While not a lesion of the brain per se, spinal lesions have also been of interest. Patients with spinal lesions were found to have diminished emotional experience, the degree of that effect dependent on the position of the lesion: the higher on the spine, that is, the more connections between brain and body are affected, the more impaired the emotional experience. However, another study found no such effect, and with conflicting evidence, limited conclusions can be drawn<sup>38</sup>.

Lesion studies depend on and are presupposing that different brain areas have distinct tasks at all<sup>39</sup>, and of course, that it is indeed the brain that houses emotions. Studies of this kind can help disentangle components of emotion: can a patient be impaired in expression, but not experience of emotion<sup>40</sup>, or describe rationally the correct course of action, yet fail to act on it<sup>41</sup>? However, lesion studies are limited by the available subjects of study. To be of use, brain damage needs to be limited to a particular area, and can only look at those areas that

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32 Lakoff 2016, pp. 269.

33 That is, occurring without intervention of the researcher – which may still include artificial injuries of all kinds, like accidents.

34 As a catatonic state or seizures are not allowing much in the way of inference as to the precise brain function thus impaired.

35 Damasio 1994, pp. 8.

36 Damasio 1994, p. xii. Damasio uses the terms ‘reason’ or ‘reasonable’ to judge Gage’s behaviour and decisions, though they may be characterized as impulsive. Damasio’s account has been criticized as painting a fictionalized picture of Gage’s life. The behavioural changes may have been less severe and more temporary, Kotowicz 2007, p. 130.

37 Damasio 1994, pp. 69.

38 Prinz 2004, p. 57.

39 Damasio 1994, pp. 14 credits phrenology with this discovery.

40 As happens in locked-in syndrome, Sledz et al. 2007.

41 In some ways, yes, McClure et al. 2004, p. 504.

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are not essential to survival or basic functioning<sup>42</sup>. Localizing lesions has historically been hard and inexact, usually by autopsy.

## II.5 IMAGING PROCEDURES

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In lesion studies as well as with healthy subjects, identifying active or affected brain areas has become much easier in the last fifty years. A number of technologies have given access to images not just of the brain, like in *computed tomography* (CT), but also of brain *activity*. The most popular of those are *functional magnetic resonance imaging* (fMRI) and positron emission tomography (PET), measuring blood oxygenation and blood flow in the brain, respectively. Increased blood flow and increased oxygen consumption is associated with a higher metabolic rate, itself a function of increased activity. While these are indirect measures, they can still identify regions of high activity<sup>43</sup>. There are also ways to measure brain activity directly, as with electroencephalographic recordings (EEG) or single-cell recording, though the latter is invasive and therefore only done on animals<sup>44</sup>.

The advantages of imaging are obvious: not only can we observe the brain at work, we can do so in a controlled setting, given specific tasks, on practically any person, healthy or sick, in awake or asleep state, idling or taking medication or answering biographical questions or indeed asked to conjure emotions on cue<sup>45</sup>. But there are also limitations. Spatial resolution is measured in brain volume in mm<sup>3</sup> – though it has improved throughout the 90s, each voxel still encompasses tens of thousands of neurons, and noisiness of the signal means smaller nuclei might not be identified with certainty. The purely one-dimensional measure of blood flow/oxygen level or electric activity can only speak of activity, not of which type, what signals, which neurotransmitters are involved and what they represent. There is also the matter of temporal resolution, which usually doesn't allow distinguishing in which direction signals travel. Lately, there have been advances in interpretation – where it used to be manual analysis of single scans, computer models and especially machine learning can aid in evaluating thousands of scans and run complex mathematical analysis<sup>46</sup>.

Some issues remain. The high cost and limited availability of the equipment leads to small sample sizes, often in the single or low double digits. The experience of being scanned is highly artificial, so we cannot gather data from people going about their daily lives. The number of available methods of analysis enables easy p-hacking<sup>47</sup>. For these reasons, imaging studies have been particularly susceptible to the replication crisis<sup>48</sup>. Nevertheless, the basic anatomy of the brain, its general regions and their general tasks are by now well-understood.

One focus of imaging studies has been the search for different neuronal activity profiles of different emotions. One such study managed to identify emotions that method actors were conjuring with the aid of mental scenarios via machine learning with great accuracy. While there is considerable overlap in the activity profiles, it is not arbitrary, some emotions are more similar than others (see fig. 1), with the clearest measure of distinction their hedonic state, i.e. the emotion feeling positive or negative<sup>49</sup>.

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42 Gazzaniga et al. 2014, p. 85.

43 Gazzaniga et al. 2014, pp. 105.

44 Gazzaniga et al. 2014, pp. 95.

45 Kassam et al. 2013.

46 Gazzaniga et al. 2014, pp. 111.

47 Whereby researchers dishonestly fiddle with their research method until their result meets standards of significance.

48 Kelly & Hoptman 2022.

49 Kassam et al. 2013.

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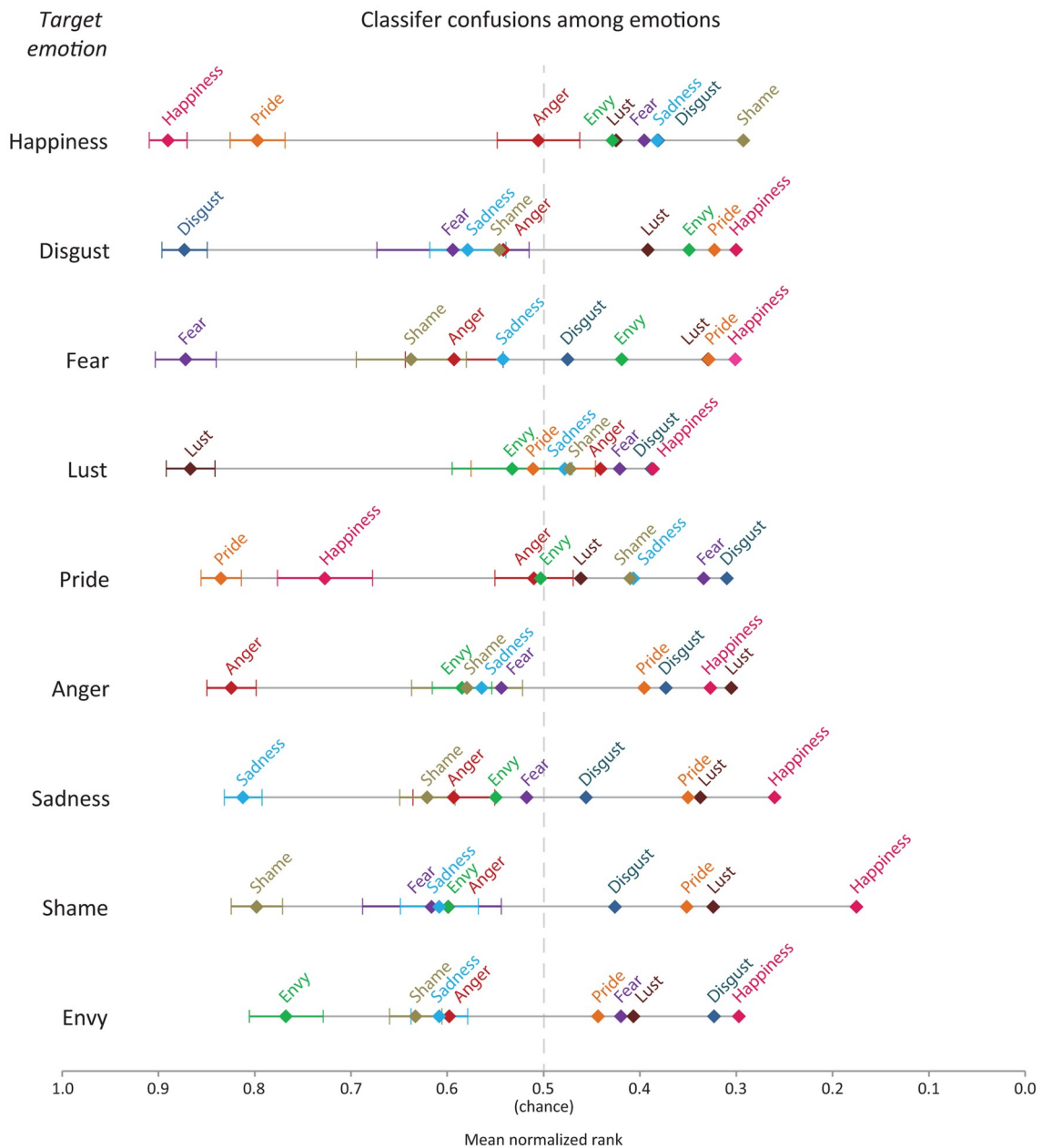


Figure 1: Normalized rank of classifier guesses – change of the AI to guess each emotion, showing the correct guess being the preferred one for all emotions, and their relative similarity. Kassam et al. 2013.

## II.6 EXPERIMENTAL NEUROSCIENCE

Imaging, which, on its own, puts the researcher in the position of a passive observer, is often combined in research with a more experimental setup. Subjects are exposed to a stimulus and/or given a task, and their reactions measured. In psychology, the measurement is usually self-report or observation, in neuroscience, imaging or task performance are more common. Stimuli are usually words, images or videos, but there are some that act on the brain itself.

A popular non-invasive avenue of this is *transcranial magnetic stimulation* (TMS), which, through targeted magnetic fields, can stimulate particular brain regions to facilitate or inhibit activity. This has enabled researchers to conduct what are known as virtual-lesion experi-

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ments: temporarily simulating brain injury, and comparing task performance, decision-making or self-report with the unaltered state in the same subject, effectively providing a safe, more exact and reproducible alternative to lesion studies<sup>50</sup>.

## II.7 MEDICAL INTERVENTION

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Not all interventions are non-invasive and risk-free. Changes to the brain in ways affecting emotion can also be effected by neurosurgery or implants, for example, but for obvious reasons these are only done on humans in the context of medical treatment. Such changes are usually undesirable and side effects, but in some cases, they might be the goal of intervention, particularly in mood disorders.

Ablative surgeries, i.e. surgical sectioning or the removal of brain matter, have fallen out of favour due to their high rate of side effects, with *deep brain stimulation* (DBS) being the current method of choice for surgical intervention in treatment resistant depression<sup>51</sup>. In DBS, a neurostimulator is implanted to send electrical impulses to targeted areas<sup>52</sup>.

In addition to surgery, intervention can take the form of medication. Substances can act in a number of different ways on emotion, for example by targeting particular receptors for neurotransmitters (as in the use of selective serotonin reuptake inhibitors (SSRI) in depression treatment<sup>53</sup>). Other medication works indirectly by affecting the metabolism to make more or less of a substance (as with anxiolytic benzodiazepines or barbiturates and GABA<sup>54</sup>), by affecting muscles (as with muscle relaxants for anxiety<sup>55</sup>), and the mode of operation of yet others isn't fully understood (as with the mood-stabilizing effect of Lithium<sup>56</sup>). Some substances are also used recreationally to induce euphoria, as with amphetamines (through activation of the dopaminergic system<sup>57</sup>) and opiates (which bind to opiate-receptors<sup>58</sup>), or for self-medication of untreated mental illness<sup>59</sup>.

Pharmacology is a complex and wide field, and I cannot do it justice in a few paragraphs. I will therefore limit myself to remarking that brain activity is not restricted to electrical currents, that neurotransmitters and hormones<sup>60</sup> play a role, that some substances are slow and others fast-acting, and that emotions can be induced, dulled and otherwise affected by drugs.

In that vein, not all conditions that cause emotional symptoms are mental or neurological in nature. Irritable bowel syndrome causes frequent emotional distress that is a direct consequence of signals from the gut rather than reactions to other symptoms<sup>61</sup>. A sense of impending doom can be the symptom of a heart attack<sup>62</sup>, or part of a vasovagal response after blood donation<sup>63</sup>. Physical illness or injury can have emotional consequences.

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50 Gazzaniga et al. 2014, p. 88.

51 Temel & Lim 2012, pp. 327.

52 For treating depression, these areas are usually the subgenual anterior cingulate gyrus, which regulates a number of brain regions involved in emotion and is highly active in processing sadness, in particular, and the nucleus accumbens, which processes reward and reinforcement. Temel & Lim 2012, pp. 327.

53 Rolls 2014, p. 318.

54 Rolls 2014, p. 319.

55 Sapolsky 2018, p. 91.

56 ASHP 2022, para. Pharmacokinetics.

57 Rolls 2014, p. 314.

58 Rolls 2014, pp. 317.

59 Suh et al. 2008, pp. 518. A surprising candidate for possible self-medication is nicotine in schizophrenia, Alexander 2016. For a number of other ways that physical intervention, not just in a medical context, can affect emotions, see Shargel 2014, pp. 3.

60 Sapolsky 2018, pp. 99.

61 Enders 2015, p. 132.

62 Goff et al. 1998.

63 Gilchrist & Ditto 2015, p. 32.

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Another avenue of medical intervention is psychotherapy, whose domain includes the causes and treatments of emotional dispositions<sup>64</sup>. I will not cover dispositions and causes here, and will therefore disregard psychotherapy.

Among the multitude of mental illnesses, disorders and psychiatric phenomena, an interesting one I find to be of relevance for this work is alexithymia. Literally meaning the inability to speak of emotions, it is characterized by a difficulty in identifying and describing emotions in oneself, a preoccupation with the external, and limited imagination. These broadly put it in opposition to the concept of emotional intelligence<sup>65</sup>. Alexithymia is common in the general population, but especially so in subjects with autism spectrum disorder (ASD), occurring in about 50%, compared to about 5% in the general population<sup>66</sup>. As with most psychological concepts, it is measured on a scale, so it is more reasonable to speak of high or low levels of alexithymia, rather than treating it as a binary that either occurs or doesn't. It demonstrates that emotions are not universally accessible or easily classified.

## II.8 EXPERIMENTAL PSYCHOLOGY

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It is not always easy or possible to disentangle psychology from neuroscience, as much of the subject matter studied is the same, but they differ in their level of abstraction. Where neuroscience is concerned with brain functions, neuronal activity and neurotransmitters, psychology studies the beliefs, behaviours, relationships and thoughts that result from them. Behaviour observation and self-report dominate in psychology, but experimental setups and lesion studies are utilized as well.

These have shaped our knowledge of learning, for example. Behaviourists studied classical conditioning extensively<sup>67</sup>. Emotional response can be learned, typically fear through punishment, and behaviour reinforced through reward. To that effect, two stimuli – one previously neutral and one either pleasant or unpleasant – are coupled to cause an association of the neutral stimulus with the emotion experienced from exposure to the other. This is also known as *implicit emotional learning*. In *explicit emotional learning*, the desirability or undesirability of something is learned not through experience, but through belief, for example by being told about the dangers of a particular animal<sup>68</sup>.

Emotions can not only be learned but also induced. Besides targeting the neuronal infrastructure directly, as in neurosurgery and with targeted drugs, this can also be achieved by effecting autonomic changes that are a lot less specific, when paired with situational cues suggestive of an emotion. After being injected with epinephrine<sup>69</sup>, subjects report emotional experience only when not being informed (or being misinformed) of the effects of the injection, and will report emotions in line with those a stooge they spent twenty minutes in a waiting room with demonstrated, by either behaving silly or angry<sup>70</sup>.

Much of psychology is studied in psychology students, who are close at hand for psychology research facilities and who have to complete a certain number of hours as a test subject dur-

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64 In cognitive behavioural therapy, changes are effected by evaluation and modification of beliefs, which are assumed to be the cause of behaviour, thoughts and emotion, APA 2017.

65 Rolls 2014, p. 38.

66 Kinnaird et al. 2019, p. 81.

67 Including in now ethically questionable ways, e.g. see Little Albert, Watson & Rayner 1920.

68 Gazzaniga et al. 2014, pp. 439.

69 Also known as adrenalin, which they were told was the vitamin Suproxin, studied for its supposed effect on vision. This is also not meeting modern standards of informed consent.

70 Schachter & Singer 1962, pp. 379.

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ing their education<sup>71</sup>. As such, psychology has been hit hard by the replication crisis<sup>72</sup>, with many studies relying on a small sample of not-too-representative<sup>73</sup> students. Interpretation is also fraught with difficulties, with lab conditions not necessarily generalizing to normal life, whereas normal life is subject to a large number of confounding factors. Additionally, the level of abstraction and cultural relativity of much of the subject matter makes interpretation of results susceptible to bias, subjectivity and overestimation of the significance of results.

## II.9 SELF-REPORT

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A lot of experimental psychology that aims to gain insight into not just the outward manifestations of emotion, but the inner lives, has to rely on self-reporting<sup>74</sup>. Surveys can range from open, minimally structured interviews to formalized questionnaires with graded scales, with the former useful for exploratory research and the latter developed as a standardized measuring device. While open-ended questions yield the most nuanced and genuine responses, they are time-intensive to evaluate and allow for more subjectivity in classifying, clustering and analysing, as researchers have to make many choices in categorizing to create legible data. For that reason, sample sizes are usually very low and this method is not very common<sup>75</sup>. Closed questions on a graded scale are the most prevalent, instead, as they can be analysed quantitatively<sup>76</sup>, and often expect answers in the form of “agree – disagree” or “often – never”. Surveys of this kind are commonly used as diagnostic tools as well as in other social sciences. A number are currently in use for mood and emotion<sup>77</sup>. Most of them take a dimensional approach by measuring the pleasantness and activation level of the subject's current state<sup>78</sup>.

As diagnostic tools so often aim to capture deviations from the norm, gaining insight into the norm itself is usually more of a side effect. The graded nature of most instruments reflects the fact that psychiatric conditions and metrics tend to not have taxonicity<sup>79</sup>.

## III. SURVEY

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Despite their shortcomings, surveys are a useful tool to gain access to the intuitions and inner workings of different people, particularly laypersons. To study emotion requires prior understanding of what it is we wish to study. Looking for a definition to fit this prior understanding can only cement intuitions, not challenge them. For this reason, one of the ways I explore what emotion may or may not be, what it encompasses and in what way we have access to it, is through a survey. I asked 106 people how they were feeling, whether they were having an emotion right now, and how they could tell. Through this, I look into the common language use of ‘emotion’. I will use it (and quotes from it<sup>80</sup>) to illustrate the range of emotional experience and the different ways people process them, rather than relying on fictional examples or

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71 For example in Greifswald: <https://psychologie.uni-greifswald.de/studium-und-lehre/versuche/>.

72 With about 40% of results affected, Baker 2016.

73 This is also an issue on the population level, with an over-representation of people from Western, educated, industrialized, rich and democratic societies, known as WEIRD. Azar 2010.

74 The alternative is using imaging technology or observation and making inferences to internal states, the limits of which are obvious.

75 Similar in nature and more common are case studies, which are written up by doctors and don't usually use a patient's own words. These are typical in lesion studies and behaviour observation.

76 The available method depending on the scale, see Menold & Bogner 2016.

77 Such as the *Differential Emotion Scale* (DES), the *Current Mood Questionnaire* (QMC), the expanded *Positive and Negative Affect Schedule* (PANAS-X), the revised *Multiple Affect Adjective Checklist* (MAACL-R) and the *Profile of Mood Scales* (POMS). Watson & Vaidya 2003, pp. 353.

78 Watson & Vaidya 2003, pp. 354.

79 Siskind 2022.

80 Quotes have been unaltered in grammar, spelling, punctuation and capitalisation, except for quotation marks, which have been changed to single ones to distinguish from beginning and end of the quote itself.

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my own experience only. As Dohaene put it: "Introspection as a research method cannot be trusted [...] the correct perspective is to think of subjective reports as raw data."<sup>81</sup> Here, I collect such raw data to supplement the review of emotion theories and subsequent discussion.

Because of the limited use and unphilosophical method, large parts of the analysis and interpretation are not part of this paper and can instead be read at length online<sup>82</sup>. The following segments will discuss the methodology and give a short summary of interesting findings.

### III.1 QUESTIONNAIRE DESIGN

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Because the aim of this survey is more exploratory than quantitative<sup>83</sup>, I chose to utilize open questions. Respondents could say or write as much or as little as they wanted and use their own words to answer. This limits bias in the questions themselves, though it can introduce it in analysis. Questions were kept short and colloquial to lead to interviews that resemble normal conversation, to encourage answers that are less filtered or translated into formal register, and to discourage strategic thinking about what sort of answer I might want or expect to hear. This way, I hoped to capture spontaneous and honest replies that are maximally close to the underlying intuitions.

The information I hope to gather is what aspects of emotion are most important, most salient to people, whether they experience their emotions as constructed, perceived or something else. To this end, I asked three questions.

(1) "*How are you feeling?*" This opening question is common and conversational, designed to feel natural to answer and to help suspend focus on the interview situation<sup>84</sup>. It initiates an introspective process and calls for awareness of the subject's internal state and experience. However, it is broad enough that answers might not capture emotions, but other feelings or constructs, instead, and answers might be informed by politeness and the expectations of normal conversation. It might prime towards small-talk and health for the following questions too.

(2) "*Are you experiencing an emotion right now?*" This question is more unusual and more pointed, using the term 'emotion' to cause reflection in subjects whether they need to give a different answer than to (1). Implied is not just the potential of such a difference, but also the possibility of a negative answer, thereby itself suggesting that emotion isn't necessarily experienced at all time. This is a pre-supposition that was hard to neither imply nor deny unless directly asking about an 'emotive state' or 'feeling emotionally', which come with their own implications (of emotion being a state or a feeling, respectively). I chose to use this phrasing because it allows for a simple yes/no reaction – my research interest is not which different emotions people experience, so this information is not necessary to collect – and therefore puts subjects in the position of being able to volunteer specifics, but not being asked to, respecting the private nature of emotions. More importantly, *naming* emotions is a different process than *experiencing* them, and by not requiring to identify and name, the question encourages awareness of emotional state without forcing processing it verbally.

(3) "How do you know?" This question is the core of the survey. Instead of relying on *intellectual* understanding of emotion, here the subject is being tasked with reflecting on their experience and their introspection itself, the process that they just went through to answer the pre-

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81 Dehaene 2014, p. 12. Daniel Dennett calls this approach heterophenomenology, Dennett 1991, pp. 72.

82 Written for laypeople in blog form: <https://dasklaus.substack.com/p/how-do-you-know-how-you-feel>.

83 And because I mistakenly assumed to have the time for analysis.

84 Indeed, two subjects were uncertain whether the survey had begun or not, see Martin (sample 1, 14) and Daniela (sample 1, 21).

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vious questions. It has no presuppositions (except the expectation that the subject *does* know, something a not so small number of respondents had no issue to deny) and, being deceptively simple, allows for a wide range of answers.

As important as the questions I asked were those I didn't. There was no demographic data collected, no contact information and no additional questions at all. While there are many potentially interesting questions to be asked, none of them were particularly relevant for this work. Gender, age and cultural differences, life circumstances and mood disorders, current health and physical state, all these and more are certainly fascinating avenues of research, but not ones I am equipped to explore here.

A maximally short survey prevents fatigue and boredom. Not asking questions that are unnecessary helps reduce mid-survey abandonment and improves the quality of answers, as the motivation of finishing soon doesn't play as much of a role.

Google Forms was used for a digital version of the survey. It included a fourth 'question': "*Additional notes*", to allow for extraneous information or comments. For every place I posted a link looking for participants to, I created a copy of the survey, to keep answers separated by sample.

### III.2 DATA PRIVACY AND CONSENT

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Informed consent to participate in research is paramount to keep in line with ethical demands in experiments, where participants are confronted with stimuli or undergo treatment of any kind, and an ethics committee is usually involved. Simple surveys that do none of the kind only need to be concerned with data privacy and often include consent forms. Consent forms contain information about who collects the data, why (the topic of research), how, how the data is stored, for how long, and who has access to it. Laws are in place that data has to be kept secure and personal data needs to be anonymised before publication<sup>85</sup>.

This survey has been a private data collection not originally intended for research. For that reason, consent obtainment has been a bit unorthodox. For personal interviews, the opening question used was "*Hast du fünf Minuten für eine schrecklich unwissenschaftliche Befragung?*" or, for English-speaking subjects "*Do you have five minutes for a terribly unscientific survey?*" 'Unscientific', here, communicated both that the survey has not been commissioned by any university or research institute, and the potential lack of data security and privacy. A lack of a clear affirmative answer led to abortion of the interview. Only some of the subjects were aware of the general subject of this paper and that I was in the process of writing it, for others this question came with no context. However, at the end of the interview followed an explanation as well as an explicit request to be allowed to use the answers in this text. In the form of an online survey, the title chosen was "Terribly unscientific survey", with the following description:

"Data security? Privacy? None. I will quote your answer to friends. I will read it out loud in the bus, write it on notes that I lose in the supermarket, store it in an unsecured Google Doc and post it on Tumblr. Don't write stuff you don't want that happening to. Don't give me your name or identifying info either.

On the plus side, it's really quick. Unless you write an essay."

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85 Universität Rostock: Leitfaden "datenschutzkonforme Verarbeitung". <https://www.uni-rostock.de/ds-informationssicherheit-2-1-1-1>.

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While unprofessional in tone, consent was clearly given, and no personal data was collected. While I am personally acquainted with those I interviewed directly, at no point have their names been written down or been connected to the transcript of the interview. Potentially identifying details have been omitted and marked with [squared brackets]. Matching responses to particular persons is therefore impossible for anyone but me. In contrast to above statement, responses were kept in a text document on a personal computer, not a google doc, and so far have not been lost in any supermarket.

All responses have been given a pseudonym to ease referring to specific subjects. Pseudonyms were chosen by different means depending on the sub-sample of the response and will be explained in the next section.

### III.3 SAMPLING

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As the goal was to collect a range of different responses, not measure their distribution, convenience sampling was used<sup>86</sup>. There were four different samples collected, and their responses kept separate from each other.

(1) Friends, family, acquaintances: These were interviews that I conducted directly, either in person, over telephone or chat. They are marked by the trust and openness that comes with the personal relationship, and by the possibility of asking follow-up questions. Interviews were often conducted within social conversations, in the medium most of my conversations with these people take place. Subjects differ from the normal population in a number of ways: they are younger, better educated, politically left-leaning, highly intelligent<sup>87</sup> and more often than average neurodivergent (ADD or ASD<sup>88</sup>). Many of them work in computer science and most are German. I picked their pseudonyms from the ranking of popular baby names in West Germany 1980<sup>89</sup>, in order, alternating male and female names. There were 23 responses.

(2) Readers of the blog “Astral Codex Ten” (hereafter called “ACX”): This science and philosophy blog<sup>90</sup> is notable for its civil comment section, and blog author Scott Alexander posts weekly “open threads”, which are posts for the sole purpose of allowing for conversation in the comments about anything commenters are interested in. As a reader, I used one of these open threads to link to my survey on May 23<sup>rd</sup> <sup>91</sup>. This sample is the overlap of ‘kind of person to read such a blog’ and ‘kind of person to click on such a link’, but we can describe it even more precisely: ACX and its precursor, *Slate Star Codex*, does an irregular reader survey. From this we know that the vast majority of the readership is white, male and works in IT<sup>92</sup>. For pseudonymisation I used last names, in descending order of occurrence in the USA in 2000<sup>93</sup>. There were 67 responses.

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86 That is, subjects were those people I had easy access to.

87 While probably most people believe this about themselves and their friends, many of mine have been professionally tested.

88 Attention Deficit Disorder and Autism Spectrum Disorder, respectively.

89 <https://www.beliebte-vornamen.de/jahrgang/j1980> – First names because of their personal relationship with me, West Germany because most are German and I could not find name statistics for East Germany, and 1980 because that fits my estimate of their average age.

90 <https://astralcodexten.substack.com/> – Philosophical themes centre on ethics, epistemology and artificial intelligence.

91 <https://astralcodexten.substack.com/p/open-thread-225/comment/6717107>.

92 <https://docs.google.com/forms/d/e/1FAIpQLSd4I-x9oArVW1Tz5mEK4uHmxcJzVKGA28RfKPsDvW8hzZN-Viw/viewanalytics> – We also know that 84,8% of them would cooperate in a prisoner's dilemma against their own clone, 36,1% sleep usually uninterrupted without awakenings, 2,4% get sleepier from drinking coffee, 13,8% have at least one parent that is a professor, and 34,3% prefer their peanut butter creamy.

93 [https://en.wikipedia.org/wiki/List\\_of\\_most\\_common\\_surnames\\_in\\_North\\_America](https://en.wikipedia.org/wiki/List_of_most_common_surnames_in_North_America) – Last names because these people are strangers to me.

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(3) Personal followers on Tumblr: I posted a link to the survey from my personal account on the social media site Tumblr. I know nothing about the majority of my followers, except that they are the sort of person who uses Tumblr and speak English. With only two responses, their characteristics are of less importance. For pseudonymisation, I chose hyphenated English first names, selected for aesthetic preference<sup>94</sup>.

(4) Survey sharing groups on Facebook: These groups let students and researchers find participants for their surveys by employing a tit-for-tat tactic: Any member may post a link to their survey and ask people to participate. Others can then complete that survey and comment when they are done (often with a screenshot of the submitted form as proof) with a link to their own, which the original poster then fills out in return. The number of participants to get this way is only limited by the number of surveys one is willing to fill out themselves, the number of active members in the group, and the time frame spent as a member of the group. I utilized one English-speaking<sup>95</sup> and one German-speaking group<sup>96</sup> and gathered 7 responses each over a course of two days. While it is technically possible to go back and look for those posts and comments to identify respondents, I have since left both groups again, and the high frequency of posts makes finding specific ones cumbersome. Participants from these samples (let's call them (4-EN) and (4-DE)) are younger and more educated, usually in the social sciences, than the general population. All are currently involved with research of their own, not just familiar with surveys but educated in them. They are only participating to get others to participate in theirs – this likely affects motivation. The conversational and unscientific style of the survey is confusing or even irritating to this sample. For sample (4-EN) I used hyphenated US last names<sup>97</sup>, for sample (4-DE) hyphenated German last names<sup>98</sup>, chosen from common last names but based on aesthetic preference.

Overall, my samples skew young, educated and intelligent, scientific-minded and internet-affine. Therefore, quantitative analysis could only show trends within these groups, not in the general population. Where this relatively homogenous sample gives diverse answers, this might speak of an overall diversity in emotional experience.

#### III.4 INTERVIEWS

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Sample (1) was interviewed throughout May 2022, either when conversation was already taking place for other reasons or by making contact for the purpose of the interview. Two of the interviews were done in person, four over the phone, the rest over an assortment of chat clients<sup>99</sup>. The mode of communication matched other conversations with the subjects. Responses gathered in person or on the phone have been written down during or soon after the interview and might not be word-for-word accurate.

Personal interviews allow for ad-hoc departure from the interview question. Most commonly that was the omission of the second question (“Are you experiencing an emotion right now?”) when the answer to the first question already yielded that information. In some cases, I asked follow-up questions<sup>100</sup>, clarified the question<sup>101</sup> or repeated the third question (“How do

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94 First names because of the personal connection, English names because the survey was conducted in English, and hyphenated to distinguish samples from social media from the others.

95 <https://www.facebook.com/groups/surveysharing/about>.

96 <https://www.facebook.com/groups/umfrageteilnehmerfinden/about>.

97 [https://en.wikipedia.org/wiki/List\\_of\\_most\\_common\\_surnames\\_in\\_North\\_America](https://en.wikipedia.org/wiki/List_of_most_common_surnames_in_North_America).

98 [https://de.wikipedia.org/wiki/Liste\\_der\\_h%C3%A4ufigsten\\_Familiennamen\\_in\\_Deutschland](https://de.wikipedia.org/wiki/Liste_der_h%C3%A4ufigsten_Familiennamen_in_Deutschland).

99 Discord, Telegram, Facebook Messenger, and Wordfeud, a scrabble gaming app.

100 Christian (sample 1, 2), Stephanie (sample 1, 5), Sandra (sample 1, 9), Anja (sample 1, 11), Alexander (sample 1, 18).

101 Stefan (sample 1, 8), Sandra (sample 1, 9), Sabrina (sample 1, 19), Thomas (sample 1, 20).

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you know?") regarding the previous answer<sup>102</sup>. Twice subjects asked whether the survey had already begun when asking the first question ("How are you feeling?"), confirming its conversational character<sup>103</sup>. The interview was closed by thanking the subjects for their participation. In all cases, conversation continued beyond and included giving the subjects information about this paper, requesting permission to use their responses for it as well as to quote them in other writing, and having a personal, empathetic conversation about the named emotions. Answers to the third question were not questioned, any discussion of them focused on validating them by mentioning theories that were compatible with them. In some cases, information that I consider relevant was volunteered after the interview had ended, in such cases, I asked for permission to include it. Where given, it is added to the transcript with [...] to mark ellipses. Where pauses, gestures or non-verbal communication was noted, it was done in the language of the interview and placed in [squared brackets].

The other samples were completed by the subjects on their own, mid-May.

### III.5 ANALYSIS

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Open-ended questions produce answers that require interpretation, and any meaningful analysis will need to classify and aggregate verbatim responses. This process is called coding.

Coding was done in two passes: in the first pass, recurring themes were identified and every response was assigned to one or more narrow categories of replies, e.g. the response "Anxiety maybe" to question (2) was counted as both "anxiety" and "maybe". Those categories were then, in a second step, clustered and grouped: *anxiety* merged with *angst*, *dread*, *trepidation* and *apprehension*, as they are all variations of fear, and *maybe* and *I guess* were grouped as demarcations of the subject's uncertainty of their own emotional state. Clusters were formed as a second level of grouping for distinct, but similar types of responses. In a second pass, verbatim responses were coded using the resulting categories as codes with F4analyse.

Occurrences of codes could then be counted, the clustered codes with the number of responses they show up in are seen in figure 2. A detailed explanation of the categories and the choices to form them for the first pass was published in the form of a series of blog posts and is for reasons of limited space not part of this work<sup>104</sup>. Respondents of sample (1) have been given access to these directly, sample (3) (followers on Tumblr) could read them on Tumblr, and sample (3) (ACX readers) could find them in subsequent comments, where they have been linked. All online surveys were closed at that point and not accepting any more responses.

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102 Julia (sample 1, 1), Katrin (sample 1, 3), Michael (sample 1, 4).

103 Martin (sample 1, 14), Daniela (sample 1, 21).

104 A consolidated and edited form of these blog posts can be found here: <https://dasklaus.substack.com/p/how-do-you-know-how-you-feel>.

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Emotions/Feelings		Components	
<b>Happiness</b>	<b>20</b>	<b>Valence</b>	<b>48</b>
→ Contentment	10	<b>Physiology</b>	<b>36</b>
<b>Fear</b>	<b>14</b>	→ Facial Expression	6
<b>Anger</b>	<b>10</b>	<b>Intentionality</b>	<b>30</b>
<b>Sadness</b>	<b>4</b>	→ Directed at Survey	9
<b>Epistemic</b>	<b>8</b>	<b>Agitation</b>	<b>18</b>
<b>Boredom</b>	<b>7</b>	<b>Circumstances</b>	<b>18</b>
<b>Physical State</b>	<b>56</b>	<b>Desires</b>	<b>8</b>
→ Tired/Exhausted	30	<b>Actions</b>	<b>7</b>
→ Pain	7		
→ Digestion-related	5		
<b>Other</b>	<b>33</b>		
<b>None</b>	<b>40</b>		
→ Nothing Strong	20		
<b>Unnamed</b>	<b>13</b>		
<b>Multiple</b>	<b>14</b>		
<b>Contradictory (“but”)</b>	<b>13</b>		
<b>Qualified (“a bit” etc)</b>	<b>39</b>		

Methods of Access	
<b>Feeling</b>	<b>35</b>
<b>Thinking</b>	<b>20</b>
<b>Introspection</b>	<b>10</b>
<b>Perception</b>	<b>10</b>
<b>Comparison</b>	<b>10</b>
<b>Neutral State</b>	<b>11</b>
<b>Don’t Know</b>	<b>8</b>

Figure 2: Codes with number of occurrences. Counts for sub-codes are included in the parent code. By author.

### III.6 RESULTS

Answers to question (1) and (2) were very diverse. A distinction between emotion and other states was not observed, and opinions of subjects what constitutes an emotion and what doesn't was contradictory, in some cases. Some claimed to not be feeling an emotion despite describing themselves as content, amused, worried, bored or curious<sup>105</sup> in the first question. Conversely, some unconventional answers were listed as emotion, like tiredness, boredom, pain and fullness<sup>106</sup>.

A wide range of answers were also given to question (3). While the method of emotion access is, of course, a different question than that of opinion on what emotion *is*, it is a practical rather than a theoretical one and as such better suited to capture implicit rather than explicit beliefs and result in honest introspection rather than reproduction of textbook knowledge<sup>107</sup>.

The main modes of accessing information of the own emotional state are feeling and thinking, followed by these mostly overlapping yet different concepts of introspection and perception. Some mention was also made of comparison of the current state with known and

105 Thompson (sample 2, 19), Lewis (sample 2, 26), Robinson (sample 2, 27). These are only examples, this was quite common.

106 Scott (sample 2, 36), Adams (sample 2, 39), “Satt” – Stephanie (sample 1, 5).

107 Though some respondents clearly had preconceived notions about emotion: “Emotions are human constructs.” – White (sample 2, 20); “its... brain patterns?” – Daniela (sample 1, 21). This may or may not have caused them to reframe or rephrase their experience to fit.

previously experienced emotions. Comparison was not just made with emotional states, but also a “default”, “baseline”, “normal” or “neutral” state<sup>108</sup>.

Of the concrete things that are being felt or reflected on most prominently named were the valence of the emotion<sup>109</sup>, the body, thoughts, the current situation and object of the emotion<sup>110</sup>, the level of agitation, actions, and desires. I will explore these in conjunction of theories of emotion that correspond to them in the next section.

A number of subjects expressed uncertainty about their own emotional state, how to label it or how they were accessing it<sup>111</sup>. Given the prevalence of alexithymia (and its expected prevalence in the sample, which has above average rates of autism), we might call this a sign of an impairment or lack of ability, but it would also be reasonable to conclude that access to emotion is not actually simple, natural, easy or intuitive. Identifying and properly expression emotion is extensively taught in kindergarten, suggesting it is a skill<sup>112</sup>, not an innate ability, and therefore highly culturally mediated, even error-prone and subject to later revision. Roger describes this as follows: “I have no present emotional state - my present emotional state is determined by future circumstances, not present circumstances or past ones. In the future, it may turn out to have been the case that my present feelings are different from what I presently think they are.”<sup>113</sup>



Figure 3: A collection of material to teach kindergarten age children about emotions. By Jolanda Müller Garcia, kindersuppe.de.

108 Going into what participants knew was a survey, they might have intentionally adopted a ‘blank slate’ mindset, causing more of these “neutral” answers than a truly random snapshot would show.

109 Whether it was pleasant or unpleasant. Valence turned up a lot more often as a response to question (1) than as an element to be judged to determine emotional state.

110 Sometimes this object being the survey itself – mostly in cases of amusement and curiosity, though also confusion.

111 The exchange “How do you know?” – “I don’t.” happened no less than three times: Anderson (sample 2, 12), Campbell (sample 2, 43) and Rogers (sample 2, 61).

112 Several people report having had training as adults, too: “Ich hab aber super viel Therapiehintergrund mit DBT und so und bin wahrscheinlich ziemlich weit im Spektrum...” – Melanie (sample 1, 7). DBT refers to Dialectical Behavior Therapy, a kind of talk therapy with a focus on emotion management, and the mentioned spectrum is the autism spectrum. “Ich bescheiße aber auch genau genommen. Wir haben auf Arbeit jeden Montag im teammeeting eine wie-geht-es-mir-runde” – Dennis (sample 1, 16). “Ich übe das seit ein paar Jahren, meine Emotionen bewusst zu benennen [...] Ich nutze eine App, die mich 3x täglich danach fragt” – Alexander (sample 1, 18).

113 Rogers (sample 2, 61). This sentiment is also shared by Melanie (sample 1, 7) and Alexander (sample 1, 18).

The diversity of responses shows that there is no consensus of what emotions are and how to gain access to them, and we should therefore be very careful to treat anything about them as obvious, self-explanatory or a waste of time<sup>114</sup>.

#### IV. THEORIES OF EMOTION

As common language use does not paint a clear picture of what, exactly, emotion is, besides a disjointed collection of correlated phenomena, we now point our attention to theories of emotion. Theories of emotion don't always try to match common language use, but the common themes found in the survey largely match what different theorists have posited as either causes, consequences, components or the integral property of emotions.

Components	
Valence	48
Physiology	36
→ Facial Expression	6
Intentionality	30
→ Directed at Survey	9
Agitation	18
Circumstances	18
Desires	8
Actions	7

Figure 4: Components of emotion, identified via survey. By author.

How all these (and more) tie in together, what is central and what isn't, is called the *problem of parts*<sup>115</sup>. Which one is given primacy, how can all they come together for one singular experience? For that matter, is it really a singular experience at all? One of the issues is whether emotions are a natural category, a question I will pose again later.

One definition of emotion is "collection of changes in both brain and body, usually prompted by a particular mental context"<sup>116</sup> – to identify the emotion with the whole (unspecified) collection is a resignation that makes no effort to delve into the specific role of the elements of this collection<sup>117</sup>. But some theories have tried to give a clearer answer and identify emotion with one particular element rather than all of them, with different theories focusing on different components.

This section will introduce a selection of such theories and how they answer the problem of parts. I will focus in particular on somatic and cognitive theories. This section will not describe any particular theory in detail, but summarize central beliefs of different classes of theories.

##### IV.1 SOMATIC THEORIES

"Emotions feel very physical to me so unless I'm trying to describe boredom, I think I'd always have a physical cue to point at"<sup>118</sup>

At the end of the 19<sup>th</sup> century, the Danish physiologist Karl Lange and the American psychologist and philosopher William James asked – independent of each other – what would remain if we took an emotion and excised any physical sensation from it, and answered it with: Nothing. Not only is physical expression essential, but it *precedes* cognitive processing and labelling. Rather than becoming angry and getting agitated, we become agitated and thus angry<sup>119</sup>.

114 Respondents are guilty of this, too: "weird question, don't think this is going in a sane direction." – Miller (sample 2, 6). "Dumb question – my emotions are direct reality" – Harris (sample 2, 24).

115 Prinz 2004, p. 4.

116 Damasio 1994, p. 270.

117 A charge I do not want to level at Damasio, here, just at this particular definition.

118 Markus (sample 1, 22).

119 Prinz 2004, p. 4.

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Physiological symptoms were a very common part of survey response, but beyond that many survey respondents stated they knew of their emotion because they can feel it, or because they thought about it, or perceived it. According to somatic theories, what we *feel* is the body, what we observe and think about is the body, what we perceive, what we analyse: bodily signals. The emotion is how the body feels at a given time.

This is consistent with reduced affect as a result of spinal injuries<sup>120</sup>, but in light of doubt cast on this evidence, there is a way around: it is not strictly necessary to actually feel the physiological changes themselves, as long as the somatosensory cortex is activated in expectation<sup>121</sup> or imagination of such changes<sup>122</sup>.

## IV.2 BASIC EMOTION THEORIES

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A stronger claim than emotion being physical changes is that emotions can be distinguished from each other by the nature of those changes, that every (category of) emotion has a distinct physiological profile<sup>123</sup>.

The idea of natural, basic and distinct emotions is much older than that. Zeno of Citium names four<sup>124</sup>, Aquinas suggests either four or seven<sup>125</sup>, Darwin's observation of facial expressions arrive at six<sup>126</sup>, to name just a few.

While not all body parts are involved in all emotion, the same organ can feel differently depending on the emotion experienced. Mitchell reports a mild sense of satisfaction that is accompanied by "A warm feeling in the pit of my stomach"<sup>127</sup>, whereas Crawford-Owens' anxiety is evidenced by stomach pain<sup>128</sup>. Abdominal pain is described for sadness<sup>129</sup>, and the absence of a twisted gut a sign that no strong emotion is experienced in the moment<sup>130</sup>.

From the idea of distinct physiological signatures came the theory of emotion as biological *affect programs*, with distinct adaptive functions for dealing with fundamental life tasks. To have an emotion means this program has been triggered<sup>131</sup>. These functions are not specific to humans, and neither are the sort of actions to take to fulfil them, though the diversity of both emotional reactions and causes of emotional reactions is dependent on the affective niche of the organism<sup>132</sup>.

Paul Ekman underpins his basic affect programs on studies of facial expressions<sup>133</sup>, but we can also, in some cases, identify dedicated neural pathways for some emotional reaction, notably for fear<sup>134</sup>.

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120 See 2.4.

121 In the theory of *predictive processing*, actions, perceptions and experiences are constantly generated to model the body in the world, with sensory input merely functioning as feedback to correct this model and learn to improve it. Barrett 2018a, p. 34. See also Barrett 2017, p. 81.

122 Damasio calls this an "as-if" loop. Damasio 1994, pp. 155.

123 Dewey, who named the 19<sup>th</sup> century somatic theory James-Lange theory, misrepresented James to this effect. Barrett 2017, pp. 175.

124 Augustine 1955 [426], Liber XIV: Caput XIII.

125 Dixon 2003, p. 18.

126 see 2.2.

127 Mitchell (sample 2, 44).

128 Crawford-Owens (sample 4-EN, 4).

129 Schäfer-Schmitz (sample 4-DE, 5).

130 Turner (sample 2, 49).

131 Ekman 1999, pp. 45.

132 The affective niche can best be summarized as the number of things that matter to an organism, with humans' affective niche being a lot larger than that of, for example, macaques. Barrett 2017, 277.

133 Deonna & Teroni 2012, p. 20.

134 Damasio 1994, pp. 131. Damasio distinguishes primary and secondary emotions based on whether they originate in the conscious – being afraid of something we see without consciously recognizing what it is, for ex-

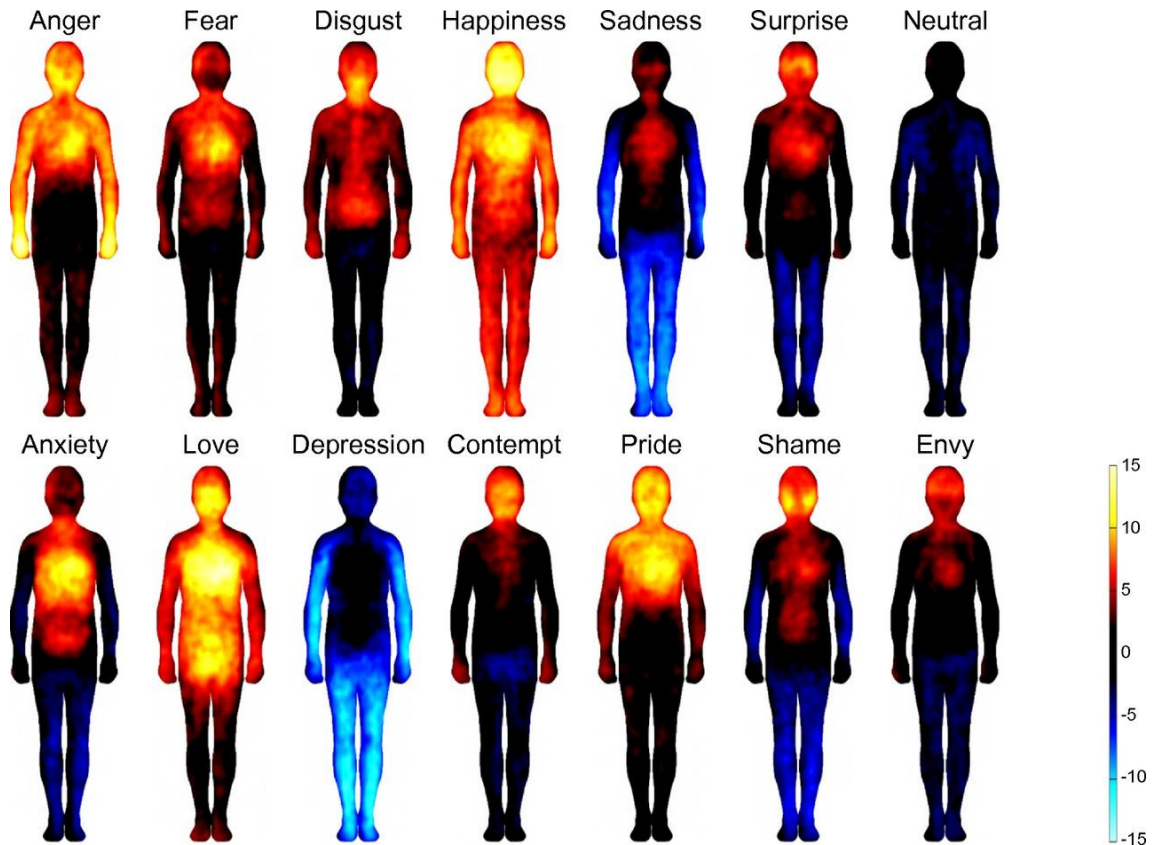


Figure 5: Maps of self-reported activation/deactivation, averaged composite of 701 responses. Nummenmaa et al., fig. 2.

### IV.3 APPRAISAL THEORIES

Despite some success in identifying distinct neurological profiles<sup>135</sup>, different body profiles have not reliably been identified, too large is the overlap of symptoms and too much variation is there within a single emotion<sup>136</sup>. Common language also distinguishes a large number of emotions that either define a basic emotion in more detail, like anger as being pissed, irritated, or annoyed<sup>137</sup>, or don't quite fit them, like relief, inspiration, loneliness or ennui<sup>138</sup>.

The overlap and vagueness of some emotion term and the distinction in degree, as from apprehension to terror, are not enough to explain, for example, the specifics of regret, where the relevant element is that we wish we could make a decision of the past differently. Our knowledge of our own fault and the impossibility of correction is central, and a purely physiological approach will miss those distinctions. There are even emotions that don't seem to have any particular physical feeling<sup>139</sup>, i.e. *epistemic emotions* like interest, boredom, curi-

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ample, vs. feeling grief at the news of someone's death. Primary emotions can therefore be experienced without conceptual cognition.

135 See 2.5.

136 Barrett p. 226. Barrett also notes that "you can tremble in fear, jump in fear, freeze in fear, scream in fear, gasp in fear, hide in fear, attack in fear, and even laugh in the face of fear", Barrett 2017, p. 176. Barrett also remarks on the neuronal patterns identified that "mathematically speaking, pattern classification does not produce 'essences' that are present in each and every instance of a category. Patterns are better understood as statistical abstractions", Barrett 2018b, p. 110.

137 Garcia (sample 2, 8), Ramirez (sample 2, 42), Rivera (sample 2, 59), in order.

138 Parker (sample 2, 51), Anna (sample 1, 22), Porter-West (sample 4-EN, 6), Harris (sample 2, 24), in order.

139 For example boredom, Markus (sample 1, 22).

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osity and doubt, that are relating to knowledge and learning, which somatic theories cannot capture. This is rectified by appraisal theories.

One such approach is a dimensional one, where there are certain types of judgement, called appraisals, which, in combination, define an emotion. Magda Arnold proposes three such dimensions: good/bad, present/absent, easy to attain/avoid<sup>140</sup>. These are what distinguish emotions from each other, whereas the defining feature of all emotion is the appraisal of something as beneficial or harmful<sup>141</sup>. Another such theory by Richard Lazarus proposes the dimensions of “(1) goal-relevance, (2) goal-congruence or incongruence, (3) type of ego-involvement, (4) blame or credit, (5) coping potential, and (6) future expectancy”<sup>142</sup>.

A less fragmented cognitive approach sees emotions as singular judgments. Having an emotion, here, is a judgment that a *formal object* is instantiated<sup>143</sup> (in particular, that it is instantiated in the *particular object*). A formal object is that property which a particular object must be believed to have to cause the emotion<sup>144</sup>.

Having such an object means emotion has *intentionality*, i.e. an about-ness, something that it is about. We can identify this as the grammatical object of sentences in which emotion is expressed as a verb: loving our children, fearing submission deadlines, envying the successful. Not all emotion is expressed this way; we often use prepositions, too, in which cases the object is that which follows the preposition: being angry *at* somebody, taking pride *in* something, being disgusted *by* something and having contempt *for* somebody. When emotion takes the form of an adjective, we can also construct dependent clauses for its object: afraid, *that* something will go wrong; ashamed, *that* one has behaved in a certain way. As we can see, objects are not restricted to nouns or noun phrases, but can also be situations.

While the particular object of a particular episode of fear might be a chasing bear, the formal object is danger – the chasing bear is to be feared, i.e. it instantiates danger, and someone being afraid of it would, by having this fear, judge the bear to be dangerous. Lazarus calls this a core relational theme<sup>145</sup>. These themes are also used as conditions of correctness – we consider an emotion as fitting, warranted or coherent, when the particular object does in fact have the property that is the formal object, shows convincing signs of this or is believed to, respectively<sup>146</sup>.

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140 Scarantino & de Sousa 2021, para. 6.

141 Frijda 1993, p. 225.

142 Scarantino & de Sousa 2021, para. 6.

143 I am using ‘instantiating’ and ‘instance’ here as a software developer, where objects instantiate *classes* of objects, which doesn’t cause them to *be* this class – a ‘dog’ being an instance of ‘animal’ means the dog is *of the type* of animal, not that it *is* an animal, as ‘animal’ is a class in this case and not countable – the difference is maybe best thought of in terms of Plato: ‘animal’ would here be an *idea*, and instantiating does not make the particular object into an idea itself.

144 “Only what is wet in fact can be dried; but something which is merely believed to be an insult may provoke anger.” - Kenny 2003 [1963], p. 135. On the distinction of formal and particular objects and, *ibid.* pp. 131.

145 Scarantino & de Sousa 2021, para. 4.

146 Scarantino & de Sousa 2021, para. 10.1. The only survey response reflecting on any of these was “Stressed and frazzled and tired, but I’m [doing a thing] in about 16 hours so that’s pretty reasonable.” – Daniela (sample 1, 21).

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#### IV.4 CONSTRUAL<sup>147</sup> THEORIES

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Cognitive theories will claim the physical follows from the appraisal<sup>148</sup>, yet despite this being a popular view in psychology, compelling evidence is lacking<sup>149</sup>. Delegating the physical to a mere consequence might be missing how integral it is for determining our physical state. While appraisals may explain certain differences between emotions, they cannot explain the differences in the nature of the feelings themselves, e.g. why anger feels more energetic than sadness.

Emotions can be induced and reduced by drugs<sup>150</sup>, by targeting the somatic state. Does that mean there are no cognitions involved at all? Another explanation is that cognitions follow perceptions of the physical state, instead. In the experiment by Schachter and Singer, where subjects got injected with epinephrine and then exposed to a situation suggestive to either anger or happiness, they reported a congruent emotion – but only if they did not know to expect the agitating effects of the drug<sup>151</sup>. Here, emotion is the labelling of a physical state. This has been criticized for limiting emotion to verbal, conceptual beings (i.e. not available to animals and infants)<sup>152</sup>, but that need not be the case. While this process can easily be imagined as deliberate, conscious and verbal, that is by no means a requirement. The sense-making of the brain from somatic perception does not differ from the process of categorizing perceptions from the external world<sup>153</sup>, e.g. interpreting sounds as words or visual data as shapes.

A different sort of construal involves the construction of emotion from *core affect*, a multidimensional state that is permanently accessible. Russell defines it as “[a] neurophysiological state that is consciously accessible as a simple, non-reflective feeling that is an integral blend of hedonic (pleasure–displeasure) and arousal (sleepy–activated) values”<sup>154</sup>. Hill states they are “of course” having an emotion right now<sup>155</sup> – it might have been core affect they were referring to. A large number of survey responses make claims about their core affect, both on question (1) and question (3)<sup>156</sup>.

In Russell’s theory, core affect accounts for some of the autonomic changes involved, whereas the rest are preparations for an action response and follow perception, attribution and appraisal of core effect in conjunction with the antecedent of the emotion<sup>157</sup>. This attribution can be wrong, or change. Similarly, Frijda describes appraisals as beliefs about what people think of as the causes of their emotion<sup>158</sup>.

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147 Construal is the act of interpretation, while a construction is the creation of something from parts. I chose to name this section construal theories rather than constructionist theories because constructionism implies that the different elements an emotion is made from are part of it. Construal is agnostic about the number of such elements, and whether or not they are part of the result.

148 Prinz 2014, p. 25.

149 George et al. 2003, p. 79.

150 See 2.7.

151 See 2.8.

152 Scarantino & de Sousa 2021, para. 8.2.

153 Barrett 2015, p. 61.

154 Russell 2003, p. 147. While hedonic values have proven to be reliably measurable, this is not so much the case for arousal, Watson & Vaidya 2003, p. 372.

155 Hill (sample 2, 41).

156 I categorized them as “Valence” and “Agitation”, respectively, see fig. 4.

157 Russell 2003, p. 150.

158 Frijda 1993, p. 230.

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These theories also allow for both cultural differences<sup>159</sup> and for individual ones. Construal can be seen as the judgment of core affect under the lens of situation-appropriateness<sup>160</sup>. The conditions of correctness<sup>161</sup> are applied by the subject themselves to decide on an emotion that is appropriate for the attributed object, or conversely, an object might be attributed that fits the chosen emotion best. Williams explains his process of emotion identification thus: “I think a combination of felt senses, and guesses from circumstance”<sup>162</sup>.

A number of survey respondents justified their emotion by describing a situation<sup>163</sup>. A small number stated their circumstances *in lieu of* a feeling to question (1), as if to say “I feel the way this situation feels”, without any need to label this further<sup>164</sup>. A construal view fits these responses well.

## V. DIFFERENTIATING WITHIN

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These theories don’t need to be contradictory. For example, one theory might posit that emotions are physical in nature, while another considers them construals based on physical state. Both might observe the same process – a physical state which, upon perception, then undergoes a cognitive process of construal – yet apply the label ‘emotion’ to different parts of this process. We need not be overly concerned with the precise definition used, and instead look at the ontological claims the different theories make. This section will look at claims about different types of emotion.

### V.1 BODY SIGNATURES

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What claims do somatic theories make about judgments, actions and intentionality? Starting from physiological changes, judgments and actions follow. Intentionality is either explained as a cause, or being constructed later, by virtue of “any mental state that has the function of being reliably caused by something can be said to represent that thing”<sup>165</sup>, or as an embodied appraisal in the form of an action-readiness<sup>166</sup>. Common to all of them is the belief that the physiological changes come first<sup>167</sup>, and are integral to emotional experience<sup>168</sup>. Emotions differ based on their physiological profile or embodied content<sup>169</sup>.

This is clearly compatible with basic emotion theory. While some emotions seem to be basic in the sense that they have their own circuitry or hormones associated with them, their physiological responses aren’t meaningfully distinct from others that don’t and emotions can’t be distinguished clearly and cleanly from each other by their bodily signatures, as we have seen<sup>170</sup>. A possible explanation for this is that they don’t often occur alone, so we usually observe mixtures. A number of survey participants reported multiple emotions or feelings at

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159 Numerous examples of this can be found in Shargel 2014, pp. 135.

160 “the emotion is the best I could find to describe my situation given enough introspection” – Hernandez (sample 2, 15).

161 See 4.3.

162 Williams (sample 2, 3).

163 E.g. “lounging in bed, nice game in front of me” – Roberts (sample 2, 45).

164 “etwas verloren im Code hier” – Jan (sample 1, 10); “als ob ich corona hätte” – Anja (sample 1, 11).

165 Prinz 2004, p. 184. Prinz has later rescinded this view, Shargel & Prinz 2017, p. 123.

166 Shargel & Prinz 2017, p. 123, see also 5.2.

167 Allowing for the possibility of mental states being causes of emotion – but not part of them.

168 Allowing for the possibility that these changes might be imagined, expected or hallucinated.

169 A different view on how concepts can be embodied can be found in the work of George Lakoff, who not only discusses metaphors for emotion as a whole, but also individual emotions like anger (see 2.3). Through language analysis alone, Lakoff identifies as symptoms of anger “increased body heat, increased internal pressure (blood pressure, muscular pressure), agitation, and interference with accurate perception” – Lakoff & Kövesces 1987, p. 5.

170 See 4.3.

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once<sup>171</sup>, and some had even opposing or contradictory emotions at the same time (usually expressed with “but”)<sup>172</sup>.

However, in this view we would need to distinguish ‘basic’ and ‘other’ emotions. The case for this is a lot less strong than for other distinctions. There does not seem to be a difference in phenomenal content, and transition between emotions seems to be fluid, both in physical profiles and feeling<sup>173</sup>.

## V.2 INTENTIONALITY

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A pretty common distinction in contrast is that of intentionality<sup>174</sup>. Intentional objects allow for appraisals that can differentiate emotions among each other, but this leaves emotional experiences without intentionality as a separate category: Moods<sup>175</sup>. Moods are generally considered to be more stable and long-lasting, though these characteristics are not adequately specified<sup>176</sup>.

They might also be characterized by not being an episode, but rather a *disposition*<sup>177</sup>: I might be gloomy for days but only feel sadness when thinking of or experiencing a particular sad thing, or *irritable* until something in particular *irritates* me, making me *irritated*<sup>178</sup>. Emotions, then, are quick and *about* something, whereas moods dispose towards particular emotions, but aren’t themselves emotions<sup>179</sup>.

If moods themselves have no object, but emotions are characterized by their formal object, that would make it implausible that specific moods could be dispositions towards specific emotions. One way of getting around this is by taking moods to have a particular object that is general<sup>180</sup>, the “existential background”<sup>181</sup> or even the whole world<sup>182</sup>, but as with distinguishing them by duration or stability, this makes for a fuzzy boundary and does nothing to explain why we should consider them separate categories at all<sup>183</sup>. A different view assigns moods not a particular, but the formal object. Anxiety would be about danger, but only fear about a particular representation of danger<sup>184</sup>.

I find all this profoundly unconvincing. To me, what is described as mood feels the same as emotion – both have the same phenomenology<sup>185</sup>. Conversely, I would not describe what has no phenomenal content as a mood, or agree that it is dispositional. Actually, personally, I don’t have the impression of my emotions having an intentional object at all, not by them-

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171 “Bored, tired, a little pissed.” – Garcia (sample 2, 8). “Relief, at the same time as some lingering sadness” – Rodriguez (sample 2, 9).

172 “Tired and lazy but slightly excited about the future” – Johnson (sample 2, 2). “Ich fühle mich unausgeglichen, gestresst, gehetzt – aber rundum glücklich.” – Martin (sample 1, 14). “Tired, but happy to be home after a day at work.” – Jamie-Lee (sample 3, 2).

173 See 4.3. One survey participant described their emotional state as both a spectrum and a mixture: “neutral to bored/irritated” – Garcia (sample 2, 8).

174 See 4.3.

175 E.g. Fuchs 2013, pp. 7, Prinz 2004, p. 183.

176 Russell 2003, p. 147.

177 Prinz 2004, p. 183.

178 Garcia (sample 2, 8) uses ‘irritated’ and ‘irritable’ interchangeably.

179 Similar to how emotions dispose towards behaviour, expression, thoughts etc., but aren’t themselves.

180 Prinz 2004, p. 185.

181 Prinz 2004, p. 184, quoting Lazarus.

182 Scarantino & de Sousa 2021, para. 4.

183 Prinz justifies this by claiming “many people have the intuition that moods and emotions differ” – Prinz 2004, p. 183 – an intuition I don’t share.

184 Prinz 2004, p. 183. “Fear represents a specific danger, whereas an anxious mood represents general peril. Anger represents a demeaning offence, while irritability represents the general offensiveness of the world. The formal objects are essentially the same, but the ontic objects differ.”, *ibid.* p. 185.

185 Prinz agrees, Prinz 2004, p. 184.

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selves – I might cognitively assign them one, usually what I consider to be the cause<sup>186</sup>. Something *makes* me angry, but the anger doesn't 'know' what it's about. Objects can shift, I might be angry at one thing and consequently angry at another – one anger disposes towards others, but that does not mean it is not *felt* before, or that, when I direct my anger at something else than its original target, it is now a different anger – it is just anger, to me. To distinguish emotions based on their core relational themes therefore seems problematic.

One possible response is that even when the particulars shift, at least the formal stays the same – that the anger would still be about offence<sup>187</sup>. Again, I need to make use of my own experience: my anger is basically never about an offence or a slight<sup>188</sup>. I get angry at my furniture when I stub my toe, I get angry at the weather, gravity, the passage of time and mornings, and I don't consider any of them an offence against me. Even more often, I feel anger without a theory of what it is directed at. Either the formal objects of emotion aren't universal, or the one for anger was poorly chosen or named, or has to be interpreted in an animistic way<sup>189</sup>, or formal objects are not integral parts of emotion at all.

But we don't need to do away with intentionality completely. What connects an intentional object to the feeling? In appraisal theories, it is a type of cognition<sup>190</sup>, but there are cases where it can be argued that relevant cognition doesn't happen during the course of the emotion at all, e.g. when being spooked<sup>191</sup>. In construal theories, the attribution is post-hoc based on concurrency. But there is yet another way.

In enactivism, the formal object of danger is represented in the something-to-flee-from of action readiness<sup>192</sup>. This can, incidentally, explain both the overlap and the differences in physical signatures, because preparation for an action isn't unique: we might choose a similar response to react to different feelings, and preparing to run or preparing to jump both involves activating the legs. The experience in this view is no longer arbitrary, the feelings associated with emotion make sense in regards to the actions they dispose us towards, in a very physical way. Of course, other conceptualisations like judgments and beliefs that happen before, during or after this process are not affected and may still be present, too – not all is in this form embodied.

Survey respondents, too, were making note of actions or action preparedness<sup>193</sup>. But more often than that, they referenced facial expressions<sup>194</sup>, which, of course, are actions themselves. Emotions play a large role in social interaction and as such are instruments of communication<sup>195</sup>.

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186 See again Frijda 1993, p. 230.

187 Deonna & Teroni 2012, p. 77, Prinz 2004, p. 185. Kenny calls it 'insult', instead (Kenny 2003 [1963], p. 13), and references Aristotle defining anger as "a desire for what appears to be revenge for what appears to be an insult", *ibid.* p. 135.

188 I get angry multiple times a day, but can go months in between episodes of anger directed at a person, but as I've never tried recording all instances of it, I cannot be confident in this estimate.

189 Wherein nature, life or the world is taking action against me whenever I feel anger.

190 But not necessarily the same type as beliefs and judgments, see 6.3.

191 Öhman & Soares 1994, pp. 231. This maps well to Damasio's idea of primary emotions, Damasio 1994, pp. 131.

192 Shargel & Prinz 2017, p. 123. This fits my experience better: I do feel like kicking the furniture I stubbed my toe on despite my foot already hurting, and if I could take a swing at early mornings, I probably would.

193 "bleibe nicht bei einem Thema, versuche alles mögliche gleichzeitig zu machen" – Christian (sample 1, 2). "Anxious, like I'm avoiding something" – Flores (sample 2, 55).

194 For example Markus (sample 1, 22), Anna (sample 1, 23) or Mitchell (sample 2, 44).

195 Shargel & Prinz 2017, p. 114, also Scarantino & de Sousa 2021, para. 8.2.

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### V.3 CONSTRUAL REVISITED

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Lastly, there is the matter of labelling emotion or constructing them. In the survey, a lot of people claimed to have direct access to their emotion, and to just know<sup>196</sup>, yet others emphatically did not: “es gibt ja kein Schild, das hochgehalten wird ‘Hier ist jetzt eine Emotion’. Und das Fehlen dieses Schildes heißt dann im Umkehrschluss, dass man keine Emotion hat. So was gibt's ja nicht. [Pause] Schwierig.”<sup>197</sup>. For others, to know about their feelings requires thinking<sup>198</sup>. Some explicitly consider their response a decision: “I'd thought about the feeling that was in the background of my mind and decided it was restlessness”<sup>199</sup>.

Can we attribute these difficulties to alexithymia<sup>200</sup>? Probably at least some of them. But what is it that is impaired in alexithymia, exactly? We could interpret difficulty naming emotions in at least three ways: either a difficulty identifying that an emotion is present at all, or selecting the correct name to describe it, or reduced affect in general<sup>201</sup>. Some people might actually just have more emotions in the first place than others<sup>202</sup>.

There might be a threshold at which emotion becomes obvious and consciously accessible<sup>203</sup>. That they can vary in intensity is uncontested and evidenced by the large number of qualifiers used by survey respondents to describe their emotional state<sup>204</sup>. That seems to imply that there is a ‘true’ emotion, that people can be wrong about theirs, or may or may not notice.

To the degree that physical and neuronal patterns have been identified<sup>205</sup>, those could theoretically be used to pinpoint the ‘true’, underlying emotion, and correct self-report where it diverges. This matches the intuition that we can (sometimes) tell how other people are feeling, without them telling us, from expressions and behaviour alone, and sometimes even when actively lying.

But can people be wrong about phenomenology? White claims: “Emotions are human constructs. When a thing thinks ‘I'm feeling X’ that's what it means to feel X. (Leaving some for people to mistaken about what they *said* and what they *meant to say*.)”<sup>206</sup>. I am inclined to agree. Again, we must take heed not to equate correctly *naming* an emotion with not *experi-*

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196 “my emotions are direct reality” – Harris (sample 2, 24). “It's a quale, there's no 'how', it's just known.” – Young (sample 2, 31). “it's kinda just there” – Nelson (sample 2, 40).

197 Michael (sample 1, 4).

198 “gerade eine Minute nachgegrübelt und mir ein paar Emotionen überlegt und sie bei mir gesucht” Jan (sample 1, 10).

199 Flores (sample 2, 55).

200 See 2.7.

201 As was reported, for example, in spinal injuries, see 2.4.

202 Damasio describes a patient with frontal lobe damage as “He was not inhibiting the expression of internal emotional resonance or hushing inner turmoil. He simply did not have any turmoil to hush.”, Damasio 1994, p. 44. For an example see also Alexander 2014.

203 While 13 subjects were unsure of their emotion, a larger number (20) were unsure of their *absence* of emotion, 9 of which used the exact phrase “Not really” to question (2). 11 describe a “neutral”, “normal” or “baseline” state. If we consider the induced emotion experiment of Schachter and Singer (see 2.8), this needs not be a particular state, but can be relative – for example, the state that the current physical activity warrants, or one expects to be in after being injected with adrenalin. This also squares well with predictive processing theory.

204 An incomplete selection: “a bit” – Smith (sample 2, 1); “slightly” – Wilson (sample 2, 10); “somewhat” – Thomas (sample 2, 14); “pretty” – Harris (sample 2, 24) and “mildly” – Campbell (sample 2, 43).

205 See 2.5 and 4.2, but none of them have a 100% success rate.

206 White (sample 2, 20).

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encing it. If naming is more of a cultural competence and not about any perceptive reality<sup>207</sup>, this is a third avenue of possible impairment<sup>208</sup>.

#### V.4 CORE AFFECT

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The basis for construal, that which emotion makes sense of, could be circumstances, thoughts, actions, physical state and facial expression, but commonly it is thought to be core affect, with the dimensions of valence and agitation<sup>209</sup>. Does core affect exist<sup>210</sup>, and is it directly available to consciousness? I think there is reason to be sceptical.

Valence, also known as pleasantness or *hedonic tone*, came up in nearly half of survey responses, which at first sounds like a good case for it being a salient dimension of emotional state. Yet most of these occurrences were in reply to the first question (“How are you feeling?”), and the majority of them consisted of statements of being “good”, “fine” or “okay”. I would argue that these are either pleasantries or *summaries*<sup>211</sup>, not direct experiences. A number were also used in conjunction with “but”, for example “Mildly stressed but ok”<sup>212</sup>, with the measure of valence indicating the overall state (sometimes opposite in valence to the named emotion) that might or might not be actually felt<sup>213</sup>. Lopez, feeling “positive and resigned” nevertheless states to “not really” be having an emotion<sup>214</sup>. The idea that we could always tell whether we felt good, or bad, or neutral doesn’t fit with my personal experience either. Sometimes, preferences don’t become clear to me until reflection or repeated exposure – I’d take a second or a third bite before knowing whether I enjoyed a food, or spend a lot of time looking at a piece of art before forming a judgment. Preferences are also to some degree mediated by social desirability<sup>215</sup>.

There seems to be a biological basis for valence in the orbitofrontal cortex<sup>216</sup>, representing experienced and also expected pleasure, and which plays a large role in decision-making, when subjects try to decide between different options<sup>217</sup>. This does not mean that this is consciously accessible<sup>218</sup> – what people claim as their hedonic state could just as well be a con-

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207 See 3.6. In a conversation with a kindergartener, teaching about emotions has much to do with behaviour and expectations of appropriateness, for example by teaching about prototypical situations that are expected to cause particular emotions. If someone’s emotional response does not match these, they would have a harder time naming their emotions correctly.

208 That I consider anger to not be about slights would not speak of any objective truth about anger, then, but just mean I am out of touch with emotional conventions of my culture. Actually, we must consider a fourth explanation: that instruments of measuring emotional competence are not measuring what they purport to measure at all. A notoriously terrible instrument that nevertheless is in current use is the “Reading the Mind in the Eyes” test, for a thorough discussion of its issues see Baggs 2016.

209 There are other suggested dimensions – see Scarantino & de Sousa 2021, para. 8.2. – but I am limiting myself to these two for reasons of brevity.

210 In a meaningful, not constructed way.

211 “I am averaging over the last day or two, with most weight being given to the present moment.” – Gonzales (sample 2, 23).

212 Jones (sample 2, 5).

213 This would make it more similar to a mood (see 5.2) than an emotion – in common language use, we also say “in a good mood” or “in a bad mood” rather than being specific a lot.

214 Lopez (sample 2, 21). No fewer than three subjects name ‘contentment’ as a feeling but claim to not experience any emotion: Thompson (sample 2, 19), Bell (sample 2, 67) and (being “zufrieden”) Becker-Schulze (sample 4-DE, 2). Remember that Magda Arnold considered a positive or negative attitude the defining feature of emotion, though she thought of it as an appraisal, see 4.3.

215 For an account of ignorance to one’s own preferences, see Alexander 2014.

216 In particular the nucleus accumbens, also known as the ventral striatum.

217 Rolls 2014, pp. 469. Values for different sorts of stimuli (e.g. taste, touch) are represented separately, as is negative and positive value (‘reward value’ and ‘punisher value’), loc.cit. However, it has been posited that we may have two or more such systems, which can be at odds with each other, McClure et al. 2004, p. 504.

218 See again Nisbett & Wilson 1977, pp. 231 or 2.1.

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struct, as well. Orbitofrontal cortex activity is a fast-acting system, fluctuating from moment to moment, and not a good match for emotional experience.

The case for agitation, also known as activation or arousal, does not look much better. The physical basis is well understood: the autonomic nervous system, concerned with heart rate, breathing, digestion and other metabolic tasks, is divided into the sympathetic (SNS) and the parasympathetic (PNS) nervous system – one for activation, one for deactivation. The SNS governs the ‘four Fs’ (fighting, fleeing, feeding, mating), whereas the PNS lowers the heart rate, slows breathing and promotes digestion<sup>219</sup>.

Yet conscious access to this state seems even worse than for valence and not measurable well from self-report<sup>220</sup>. Only a small number of survey respondents mention agitation, and a number of those refer to stress<sup>221</sup>, which may or may not be activation<sup>222</sup>. And in contrast to valence, which can be felt but isn’t realized in physical symptoms, the feelings of agitation seem to directly correspond to physical symptoms. Those referring to agitation overwhelmingly do so by listing it as a feeling and substantiating it with these physical symptoms. Only few present agitation as evidence for emotion, not as a feeling itself<sup>223</sup>. If we count claims of tiredness under the umbrella of agitation<sup>224</sup>, this ratio becomes even more skewed.

Overall, I see no reason to separate agitation from other physical states, like temperature or pain, or to group it with valence into a single index. Nor can different emotions be stably placed on the scales of core affect. Happiness can occur at any level of agitation, and thrill-seeking behaviour, revelling in rebellion or melancholia assign typically negative emotions some amount of pleasure. Russell himself admits that core affect is not suitable to distinguish emotions from each other<sup>225</sup>, and multiple emotions can have the exact same values on these dimensions<sup>226</sup>.

In conclusion, none of the sub-groups of emotion – basic and complex, intentional and dispositional, conscious and subconscious, pleasant and unpleasant, high and low agitation – seem particular well-suited to draw either a distinction or present a unifying factor. Emotions seem as vague and diverse as ever. Instead of looking for boundaries within emotional phenomena, we will now turn our attention to other potential distinctions.

## VI. DIFFERENTIATING WITHOUT

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There are two basic approaches to defining a category. One is to find or establish criteria of sufficient and necessary conditions that allow us to look at an entity, evaluate whether these conditions are met or not, and conclude whether it belongs to the category. This approach does not do well with exceptions and elements that meet *most* of the criteria, which is common in nature and particular psychology<sup>227</sup>. The other is to describe *prototypes*, which may or

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219 Sapolsky 2018, pp. 26. The PNS also promotes empathy, which the SNS suppresses, loc.cit.

220 See again Watson & Vaidya 2003, p. 372.

221 For example, Fisher-Ford feels “Pretty good, a bit stressed, but not too much” – Fisher-Ford (sample 4-EN, 5), Jones feels “Mildly stressed but ok” – Jones (sample 2, 5), and Parker, intriguingly, feels “like I was stressed in the past and believe I should still be stressed, even though I'm not.” - Parker (sample 2, 51).

222 It can also be characterized as a physical sensation or an emotion, Barrett 2017, p. 226.

223 E.g. Melanie makes use of “Body scan / Stresskala / Gedankencheck” – Melanie (sample 1, 7), while Christian does both: explaining “Unruhe, Hype, Überforderung” with being “aufgeregt”, Christian (sample1, 2).

224 Which Russell seems to endorse (Russell 2003, p. 184), though there is such a thing as jittery-tired, as every person who has ever been around small children knows.

225 Russell 2003, p. 150.

226 “Anger, fear, jealousy, disgust, contempt, embarrassment, guilt, stress, acute grief, and envy—all are unpleasant high-activation states” – Russell 2003, p. 154.

227 Accordingly, psychiatric disorders commonly have diagnostic criteria that specify a number of conditions, of which a smaller number must be met, for example “Erectile Disorder”, DSM-5, p. 426: <https://cdn.website->

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may not exist in real life, and assign membership to the category based on *family resemblances*, and grade it by how *typical* the element is of the category. This is the approach common language takes<sup>228</sup>.



Figure 6: Do we really make these faces? By Jolanda Müller Garcia, kindersuppe.de.

It has often been suggested that we can identify prototypes for emotions themselves<sup>229</sup>. It is easy to think of a typical instance of sadness, or happiness, or shame, including expressions, actions, causes, physiological changes and associated beliefs<sup>230</sup>. However, these prototypes are rarely found in practice; every emotion has shown itself to be very diverse to the point that they can overlap in all of these components<sup>231</sup>.

This also does nothing to answer the question whether emotion as a single category has such prototypes. Looking beyond common language, what has been proposed as basic emotions seems like it should fit the bill<sup>232</sup>. In this chapter, I will try to determine what their resemblances and differences are to non-emotional states and processes, and whether emotion can thus be considered a natural kind<sup>233</sup>.

Reference	Fundamental emotion
Arnold (1960)	Anger, aversion, courage, dejection, desire, despair, fear, hate, hope, love, sadness
Ekman, Friesen, & Ellsworth (1982)	Anger, disgust, fear, joy, sadness, surprise
Frijda (personal communication [with Ortony & Turner], September 8, 1986)	Desire, happiness, interest, surprise, wonder, sorrow
Gray (1982)	Rage and terror, anxiety, joy
Izard (1971)	Anger, contempt, disgust, distress, fear, guilt, interest, joy, shame, surprise
James (1884)	Fear, grief, love, rage
McDougall (1926)	Anger, disgust, elation, fear, subjection, tender-emotion, wonder

[editor.net/30f11123991548a0af708722d458e476/files/uploaded/DSM%2520V.pdf](https://www.editor.net/30f11123991548a0af708722d458e476/files/uploaded/DSM%2520V.pdf). Example purely chosen because it contains the only reference to alexithymia in the whole book.

228 At least according to prototype theory in linguistics (Ungerer & Schmid 2006, pp. 7), There are some shortcomings of this. Prototypes cannot explain the exclusivity of contrasting categories (something is *either* a dog *or* a cat, never both), and the arbitrariness of category boundaries – how different an entity can be from the central example until it is no longer considered to be within this category (Croft & Cruse 2004, p. 88). A dynamic construal approach (ibid. pp. 92) suggests that categories are context-dependent and construed on the spot.

229 Prinz suggests prototypes of physiological changes (Prinz 2004, pp. 73), other suggestions include facial expressions and other components, Barrett 2017, p. 102. There has also been an extensive study on emotion prototypes in common language, Shaver et al. 1987, pp. 1061.

230 It is those that are usually taught in kindergarten, see fig. 3 and fig. 6.

231 Barrett 2017, p. 103.

232 See table 1.

233 “To say that a kind is natural is to say that it corresponds to a grouping that reflects the structure of the natural world rather than the interests and actions of human beings.” (Bird & Tobin 2022). That does not require sufficient and necessary conditions. Any category where resemblances within are greater than resemblances without reflects the natural world this way.



Mowrer (1960)	Pain, pleasure
Oatley & Johnson-Laird (1987)	Anger, disgust, anxiety, happiness, sadness
Panksepp (1982)	Expectancy, fear, rage, panic
Plutchik (1980)	Acceptance, anger, anticipation, disgust, joy, fear, sadness, surprise
Tomkins (1984)	Anger, interest, contempt, disgust, distress, fear, joy, shame, surprise
Watson (1930)	Fear, love, rage
Weiner & Graham (1984)	Happiness, sadness

Table 1: A Selection of Lists of 'Basic' Emotions, adapted from Ortony & Turner 1990.

## VI.1 PHYSICAL SENSATION

Right away, we can see that neither tiredness nor hunger show up in this list, and pain only once. It seems of the 'four Fs', the primal drives regulated by the sympathetic nervous system<sup>234</sup>, feeding is the odd one out. Three of the others are directly related to emotion: fighting to anger, fleeing to fear, mating to love and lust<sup>235</sup>.

In purely physical terms, fight-or-flight is often named together because the underlying mechanism is the same: an activation response to stress, induced by adrenalin<sup>236</sup>. There is also considerable overlap between signs of aggression and arousal<sup>237</sup>. But while hunger, in contrast, is not primarily social, is linked to one particular organ<sup>238</sup> and one particular hormone (ghrelin)<sup>239</sup>, the case is not clear-cut.

Let's look at other physical sensations, too: pain signals are transported via dedicated nerves<sup>240</sup>, as is itching<sup>241</sup>, and as with hunger, tiredness seems to mainly be determined by one particular hormone (melatonin)<sup>242</sup>. When looking at relevant brain regions, we find that physical sensations<sup>243</sup> – and responses – are processed in the hypothalamus<sup>244</sup>. However, the hypothalamus is *also* regulating the physiological symptoms of emotion<sup>245</sup>. We process pain from injuries the same way as we feel for others, when wincing in sympathy at the misfortune of someone else<sup>246</sup>. Hunger is involved in memory, learning and emotional response, too<sup>247</sup>, and so is pain<sup>248</sup> or tiredness<sup>249</sup>. They can be expressed in the face and recognized in

234 Fighting, fleeing, feeding, mating, see again Sapolsky 2018, pp. 26.

235 But note that lust, as desire, is also only mentioned once. However, in common language use it is more commonly judged to be an emotion than disgust, pity, despair, regret or pride, Shaver et al. 1987, p. 1066.

236 Sapolsky 2018, p. 125. "Whether you're a zebra or a lion, you'll need energy for your muscles", loc.cit.

237 Malamuth et al. 1977, p. 123, though the authors consider biology to be a relatively minor factor in this, *ibid.* p. 130.

238 Or a set of organs, if we want to consider the whole digestive tract.

239 Müller et al. 2015.

240 Actually, there are at least two different types of pain – dull and sharp (Sapolsky 2018, p. 698) and there are different receptors for thermal, mechanical and polymodal pain, Gazzaniga et al. 2014, pp. 179.

241 Dhand & Aminoff 2013, p. 315.

242 NCCIH 2021.

243 Like body temperature, satiety, thirst, heart rate, sleepiness, fatigue ...

244 Gazzaniga et al. 2014, p. 46.

245 Sapolsky 2018, p. 25.

246 Sapolsky 2018, p. 544.

247 Müller et al. 2015. In particular, hunger signals can be construed as anger. MacCormack 2018, pp. 301. A popular advertising campaign by *Snickers* references this with the slogan "you're not yourself when you're hungry".

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others<sup>250</sup>. Certainly, they motivate to action (or inaction)<sup>251</sup>. We could even identify appraisals or core relational themes: pain relates to injury, tiredness to a lack of sleep, hunger to a lack of food. And surely they can also be conceptualized as evolutionary programs, and have a distinct phenomenology, ways they feel like to the person experiencing them.

Some survey respondents definitely consider hunger, pain and tiredness emotions<sup>252</sup>. They are not alone. Cannon notes a great many connections between hunger, pain, fear and anger, and calls all of them “primitive experiences which human beings share with the lower animals”<sup>253</sup>. Barrett proposes: “You could characterize pain and stress as emotions, or even emotion and stress as types of pain.”<sup>254</sup> Pain is so intimately involved in emotion that treating them as separate and impacting each other in a therapeutic context might be less effective than treating their common underlying mechanisms<sup>255</sup>.

So, is it possible to distinguish emotions from physical sensations? In a first step, let’s separate sensations from each other: The thing that sets hunger apart from other feelings is how it relates to reality, its particular contingencies upon it. When I eat, hunger goes away. It happens only when I haven’t eaten (enough). The things that might teach me what hunger is is how it responds to these actions and circumstances. It is similar with tiredness: when I move, I feel sluggish, lying down causes me to drift off, sleeping will make it better. Surface pain is what I feel when experiencing strong impacts, lacerations or abrasions. Touching a wound or bruise will make the pain worse, time will (usually) heal the injury. Pain is limited to the area of the injury, and areas can be mapped to those of touch.

## VI.2 PERCEPTION

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This is what O’Regan and Noë explore in regards to vision. They claim that vision, as all senses, is a “mode of exploration of the world that is mediated by knowledge, on the part of the perceiver, of what we call sensorimotor contingencies”<sup>256</sup>. In vision, these are dependent on the biology of the eyes, and on the particulars of perceiving light. Moving back and forth will cause the image to enlarge and shrink, an object being in the same direction as another, yet closer to us, will obscure the other from view, and following a line with the eyes will cause the line to look the same and only the background to move, whereas crossing the line with our gaze will make it move the same as everything else. It is knowledge of how motor action shapes sensory perception that characterizes ability<sup>257</sup>.

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248 Sapolsky 2018, p. 91. For example, it increases aggression that is already present, but reduces likelihood of aggression otherwise.

249 Especially in regards to irritability, as everyone who has ever shared a home with a toddler knows.

250 Craig 1992, pp. 153, Sundelin et al. 2013, for pain and sleep, respectively.

251 To elaborate, not only will hunger dispose towards eating, it will also cause mental pre-occupation with food, conjure imaginations of looks, smells and taste of food, prepare the body for eating by salivating and contracting muscles for digestion. Pain causes avoidance, sometimes through involuntary reflex, like wincing or pulling the hands away after touching something that caused pain. Pain is sometimes accompanied by vivid mental images of injuries, conceptualizing the injury the pain is communicating, and expressions can be wildly imaginative (e.g. “I feel like my uterus is trying to rip itself apart”, from a private chat). Sleepiness can cause sluggish movements, drooping eyes, general deactivation and might make someone imagine laying down in a nice, warm bed (or nice and cool, depending on the temperature). For some discussion of imaginations and mental images, see 6.4.

252 Stefanie (sample 1, 5), Scott (sample 2, 36), Adams (sample 2, 39).

253 Cannon 1915, vii.

254 Barrett 2017, p. 226.

255 Linton 2013.

256 O’Regan & Noë 2001, p. 940.

257 O’Regan & Noë 2001, pp. 939.

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How does this relate to emotion? If, conversely, the dependency of actions and sensations characterizes hunger, or anger, or tiredness, or all of emotion, in a way that mediated knowledge allows exploration of the world, then it can be considered a sense, in this framework. I will explore this first, before returning to the questions of contingencies, and whether they apply to different emotions differently, or to a unified whole.

Several survey responses are directly comparing emotion to other senses: “I just know how I'm feeling, the same way I know that what I'm looking at right now are my fingers and not narrow sausages.”<sup>258</sup> or “My feelings are part of my immediate sensorium, like vision.”<sup>259</sup>

Is emotion, here, the perception or the that which is being perceived? Damasio, for example, distinguishes emotion and feeling, with emotion being the first and perception the latter<sup>260</sup>. The mode of perception is, then, feeling, as in ‘I feel anger’. Purely somatic theories will side with Damasio, whereas construal approaches will consider the emotion the percept. For the most part this is a matter of semantics, not ontology, in that both observable changes as well as mental categorization of those changes are taking place, no matter which of them to name ‘emotion’<sup>261</sup>. But this distinction complicates the question of conscious and unconscious emotions. When emotion is that which is perceived, it might be present without being perceived at all<sup>262</sup>, or it might be present, perceived, but not noticed (if attention is focused elsewhere). If emotion is the percept, then it can only escape consciousness through inattentiveness. In one case, we can also be in error about our emotion – by misconstruing our perception – while in the other, the construal *is* the emotion. If I misinterpret a shape out of the corner of my eye as a dog, but it turns out to have been a strangely-shaped hedge, then I have still seen a dog. So, was there a dog or not? If emotion is in our perception, then yes, *in our perception* there was a dog (or the emotion, to do away with the analogy). If it is not, then we have erred in *identifying* the emotion, which was not actually present. I see no avenue of settling this matter at this point and will have to remain agnostic<sup>263</sup>. Perception, though, can easily be said to take place in any case.

Perception neatly integrates cognition and physiology: “when we see, or hear, or touch or taste or smell, body proper *and* brain participate in the interaction with the environment”<sup>264</sup>. Instead of having to take a side, a perceptual view straddles the (imaginary) boundary between mental and physical states<sup>265</sup>.

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258 Davis (sample 2, 7).

259 Perez (sample 2, 29). Other responses: “I guess I ‘see’ it” – Collins (sample 2, 52), “I certainly wasn't expecting ‘how do you know?’ It threw me for a bit. I was tempted to just say ‘It's unmediated direct knowledge so it can't be explained, like how you know if you are seeing red’ but I don't think that's quite true.” – Jamie-Lee (sample 3, 2), “how do you know if you're feeling hot or cold?” – Murphy (sample 2, 58).

260 Damasio 1994, p. 270.

261 See 5.

262 If there is an equivalent of looking away in emotion – though vegetative state, at least, is constantly monitored by the hypothalamus, even in sleep, or we would stop breathing. While we have established that vegetative state is of great importance to emotion, other physical states (like muscle tension) and maybe even valence play a role, too.

263 Interestingly, despite them often being mentioned in one breath, this is also a divide between James and Lange of James-Lange theory fame. James describes the constituting effect of physiological symptoms in terms of phenomenology and such identifies emotion as the *perception* of these, whereas Lange argues from the direct manipulation of emotion through physical means, thereby identifying emotion as the physical, itself. Shargel 2014, p. 1.

264 Damasio 1994, p. 224.

265 As do other forms and theories of embodiment. See also enactivism (5.2.) and embodiment in language (2.3.).

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We can compare with other modes perceptions. Some subjects say they just know how they feel when asked how they know<sup>266</sup>. We can easily imagine the same answer to “How do you know what you hear” or “How do you know what you see?”. They might say “I just see it” or “I just hear it”. The most common answer in that vein on the survey was “I feel it”<sup>267</sup>. Feeling is a very versatile word; it can mean touch perception, it can mean a belief or a not strongly held opinion, it can mean phenomenological content in general (“the colour red feels aggressive to me”), empathy (“I feel for you”) and, lastly, it can mean emotion, in particular (which are often also called “feelings”<sup>268</sup>). Phenomenology, in particular, is interesting because it usually arises from perception. It feels some way to eat grapes, and it feels some way to be sad. One arises from taste, another from emotion. Feeling sad and feeling happy, on the other hand, have, despite in some ways representing opposites, much more in common than feeling sad and hearing a sad song. If we consider emotion a singular mode of perception, feeling sad and happy would be the equivalent of seeing light and seeing darkness, something big and something small, or something blue and something yellow: opposites within one sensory mode.

Back to contingencies: do they depend on the specific emotion, or are there common ones? Action-preparedness comes to mind: when angry, it is easier to be hurtful or aggressive and harder to be calm and friendly. If you think of the source (or what you think of as the source) of your emotion, it gets stronger, if you change circumstances or associated, relevant beliefs, emotion can revert back to your baseline or change to another. Emotions can be habituated and become automatic – Prinz describes at length how cultural and individual learning may associate natural, innate affect programs with new triggers or create blends that become salient emotions of their own<sup>269</sup> – having an emotion begets more emotion. Were each emotion a separate ‘channel’, a sense of their own, a mode of experiencing the world, such blending would be akin to synaesthesia.

This seems, so far, to be a case for a unified concept of emotion. What this account cannot do, however, is reject physical states like hunger, pain and tiredness as part of this perceptual sense. When we eat out of appetite, not hunger, when habituation causes us to fall asleep when watching movies we started wide awake, when fear of a supposed injury exacerbates a pain that recedes when we discover ourselves to be unharmed, these same contingencies are at play.

### VI.3 BELIEFS

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There are a number of beliefs that are related to emotional experience – can they *be* emotions? Some consider them even reducible to beliefs<sup>270</sup> – I will explore this thought a bit more.

“I am afraid of spiders” and “I am afraid of this spider right now” and “I am afraid of the spider I saw yesterday” are three superficially similar statements that still convey both different experiences and different information. The first is a general statement – it is true even when I am not having an emotional episode of that kind at the moment. An intentional object is given, but it is unspecific and broad, any spider-related episode will have a particular spider or a number of them, imaginary or real, to attribute the fear to. The second sentence describes such an episode, and gives the object, too. The last has the object, yet again, no as-

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266 See 5.3.

267 E.g. Michael (sample 1, 4), Martinez (sample 2, 11), Walker (sample 2, 28), Hill (sample 2, 41). Variations include: “I don’t feel anything” – Reed (sample 2, 65) and “I feel it in my heart” – Taylor (sample 2, 13).

268 Though I will not go into whether they are true synonyms here.

269 Prinz 2014, pp. 131.

270 Prinz 2014, p. 23.

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sociated experience<sup>271</sup>, despite the object, this time, being perfectly serviceable as a particular object.

Thinking back to appraisal theories, we can rephrase these not as statements of being afraid, but as judgments: “I believe spiders are dangerous<sup>272</sup>”, “I believe this spider is dangerous right now”, “I believe the spider I saw yesterday is dangerous”. But we can easily see that ‘believe’ does not fit well – even in the case of the second sentence, we can *believe* in a danger without *feeling* it<sup>273</sup>. We could replace it with ‘feel’ and cut this section short, or we will need to change something else. To consider appraisals beliefs, we would need something to distinguish danger we can think of level-headed and unaffected from danger that gives us the heebie-jeebies, that constitutes – merely by holding a belief about it – an emotional experience. “I believe this spider is **DANGEROUS**”. We are now imagining ordinary concepts, and a separate class of emotionally relevant concepts, which stand for core relational themes<sup>274</sup>. The sense of urgency, the need to get away, the heightened heart rate, these are now an integral part of the concept of **DANGER**, but not of danger. Is this possible?

Concepts, as we have seen in cognitive metaphors, are not purely abstract, unfelt and unembodied<sup>275</sup>. These metaphors extend beyond use in language, they actually shape how we respond to the concept in practice<sup>276</sup>. Concepts can embody physiological and emotional information<sup>277</sup>. It seems a stretch, however, to ascribe them the power to encompass emotion all by themselves, and does nothing to explain why we should have two separate concepts of danger, one with emotional content and one without. Rather, we should consider ordinary danger embodied to some degree<sup>278</sup>, but belief of its presence not constitutive of emotion.

The perceptual view can solve this: “I *feel* this spider is dangerous” promotes all the implied embodied qualities of the ‘dangerous’ concept to perceptual experience. The same way believing there is an elephant is different from seeing there is an elephant – one implying visual qualia, the other not – feeling implies emotional qualia. They also make different claims about the world<sup>279</sup>. We cannot deny our beliefs, as they cease to be beliefs immediately, and neither can we deny our own perceptions. But we can doubt the correlation of the perception

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271 Which, see 1., is a necessary part of emotion. We can, of course, imagine this sentence being accompanied by fear at the memory, or calling forth a mental image of the offending animal.

272 Replace “dangerous” with “to be fled” for the enactivist view.

273 Gazzaniga et al. 2014, p. 444. This is the inverse of the problem of emotion’s *recalcitrance to reason*: emotion may remain even after the enclosed belief has changed (we realize we were not offended, yet remain angry), or when it was never held in the first place (that spiders are dangerous), see Scarantino & de Sousa 2021, para. 5 and 10.1.

274 Previous criticism of formal objects (see 5.2) still stands, but we can easily modify them to be subject to individual variation. When we culturally learn emotion through facial expressions and knowledge of appropriate situations, we might end up with different conceptualizations of relevant themes. However, this is an ad-hoc rescue that transforms appraisal theories into construal theories.

275 see 2.3.

276 To give just one example: confounding a task of singing back a presented pitch by showing a line that randomly appears thicker or thinner, or is positioned higher or lower will yield strong differences in result whether the subjects are native Farsi or Dutch speakers. In Dutch (as in English or German) pitches of higher frequency are thought of as ‘higher’ notes, whereas in Farsi they are ‘thinner’. The negative impact of the line presentation is only present when it goes against the metaphor of the subject’s language. Note that this task involves no language processing whatsoever. Dolscheid et al. 2013, p. 616.

277 This includes emotional reaction to the mere words, Hamann & Mao 2002, pp. 15.

278 It has (on a scale of 1-9) a valence of 2.95, arousal of 7.32 a dominance of 3.59 according to psychology students (Bradley & Lang 1999, table 1, p. 6), though there are stark sex differences in valence, compare *ibid.*, table 2, p. 20 and table 3, p. 34 – men consider ‘danger’ to be only slightly negative, but there is high variability in the sample, whereas women invariably consider it to be very bad.

279 If emotions are an entirely different sort of judgment, then it seems they are, as e.g. Augustine claims, opposite reason after all. However, it is reason that cannot do without emotion, not the other way round, as even level-headed, rational decisions make use of emotional judgments, see Rolls 2013, pp. 2.

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and the belief: I can be certain of seeing an elephant, but not believe the elephant is actually there<sup>280</sup>. This explains emotional recalcitrance to reason: the feeling of danger can persist despite the belief in it being gone, as they are not the same.

But we can also phrase perceptions as a special kind of belief: “I believe I see an elephant.” To doubt this is not to doubt the elephant’s presence, but to doubt the perception<sup>281</sup>. In this case, it is not the phenomenology of the perception that is doubted, but the identification of it with an elephant. I can be unsure *what it is* I am seeing, but not of seeing what I see. A perception, therefore, has two parts: the ‘raw’ input and the sense-making, construal of them. The perceptual decisions that shape this construal are usually subconscious and involve, besides much of the same elements as other kinds of decision making<sup>282</sup>, figure-ground distinctions<sup>283</sup> and prototypical *gestalts*<sup>284</sup>, but they are fallible<sup>285</sup> and might retroactively be changed<sup>286</sup>.

Several survey respondents describe exactly such (conscious) perceptual decisions, in which they compare their current experience with prototypical emotions: “gerade eine Minute nachgegrübelt und mir ein paar Emotionen überlegt und sie bei mir gesucht.”<sup>287</sup>, “I know the telltale signs of many emotions I usually experience and I don’t feel any of them now.”<sup>288</sup>. Stefanie names an internal “Referenzbibliothek für Gefühle”<sup>289</sup>, which is formed from previous experience<sup>290</sup>.

#### VI.4 DESIRES

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I rejected a view of emotions as beliefs about core relational themes in favour of a perceptual view on the basis that the themes, alone, cannot give rise to the experiential properties of emotion. But conceivably, beliefs and desires, together, can<sup>291</sup>. Is the desire to flee different from fear? Can one exist without the other? It is hard to imagine. What about desires that don’t match a prototypical embodied action response, like the desire to go on holiday, or the desire to scratch an itch, or the desire for some particular outcome of, say, a sports match? Immediately, it becomes clear that all these have phenomenological qualities, and it’s at least not clear that they are *not* associated with emotion. The desire for an outcome one has no

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280 As commonly happens when watching a movie, for example – real elephants don’t feature regularly in my physical surroundings, especially since the last of the Rostock Zoo herd died in 2013.

281 Though this sort of phrasing itself denotes doubt in common language, it implies uncertainty and qualifies a statement of perception with the qualifier “I believe”.

282 Like attractor dynamics or drift diffusion, see Rolls 2014, pp. 432.

283 Like distinguishing a conversation from background noise or a bird from the tree it sits in, or a current emotional episode from a baseline state, or expected baseline based on, say, knowledge of an epinephrine injection, see 2.8 and footnote 203.

284 For example shapes and letters in vision, or prototypical emotions, see 6.

285 Both in the way perception is fallible and in the way decision-making is fallible. We do not have access to the raw processes shaping our decisions, see again Nisbett & Wilson 1977, pp. 231.

286 “Mein erster Gedanke bei der zweiten Frage war, ‘fuck, frag mich morgen nochmal, dann kann ich es dir vielleicht sagen’. Ich brauche manchmal Tage um zu verstehen, wie ich mich gefühlt habe...” – Melanie (sample 1, 7). “Manchmal denke ich darüber nach, was wohl gerade mit mir los ist. Manchmal verstehe ich auch erst Wochen später, was emotional in mir passiert ist.” – Alexander (sample 1, 18). See also 3.6.

287 Jan (sample 1, 10).

288 Bell (sample 2, 67).

289 Stefanie (sample 1, 5). Stefanie also posits confusion about one’s physiological state – which she considers emotional – as a humorous thought experiment: “heh, stell dir vor du hast ein Gefühl und weißt nicht, welches das ist, ob das Schmerz ist oder Frieren und du weißt das nicht. [kichert]”.

290 Stefanie (sample 1, 5), also Thompson (sample 2, 19): “Historically, I have experienced a number of strong emotions - for example great sadness at the loss of a beloved pet, or great happiness on my wedding day. These emotions have a characteristic internal representation in me, and I can’t currently identify any such internal representations”.

291 Scarantino & de Sousa 2021, para. 6.

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power over is called hope<sup>292</sup>. The desire to go on holiday is complicated, it might be motivated by exhaustion or stress, as an avenue of escape and an expression of aversion, or it could be wanderlust<sup>293</sup>. Scratching an itch has a clear relation to one of the physical sensations we couldn't fully disentangle with emotions thus far. And when desires are felt<sup>294</sup>, isn't that exactly the sort of preparedness that enactivism argues for?

But before we hastily equate this, are there emotions that aren't desires? Some emotions seem more diametrically opposed: repulsions, rather. We can express avoidance as a desire to avoid, get away, be somewhere else. But is disgust the desire to be sick, or something else<sup>295</sup>? What about sadness? Guilt? Regret?

For Reizenzein, a proponent of such a belief-desire theory of emotion, desire is not about wanting to do, but wanting things to *be* a certain way. Sadness, in this view, becomes the certainty that things are a certain way and that that the person experiencing it wants them to *not* be that way<sup>296</sup>. Guilt and regret become special cases of sadness: in which the way things are include an action taken by oneself. It is no wonder that this view has support in computational contexts and artificial intelligence: it does away with both the body and actions completely! However, this passive view of desire captures the yearning qualities of hope and regret, which are characterized by there being nothing one can do, despite being motivated towards a state of affairs.

Desires, especially but not only those without associated actions, can give rise to thoughts and mental images<sup>297</sup>. They might be representations of the desired object or state of affairs, but they could just as well concern an aversion. Particularly worry and anxiety is characterized by a preoccupation with the object of worry. Lee, who has "slight anxiety, maybe", says: "My thoughts often come back to subjects that I consider anxiety-inducing, but not too often either"<sup>298</sup>. The content<sup>299</sup> and frequency<sup>300</sup> of the thoughts serves to identify the emotion. The action taken in response to the emotion is not physical<sup>301</sup>, but mental: attention is being directed.

Desires have intentional content, from very specific ones ("I want to hit that person" or "I want to run into this forest and become a hermit") to broad and general ones ("I want to destroy something" or "I want to be somewhere else"). They might be so unspecific to be completely unknown ("I want something but don't know what")<sup>302</sup>. If we consider most emotions to be desires *of the body*<sup>303</sup>, directed towards action rather than states of affairs, the experience of emotions that lack intentionality is accounted for. Anger that is not about anything is still a de-

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292 Hope is, for example, felt by White (sample 2, 20).

293 Wanderlust is a special case of longing, which is associated with love, Shaver et al. p. 1065.

294 Like beliefs, desires can be occurrent or standing: I can be said to desire a holiday (or believe something) even when I am not actively, currently aware of it, Schroeder 2020, para. 2.4. I am only interested in occurrent beliefs and desires, here.

295 The emetic reflex is protective for food poisoning, and similarly innate disgust reflexes promote avoidance of illness and infection, but disgust has a moral dimension, too, Curtis 2013, p. 57.

296 Reizenzein 2009, p. 8.

297 See also footnote 251.

298 Lee (sample 2, 22).

299 Daniela, feeling "stressed and frazzled and tired", says "it's how I'm thinking and what thoughts occur?" – Daniela (sample 1, 21).

300 Schäfer-Schmitz, feeling "Traurig, betrübt, unsicher", describes a "Gedankenkarussell" – Schäfer-Schmitz (sample 4-DE, 5). Boyd-Gomez, feeling "overwhelmed" by anxiety "can't stop thinking" – Boyd-Gomez (sample 4-EN, 7).

301 Not physical in the sense of being a purely mental process, which, of course, can be reducible to a physical process. See footnote 4.

302 Which is akin to an emotion taking the world as its particular object, see 5.2.

303 Which, again, includes physical needs like the desire to eat or sleep.

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sire to destroy, however undirected. Rivera describes the desire-nature of emotion as follows:

“It’s hard to describe what a feeling actually is, but it seems like at a fundamental level I have separate sensations comparable to physical sensations that are either good or bad. If I think about it I can generally connect them to what made me feel that way and/or what the feeling ‘wants’ me to do. For example, I can tell I’m motivated because I have a positive sensation that seems to want me to get work done. I have a negative sensation that wants there to no longer be work to get done/(that I’m pretty sure I wouldn’t have if I didn’t have that work to get done). I have a positive sensation when I think about some activities that I’ll be doing later in the week, so I identify that as me looking forward to them.”<sup>304</sup>

Without going into any depth what desires are, desire theories can be broadly classified as based on action, pleasure, good, attention or learning<sup>305</sup> – all of which are important in emotion, too. Little of what we’ve discussed so far would give us pause, had we replaced ‘emotion’ with ‘desire’ – mostly the idea that physical needs are not usually considered among them.

Is any of this compatible with a perceptual view? It depends what it is that emotion-as-perception perceives. If it is the somatic state, then that doesn’t explain how desires come into play. But we can ask the question in a different way: what sort of information does emotion extract (about the world, the self, the self in the world)? I would claim that it is 1. what is important<sup>306</sup> and 2. what is good and 3. what I need to do about it. Other senses detect affordances in the world<sup>307</sup>, what we *can* do, but only emotion tells us what we *need* to do<sup>308</sup>. In that way, emotions are invaluable in decision-making<sup>309</sup>.

## VI.5 EPISTEMIC EMOTIONS

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When conceptualizing the directing of attention as an action alongside behaviours involving muscles, we must also talk about a class of emotion that concern cognitive processes and knowledge, i.e. epistemic emotions, e.g. interest, curiosity, doubt, certainty, confusion, boredom, surprise<sup>310</sup>. Of these, only interest and surprise show up in lists of basic emotions<sup>311</sup>. And while we usually know we are feeling them when we are feeling them, it is pretty hard to say how, exactly, they feel. They seem to have no *physical* feeling associated with them<sup>312</sup>.

Expressed as desires, this list reads as follows: desire to pay attention, desire for information<sup>313</sup>, desire for certainty<sup>314</sup>, desire for certainty<sup>315</sup>, desire for certainty and understanding,

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304 Rivera (sample 2, 69).

305 Schroeder 2020.

306 Which is another way of asking “Where should attention go?”. This can go wrong when distress at a thought causes reinforcement of it. For a description of this reinforcement loop in “gay OCD” (obsessive worry about imagined homosexuality) see Alexander 2018.

307 “The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill.” – Gibson 1979.

308 This includes self-interest, but also morality.

309 This works mainly by expected pleasure and expected pain, Rolls 2014, pp. 2.

310 Muis et al 2021.

311 See table 1.

312 Although confusion can cause headaches, from personal experience, and Julia (“verunsichert”) reports: “Weil es sich wie ein Würgen anfühlt.” – Julia (sample 1, 1).

313 Muis et al 2021.

314 Usually the certainty that something is *not* true.

315 Specifically, for the certainty to remain, or a desire to not have a belief seen as certain questioned.

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desire to redirect attention, and lastly, desire to pay attention and update previous beliefs<sup>316</sup>. These are not physical actions, so it makes sense they prepare neither viscera nor muscles, but they are mental actions of sorts or states of affairs of the mind. Ronald de Sousa claims: “Emotions provide a framework for our beliefs, bringing some into the spotlight and relegating others to the shade. [...] Emotions are, in part, patterns of attention”<sup>317</sup>. Epistemic emotions seem prime examples of this, undeserving of their place on the fuzzy boundary of maybe-emotions.

Emotions ‘mark’ select stimuli and thoughts as important, to direct conscious attention. This, of course, also applies to physical needs: hunger will make it hard to ignore the smell of food and brings it to attention, pain and itch demand constant attention, too, even when, frustratingly, there is nothing to be done about them, and with tiredness and all of the more prototypical emotions they can, at high intensity, impair normal functioning by preventing focus on anything else. This marking extends beyond the immediate: emotions are intimately involved in the creation of episodic memory<sup>318</sup>, in learning and classical conditioning<sup>319</sup> and in decision-making<sup>320</sup>.

Most survey responses of epistemic emotions named boredom and curiosity, with two additional mentions of confusion and uncertainty. This reflects the willingness of subjects, particular in the online samples (2), (3) and (4), to participate: they were either bored and thus motivated to search for stimulation through a survey, which at the very least delivers prompts of some sort, demanding engagement and thereby, hopefully, alleviating boredom, or their curiosity was piqued by the promise of a survey they knew to be unconventional and unscientific<sup>321</sup>.

Despite their lack of physiological symptoms, I see no reason to exclude epistemic emotions from the general category.

## **VII. WHAT IS EMOTION?**

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Based on the evidence and arguments here presented, I hold the following view:

1. Emotion can be thought of as a form of perception that perceives importance and desires.
2. The perceptual basis of emotion is mainly the physiological state, which embodies action, but also includes valence and whatever gives desires and epistemic emotions their felt qualities.
3. The construal process that identifies, categorizes and names emotion is a perceptual one.
4. Emotion, like any perception, is accompanied by qualia that are associated with the perceptual basis.

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316 Surprise indicates a conflict with expectations or inability to generate an explanation, Muis et al 2021. In predictive processing theory, it is a sign of predictive error.

317 De Sousa 1987, p. 243. Also described as “patterns of salience” in Scarantino & de Sousa 2021, para. 7.3.

318 Rolls 2014, p. 62. It is unclear, however, if physiological needs beyond pain have the same effect on memory creation. People remember life events associated with strong emotion well, like their wedding day or a traumatic event, but this does not usually extend to episodes of strong hunger or tiredness, unless accompanied by emotional distress.

319 See again Gazzaniga et al. 2014, pp. 439, or 2.8.

320 Rolls 2013, pp. 2.

321 See 3.2.

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5. Emotion includes physical needs, epistemic emotions and felt desires, and under this condition seems to be a natural category.
6. Appraisals, actions, beliefs and intentional content are only insofar part of emotion as they are embodied within the perceptual basis.

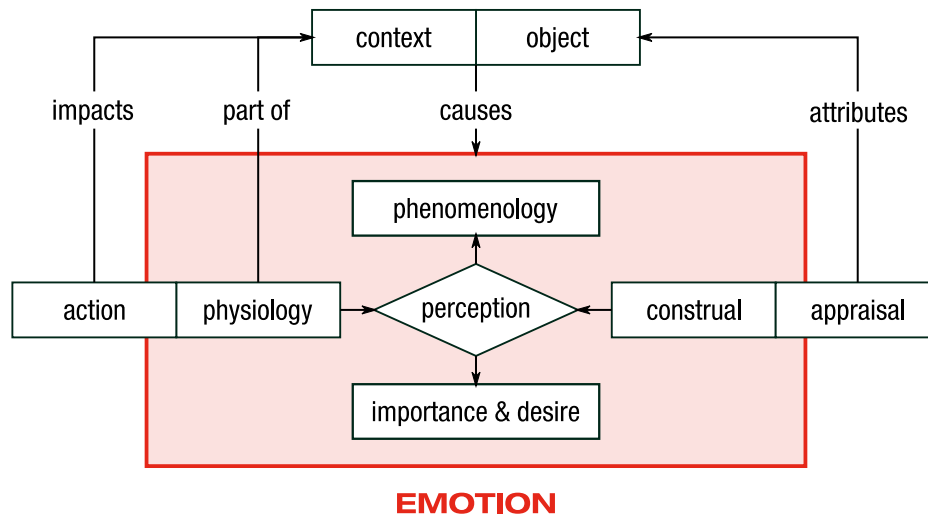


Figure 7: Schematic illustration of the emotional process. By author.

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**IX. SAMPLE 1**

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1. Julia, in person:

Wie fühlst du dich gerade?

- Müde.

Hast du gerade irgendeine Emotion?

- Nö.

Woher weißt du das?

- Jetzt bin ich verunsichert.

Woher weißt du das?

- Weil es sich wie ein Würgen anfühlt. Man geht so nach innen, so hhr [zieht den Kopf zwischen die Schultern]. Aber auch nur wegen der Art wie du gefragt hast.

2. Christian, via chat:

Wie fühlst du dich gerade?

- auf einer Skala von 1 bis 10 bei 6

Interessant.

- wieso?

Und hast du grad eine Emotion?

- ja, mehrere

- Unruhe, Hype, Überforderung

Und woher weißt du das?

- ich habe verbalisiert, was mein Bauchgefühl ist

- ich habe Anzeichen von den Emotionen

Was für Anzeichen?

- ich bin aufgeregt, bleibe nicht bei einem Thema, versuche alles mögliche gleichzeitig zu machen

- aber das beschreibt wieder nur andere Gefühle

- woher ein Gefühl kommt weiß ich nicht

Auch ne Antwort. Danke!

3. Katrin, in person:

Wie fühlst du dich gerade?

- Soll ich darauf jetzt antworten?

Ja.

- Naja. Ganz gut.

Woher weißt du das?

- Weil ich gerade keine Panikattacke habe.

Woher weißt du das?

- Weil ich keine Symptome habe. Also kein Herzrasen zum Beispiel.

Danke.

4. Michael, phone call:

Wie fühlst du dich gerade?

- Nicht besonders gut.

Woher weißt du das?

- Das ist so eine Befindlichkeit. Das spüre ich irgendwie. Ich habe Kopfschmerzen, Schwindelgefühle, solche Dinge.

Und hast du gerade eine Emotion?

- Eine was? [schnauft erheitert] Ich? Jetzt? Nein.

Woher weißt du das?

- Halt, doch, ich bin gerade belustigt, weil du mir solche Fragen stellst.

Und woher weißt du das?

- Ähh. Lass mich mal nen Schluck Kaffee trinken.

[Pause] Ist ne schwierige Frage, es gibt ja kein Schild, das hochgehalten wird "Hier ist jetzt eine Emotion".

Und das Fehlen dieses Schildes heißt dann im Umkehrschluss, dass man keine Emotion hat. Sowas gibt's ja nicht. [Pause] Schwierig.

Das reicht mir auch als Antwort. Danke.

5. Stefanie, phone call:

Wie fühlst du dich gerade?

- Satt.

Hast du gerade eine Emotion?

- Ja, satt.

Woher weißt du das?

- Vergleichswerte.

Vergleichswerte womit?

- Früheren Sattheiten.

Ah.

- Also, meine Referenzbibliothek für Gefühle - heh, stell dir vor du hast ein Gefühl und weißt nicht, welches das ist, ob das Schmerz ist oder Frieren und du weißt das nicht. [kichert]

Ok, danke.

6. Sebastian, via chat:

Wie fühlst du dich gerade?

- Ein bisschen Müde.

Hast du gerade irgendeine Emotion?

- Nix Akutes.

Woher weißt du das?

- Wenn ich sicher sein will, halte ich kurz inne. Schalte alle anderen Prozesse so weit wie möglich ab und warte, was kommt.

Okay, danke!

7. Melanie, via chat:

Wie fühlst du dich gerade?

- Ganz ok

Hast du gerade irgendeine Emotion?

- Nicht wirklich

Woher weißt du das?

- Body scan / Stressskala / Gedankencheck

Super, danke!

- [...] Ich hab aber super viel Therapiehintergrund mit DBT und so und bin wahrscheinlich ziemlich weit im Spektrum...

- [...] Mein erster Gedanke bei der zweiten Frage war, "fuck, frag mich morgen nochmal, dann kann ich es dir vielleicht sagen". Ich brauche manchmal Tage um zu verstehen, wie ich mich gefühlt habe...

8. Stefan, via chat:

Wie fühlst du dich gerade?

- Viel zu warm und ausgelaugt

Hast du grad irgendeine Emotion?

- Nich so richtig

Woher weißt du das?

- Weil ich grad auf arbeit angekommen bin und eigentlich null. Bock hab. Ok. Das is meine emotion. Keine lust zu arbeiten

Und woher weißt du dass du diese Emotion hast?

- Hä? Weil ich mir mein hirn noch nicht ganz kaputt getroffen hab?

Sorry, ich schreib meine Bachelorarbeit über Gefühls-wahrnehmung und sowas und sammel grad Antworten ausm Umfeld :)

- Ok, ja kein ding. Aber uff . Zu erklären, warum man so fühlt, wie man fühlt, is echt hart.

Weils warm is und ich warmes wetter nich mag und lieber draußen filmen würde^^

9. Sandra, via chat:

Wie fühlst du dich gerade?

- Müde und ein bisschen frustriert, weil der Bus Verspätung hat und ich kein Fahrrad mieten kann.

Woher weißt du das?

- ...

Also, wie du dich fühlst, nicht, dass du kein Rad mieten kannst.

- Hätte mir ja denken können, dass das philosophisch wird

:p

Mach ruhig intuitiv, gibt kein richtig oder falsch.

- observation and remembering what's been happening to me in the last fifteen minutes, I guess?

observation of what?

- of my thoughts and actions

- and of things on my phone telling me I can't rent this bike and that the bus is late

Okay, danke!

Wait, your thoughts and actions tell you you're tired?

- Ehhhh.

- I guess not?

- That's more of a physical feeling

But frustration is not?

- Oh Mann ey, du stellst mir ja Fragen

Philosophen halt.

- "But frustration is not?" - It's not physical in origin, at least

Okay, thanks!

10. Jan, via chat:

Wie fühlst du dich gerade?

- Warm, müde, etwas verloren im Code hier

Hast du gerade eine Emotion?

- hm, keine greifbare

Woher weißt du das?

- gerade eine Minute nachgegrübelt und mir ein paar Emotionen überlegt und sie bei mir gesucht. Vielleicht auf dem Weg zu leichter Frustration, aber beim Code schreiben / Debuggen ist der Weg dahin eigentlich noch ein wenig weiter.

Danke!

11. Anja, via chat:

Wie fühlst du dich gerade?

- als ob ich corona hätte

Hast du gerade eine Emotion?

- ich bin aspergerautist

Das heißt?

- das heißt nein

Woher weißt du das? Also, dass du gerade keine hast?

- vermutlich habe ich eine, aber nichts was ich "bestimmen" könnte. also, es gibt emotionen die ich kenne und benennen kann, und die würde ich wohl auch erkennen. da ich das nicht tue, ist die antwort "nein", bzw. "vielleicht, keine ahnung"

Alles klar, danke!

12. Daniel, phone call:

Wie fühlst du dich gerade?

- Müde.

Und hast du gerade eine Emotion?

- Nee. Also neutral.

Woher weißt du das?

- Hää? [Pause] Nachdenken. Ich hab in mich reingehorcht.

Vielen Dank!

13. Nicole, via chat:

How are you feeling?

- I am feeling okay, a headache from overheating but 6/10 overall.

Are you experiencing any emotion right now?

- No, I don't.

How do you know?

- Because [my inner voice] isn't talking right now and having a moment.

Thanks!

14. Martin, via chat:

Wie fühlst du dich gerade?

- ist das die Befragung? oder ne private Frage?

Ist schon die Befragung

- Ah. Okay.

- Ich fühle mich unausgeglichen, gestresst, gehetzt - aber rundum glücklich.

Woher weißt du das?

- Weil ich Aufgaben annehme, die mich stressen, und ich mich währenddessen freue und nach Erledigung Stolz fühle. Und ich jeden Tag, immer mal zwischendurch, lächeln muss über mich selbst, dass ich meinen Tagesplan und Zeiten selbst bestimmen kann. Das macht mich glücklich.

- Dass ich unausgeglichen bin merke ich an erhöhtem Puls, schlechtem Schlaf und dem Gefühl, noch mehr erledigen zu wollen.

Vielen Dank!

15. Nadine, via chat:

Wie fühlst du dich gerade?

- Bisschen müde? Größtenteils gut. Hatte einen langen, aber erfolgreichen Tag. Morgen habe ich viel vor, aber ich habe einen ziemlich genauen Plan. Übermorgen habe ich noch mehr vor, aber es wird schön. Also, ich [mache etwas Schönes] und ich freu mich voll drauf.

- Und ich geh morgen [was Schönes machen], da freu ich mich auch drauf.

Woher weißt du, dass es dir so geht, bzw dass du dich so fühlst?

- Ich merke, dass ich müde bin, weil sich mein Körper schwer anfühlt und ich gerne schlafen möchte, und wenn ich an die nächsten Tage denke, macht mich das glücklich. Und ich weiß, dass ich zumindest keine negativen Gefühle spüre oder mir übermäßig wegen irgendwas Sorgen mache. Sondern ich denke mir eher "Das wird schon".

Alles klar, danke!

16. Dennis, via chat:

Wie fühlst du dich gerade?

- Leichte Rückenschmerzen, noch etwas restzerknittert, aber gespannt-erwartungsvoll bzgl Arbeit und voller Vorfreude auf das Wochenende

Woher weißt du das?

- Reflexion, in-mich-reinfühlen, Selbstbeobachtung

Danke, das war's schon!

- [...] Ich bescheiße aber auch genau genommen. Wir haben auf Arbeit jeden Montag im teammeeting eine wie-geht-es-mir- runde

17. Christina, via chat:

Wie fühlst du dich gerade?

- Hey, sieben von zehn

Hast du gerade eine Emotion?

- Das ist eine schöne Frage

- Keine sehr starke



Woher weißt du das?

- Ich weiß es nicht. Ist ein Gefühl.
- Das war's schon! Danke!

18. Alexander, via chat:

Wie fühlst du dich gerade?

- Uff, ehrlich gesagt, echt nicht gut.

Hast du gerade eine Emotion?

- Hmm, ja. Diverse.
- Genervt; gereizt; Scham; Unzufriedenheit
- Hätte vielleicht noch ein paar mehr

Woher weißt du das?

- Ich übe das seit ein paar Jahren, meine Emotionen bewusst zu benennen

Wie machst du das?

- Ich nutze eine App, die mich 3x täglich danach fragt Und wie findest du raus, was du antwortest?
- Oft kann ich's direkt benennen, weil ich diese Emotionen gut kenne. Ich kann dann schnell aus meinen bisherigen Eingaben auswählen.

Manchmal denke ich darüber nach, was wohl gerade mit mir los ist.

- Manchmal verstehe ich auch erst Wochen später, was emotional in mir passiert ist.
- Spannend, danke!

19. Sabrina, via chat:

How are you feeling right now?

- uh like in what sense

Do you currently have an emotion?

- not really
- I'm hungry

How do you know?

- my stomach feels...bad. it's a physical sensation

And how do you know you don't have a(nother) emotion?

- I don't have any indicator that I do. normally when I feel an emotion it's pretty obvious that I'm feeling something
- right now I don't have any of that, just neutral
- Great, thanks!

20. Thomas, via chat:

How are you feeling?

- Riggts now or in general? Right now I'm at a baseball game with some of my class do I'm having a good time. In general, i feel crappy.

How do you know?

- How do i know when i feel crappy?

Yes, or having a good time.

[three minutes pause] Should I put this down as "no idea"?

- Well, i know what my baseline is so i look for detours from that
- If I'm feeling particularly irritated from a thing happening for a long time, that pings as major to me
- Same for the opposite
- But i tend to think that my emotions fluctuate with events
- If I'm able or not able to do something, I'll feel happy ir sad correspondingly
- I see! Thank you very much!

21. Daniela, via chat:

How are you feeling right now?

- is this the survey?

Actually yes.

-

- Stressed and frazzled and tired, but I'm [doing a thing] in about 16 hours so that's pretty reasonable.

- [Mention of life circumstances]

Do you have any emotion right now?

- A surprising amount. This has not been the usual answer recently

- (ironically, Johnny Cash's Hurt just started playing lol

How do you know?

(not about the music, about the emotions)

-

- Man i'm not sure how to answer that one. its... brain patterns? I feel like a trapped bird whenever I look at any emotions too hard right now. DOn't look at that thought for more than a few moments. Emotions are hard though. idk how to answer that isn't just "I feel that way" it's how I'm thinking and what thoughts occur?

Thank you!

22. Markus, via chat:

How are you feeling?

- 7/10

- It's the weekend which is good and I've been into hockey lately but I am having a rough time at work so it balances out?

Are you experiencing any emotion right now?

- Yes, amusement.

How do you know?

- Physical reaction of smiling and laughing. I've got no idea how to describe mental awareness of emotions.

That's fine. Thank you!

- [...] Emotions feel very physical to me so unless I'm trying to describe boredom, I think I'd always have a physical cue to point at

23. Anna, phone call:

Wie fühlst du dich gerade?

- Animiert. Lebhaft, obwohl ich gerade im Bett bin und gar nicht lebhaft aussehe. Wie viel darf ich antworten? Unbegrenzt.

- Inspiriert. Leicht fröhlich, ein wenig müde, ähm, ja, das war's eigentlich. Animiert, aufgeweckt, amüsiert und lebhaft?

Woher weißt du das?

- Ich hab einen Moment innegehalten und mich selbst beobachtet, aber meine Erkenntnisse dabei haben mich nicht überrascht, also wusste ich's vielleicht schon vorher... Ich habe gesehen, dass meine Mundwinkel oben sind, ich lächle das Telefon an und meine Körperhaltung ist relativ entspannt.

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## X. SAMPLE 2

1. Smith:

How are you feeling?

- Annoyed

Are you experiencing an emotion right now?

- A bit

How do you know?

- Introspection

Additional notes:

- You sound lonely

2. Johnson:

How are you feeling?

- Tired and lazy but slightly excited about the future

Are you experiencing an emotion right now?

- Yes

How do you know?

- I can feel it

Additional notes:

- I feel a lot of things

3. Williams:

How are you feeling?

- Sleepy, happy, not looking forward to Monday but pretty satisfied with Sunday

Are you experiencing an emotion right now?

- Small fragments of a few emotions: excitement, trepidation, frustration, happiness, sadness. All overshadowed by sleepy.

How do you know?

- I'm not sure. I think a combination of felt senses, and guesses from circumstance. But the raw info is usually quite far from my consciousness; unless I am deliberately introspecting, I usually "just know".

Additional notes:

- C, Eb, F, C, G, C, Eb, F

4. Brown:

How are you feeling?

- Eh

Are you experiencing an emotion right now?

- No

How do you know?

- Thought about it, started trying to identify emotion I was having then figured out that the very question somewhat implied that I should be having an emotion and that was the only reason I was trying to identify it, disregarded implication that an emotion existed.

Additional notes:

- Coincidentally(?) earlier today, my wife asked me: Why does it hurt when you bite your tongue by accident but not when you bite your tongue on purpose?

- [lots of blank space] And why are you biting your tongue right now?

- I replied: "I didn't actually need to perform the experiment, I just thought about it hypothetically, biting on purpose, you use much less force than biting by accident."

- Similar 'attempting to lead' rhetoric.

- But you have led me to consider that, just as most people have an internal dialogue, there are a few that don't and are surprised when they learn such a thing exists for others. Do most people always have some sort of emotion going on and I'm one of the few that doesn't?

5. Jones:

How are you feeling?

- Mildly stressed but ok

Are you experiencing an emotion right now?

- Yes

How do you know?

- I notice the discomfort from it, as well as the physical manifestation

Additional notes:

- don't blink

6. Miller:

How are you feeling?

- positive, but apprehensive

Are you experiencing an emotion right now?

- contentment

How do you know?

- ? That's my "conscious" feeling ... weird question, don't think this is going in a sane direction.

7. Davis:

How are you feeling?

- I'm feeling alright, I guess? A bit tired, since it's 1:40 AM, and a bit bored (why else would I take some survey I found online), but not too bad, all things considered.

Are you experiencing an emotion right now?

- A bit of curiosity, now. Why is this relevant to the survey? Is it on emotionally-charged topics? Are you going to discount responses from people who are in a poor emotional state?

I guess I'll find out!

How do you know?

- The same way I know whenever I experience any emotion? I guess that isn't very helpful, sorry. I just know how I'm feeling, the same way I know that what I'm looking at right now are my fingers and not narrow sausages.

Additional notes:

- well that was anticlimactic

8. Garcia:

How are you feeling?

- Bored, tired, a little pissed. I've got the flu and everything sucks.

Are you experiencing an emotion right now?

- Yes although not a very strong one - neutral to bored/irritated.

How do you know?

- Good question. I ask myself 'what am i feeling' and what I turn up is: feeling of emptiness or low pressure in my chest + my mind looks blue and grey -> I am bored, and; restlessness in my legs + tensing of my facial muscles + some indescribable thing in my mind -> I am irritable.

Additional notes:

- cool survey excellent job please advertise on the open thread again when you publish it

9. Rodriguez:

How are you feeling?

- Tired and bleary

Are you experiencing an emotion right now?

- Relief, at the same time as some lingering sadness

How do you know?

- I can feel some hollowness/emptiness in my chest, but it isn't too bad, and the muscles of my face feel warm and relaxed

10. Wilson:

How are you feeling?

- slightly tired

Are you experiencing an emotion right now?

- not really

How do you know?

- it just feels that way

11. Martinez:

How are you feeling?

- Shit

Are you experiencing an emotion right now?

## INTERVIEWS

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- Angst

How do you know?

- I feel it

Additional notes:

- Purple monkey dishwasher

12. Anderson:

How are you feeling?

- kinda hungry kinda fat

Are you experiencing an emotion right now?

- i guess

How do you know?

- i don't

13. Taylor:

How are you feeling?

- Tired, pain in my jaw

Are you experiencing an emotion right now?

- Sadness

How do you know?

- I feel it in my heart

14. Thomas:

How are you feeling?

- dreading the upcoming work week

Are you experiencing an emotion right now?

- somewhat

How do you know?

- physical feelings associated with it

15. Hernandez:

How are you feeling?

- Nauseated

Are you experiencing an emotion right now?

- Discomfort

How do you know?

- The feeling is obvious, physical nausea, the emotion is the best I could find to describe my situation given enough introspection

16. Moore:

How are you feeling?

- Waiting for fullness

Are you experiencing an emotion right now?

- No

How do you know?

- I am at a neutral state

17. Martin:

How are you feeling?

- Meh. Not too good, not too bad. Just waiting around.

Are you experiencing an emotion right now?

- No.

How do you know?

- How do I know I know, or how do I know I'm not experiencing an emotion?

Additional notes:

- The virtue of brevity. Good.

18. Jackson:

How are you feeling?

- I am feeling okay. A little disprited and anxious.

Are you experiencing an emotion right now?

- Anxious

How do you know?

- I can feel it in my gut, through the thoughts in my head mostly when alone but also when around people,

through my actions (and inactions) that may lead to encounters with other people, by the way I sleep (or don't) and wake up,

Additional notes:

- Good luck!

19. Thompson:

How are you feeling?

- Pretty content.

Are you experiencing an emotion right now?

- No

How do you know?

- Historically, I have experienced a number of strong emotions - for example great sadness at the loss of a beloved pet, or great happiness on my wedding day. These emotions have a characteristic internal representation in me, and I can't currently identify any such internal representations

20. White:

How are you feeling?

- Pretty good overall. Work is more stressful than I get paid to put up with and I'm dealing with annoying health issues much sooner in my life than I'd have expected. But I live with the love of my life and have much to be thankful for. How are you? Lol

Are you experiencing an emotion right now?

- Yes, many. Exhaustion (mental, I mean), dread, hope, love

How do you know?

-

Definitionally?

Emotions are human constructs. When a thing thinks "I'm feeling X" that's what it means to feel X. (Leaving some for people to mistaken about what they \_said\_ and what they \_meant to say\_. )

Additional notes:

- Neato

21. Lopez:

How are you feeling?

- Mildly positive, resigned to the rest of the day

Are you experiencing an emotion right now?

- Not really

How do you know?

- I feel like my baseline state

22. Lee:

How are you feeling?

- Ok

Are you experiencing an emotion right now?

- Slight anxiety maybe

How do you know?

- My thoughts often come back to subjects that I consider anxiety-inducing, but not too often either

23. Gonzalez:

How are you feeling?

- Happy. Fulfilled. Optimistic.

Are you experiencing an emotion right now?

- Yes.

How do you know?

- There is an internal voice in my head that says I am feeling those emotions. I am averaging over the last day or two, with most weight being given to the present moment. This is very hard to explain in words :)

Additional notes:

## INTERVIEWS

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- Fun survey. Looking forward to hearing the results of everyone.

24. Harris:

How are you feeling?

- Pretty shitty

Are you experiencing an emotion right now?

- Yes - ennui

How do you know?

- Dumb question - my emotions are direct reality

Additional notes:

- Thanks. As you probably know, people benefit from sharing stuff when they're feeling shitty, so I feel a fair bit better than I did three minutes ago. Thanks again!

25. Clark:

How are you feeling?

- Fine

Are you experiencing an emotion right now?

- Not really

How do you know?

- I don't feel unusual, just going about my morning routine

26. Lewis:

How are you feeling?

- amused and worried

Are you experiencing an emotion right now?

- no

How do you know?

- as soon as I looked for one, it went away

Additional notes:

- I was amused by the survey and worried about birth control hormones and other chemicals in drinking water, as I was the night before, but I only thought of the water this morning because I was asked for my emotional state by this survey.

27. Robinson:

How are you feeling?

- A little tired, a little bored, a tiny bit curious.

Are you experiencing an emotion right now?

- Not really.

How do you know?

- Introspection, I suppose.

Additional notes:

- None.

28. Walker:

How are you feeling?

- content

Are you experiencing an emotion right now?

- yes

How do you know?

- because i am feeling an emotion right now

29. Perez:

How are you feeling?

- Great

Are you experiencing an emotion right now?

- Curiosity

How do you know?

- My feelings are part of my immediate sensorium, like vision.

30. Hall:

How are you feeling?

- Lost, scared, confused, in a haze

Are you experiencing an emotion right now?

- Apprehension

How do you know?

- lordy I don't know. uh, i just do that thing where... you query your emotions... and get an answer?

Additional notes:

- strangest survey i've taken so far... but, like, not in a bad way!

31. Young:

How are you feeling?

- Slightly tired, mostly fine.

Are you experiencing an emotion right now?

- Curiosity I guess. But does it count if it's caused by the survey itself?

How do you know?

- It's a quale, there's no "how", it's just known.

32. Allen:

How are you feeling?

- Overall good, if a bit tired

Are you experiencing an emotion right now?

- Not really, mostly neutral

How do you know?

- I thought about it for a moment

33. Sanchez:

How are you feeling?

- Antsy and jittery

Are you experiencing an emotion right now?

- Yes

How do you know?

- When you think you experience emotion

34. Wright:

How are you feeling?

- Low energy

Are you experiencing an emotion right now?

- Yes (but I changed it after next question)

How do you know?

- Feel in body

Additional notes:

- Thinking about feelings makes them clearer

35. King:

How are you feeling?

- Awwwww yeahhhhhh (lots of gym time, getting stronk)

Are you experiencing an emotion right now?

- The blissful contentment and exhaustion of a good workout

How do you know?

- γνῶσις

Additional notes:

- Also lots of rain, love me some rain

36. Scott:

How are you feeling?

- I'm tired and bored, which is why I clicked on this link to a terribly unscientific survey.

Are you experiencing an emotion right now?

- Sure, feeling tired and bored are emotions.

How do you know?

- Physical signs, like my eyes feeling heavy for tiredness, but most of it is an internal experience.

Additional notes:

## INTERVIEWS

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- i am now less bored?

37. Green:

How are you feeling?

- Not too bad

Are you experiencing an emotion right now?

- No, not really

How do you know?

- Good question, I don't know exactly

38. Baker:

How are you feeling?

- Morose

Are you experiencing an emotion right now?

- Lethargic

How do you know?

- I am immobile and feel it within my body

39. Adams:

How are you feeling?

- Pretty shitty

Are you experiencing an emotion right now?

- Pain

How do you know?

- My brain is registering pain signals from multiple body locations.

40. Nelson:

How are you feeling?

- pretty good i guess. work is a bit annoying, but nothing bad.

Are you experiencing an emotion right now?

- yes. mild frustration with a work problem

How do you know?

- oh. uh. in the same way i experience any qualia. it's kinda just there. if i focus on it too hard to sense what it is it disappears.

41. Hill:

How are you feeling?

- Bored/good.

Are you experiencing an emotion right now?

- Of course.

How do you know?

- I feel it. How else?

42. Ramirez:

How are you feeling?

- Satisfied, as I'm just eating dinner after having been quite hungry.

Are you experiencing an emotion right now?

- Yes. Irritation at the vagueness of the question. Define your terms!

How do you know?

- Intrinsically

43. Campbell:

How are you feeling?

- Tired, mildly curious.

Are you experiencing an emotion right now?

- Shame

How do you know?

- I don't

44. Mitchell:

How are you feeling?

- Comfortable

Are you experiencing an emotion right now?

- Yes. A mild sense of satisfaction.

How do you know?

- A warm feeling in the pit of my stomach and a half-grin on my face.

Additional notes:

- For whatever it's worth, I just caught a business rival making a huge unforced error. It pleases me immensely, especially as I dislike this rival on a personal level, and I'm riding a sort of "high" that is experientially similar to a drug high.

45. Roberts:

How are you feeling?

- Relaxed and content.

Are you experiencing an emotion right now?

- Relaxation

How do you know?

- Low heart rate, lounging in bed, nice game in front of me

46. Carter:

How are you feeling?

- Content

Are you experiencing an emotion right now?

- Not particularly, beyond background contentment.

How do you know?

- Usually, I know due to physical reaction (sweating, increased heartbeat, arousal, whatever) or the need to control such a reaction.

47. Phillips:

How are you feeling?

- tired, relieved and mildly sad

Are you experiencing an emotion right now?

- yes, intrigue, because i'd really like to know what this is about

How do you know?

- i deliberately stopped thinking and focused on my feelings for a bit, so it could be called emotional perception, i guess

48. Evans:

How are you feeling?

- A little blank, listless, unmotivated, but ultimately okay.

Are you experiencing an emotion right now?

- No

How do you know?

- I guess I don't. I'm not feeling a \*strong\* \*named\* emotion like happiness or sadness, which I shorthand to "I'm not feeling an emotion right now," though I don't think it's strictly accurate.

49. Turner:

How are you feeling?

- Fairly well. Been better, been worse.

Are you experiencing an emotion right now?

- No strong emotion right now.

How do you know?

- I'm not sure - "introspection", body feeling - no twisted gut, not very stressed

50. Torres:

How are you feeling?

- Mellow

Are you experiencing an emotion right now?

- No

How do you know?

- I am self-aware to a certain extent

51. Parker:

How are you feeling?

- I am feeling like I was stressed in the past and believe I should still be stressed, even though I'm not.

Are you experiencing an emotion right now?

- Yes - annoyance and relief.

How do you know?

- I thought about it and that's what came back to me.

52. Collins:

How are you feeling?

- Neutral, but with a lot of negative feelings under the surface

Are you experiencing an emotion right now?

- Not really

How do you know?

- I guess I 'see' it

53. Edwards:

How are you feeling?

- Vaguely like I should be more tired than I am.

Are you experiencing an emotion right now?

- No

How do you know?

- Well, if there is any, it's so minor and distant that I can't tell

54. Stewart:

How are you feeling?

- Bemused

Are you experiencing an emotion right now?

- No

How do you know?

- Emotion is an experiential phenomenon. I "know" I'm experiencing emotion in the same way I know I'm conscious. I just ... know.

55. Flores:

How are you feeling?

- Anxious, like I'm avoiding something + a headache

Are you experiencing an emotion right now?

- restlessness

How do you know?

- I'd thought about the feeling that was in the background of my mind and decided it was restlessness

56. Morris:

How are you feeling?

- Feeling nervous but excited

Are you experiencing an emotion right now?

- (See last question)

How do you know?

- Butterflies

57. Nguyen:

How are you feeling?

- Pretty relaxed

Are you experiencing an emotion right now?

- Not particularly strong emotions

How do you know?

- I briefly turned my conscious attention to my emotional state

58. Murphy:

How are you feeling?

- sick, but improving

Are you experiencing an emotion right now?

- a light malaise

How do you know?

- how do you know if you're feeling hot or cold?

59. Rivera:

How are you feeling?

- I'm feeling annoyed at the stuff I have to get done but motivated to do them. I'm feeling slightly ache-y from a minor injury. I'm looking forward to things I'm going to be doing later in the week.

Are you experiencing an emotion right now?

- Yes, the mixture of motivation, annoyance, and something positive like excitement but not as strong

How do you know?

- It's hard to describe what a feeling actually is, but it seems like at a fundamental level I have separate sensations comparable to physical sensations that are either good or bad. If I think about it I can generally connect them to what made me feel that way and/or what the feeling "wants" me to do. For example, I can tell I'm motivated because I have a positive sensation that seems to want me to get work done. I have a negative sensation that wants there to no longer be work to get done/(that I'm pretty sure I wouldn't have if I didn't have that work to get done). I have a positive sensation when I think about some activities that I'll be doing later in the week, so I identify that as me looking forward to them.

60. Cook:

How are you feeling?

- I'm tired

Are you experiencing an emotion right now?

- Anxiety maybe

How do you know?

- I feel anxious

61. Rogers:

How are you feeling?

- ok

Are you experiencing an emotion right now?

- ennui

How do you know?

- I don't. I have no present emotional state - my present emotional state is determined by future circumstances, not present circumstances or past ones. In the future, it may turn out to have been the case that my present feelings are different from what I presently think they are.

62. Morgan:

How are you feeling?

- Well, very slightly tired

Are you experiencing an emotion right now?

- no

How do you know?

- When I said no, I meant that I didn't consciously feel an emotion. That being said, if I feel an emotion right now, it cannot be that strong, or I would notice it.

63. Peterson:

How are you feeling?

- ok

Are you experiencing an emotion right now?

- no

How do you know?

- I'm completely calm

Additional notes:

- feelings are gay

64. Cooper:

How are you feeling?

- Fine.

Are you experiencing an emotion right now?

- No.

How do you know?

- I thought about it.

65. Reed:

How are you feeling?

- Normal, neutral, a bit nervous for my friend who's about to take an important test

Are you experiencing an emotion right now?

- No

How do you know?

- I don't feel anything. Hard to answer!

66. Bailey:

How are you feeling?

- Fine

Are you experiencing an emotion right now?

- No

How do you know?

- Introspection

67. Bell:

How are you feeling?

- Content, bit anxious

Are you experiencing an emotion right now?

- Not really

How do you know?

- I know the telltale signs of many emotions I usually experience and I don't feel any of them

Additional notes:

- :3

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## XI. SAMPLE 3

1. Mary-Lou:

How are you feeling?

- Normal

Are you experiencing an emotion right now?

- I don't think so

How do you know?

- Emotions usually feel a certain way, and I sat and thought about it and didn't feel any particular way?

Additional notes:

- While considering my answer to question 2, I did feel slight confusion, but didn't mention it because that was not the question (I wasn't experiencing slight confusion when the question was originally asked), and also I'm not convinced confusion is an emotion vs. a physical state situated in the brain like forgetfulness or sleepiness. But emotions are arguably also physical states situated in the brain. So what's an emotion, anyway? Is sleepiness an emotion? Hmm.

2. Jamie-Lee:

How are you feeling?

- Tired, but happy to be home after a day at work.

Are you experiencing an emotion right now?

- Happy to be home, somewhat bothered by the need to go to the kitchen to make dinner.

How do you know?

- Because I'm having generally positive thoughts on top of a pleasant background of relaxation.

Additional notes:

- I certainly wasn't expecting "how do you know?" It threw me for a bit. I was tempted to just say "It's unmediated direct knowledge so it can't be explained, like how you know if you are seeing red" but I don't think that's quite true.

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## XII. SAMPLE 4-EN

1. Hayes-Wallace:

How are you feeling?

- Happy and relaxed

Are you experiencing an emotion right now?

- Yes

How do you know?

- Physical sensation

Additional notes:

- Good reminder for self awareness

2. Hamilton-Webb:

How are you feeling?

- Good

Are you experiencing an emotion right now?

- Boredom

How do you know?

- I feel?

3. Freeman-Russell:

How are you feeling?

- Good

Are you experiencing an emotion right now?

- Motivated

How do you know?

- I am working on some extra items for job.

Additional notes:

- NA

4. Crawford-Owens:

How are you feeling?

- Kinda anxious?

Are you experiencing an emotion right now?

- Yeah basically

How do you know?

- My stomach hurts lol

Additional notes:

- Thanks for breaking me out of the daily routine

5. Fisher-Ford:

How are you feeling?

- Pretty good, a bit stressed, but not too much

Are you experiencing an emotion right now?

- Relaxed

How do you know?

- Because I am in tune with my body

Additional notes:

- Good luck with your terribly unscientific survey!

6. Porter-West:

How are you feeling?

- I'm feeling great!  
Are you experiencing an emotion right now?  
- yes  
How do you know?  
- because I am feeling lonely

7. Boyd-Gomez:  
How are you feeling?  
- Overwhelmed  
Are you experiencing an emotion right now?  
- Anxiety  
How do you know?  
- My skin is oily and I can't stop thinking

- Mach ich an physiologischen Merkmalen fest, Herzschlag etc.

7. Roth-Sommer:  
Wie fühlst du dich gerade?  
- Gut  
Hast du gerade eine Emotion?  
- Ja glücklich  
Woher weißt du das?  
- Weil ich glücklich bin  
Zusätzliche Notizen:  
- Weird

### **XIII. SAMPLE 4-DE**

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1. Schwarz-Müller:  
Wie fühlst du dich gerade?  
- Schlecht wegen meiner Masterarbeit  
Hast du gerade eine Emotion?  
- Angst  
Woher weißt du das?  
- Ich fühle es  
Zusätzliche Notizen:  
- Was ist das für eine Umfrage hahahaha

2. Becker-Schulze:  
Wie fühlst du dich gerade?  
- Unbeschwert, gelassen, zufrieden  
Hast du gerade eine Emotion?  
- Nein, keine starke Emotion  
Woher weißt du das?  
- Weil ich in mich höre

3. Hofmann-Wolf:  
Wie fühlst du dich gerade?  
- Gut  
Hast du gerade eine Emotion?  
- Freude  
Woher weißt du das?  
- Fühle

4. Keller-Franke:  
Wie fühlst du dich gerade?  
- Entspannt  
Hast du gerade eine Emotion?  
- Ja, zufrieden  
Woher weißt du das?  
- Introspektion

5. Schäfer-Schmitz:  
Wie fühlst du dich gerade?  
- Betrübt, traurig, unsicher  
Hast du gerade eine Emotion?  
- Traurig, betrübt, unsicher  
Woher weißt du das?  
- Bauchschmerzen, Nervosität, Gedankenkarussell  
Zusätzliche Notizen:  
- Mein Praktikum ist echt scheiße.

6. Horn-Wagner:  
Wie fühlst du dich gerade?  
- gestresst und müde  
Hast du gerade eine Emotion?  
- verzweiflung und stress  
Woher weißt du das?



**XIV. ERKLÄRUNG ÜBER DIE SELBSTÄNDIGE ABFASSUNG EINER SCHRIFTLICHEN ARBEIT**

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Hiermit erkläre ich, Klaus Rössel, Matrikel-Nr. 218202679,

Studiengang BA Philosophie,

- a. dass ich die vorliegende Arbeit selbstständig und ohne Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe;
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- d. dass die Arbeit bisher in gleicher oder ähnlicher Form keiner anderen Prüfungsbehörde vorgelegt wurde;
- e. dass ich mich als Studierende\*r der Universität Rostock den „[Regeln zur Sicherung guter wissenschaftlicher Praxis und zur Vermeidung wissenschaftlichen Fehlverhaltens an der Universität Rostock](#)“ verpflichtet fühle;
- f. meine Kenntnis davon, dass **Plagiate** eine Täuschung und ein schwerwiegender Verstoß gegen § 3 Abs. 2 Nr. 2a. der o.g. [Regeln zur Sicherung guter wissenschaftlicher Praxis](#) sind. Unter einem Plagiat versteht man hiernach die „Verletzung geistigen Eigentums in Bezug auf ein von jemand anderen geschaffenes geschütztes Werk oder von anderen stammende wesentliche wissenschaftliche Erkenntnisse, Hypothesen, Lehren oder Forschungsansätze durch die Übernahme von Texten, Ideen oder Daten anderer ohne eine eindeutige Kenntlichmachung des Urhebers.“
- g. meine Kenntnisnahme davon, dass meine Arbeit gemäß § 12 Abs. 7 und 8 RPO-Ba/Ma und § 17 Abs. 9 und 10 RPO-LA einer **Plagiatsprüfung** unterzogen werden kann.

Mir ist bekannt, dass eine Prüfungsleistung, die nachweislich ein Plagiat darstellt, prüfungsrechtlich eine Täuschung ist und mit „nicht ausreichend“ (5,0) beziehungsweise „nicht bestanden“ bewertet wird. Ich weiß, dass die Aufdeckung eines Plagiatsfalles dem Prüfungsausschuss gemeldet wird und mit meinem Ausschluss von der Erbringung weiterer Prüfungsleistungen geahndet werden kann. Dies kann zur Folge haben, dass ich mein Studium nicht fortführen kann.

Für die eventuelle elektronische Überprüfung im Plagiatsverdachtsfall reiche ich eine digitale Version der vorliegenden schriftlichen Arbeit bei dem\*der Prüfer\*in ein.

Rostock, \_\_\_\_\_  
(Abgabedatum)                      (vollständige Unterschrift)