The Social Orders of Existence of Affordances

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Résumé : Des figures centrales de la tradition phénoménologique, telles qu’Aron Gurwitsch, Jean-Paul Sartre et Maurice Merleau-Ponty, se sont largement inspirées de la psychologie de la gestalt dans leurs écrits. Le dialogue entre la phénoménologie et la psychologie qu’ils ont entamé se poursuit aujourd’hui dans le domaine des sciences cognitives incarnées. Nous reprenons cette conversation à partir de la riche analyse phénoménologique de la perception du monde culturel réalisée par Aron Gurwitsch. Ses descriptions phénoménologiques de la perception du monde culturel ressemblent de façon frappante aux travaux de la science cognitive incarnée qui s’inspirent de la psychologie écologique de Gibson. Gibson a inventé le terme « affordance » pour désigner les possibilités d’action qui peuvent être directement perçues par les personnes [Gibson 1979]. Cependant, dès ses premiers écrits, Gibson a fait une distinction entre une forme de perception universelle, strictement individuelle et non sociale, et une perception du monde soumise à des influences sociales et culturelles. Nous utilisons Gurwitsch pour argumenter contre la compréhension individualiste de la perception directe de Gibson. Chaque affordance qui peut être sélectionnée comme objet de perception se réfère à un contexte socioculturel plus large, que Gurwitsch a appelé un « ordre d’existence ». Nous terminons notre article en abordant la question de la relation entre la description phénoménologique du monde percep lui le plus explications de l’expérience perceptive fournies par la science cognitive incarnée.

Abstract: Central figures in the phenomenological tradition, such as Aron Gurwitsch, Jean-Paul Sartre, and Maurice Merleau-Ponty, drew extensively on gestalt psychology in their writings. The dialogue between phenomenology

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and psychology they began continues today in the field of embodied cognitive science. We take up this conversation starting from Aron Gurwitsch’s rich phenomenological analysis of the perception of the cultural world. Gurwitsch’s phenomenological descriptions of the perception of the cultural world bear a striking resemblance to work in embodied cognitive science that takes its inspiration from Gibson’s ecological psychology. Gibson coined the term “affordance” to refer to the possibilities for action that can be directly perceived by persons [Gibson 1979]. However, Gibson from his earliest writings made a distinction between a universal, strictly individual and nonsocial form of perception and a perception of the world that was subject to social and cultural influences. We use Gurwitsch to argue against Gibson’s individualist understanding of direct perception. Each affordance that can be selected as an object of perception refers to a wider sociocultural context, which Gurwitsch called an “order of existence”. We end our paper by taking up the question of the relation of phenomenological description of the perceptual world and explanations of perceptual experience provided by embodied cognitive science.

When it comes to objects other than material objects, we can’t get anywhere without intersubjectivity.

Alfred Schütz, New York, March 17, 1952; Letter to Gurwitsch

1 Introduction

A distinctive theme in the philosophy of embodied cognitive science has been dialogue with authors from the phenomenological tradition (see e.g., [Varela, Thompson, & Rosch 1991], [Gallagher 2005], [Wheeler 2005], [Thompson 2007], [Gallagher & Zahavi 2008], [Käufer & Chemero 2021]). Phenomenology and embodied cognitive science offer different but complementary accounts of the embodied mind. Phenomenology is concerned with understanding and describing the ways in which things belonging to an everyday lifeworld are given in embodied experience, and the conditions of the possibility of this givenness. Embodied cognitive science by contrast is concerned with studying the perception and action of organisms in their environments, using dynamical systems models as a key explanatory tool [Varela, Thompson, & Rosch 1991], [Thompson 2007], [Chemero 2009]. While phenomenology and embodied cognitive science ask different questions and seek different answers, the accounts they provide of the embodied mind are nevertheless relevant to each other. Phenomenology provides clarifications of the phenomena that
embodied cognitive science seeks to explain—the situatedness of embodied subjects in the lifeworld.

The dialogue between phenomenology and embodied cognitive science that can be found in the current literature is, in a sense, nothing new. A comparable conversation between philosophy and Gestalt psychology was already taking place when phenomenology was first proposed by Edmund Husserl as a philosophical method in the first half of the twentieth century. Of course the details of the conversation were different—psychologists writing in the early twentieth century did not, for example, have the mathematical tools of dynamical system theory. However, an exchange of ideas was already taking place between phenomenologists and Gestalt psychologists. A common theme in both, and incidentally still very much alive today in embodied cognitive science, is the claim that perception and action exhibit a meaningful and irreducible structure [Merleau-Ponty 1942], [Gurwitsch 1966]. This possibility of a common subject matter—the organisational structure of perception and action that confers meaning on the perceived world—opens up a space for psychology and phenomenology to exert a mutual influence on each other. Findings from empirical research can be used to inform phenomenological research and vice versa. It is such a mutual dialogue that is pursued in this paper.

We start from the work of Aron Gurwitsch, a figure who has been somewhat neglected in the current literature. Gurwitsch claimed that perceptual experience is first and foremost directed at cultural objects—“works of art, buildings which serve specific purposes like abodes, places for work, schools, libraries, churches [...] tools, instruments, and utensils related to human needs and desires” [Gurwitsch 1974, 143]. Perceiving a cultural object, for Gurwitsch, does not mean perceiving an object detached from its surroundings. Each cultural object is perceived in a broader context of signification made up of other cultural objects and activities that refer to the object we are thematizing in our experience. When a person perceives a tool such as a hammer, for example, she simultaneously perceives the place this tool occupies in the socio-cultural context in which it is used. Gurwitsch used the phrase “order of existence” to refer to the social situation that provides the context for perception [Gurwitsch 2010a]. Orders of existence define the meaning that an individual artefact plays in shared cultural-worlds, the natural grouping within which cultural objects are present in experience. These natural groupings are constituted by systematised contexts of actions, plans, projects, objects, persons, situations, social roles, etc.

Gurwitsch’s phenomenological descriptions of the perception of the cultural world bears a striking resemblance to work in embodied cognitive science that takes its inspiration from Gibson’s ecological psychology. Gibson coined the term “affordance” to refer to the possibilities for action that can be directly perceived by persons and nonhuman animals alike [Gibson 1979]. A similar idea can be found in Gurwitsch’s discussion of the functional character of cultural objects. In discussing the familiar example of the hammer for
instance, Gurwitsch writes: “the object is not perceived as a mere thing, but rather as an object of use to be manipulated in a determinate manner” [Gurwitsch 2010a, 224]. However, Gibson, unlike Gurwitsch, made a divide between a universal, strictly individual and nonsocial form of perception and perception of the world that was subject to social and cultural influence [Gibson 1950]. In his final book, Gibson seems to have rejected any separation of the “cultural environment from the natural environment, as if there were a world of mental products distinct from a world of material products” [Gibson 1979, 130]. However, even in this book he continued to describe direct perception in strictly individualistic and nonsocial terms of the direct pick up of information that specifies structures that exist objectively in the world independent of any perceiver. He locates affordances in these objectively existing structures thereby neglecting the way in which human social and cultural life provides the context for the perception of affordances. Gibson’s characterisation of perception in individualistic terms is still very much alive in ecological psychology and philosophy today, e.g., [Turvey 2018], [Heras-Escribano 2019]. We argue that what contemporary Gibsonians miss is that each affordance that can be selected as an object of perception at the same time refers to a wider practical context—an order of existence—that is co-perceived along with the affordance.

We end our paper by taking up the question of the relation of phenomenological description and explanations of perceptual experience of embodied cognitive science. Gurwitsch was critical of Köhler’s account of the mind-body relation in terms of a psychophysical isomorphism between perceptual organisation and neurophysiological structures. Gurwitsch rejected what Epstein & Hatfield [1994] called “the programmatic reductionism” of Köhler. We end by raising the possibility of a one-to-one mapping from the field organisation of phenomenal experience as described in our paper onto dynamical structures of the organism-environment system as a whole. Positing such an isomorphism may help to make sense of how the sociocultural orders of existence, that provide the context for the perception of affordances, are related to the dynamics of the organism-environment system as posited in the explanations of embodied cognitive science.

2 Aron Gurwitsch’s phenomenology and Gestalt psychology

The phenomenological approach of Aron Gurwitsch relies on his synthesis of ideas drawn from psychology, Husserlian phenomenology, and sociology. At the beginning of his career, Gurwitsch was supported by Husserl, Goldstein, Koyré and Stumpf [Robbins 2019]. In the late stages of his career, he was a key figure, together with his friend Alfred Schütz, in establishing the phenomenological tradition in the United States. Despite being mostly remembered for having
introduced a young Merleau-Ponty to Gestalt psychology, his monograph *The Field of Consciousness* [2010a] is the first systematic attempt at providing a phenomenological reading of the findings of Köhler, Koffka and the Berlin/Frankfurt school of Gestalt psychology.

In contrast to Husserl [1989], who accused Gestalt psychologists of reinventing Lockean empiricism, Gurwitsch saw in the descriptive analyses of these theorists a methodology that showed more than a few affinities with the phenomenological tradition. Such a convergence in thinking is unsurprising since both traditions had been heavily influenced by the work of Brentano and Stumpf and, in particular, by their dissatisfaction with atomistic theories of sensory perception. For Gurwitsch the work of Gestalt psychologists should not be understood as aimed at describing principles of perceptual organization of an objective, physical stimulus. In a similar vein to Merleau-Ponty [1942], Gurwitsch advanced the idea that the descriptive analyses of Gestalt psychologists had to be interpreted as “structural features immanent to experienced perceptual contexts” [Gurwitsch 2010a, 146]. Gurwitsch introduced the thesis, later to be developed by Merleau-Ponty and Sartre, that, if properly read, the work of Gestalt psychology could directly contribute to phenomenological descriptions of perception and human action.

Gurwitsch identified an important tension in, for instance, the work of Köhler [1947]. On the one hand, Köhler seemed to assume the existence of an objective physical world whose laws can be known through the science of physics. Following this naturalistic attitude, the role of psychology was that of describing the perceptual processes that furnished justification for our belief in the existence of such a physical world. On the other hand, the descriptive work of Gestalt psychology seemed to also lend itself to a phenomenological interpretation. Consider for instance the Gestalt psychologist’s rejection of the so-called “constancy hypothesis”—the hypothesis that sensations correspond one-to-one with physical stimuli that are the causes of these sensations. Gurwitsch argued that the rejection of the constancy hypothesis should have led the Gestalt thinkers to question how perceptual access to the objective world is possible. The constancy hypothesis implies that: “if the same neural element (for example, a circumscribed region of the retina) is repeatedly stimulated in the same manner, the same sensation will arise each time” [Gurwitsch 1966, 5]. Koffka and Köhler forcefully rejected the constancy hypothesis on the grounds that perception is from the outset organized into unitary “meaningful wholes” [*Gestalten*]. Unified percepts are not constructed and elaborated through cognitive non-sensory processes in “shadowy regions of the subconscious” [Gurwitsch 1966, 22]. The organisation of perception rather reflects the “autochthonous” and given organization of perceptual consciousness of the world.

Gurwitsch argued that the rejection of the constancy hypothesis should be interpreted as a bracketing or suspension of the naturalistic attitude [Gurwitsch 1966, chap. 4 & 10]. He argued that the descriptive analyses of perception of the Gestalt psychologists, once stripped of their naturalism, were
closer to transcendental phenomenology than to empirical psychology. Gestalt psychologists like Köhler thought of the explanation of the organisation of perception as taking the same form as the explanation of electromagnetic fields in physics. Electromagnetic fields find an equilibrium through vectors of forces that self-organise across space. Köhler argued that perceptual Gestalten also form out of self-organising fields of forces in the electrical activity of the brain. In both cases, fields of electrical activity tend towards an equilibrium state. For Gurwitsch, by contrast, the descriptions of perception provided by Gestalt psychology were best interpreted as descriptions of the world as it appears to a conscious subject.

Interestingly Gurwitsch also used Gestalt psychology to criticise Husserlian phenomenology. In particular he criticised Husserl’s distinction to be found in *Ideas 1* [1983], between hyletic sensory matter and the form that the subject gives to those sensations in constituting an intentional experience of the world [Gurwitsch 2010a, 125, 284]. For Gurwitsch a key lesson of the Gestaltist rejection of the constancy hypothesis is that no such distinction can be sustained. Gurwitsch thus demonstrated that transcendental phenomenology could make progress by integrating insights from empirical psychology. At the same time, Gurwitsch was highly critical of positive science as such and did not draw from it indiscriminately. He made selective use of findings that, as was the case with Gestalt psychology’s rejection of the constancy hypothesis, or with Piaget’s notion of action-schemata, or James’ notion of the “fringe” of experience, showed in their germinal forms enough “potential phenomenological motifs” [Kockelmans 1972].

Gurwitsch provides an early example of how empirical psychology can make a positive contribution to phenomenology. In what follows we make a case for the reverse direction of influence from phenomenology to psychology. We show how Gurwitsch’s account of the perception of the cultural world can help to clarify the concept of affordance as it is employed in embodied cognitive science and ecological psychology.

### 3 The perception of the cultural world and its orders of existence

As noted by Métraux, in his editorial preface to Gurwitsch’s habilitation essay *Human Encounters in the Social World* [Gurwitsch 1979], the Gestalt theorists’ descriptions of the organization of perceptual experience proved to be equally relevant to characterising the experience of the cultural world. Gurwitsch proposed to reframe what Husserl [1970] called the lifeworld [*Lebenswelt*] with the notion of the “cultural world” [1974, 12]. The adjective “cultural” specifies that, in pre-scientific and pre-reflective experience, we first and foremost deal with a reality that is material, social, intersubjective, and historical. The material objects belonging to the cultural world are necessarily perceived in
relation “to a particular society, the circumstances and conditions under which that society lives and a system of purposes recognized by it” [Gurwitsch 1974, 93]. The emphasis on the notion of “purpose” is not accidental. In fact, for Gurwitsch cultural objects are teleologically and functionally defined in virtue of the intersubjectively shared meaning they possess for particular socio-cultural groups [Embree 1992]. For this reason, the terms “cultural” and “functional object” are treated in his work as synonyms. For example, my pen is perceived based on its functional value and thus as “something for writing, and not a black thing of such and such length and almost cylindrical shape” [Gurwitsch 1966, 171].

The functional value of the pen extends beyond it being an implement that can be used for writing. The pen can be used to write a message for a friend on a piece of paper situated on a desk and close to other writing-related utensils. The functional value of the pen is thus best analysed in the context of a broader utensil-totality [Gurwitsch 1979]. This concept of the “utensil totality” refers to the idea that artefacts are meaningfully perceived because of their recurrent and regular connections to other artefacts that can be experienced on different occasions in similar situations.

In any given situation, the functional objects play a role determined by their location in the situation, and their natures and functional values are dependent on their interrelations with the other functional objects conjoined with them as components of the situations. The functional values are thus supported and grounded reciprocally, and it follows that they are not inherent properties of the objects but are assigned to them only by virtue of specific functions in a particular practical situation. [Gurwitsch 1974, 172]

For Gurwitsch, functional value is an integral and irreducible dimension of pre-reflective experience. A chair, for example, is something on which to sit, something that presents itself as suitable for certain purposes and related to specific actions. Cultural objects present themselves as “tools, instruments and utensils related to human needs and desires” and meaningful for the members of a specific shared socio-cultural reality [Gurwitsch 1974, 143]. More precisely, the chair appears as permeated with what we could define as a “stock of knowledge at hand” that includes a “set of more or less loosely connected rules and maxims of behavior in typical situations” [Gurwitsch 1974, 19].

Gurwitsch’s phenomenological descriptions of the perception of the cultural world assimilates two core concepts drawn from the psychology of his day. The first is the concept of schemata as proposed by Piaget, which he used to explain how experience can become meaningfully organized over the course of cognitive development. For Gurwitsch and Piaget, schemata are necessary for perceiving the pragmatic aspects that immediately permeate perception and for the enactment of context-specific sensorimotor interactions [Gurwitsch 2010a, 34]. Second, Gurwitsch borrowed from the work of Köhler [1921]
and Koffka [1935], the concept of functional value, which he argued was necessary for pre-reflectively perceiving objects as having specific functions. By combining Piaget’s concept of schemata and the notion of functional character developed by Gestalt psychologists, Gurwitsch provided an explanation of how the perception of the function and purpose of tools and utensils can be developed and further modified. He claims:

Functional characters accrue to objects in situations of concrete action in which the subject manipulates the object, learns to handle it in a determinate manner, to use it for a certain purpose in connection with other objects, and thus acquires a certain mode of action. Such acquisition will henceforth codetermine future perception. [Gurwitsch 2010a, 96]

Gurwitsch claimed that the functional character of individual objects is explicitly developed “in connection with other objects” in such a way to transfer their instrumental values to further objects and contexts that stand in a relation of relevancy to the object in question [Gurwitsch 2010a, 38]. The term “relevancy” is an important concept for Gurwitsch in describing the structure of the field of consciousness. He defines the term as denoting:

[…] a systematic context of objects—this term understood in the broadest possible sense—which, on account of their qualitative determinations and very natures, have something to do with, are related to, one another or, to express it more generally, have relevancy for one another. [Gurwitsch 1966, 122]

Gurwitsch relied on the concept of “relevancy” to refer to the objects and activities that, instrumentally speaking, are functionally and materially related to each other. “Relevancy” denotes items and activities generally presented in experience as belonging to similar contexts and used for connected purposes. Gurwitsch made a distinction between the “thematic field”—the components of a practical context that are experienced to immediately bear on a theme. For Gurwitsch, all conscious experiences are structured as a field. Together the “margin”, the “theme” and the “thematic field” comprise three invariant structures of all our experiences [Gurwitsch 2010a]. For example, the pen that I am currently using stands in a relation of relevancy to my notebook, a writing desk in my office space, the books by Gurwitsch that I am taking notes, the article I am working on for a special issue, etc. Objects, activities and social roles form parts of a thematic field because they are experienced to stand in the relation of relevancy to a theme.

Echoing the words of William James [1890], Gurwitsch referred to the perceptual world as a whole as a “paramount reality” [Gurwitsch 2010a, 373]. This term was used to highlight that the perception of cultural environments is meaningfully structured on the basis of the different spheres of life and modes of action typical of a socio-cultural group. Gurwitsch claims that, when we
perceive a cultural object such as a utensil, we also experience the place that
the same object occupies in a determinate constellation of cultural practices.
Gurwitsch introduced the notion of “orders of existence” to refer to:

[...] the “natural groupings” in which things present themselves
in prescientific and pretheoretical experience as well as the
explanatory systems constructed in the several sciences for the
sake of a rational explanation of the world, material, historical
and social. [Gurwitsch 2010a, 372]

Gurwitsch gives as additional examples of orders of existence: “logical
systems, the several geometric systems, the system of natural numbers [...] the universes of artistic creation like the universe of music” [Gurwitsch 2010a].
Each of these orders of existence has its own relevancy principles which
Gurwitsch suggests are constitutive of the order within this particular practical
context. Since every order of existence is characterized by different items,
actions and situations, the principles of relevancy organise each of them. The
relevancy principles that constitute a specific order of existence do not depend
on the aims of an individual subject but rather on the sphere of life of a
particular community [Gurwitsch 2010a, 373]. An electric lamp, for example,
can belong to different orders of existence that exhibit very different principles
of relevancy. In the first place, a lamp can be perceived as a house utensil that
can be used to illuminate the room. When an electrician encounters an electric
lamp, they deal with a different order of existence. The electrician will have
access to other functional values of the lamp, such as repairing it by using
his tools, installing it, or changing its batteries. Finally, a further order of
existence can be one in which the electric lamp is an article for sale in a shop.
From the perspective of the shopkeeper, the lamp is an object to be sold and
a possibility of making profit. From the perspective of the customer, the lamp
is instead a functional item to be purchased that has the value of providing

Objects belonging to a specific order of existence present themselves as
being organized in “natural groupings”. Some examples can be seen in the
different professional activities, family life and in the political sphere “we act
as citizens” [Gurwitsch 1974, 373]. All these possible orders of existence
need to be thought of as systems of “purposes, plans, projects, designs,
ends, means, and actions” [Gurwitsch 1974, 317]. The same follows for the
kinds of persons that tend to be encountered in these contexts. In fact,
in everyday perception, people present themselves as playing certain social
roles. In pre-reflective experience, we deal with students, doctors, teachers,
architects, employees, customers, athletes, partners, etc. Importantly, dealing
with an order of existence also implies some selectivity from the side of the
perceiver. Following James, Gurwitsch described perceiving and thinking as
necessarily selective [Embree 2015]. Orders of existence can be extremely
broad and contain a multitude of utensils, activities and individuals that are
not necessarily relevant for the plans of the perceiver. Therefore, while the
principles of relevancy behind an order of existence are established by the activities of a socio-cultural group, the attitude of the individual perceiver will, to some degree, “colour the situation” [Gurwitsch 1974, 174]. The principles of relevancy will structure the theme-thematic field relations in ways that are specific to the individual perceiver’s interests and concerns.

For Gurwitsch, the cultural world “differs from one social group to the other and also for a given social group in the course of its historical development” [Gurwitsch 1974, 238]. As he notices, the ancient Egyptians and the Mesopotamians lived in very different cultural worlds. Still, following Gurwitsch’s definition of orders of existence, the way of life of these cultures can nonetheless be described phenomenologically in terms of systems of activities, plans, social roles, customs, artefacts, and practices. Embree [1997] provides an illuminating example. He asks us to imagine an archeology student who accidentally discovers a cave recently opened up by a landslide while hiking in the Western United States. Inside the cave, he finds different unfamiliar artefacts and paraphernalia. One particular object grabs the attention of the student. It looks like a stick of wood not longer than a meter with a small protuberance at its end. The student later learns the strange object is a Paleoindian hunting tool known as an “atlatl” that can be used to extend the throwing range of a spear. The student slowly begins to stop seeing the atlatl as a mere piece of wood and starts to perceive the functional value that permeated the tool during the tribe hunting sessions. To reconstruct the order of existence of Paleoindians requires connecting the atlatl to other artefacts such as spears, and knives used during a hunt. It requires making reference to specific hunting strategies, the role played by the wind in the throwing of the spear, and the symbolic meaning that the activity of hunting had for the tribe. Also important is the seasonal habits of the prey.1

1. It may be argued that to understand the meaning of the actions of the Paleoindians will require us to reconstruct the rules the Paleoindians were following and the norms and standards relative to which their actions could be evaluated as right or wrong, and correct or incorrect. In short, it will require us to make reference to forms of life relative to which actions acquire their meaning [see e.g., Winch 1990]. Now a difficulty arises for our imaginary student and his supervisor since their form of life is very different from that of the Paleoindians, perhaps so different as to introduce incommensurabilities. However, following the approach developed by Gurwitsch and Embree, the main “and perhaps only” task of phenomenological investigations “consists in understanding and accounting for the various cultural worlds which have made their appearance in history” [Gurwitsch 1974, 24]. In other words, Gurwitsch’s phenomenology ultimately aims to overcome socio-historical relativism by finding the “invariants” and similarities present in all possible life-words. Just as it is possible to identify the Gestalt laws that structure our fields of experience, Gurwitsch was convinced that each cultural-world, and thus all cultural objects, also exhibit invariants laws. More specifically, the invariants that characterize cultural objects are defined by the specific functions or purposes related to the order of existence of a specific society or cultural group. To perceive the functional value of an artefact, one must perceive the role that the artefact played in its order of existence—a “systematized context, constituted and unified with respect to specific-
relevancy principles [Gurwitsch 2010a, 383]. In contrast to the mere observations of the student, Gurwitsch’s phenomenological analyses bracket the experience of our cultural world through a process of unbuilding [Anbau] or “disenchantment” in such a way to leave space for the reconstruction of the teleological and aetiological values [Embree 1997] that the atlatl played in the Paleoindian form of life. A very simplified example of this reconstruction can be observed in Figure 1. Unfortunately, a more
As shown in Figure 1, only through a careful reconstruction of this order of existence is it possible to shed light on activities related to the hunt such as the use of the atlatl for aiming the spear, the preparation of the meat of the animal, and so on. The principles of relevancy that were once salient in the cultural world of Paleoindians can in this way be understood and traced back to the activities of a culture in which different customs and artefacts were present.

4 Gibson’s individualist theory of direct perception

We will turn now to considering how Gurwitsch’s concept of orders of existence can provide important conceptual clarifications for current discussions in the fields of embodied cognitive science and ecological psychology. More specifically, we will argue that Gurwitsch’s description of orders of existence can help to correct for a problem that James Gibson, an influential figure in embodied cognitive science, encounters in his treatment of the concept of affordance. Gibson is clear that the inspiration for the notion of affordance comes from Gestalt psychology. More specifically he acknowledges the debt he owes to the work of Koffka and Lewin and their notion of *Aufforderungscharakter* translated as “demand character”. What Lewin and Koffka claimed is that, in certain situations, our perception of the environment is permeated by specific valences. When we need to send a letter, to borrow Koffka’s example, it is as if a vector of forces emanates from the postbox drawing us towards it to post our letter. Gurwitsch also anticipates the idea of affordance as it figures in contemporary discussions in his 1950 review of Merleau-Ponty’s *Phenomenology of Perception* [2012]. In this review he describes how “out of the world there arise appeals and solicitations to the subject” [Gurwitsch 2010b, 488]. This concept of solicitations, or relevant affordances that draw the subject into action, has proven central in many current discussions of embodied cognition, see [Dreyfus & Kelly 2007], [Withagen, de Poel et al. 2012], [Rietveld & Kiverstein 2014], [Käufer & Chemero 2021].

Gibson’s notion of affordance was inspired by the Gestalt notion of demand character (and perhaps also by his reading of Merleau-Ponty). However, he criticised the Gestalt psychologists for making the perception of demand character dependent upon the individual perceiver’s needs and interests. His concept of affordance was introduced to capture the sense in which the environment can be structured in such a way as to offer possibilities for action

careful analysis on the relation between the notion of forms of life, as employed by Winch [1990], and Gurwitsch’s notion of orders of existence is an interesting question that is beyond the scope of this article. Our thanks to Phil Hutchinson for pressing us on this point.
independently of the individual perceiver’s needs. Gibson made this point using Koffka’s example of the postbox, which he argued continues to offer the possibility for me to send a letter even if just now I have no use for it [Gibson 1979, 130].

Gibson argued that the environment contains information, in the form of ambient energy structured by the layout of surfaces, that is sufficient for the direct perception of affordances. He argued that environmental information can be directly perceived in a non-inferential fashion and thus without the necessity to be internally reconstructed. Information, Gibson claimed, “does not consist of signals to be interpreted but of structural invariants which need only to be attended to” [Gibson 1972, 79]. Gibson’s concept of information can be seen as his attempt at reviving the constancy hypothesis, which we saw earlier was rejected by the Gestalt tradition. In his [1950] book for instance, he wrote:

Gestalt theory denied any one-to-one correspondence between the stimulation of receptors and the experience which resulted. The assumption of such a fixed correspondence was called the “constancy hypothesis” [...] The aim of this chapter is to reassert the constancy hypothesis on the basis of a broader conception of stimulation. [Gibson 1950, 62]

In Gibson’s 1950 work, he argued for a correspondence between the retinal image on the one hand and the structure in a visual scene. The “broader conception of stimulation” Gibson introduced in his 1950 work can be understood as invariant patterns in stimulation that remain constant across transformations, and that correspond with structure in the environment. These patterns of invariance detectable by sensory systems were later to be characterised by Gibson as “information” that the environment makes available to be picked up by the perceptual systems of moving animals [Gibson 1966]. The invariant patterning was no longer understood as structure present in the retinal image but instead as structure in a flux of ambient energy—for instance the light bouncing off the surfaces of objects surrounding the perceiving animal. The invariant patterning of ambient energy corresponds to its source in the environment. It is this structure in ambient energy, which exists in the environment as potential stimulation, that Gibson called “information” [Gibson 1966].

Gibson held that the information available in the environment was sufficient to specify affordances. An animal can see for instance that a tree can be climbed or that an insect can be eaten, or that a hole offers a place to hide or shelter. Gibson also recognized that other people are an important source of affordances for human beings. A theory of affordances should therefore include the possibilities for action that form in social life. Yet, as Costall [1995] has argued, Gibson’s account of direct perception was resolutely individualistic and nonsocial. In his first book, Gibson [1950] sought to provide an account of perception of the world that was prior to any schemata
the perceiver might develop through their socialisation. He sought to provide an account of perception that was independent from the individual’s social context. In these early writings, Gibson made a distinction between what he described as the “literal world” and the “schematic world” [Gibson 1951], [for discussion, see Costall & Still 1989]. The schematic world was the world as perceived through the filters of one’s social context, while the literal world was the objective world that can be known through a universal, nonsocial individual form of perception. As noted in our introduction, Gibson would later make claims that suggested he no longer subscribed to this distinction between two perceptual worlds. However, he continued to describe perception in individualist, nonsocial terms as the pick-up of information that lawfully specifies the presence of affordances.

Gibson’s individualist characterisation of direct perception has been inherited by a current generation of ecological psychologists who provide an analysis of affordances as dispositional properties of surfaces that have as their complement dispositional properties of particular animals referred to as “effectivities” [Turvey 1992]. Effectivities refer to morphological properties of animals such as the length of reach of an animal’s effectors. More recently, Heras-Escribano [2019] has offered a dispositionalist interpretation of affordances that borrows from Ryle. Heras-Escribano acknowledges the influence that social conventions and norms have on our everyday behaviors such as maintaining the proper distance from other people during a pandemic. However, he maintains that while social conventions and practices can structure an individual’s conduct, affordances should nevertheless be understood in purely causal or dispositional terms. Heras-Escribano follows Edward Reed [1993, 52] in arguing that “social norms are constraints on actions, not on affordances. You perceive the same as everyone, but you act differently given your social background” [Heras-Escribano 2019, 108–109].

Returning to Gurwitsch however, we suggest that an individualist account of direct perception that conceives of affordances in isolation from their social context may make sense as a scientific idealisation. However, it cannot be sustained as an account of what it means to perceive affordances. Consider once again Gurwitsch’s discussion of the “world of utensils” in his habilitation essay [Gurwitsch 1979]. Drawing upon Heidegger’s phenomenological category of the ready-to-hand [Zuhandenheit], Gurwitsch describes how the “knife as an eating-utensil refers to cutting [...]. Its fitness for purpose and “goodness” point to how it fares in the service of the function corresponding to it”. He goes on to contrast a spoon that does not cut with a blunt knife. Both the spoon and the blunt knife could be used to cut food items of a soft consistency. However, a spoon that does not do a good job of cutting is “not therefore a ‘bad’ spoon nor even a ‘bad’ knife” [Gurwitsch 1979, 67]. Gurwitsch allows the spoon can have multiple purposes but cutting is not typically among them. Gurwitsch contends that anyone who attempts to use the spoon as a knife understands neither the utensil nor the concrete situation in which it is used [Gurwitsch 1979]. The utensil in referring to a particular function does so only insofar as
a context is co-perceived along with the utensil. The relation of the utensil to the context, Gurwitsch emphasises, is not something added onto the utensil but it is part of what makes the utensil what it is. Whenever we perceive the utensil, we perceive at one and the same time the order of existence to which it belongs. This is part of what it is to perceive the relevancy of the utensil. A little later in the book Gurwitsch writes of “the tissue of references and the structure of the situation” becoming “visible in an original way when I gear into the situation and comport myself according to the ways prescribed by it” [Gurwitsch 1979, 79]. There is no pulling apart the cultural layers of meaning from the utensil and its affordances if Gurwitsch is right. Recall that for Gurwitsch every object insofar as it forms a part of a thematic field is present in experience “within a certain order of existence and as a member of that order” [Gurwitsch 2010a, 371]. Once we have orders of existence in view, we see why the attempt to isolate the perception of affordances from the wider social context should be resisted. 2 To understand the perception of affordances in isolation from the social context results in an account of affordances that is at best an abstraction. If we return to experience we find that affordances are present in experience only as a part of an order of existence.

5 Phenomenology, psychology and the principle of psychophysical isomorphism

In this final section, we take up the question of the relation of phenomenology and psychology. We have shown how Gurwitsch’s phenomenological analyses of the perceptual world can contribute to clarifying the concept of affordance as it figures in embodied cognitive science and ecological psychology. This led us to conclude that the perception of affordances always takes place within a field of consciousness structured by principles of relevancy that constitute orders of existence. How is this field of consciousness as described in phenomenology related to direct perception as investigated in embodied cognitive science?

To address this question we will take as our starting point the principle of psychophysical isomorphism (PPI) as proposed by Wolfgang Köhler [1947]. His proposal, recall, was to seek explanations of perceptual organisation in macroscopic dynamic structures in the brain. In *Gestalt Psychology*, Köhler defined the PPI as requiring that in each case “the organisation of experience and the underlying physiological facts have the same structure” [Köhler 1947, 301]. The PPI thus posits a relationship between two structures—phenomenal structures as described in psychology and physiological structures as posited by explanations in neurobiology. According to Epstein & Hatfield

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2. It should be noted that not all embodied cognitive scientists make such an error. In a recent paper Baggs [2021] has argued that all affordances should be understood as social, endorsing an argument made in [Costall 1995]. See also [Rietveld & Kiverstein 2014], [van Dijk & Rietveld 2017].
Köhler took this relationship to potentially allow for a reduction of phenomenal structures as they are experienced by subjects to neurobiological structures. Epstein & Hatfield therefore describe Köhler’s position as one of programmatic reductionism.

Gurwitsch, for his part, was critical of Köhler’s programmatic reductionism. He agreed with Köhler that the perceptual world “is the basis from which every science, physics as well as psychology, starts and has to start” [Gurwitsch 1966, 100]. However, he disagreed with Köhler that the appearance of the perceptual world could be explanatorily reduced to psychophysical processes. Gurwitsch describes consciousness as having “an ambiguous nature”. On the one hand it depends “causally or functionally upon extra-conscious facts and events” by which we assume he meant psychological and neurobiological facts and events. However, Gurwitsch as a phenomenologist also argued that acts of consciousness have “cognitive and presentational functions with regard to all mundane things and events, including those very facts upon which they (acts of consciousness) depend” [Gurwitsch 1966, 100–101]. For Gurwitsch, both neurobiology and psychology as positive sciences take place in a mundane world of facts that is opened up by consciousness. While recognising the causal dependence of consciousness on empirical phenomena as described in psychology and neurobiology, Gurwitsch denies that consciousness could be explanatorily reduced to the phenomena posited in these sciences.

Gurwitsch was highly critical of the behaviourist psychology that dominated at the time he was writing (as were the Gestalt psychologists). In a chapter titled “Goldstein’s conception of the biological sciences” [Gurwitsch 1966] Gurwitsch argues that the reactions of the nervous system that can be measured in the behaviourist’s laboratory are best viewed in relation to, and as expressions of, the organism as a whole. The reactions the behaviourist psychologist measures are artefacts of the special laboratory conditions in which they are induced. Crucially, what is measured are reactions of the whole organism to the peculiar circumstances of being given a task under the tightly controlled conditions of the behaviourist’s laboratory experiment. Gurwitsch argued that behaviourists make the mistake of confusing the phenomena which they observe in these highly special conditions for explanations of behaviour as it occurs “in the varied conditions of natural life [...] in which the organism as a whole is engaged” [Gurwitsch 1966, 80]. This is a point which you can also find in Gibson, with which ecological psychologists and embodied cognitive scientists would heartily agree.

In his 1966 essay on Goldstein, Gurwitsch went on to address the relation of the somatic to the psychical—the mind-body problem—by starting from the concept of the organism that he took to unify the categories of the somatic and the psychical. He proposes to start from a body that is at one and the same time a living body (an organism) and a subject of experience. We find a similar idea in [Varela, Thompson, & Rosch 1991]. They proposed an enactive approach to cognitive science (a branch of what we are calling embodied cognitive science) precisely with the aim of circumventing the dualism of the
mind as an object of scientific study and mind as experienced by a subject of experience. They looked to the body of the living organism, just as Gurwitsch proposed, to connect subjectivity to phenomena that can be measured and detected using the methods of cognitive science.

With this concept of the organism as unifying the categories of the psychical and the somatic in mind, we suggest it may make sense to revise the PPI. We propose that embodied approaches to cognitive science share the same strong “phenomenological motifs” that Gurwitsch saw in the work of Köhler and colleagues. We have focused on the concept of affordance as an example of such a phenomenological motif. As a consequence, phenomenology and embodied cognitive science can be seen as complementary to each other. In particular, we suggest that the work of phenomenology can inform contemporary research on affordances by bringing into view the social context which is always co-perceived along with the perception of each affordance. The notion of “orders of existence” makes it possible to think of affordances as belonging to a situation that is, from the very start, socially and culturally structured.

Instead of thinking of psychophysical isomorphism as holding between phenomenal structures and macroscopic neurophysiological structures, we propose to think of PPI in the wider context of a socioculturally structured environment. We have used Gurwitsch to bring into view social orders of existence that furnish the principles of relevancy that structure the perception of functional value. Gurwitsch has allowed us to refine what Wheeler [2013] has called the “constitutive understanding” of the perception of affordances. A constitutive understanding provides “the identification, articulation and clarification of the conditions that determine what it is for a phenomenon to be the phenomenon that it is” [Wheeler 2013, 142–143]. Embodied cognitive science aims to provide what Wheeler [2013] calls “enabling understanding”—a description “of the causal elements, along with the organisation of, and the systematic causal interactions between, those elements, that together make intelligible how a phenomenon [...] could be realised or generated in a world like ours” [Wheeler 2013, 143]. The idea of PPI is that there should be a structure-preserving relation of isomorphism between the constitutive and enabling explanations of the perception of functional value. The reason why such a relation of isomorphism is required is because we take phenomenology to provide a description of what stands in need of explaining in embodied cognitive science. It is only if the explanation is structure preserving that it will qualify as doing justice to the phenomena, and explaining what needs to be explained.

What would it be for the explanation of affordance perception provided by cognitive science to be isomorphic with the phenomenological analyses of the perception of functional value? This is a question that we cannot answer adequately in the closing pages of our article. We offer two, all too brief, suggestions for now. First, it will require looking beyond the brain to the dynamics of the coupling of the whole organism with its environment and the
macroscopic dynamics of the agent-environment system. Second, it requires thinking of the structure that is available to be perceived in the environment as constituted by many social orders of existence. Just as in the example of the lamp mentioned in section 2, the notion of orders of existence can be used to make sense of how the same cultural object can have different functional values experienced across different situations. Greengrocers, priests, students, engineers, and construction builders may have different experiences of the same socio-cultural environment. For each of these social roles, it is possible to enumerate a rich list of relevancy-principles generally that are going to be reflected in the specific tensions of their everyday experiences.\(^3\)

6 Conclusion

We have argued for a continuation of the mutual dialogue between phenomenology and cognitive science that Gurwitsch initiated with Gestalt psychology in the first half of the twentieth century. Our focus has been on Gurwitsch’s phenomenological analysis of perception of the cultural world. We have highlighted his notion of “orders of existence” that brings into view the practical and social context that is an overlooked dimension in current discussions of affordance perception. Gurwitsch paved the way for a sociocultural, anti-individualistic understanding of affordance perception. We ended our paper by taking up the question of the relationship between phenomenological analysis and explanation in psychology and cognitive science. We have suggested that the relationship between these two disciplines can be read as a non-reductive structural isomorphism.

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3. Gurwitsch was an important influence on Harold Garfinkel’s ethnomethodology research programme within sociology. “Ethnomethodological studies analyse everyday activities as members’ methods for making those same activities visibly-rational-and-reportable-for-all-practical-purposes, i.e., ‘accountable’ as organizations of commonplace everyday activities” [Garfinkel 1967, vii]. Garfinkel proposed to understand social order and the organisation of the social world as produced and accomplished by actors in the local settings of lived everyday practices. Ethnomethodology studies the methods members of social practices employ for producing social order. Phil Hutchinson pointed out to us that the ethnomethodological analysis of how social order is achieved applies also to Gurwitsch’s phenomenological category of social orders of existence. This would suggest that the ethnomethods that individual agents use to make themselves accountable as members of practice are productive of the social categories phenomenologists employ in their description of human social life. Thus it is not only with cognitive science that phenomenology stands in a relation of structural isomorphism but also with ethnomethodology. This possibility raises many interesting questions, such as the relation of ethnomethodology to embodied cognitive science, that we hope to return to in future work.
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