Perception

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Contents

Introduction

"Perception is the organization, identification, and interpretation of sensory information in order to represent and understand the environment."[3]. The five senses represent the main organs of perception. These, and theories about how they work are described in "Visual Perception: Physiology, psychology and ecology"[2]

The History of perception has evolved throughout the ages. From the idea that the eyes contact the world, to the world contacts the sensory organs, and further to the belief that organs and the world are united through a medium [1].

The understanding of perception in psychology has advanced by combining different techniques, following the rise of experimental psychology. Psychophysic, sensory neuroscience, and perceptual issues in philosophy are areas of current experimentation.

The discussion of direct or indirect perception has evolved from the traditional belief that perception was passive, to stronger belief in that perception is active. The debate is still going over the extent of what is active and what is passive perception. As an example, some think about vision as matrix of sensory information that is interpreted in the brain. Then, is the perception passive, and the interpretation active?

There are four main theories of perception, perception as direct perception, perception-in-action, evolutionary psychology and perception, and theories of visual perception.

Perception as direct perception is the theory that claim sensations cannot provide a unique world description alone. A mental model is required to enrich the sensations. Gibson has a different view of direct perception, the approach of perceptual ecology. He says information is presented to a perceptual system. [3]

Perception-in-action is derived from Gibson's early work. The core idea is that action would be unguided without perception, and perception would be purposeless without action. Two distinctions in this main theory are about invariants. Gibson thinks that assumptions are singular entities that exist in the world and perception only focus on them, while constructivism, a theory held by Glasersfeld[3], says that actions on the external input, and continuous adjustment of perception is the entity.

Evolutionary psychology on perception thinks that perception is mostly for collision avoidance, or moving around in space. They say that the need to decide the distance to other objects has helped evolve perception. Modularity is central to perception in evolutionary psychology. There exists modules for all the sense. The modules are specialised sections of the brain that handles one particular input, or perception tasks.

Theories of visual perception are many. Some of them are: Empirical theories of perception, Enactivism, Anne Treisman's feature integration theory, Interactive activation and competition,

and Irving Biederman's recognition by components theory. [3]

Outline The base of the following part are three articles: When perception says "no" to action: Approach cues make steep hills appear even steeper [4], Visual illusions and direct perception: elaborating on Gibson's insights [5], People perception: Social vision of groups and consequences for organizing and interacting [6]. Insight into these articles will be provided, and discussed briefly.

Three aspects of perception in psychology

A small selection of articles, three, are presented here as an introduction to perception. To show the diversity in the field of research and present current idea are key elements of this essay.

When perception says "no" to action. Krpan and Schnall (2014)[4] experiments with the perceived heigh of a hill. They have three experiments where people estimate the height of the hill. The base assumption is that peoples resources, previous knowledge and capabilities plays an important role in visual perception. In essence the experiments test whether or not perception is effected by impending actions.

The three experiments test different cues for visual perception. Experiment 1 tests if arm flexing, and arm extension, as cues has any effects on the perception of a steep hill. Experiment 2 builds on experiment 1, and test people in good physical condition. Different cues are tested in experiment 2, such as the absence of action or inaction cues, and those compared to avoidance cues. In experiment 3 climbing of the hill is implicit. The point of this is to investigate the mechanisms of the previous two experiments.

Experiment 1 and 2 resulted in steeper hill estimations for approach induced movement. Physically conditioned participants showed lower estimations, as they are more likely to undertake actions with higher physical requirements. Experiment 3 shows that people report higher climbing propensity when approaching and are told to climb the hill.

In general the article shows that peoples experience and knowledge of personal skills affect perception.

Visual illusions and direct perception. The article elaborates on Gibsons treatment of geometrical illusions, and looks into empirical evidence of it [5]. Gibsons insights has been corroborated, but the general Gibsonian principles of perception needs to be adjusted in accordance to the empirical data. The article builds on the reconceptualization of Withagen and Chemero(2009)[5], about the use of information and observer variability. Different illu-

sion effects in terms of the detected optical variables are visualised in the developed ecological approach.

Gibsons direct perception theory says that the detection of information is the only thing required to perceive the environment, given a one-to-one relation between optical variable information and the environment. Several conceptual problems are dissolved with the indirect approach by this. Defining information as specification arises the problem of how could Gibson account for instances of illusions?

M.M. de Wit et al. says that empirical literature have cast doubt on Gibsons conceptualisation of information as specificity in a one-to-one relation in perception [5]. The article enlightens the reader on the aspects of Gibsons accounts of illusions, and corroborates them. Yet, the detection of specifying information as a concept of perception, the Gibsonian concept, is punt into doubt. Concluding, the article states that a non-specifying optical, correlating to future perceivable property, variable results in susceptibility to visual illusions.

People perception Perception as a tool to interpret group dynamics and relations is an interesting perspective of perception as a concept. The importance of cognitive processes when evaluating groups have been confirmed by ample research [6]. Literature about perception of the individual create the foundation of perception of groups. Perception of groups are especially useful for managers and leaders, and is interesting to explore in an organisational context.

Perception can, alternatively to the traditional view, be the "process of forming and interactive with mental representations about people" [6]. The traditional view is that perception refers to the immediate sensory input from touch, hearing, sight, taste or smell.

While different definitions of 'group' exists, a common denominator is that it is a collection of people. Moreover, groups have to be perceivable in whole. The observer has to see the whole group at the same time. By this definition, 'women' and 'Apple' are not groups.

The paper proposes a model based on selection, extraction and application, the SEA model [6]. They use the model when discussing organizational implications. Rapid, and automatic, perceptions of groups are important to psychological phenomena. Perception of groups are also important in judgements and decision-making [6]. Much literature has researched the deliberative and automatic process of group development.

Phillips sums up the paper by stating that "perceiving groups is critical for organizational and social functioning" [6]. Understanding of, impressions of, and perceptions of groups are stated by many organizational and social theories as central processes in social and organizational life. Processes and implications involving visual perception of groups are the subject, of which the general idea about people perception, should be explored. Essential organizational and social dimensions are suggested to be rapidly, automatically, and correctly represented through visual perception of groups.

Conclusions

This essay draws on resent literature to give a peak inside the field of perception in psychology. Three articles were presented, and some brief historical points pointed out.

First an experimental aspect of perception was elaborated. It showed three experiments the build on one another. From the perception of steepness of a hill based on different cues. Then an extension to consider fit people and thereby biological properties of self insight. Last of the experiments was the addition of intent, or rather the known action to be undertaken, and the intents effect on perception.

Secondly visual illusions, and Gibsons view of direct perception was enlightened. A dive into important theory and realisation of critical thinking was touched when de Wit[5] stated that Gibsons theories must be updated to better fit reality.

Thirdly the concept of visual perception in a group setting was presented. How perception in psychology can be used to research new fields of perception becomes apparent. While perception is set in an everyday use case. [6]

Experiments, theories, and practical use sums up the papers main parts. The three parts presents important aspects of perception in psychology.

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