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The creation of concrete real experience
Perception, affect, duration and emotion

by Chris Lawer

Umio white paper | July 2024

Introduction

In this paper, I explain the nature, formation, and differentiation of concrete real experience. I do so through the related dimensions of perception, affect, duration and emotion. I begin by defining a framework that synthesises current meanings and uses of the phenomenon of affect.

Explaining affect

The word affect has many different interpretations. It is both a noun and a verb, is confused with emotion and feeling, and is often conflated with effect. In this paper, I address the perplexity of *affect* by defining a *conceptual arrangement of affect dimensions and elements* that synthesises hitherto (typically) distinct perspectives concerning their presence, content, formation, expression, and power. Deploying this arrangement within an experience ecosystem ontology, we can see how affects dynamically form, differentiate and variously sediment or stabilize certain qualities, intensities, and repetitions of real experiences in any dynamic socio-cultural with material-spatial context.

The five dimensions making up an affective arrangement in an experience ecosystem ontology are:

1. PRESENCE the virtual pre-interactional, pre-experience autonomous presence of potential affects in relations of socio-cultural and material-spatial entities, affectees and affectors, and their unconscious and conscious actualisation in the embodied experience of living bodies
2. CONTENT the content of affects as pre-emotion, autonomic, proprioceptive, interoceptive and exteroceptive sensations, impressions and feeling or affective states
3. FORMATION the intensive interactional production of affects via individual embodied, enactive encounters and events with bodies and entities
4. EXPRESSION Affect as an empowering, adequate or limiting idea (sense of …), gestural, bodily or narrative expression (emotional schema) and outcome of an encounter between two or more bodies or entities and the diminished or enhanced, aided or restrained affective capacities or powers of the body or bodies that result (and which shape the affective stake of subsequent encounters and their modulation by a body's capacity and disposition to affect)
5. POWER Affects as flows, fluxes and registers of location, content production and force that generate and sustain social-cultural and material-spatial power dynamics, and which form, settle and differentiate real experiences.

To unify the above five dimensions, I introduce a ten-step process of affect formation in real experience that emerges and flows through them all, a process inherent to Umio's experience ecosystem ontology. First, I explain what affects are and introduce some of the language I use (and have invented) to help understand them.

What are affects?

Affects are the generative material that form, organize and differenciate[1] whole real experiences arising from embodied human (or homo ecosystemus) interactions. They have two related essential dimensions and roles in the formation and differenciation of real experiences: sensations and capacities (which I explore further below).

[1] I use the term "differenciate "with a "c" to denote the process of beComing different and actualized in real experience. This is distinct from differentiate with a "t" meaning to distinguish differences in ideas, things or entities before they are actual or when they are actualized.

- **Affects as sensations**: Affects are sensations, feeling states and impressions that mark transitions within and between real experience states. Actualized via interactions in four relational affective domains (social-cultural, material-spatial, bodily-motor and perceptual-cognitive) affects themselves interact, combine and can fuse together to qualitatively differenciate and variously stabilise and reproduce real experiences.
- **Affects as capacities**: Affects also determine what a person can be and do, or their potential capacity to affect or be affected by other persons and non-human entities in interactions within the four affective domains. As an *affective capacity*, affects are a *power for creating and acting* in and upon real experience, whether to be affected or to affect – positively or negatively - when entering into relations and interacting with persons or entities (or collectively, other bodies) in the four domains.

In Table 1, I show examples of affects as sensations and affects as affective capacities. Both are drawn from a recent (2020) Umio study of real experiences with chronic pain that I conducted in Northern Ireland.

Affectees and affectors

I introduce two important new terms, affectee and affector. An **affectee** can be an individual person, a family, neighbour(s), a community, or a social group of any kind (ethnic, gender, age, political or religious affiliation, patient group) or even a place or space that is experiencing affects and has a degree of affective capacity. An **affector** can be another individual person, family, neighbour, community, social group, or organization that is directly or indirectly responsible for generating or influencing affects and affect capacities being experienced by the affectee. An affector is also an "experiencer" but I distinguish them from affectees to discern important relational cause-affects (not effects) that provide better explanations of the production, differenciation and persistence of real experiences. Also, an affector may be a non-human natural, material or semiotic entity, such as polluted air, a drug, device, a digital technology or an objective universal representation of a type or state of an illness such as a symptom description or a score.

I use *affectee* and *affector* to escape the straitjacket of anthropo- and actor-centric thinking that dominates the study, design, management, and innovation of experience in ecosystems thinking. Ongoing use of actor labels such as patient, informal caregiver, doctor and pharmacist tend to objectify, harden and even narrow perspectives of roles, agency and practices. By introducing new language, I have more freedom to explore the widest possible set of human and non-human agents involved (actively and passively) in creating, modifying, or limiting affects and affective capacities forming real experiences. Most importantly, a linguistic detachment and renewal facilitates my search for more holistic, novel, and deeper understanding and explanation of the origin, emergence, persistence and decline of any *focal experience context* such as chronic pain. Making another linguistic shift, I now define what I mean by this term.

Table 1: Example affects and affective capacities from Umio chronic pain study organised by four affective domains

AFFECTIVE DOMAIN	AFFECT	AFFECTIVE CAPACITIES
SOCIAL-CULTURAL	• Sense of being blamed by others • Sense of not belonging to a social group • Sense of rejection • Sense of unwanted loneliness (itself a social construct) • Sense of being a burden or of dependency on others • Sense of loss of intimacy with a partner • Sense of grief at loss of partner • Sense of isolation or withdrawal from social life	• Capacity to work regular hours / to a routine • Capacity to socialise with others • Capacity of dependents (and their dependents) to be socially mobile • Capacity to obtain useful help with pain when needed • Capacity to find and choose suitable employment when living with pain
MATERIAL-SPATIAL	• Sense of unwanted dependency on a digital technology • Sense of being quantified or objectified by data • Sense of anxiety when outdoors in the local neighbourhood • Sense of insecurity in my own home • Sense of losing control of medication use • Sense of material deprivation • Sense of having limited movement	• Capacity to avoid a dependency on technology to intermediate social connections • Capacity to use digital pain self-management tools • Capacity to choose suitable places and spaces to visit or navigate in built environment • Capacity and desire to leave the house • Capacity to be comfortable in the home
BODILY-MOTOR	• Sense of pain arising from a persistent load on a part of the body • Sense of pain arising from a primary pain syndrome, e.g., fibromyalgia • Sense of pain arising from trauma, whether injury or surgery-related • Sense of pain linked to specific activity/motor movement • Sense of low or no physical energy • Sense of loss of bodily strength • Sense of fatigue	• Capacity to take compensatory actions to reduce pain that work consistently • Capacity to appropriately question / challenge GPs advice • Capacity to communicate pain experience and affects to GP/clinicians • Capacity to access / obtain pain care and support when needed • Capacity to understand relationship between intensity of activity and a pain response
PERCEPTUAL-COGNITIVE	• Sense of lost personal identity • Sense of always waiting for something to happen • Sense of loss of personal autonomy • Sense of living day-by-day or only in the present • Sense of a loss of power • Sense of diminished free will or freedom • Sense of a lack of progress • Sense of diminished hope	• Capacity to develop a useful "pain memory" • Capacity to see pain and its causes as "beyond the body" • Capacity to identify and recall personal physical/motor factors forming an experience of pain • Capacity to understand how personal outlook / mindset affects pain experience • Capacity to achieve effective pain self-management negated by non-pain affects

Focal experience context

Any experience originates, differenciates and variously endures from either a single intensive affect or more commonly from a multiplicity of individual affects and affective capacities that move, combine and fuse together like several notes forming a chord or a melody in a song. An affect lens can be applied to any *focal experience context*, a term I use to select and frame enquiries into qualitatively distinct and recurring real experiences defined by a *particular type, relation and quality of affects and affective capacities*. A focal experience context can be one or combination of the following:

- A physical disease or illness such as type 2 diabetes, chronic pain, cardiovascular or respiratory disease (defined primarily by bodily-motor affects in combination with certain affective capacities in the four affective domains)
- Mental illnesses such as depression and schizophrenia (defined by mainly perceptual-cognitive affects also in combination with certain affective capacities in the four affective domains)
- Behavioural problems such as drug addiction and eating disorders (expressed in material-spatial affects)
- Chronic multi-disease states such as obesity (defined by affects and affective capacities in all four domains)
- Existential being states such as insecurity, unwanted loneliness, and hopelessness (perceptual-cognitive and social-cultural affects)
- Experiences of social problems such as racism, inequality, bullying, violent crime and domestic abuse. An affect lens supports systemic-level insights and interventions into these real experiences also.

Real duration

It is important to understand how affects differenciating real experience are sensed in individual psychological rather than spatial, representative, or objective time (i.e., hours, minutes, or seconds). This personal sense of time – or real duration[2] – serves as the plane of composition upon which affective capacities provide powers to discover, construct and reconstruct affects forming real experience on a continuous basis. Real duration can be an important diagnostic differentiator in certain real experiences with disease and illness characterised by a distortion of real duration as well as space. For example, persons with major depression can experience a sense of time *slowing down* whereas persons with schizophrenia suffer from an *abnormal time experience* (or what's known as ATE) in which they become detached from a sense of time[3]. The fields of phenomenological psychiatry and psychopathology study such temporal distortions in mental illnesses, distortions that tend to be marginalised by more readily observable behavioural descriptors. They pursue systematic accounts of subtle and hidden changes in people's actual real experience with mental problems and seek to reconstruct the interactional affective framework in which they arise.

[2] See Henri Bergson's Matter and Memory (1896) for a description of real duration and of differences in kinds of experience arising in a continuous multiplicity of affects. Bergson emphasized the subjective quality of experienced time as opposed to the objective, spatial externalized character of dated time counted in hours, minutes and seconds.

[3] For a seminal psychopathological study of lived time in disease experience, see Eugene Minkowski's Lived Time (1933)

The process of affect creation, emotion, and sedimentation in real experience

Affects form, actualize and differentiate individual real experiences arising from the dynamic interaction of ten emergent, enactive and embodied dynamical processes and transitions that occur across, within and between the *interior vertical* (perceptual-cognitive and bodily-motor) and *external horizontal* (social-cultural and material-spatial) axes in Umio's whole unified model of the production of real experience. The ten processes and transitions (with their corresponding number and direction annotated on the model shown in figure one below) are as follows:

1. EXTERIOR VIRTUAL FIELD OF PRE-EXPERIENCE, PRE-SUBJECTIVE, PRE-INDIVIDUAL AFFECTS

Humans exist in a virtual field[4] of coalescing interactional flows coursing over the social-material body. These flows consist of relations of different socio-cultural and material-spatial entities which bear potential qualities and intensities of pre-experienced, pre-subjective or pre-individual affects. Such entities are real in a virtual sense in that the abstract idea or possibility of affect and experience creation or transition they bear pre-exists a human interaction or encounter with them.

2. AUTONOMIC INTERVAL SENSATIONS

Affects can first actualize in individual experience in a short pre-conscious interval of autonomic and peripheral nervous system reactions to immediate encounters with individual and relations of socio-cultural and material-spatial entities in the virtual field (see process 1 above). The bodily autonomic system is the part of the peripheral nervous system that is responsible for regulating involuntary body functions, such as heartbeat, blood flow, breathing, and digestion. A pre-conscious phase of autonomic sensations - thought to be of 0.5 seconds duration - suggests that human consciousness is not individually pre-determined, and thereby questions the idea of free will (and the idea that the brain is always in control). At a basic level, sensations producing affective states (see process 7) and emotions (process 9) such as fear are modulated by the functioning of the peripheral nervous system and in the case of fear, the irregular responses of respiratory and heart functions.

3. BODILY PROPRIO- AND INTERO-CEPTIONS

Affects as embodied sensations arise also from pre-noetic (below the level of conscious monitoring) and conscious perception of 1) schema, movements and connections of one's own bodily parts (known as proprioception or kinesthesia) and 2) interoceptive somatosensory intensities of physiological states, conditions and transitions arising from within or on the body. These include sensations of pain, itch, temperature, comfort, fatigue, hunger, thirst and gastrological activity, and of bowel and urinary urges or absences. Such somesthetic sensations might define, enable or limit perception and action possibilities, as well as shape and distort cognitive functioning.

4. CONSCIOUS EXTEROCEPTIVE PERCEPTIONS

Affects arise too from variously directed and shifting conscious perceptions of external social-cultural and material-spatial entities in the virtual field as well as of one's own "body image" (how the body shows up for consciousness) in the bodily-motor affective domain or register. Conscious perception usually serves intentional action-decision, utility, movement/rest, communication and/or consumption as we "cut-out" and, also, return useful entities from and to the virtual field in our perceptual gaze.

[4] There is also a virtual pre-individual field of pre-formed matter prior to their intensive production into forms of bounded entities, what Gilbert Simondon calls the 'particle germ field' of pure differentiation.

A material entity or object – such as the example of a hammer used by Heidegger – when being used in the present moment may slip out of our consciousness as we perform the action; a movement out of unconscious perception-action that Heidegger called 'ready-at-hand', an out-of-perception state that defines our most usual way of being in the world. However, should the hammer's head suddenly fly off when hammering, the hammer suddenly returns to our perception to become what Heidegger referred to as 'present-at-hand'. This movement of an entity from *ready-at* to *present-at-hand* in performative doing or action generates affects (such as a sense of surprise, sense of pain, or sense of disbelief when the hammer head flies off and hits our head) and emotions (anger, frustration, annoyance – see process 9) in present experience. It is an example of the enaction of affects from the virtual field and their movement into our cognition described in processes 1 to 7 here.

5. COGNITIVE CAPTURE OF SPECIFIC AFFECTS IN THE PRESENT

Embodied cognition locates certain autonomic, proprioceptive, interoceptive and exteroceptive affective sensations produced in processes 2, 3 and 4, can generate additional interoceptive sensations associated with prior experience, and ascribes to them a particular quality and intensity of feeling and impression in the present moment.

Not all affects are captured in immediate perception. Some may be continuous forming a background perception that accompanies any interaction, as when someone is in constant pain. Often, affects may be observed and captured by other persons. When they are, affects bear a potential to generate and modulate social interactions intersubjectively. They pass between humans and living species in the virtual field; they are still real even if they are not actualized in one's own personal experience. This affective interaction in perceptual and cognitive interactional flows constitutes the dynamic intensive generative, structuring and sedimenting base matter of power relations and interactions in society, or affective societies.

6. MEETING OF MEMORY WITH GENERATED AFFECT

Memory (composed of recall, idea and expectation) comes to cognitively captured affect(s) and may produce (if it has arisen previously) an extended representation of transitioning affect(s) in an embodied schema consisting of a) their situation and origination (if known) in an extended (mind) open field composed of relations of bodily-motor, social-cultural and material-spatial entities, b) knowledge of their prior occurrence, properties, cause, tendency to occur and expectation to re-occur in this field and c) an engagement with one or more potential actions moderated by the affordances of their utility, necessity and/or desirability of a potential transition in an existing affect, or production of new affect(s).

7. PRODUCTION OF AN AFFECTIVE STATE

All the above enactive processes and transitions may occur simultaneously depending on an individual person's perceptual-cognitive capacities and abilities, which might be diminished or distorted, stable or unstable, and, also, whether an action is being performed with or without an external entity (e.g., an object, space, person, group of persons). Such affect production may generate embodied self-perception of a defined affective state in the present moment. This may become apparent to other persons via its kinematic representation in the face, in a gesture, vocal tone, in the movement or the externally perceived schema of the body (as when we say, 'she appears a bit down today', 'he looks like he is in pain', etc.) as well as observed action in context to the environment.

Usually, an affective state does not represent a single affect but rather a multiplicity of affects, or what Henri Bergson[5] called a "confusion" of affects that coalesce to form and transition an experience state in the

[5] Henri Bergson (1888) Essai sur les données immédiates de la conscience [Time and Free Will] p. 54-55

present, and, when sedimented or repeated (see process 10) may produce a stuck or stabilized experience over a durational flow of experienced time. All affective states are embodied, whether felt predominantly in the body such as a sense of fatigue or in the "head", such as a sense of satisfaction. An affective state can constrain, enable or modify perception of future action and possibility. They can delineate a present and possibly extended quality and way of being in the world; they are pervasively integrated in both perceptual and unconscious experience.

8. AFFECTIVE STATE MODULATION OF CAPACITY, DISPOSITION, MOTIVATION

An affective state can modulate a person's affective capacity (see below) and disposition to interact with material-spatial and social-cultural entities in their environment. Such modulation links to the concepts of affective stake and affective capacity. For example, persons living with a chronic disease such as pain will have variously stuck, variable or stabilized affective states of pain experience; their experiences originate from affects of pain yet become differentiated over a gradient of flows of affect intensity and persistence modulated by different affective capacities.

9. EXPRESSION OF AFFECTIVE STATE AS AN EMOTION AND THE EMERGENCE OF MEANING

The capture of affect and its cognitive formation into an affective state might be expressed as an emotion. An emotion is a socially coded or constructed discourse of an affective state. Typically, they are a singular abstraction of an affective state expressed in narrative or sometimes quantitative form - having more-or-less degree of intensity of a certain affective state of experience such as anger or pain.

When expressed as a narrative, an emotion becomes situated outside the body and as such, its meaning (also socially constructed) can become a focus of personal and social – and for example, clinical – enquiry and potential action. In this sense, an "escaped" emotion releases a meaning of a captured affective state back into the virtual field of flows for other persons to interact with. It becomes an entity itself. Yet in its abstraction and release, an emotion can only ever simplify a multiplicity of affects. It cannot account for either the richness of the actual experienced affective state or the processes of its creation. Emotion and its meaning are then an end-state of affect creation, not the process; it is a social construction not a creation of experience. It is not the cause of experience but rather its expression.

In place of emotions, Umio thinking enquires more deeply into affectee sense perceptions of processes of their interactions and encounters in their life world in the form of "sense of …" statements. By making self-perception of affects more conscious, this allows for affects (sensations, impressions and feeling states) to be surfaced, understood, compared and modified for a focal context of real experience such as obesity or chronic pain.

10. SEDIMENTATION OF AFFECT AND AFFECTIVE STATES IN INTERACTIONAL FLOWS

Affects and affective states may reproduce and persist over a duration to sediment distinct qualities and expressions of real experience in individual persons and via the intersubjective interaction of their expressions and meanings, in social groups, spaces and places, communities and populations.

Via the ten processes of affect creation, affects, affective states and their expression as emotions bear existing and may generate novel meanings that become virtual real entities themselves; they return to the virtual field. Meanings develop and bear social affordances of potential action, as well as tendencies of semiotics, perception, learning and expression within social, material, cultural, spatial interactional flows. Such tendencies inform and influence reaction and action to affects and affective states in social and practical contexts. They emerge and sediment as ideas and structures in the virtual field, thereby returning our process of affect creation flow back to number 1 above.

Affect as capacities or powers of action and creation in real experience

Interwoven into the ten affect creation processes and transitions is the concept of affective capacity. It defines the capacity AND disposition of an affectee to enter-into and interact with interactional flows (individual and relations of material-spatial and social-cultural entities) bearing the potential to create and actualise positive affects forming desired valued real experiences.

Affective capacity (AC) is shaped by an affectee's cognitive and bodily-motor *capabilities* to know how, be able to, and interact with material-spatial and social-cultural entities, or what I term their *functional AC*. Also, it is influenced by their interest and *propensity* to do so or their *inclinational AC*. Examining these two AC elements more closely, we see that any potential interaction or ongoing duration of interactions contains a set of contingencies determined by an affectee's perceptual-cognitive and bodily-motor capabilities, their present affective state, the potential force, nature and intensity of sensations and impressions (affects) that may be actualised from an interaction, and the expectation of a certain quality and desirability of affective state that may emerge and be realised. Together, these four affective dimensions constitute the *affective stake* inherent in and prior to any potential interaction in the world.

An affective stake affords a certain possibility of affects. Often, a potential interaction may contain too many perceived or indeed actual barriers preventing interaction – the affective stake is too high. These may be affector-created barriers of cost, access, and affordability of material-spatial entities; barriers that may be reinforced by perceived or actual social-cultural bias, discrimination, injustice, and inequalities in the distribution and/or allocation of such entities.

The assessment and determination of an affective stake present prior to a single or existing within an ongoing duration of interactions, as well as the actual performance of an action, is informed by three inter-relating drivers constituting actual affective capacity. These are:

1. **Interactional** - the capacity of an affectee to enter-into, sometimes avoid and sustain certain interactions and relations in relation to an affective stake to generate positive affect or to avoid unwanted affects.
2. **Creational** - the capacity of an affectee to see, envision, discover, ideate, experiment and create affects in the flow of interaction(s). Creational AC determines the capacities of affectees to pursue and realize change, growth, development and novelty in their real experience.
3. **Valuational** - the capacity of an affectee to identify, assess, reflect, store and recall valued and unvalued affects in their real experience.

Each of these immanent drivers of affective capacity may be shaped by socio-cultural biases and instituted norms which in turn may modulate the affective stake, capacity and disposition held by an affectee prior to an interaction. In other words, affective capacities and dispositions are modulated by intersubjective forces.

By studying and revealing the current statuses, differences and unactualized potential of interactional, creational and valuational affective capacities of affectees for a particular focal context of experience, such as food insecurity, chronic pain or obesity, along with the affectors who limit that potential AC, we can discover and design novel means to create affectee (individual person, family, community, social group, place) capacities on a sustained basis. In doing so, we can prevent, recover or address unwanted real experiences.

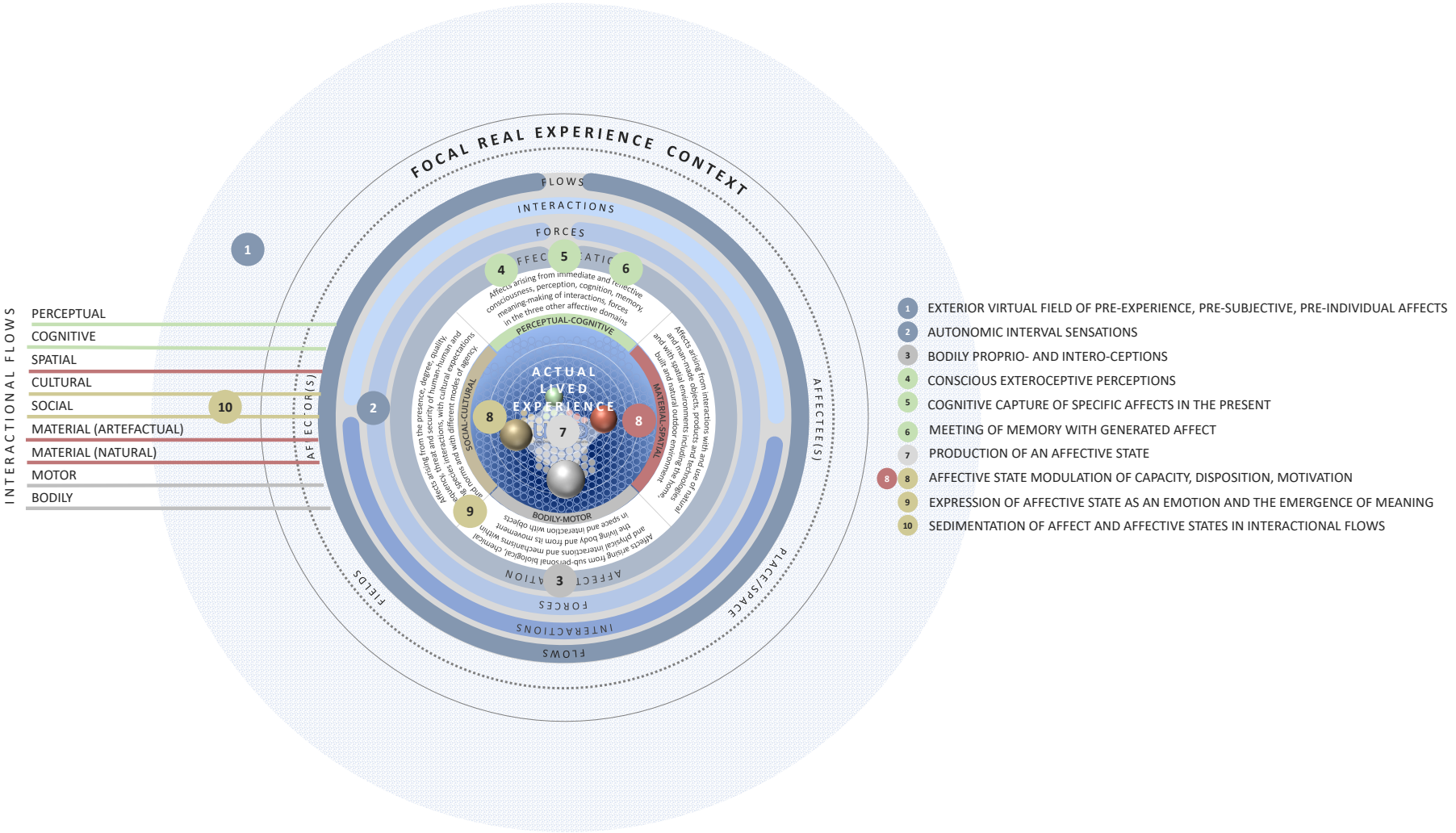

Figure One: The ten processes constituting the dynamic formation of real experience.

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