

Synopsis

This research work proposes to investigate the problem of perception from a philosophical perspective. The focus of this dissertation is visual perception. Here the aim is to try to find out a distinct model of perception that can reconceptualise how human beings visualise the physical world. There are five chapters in the thesis, besides the introduction and conclusion. Throughout these five chapters, some theories of perception have been explored, respectively, to establish ground in favour of the central hypothesis that is the experience of a human being of this visual world can be explained or defined properly following the view of the process of direct perception. The principal research question of this thesis, i.e. two folded, is how does a human being perceive or know the world in which she lives? Is it at all possible to define or explain the process of the visual experience of the world of an embodied human being?

There is a traditional conception regarding visual perception, according to which objective information of the external world, in the form of sense data, enters in a human being's brain following the path of visual sense organs, optic nerves, etc. Then the brain processes that information for producing perception and other related activities including behaviour. All the motor actions or physical movements are operated by the brain's instruction. Many psychologists and cognitive scientists including Helmholtz (1867), and Fodor (1981) have endorsed and incorporated this basic model in their works. The central claim of these kinds of theories is perception is indirect. The contact between the object and the perceiver is always mediated either by sense data or by representation. Again, perception in the form of cognition or experience is produced being mediated by the method of inference or information processing. For Hermann

Von Helmholtz (1962) perception is mediated by unconscious inference. Following the link of Helmholtz, one of his followers, Richard Gregory (1970) describes perception as the construction of complex brain processes. This category of views is well known as the information processing view. For, fundamentally, they argue that perception is the outcome of the processing of information, entering the brain in the form of sense-data or sensation. This view has earned a kind of establishment in the domain of the study of perception from a quite long time.

In this research work, the problem of perception has been attempted to be solved is: how one perceives the world around her and deals with it, lives in it, and lives it, in a different manner going against the tradition. The first argument, in this regard, is perception is not a mere passive process rather it is an active process. In the process, the perceiver takes part quite actively following her own interest, need, and situation. Therefore, the process cannot be indirect. In fact, in perception, the perceiver sees the object of perception as it is. As a direct process, it occurs by the immediate contact or relation between a perceiver and an object of perception. In the process of perception apart from the perceiver's sense organ and the object, some other things matter quite importantly, like the environment, in which the perceiver and the object both are placed or situated, locomotion of the perceiver, ambient light, situation, etc.

The second argument is perception is embodied; it is an embodied process. The process expects the complete involvement of the perceiving agent. The phrase 'complete involvement' refers to the involvement of the agent's body, sense organs, motor organs, consciousness, awareness, desire, intention, etc. everything, instead of her brain's sole involvement and primacy. In the process, the role of the perceiver is not passive. It is not something that can be imposed on someone. Rather a person perceives an object being conscious and aware, following her desire

for perception. From the theoretical aspect, it is undeniable that the notion of perception and embodiment are intrinsically related to each other. Practically also their bond is undeniable. Following the path of information processing view, it is quite difficult to reach the truth of embodiment. However, the notion of embodiment consists in the notion of direct perception.

In this thesis following the context of perception, quite relevantly, the context of behaviour has been discussed. Perception and behaviour are related to one another. According to some theories, behaviour consists in the act of perceiving (Gibson, 1979). Again, according to some other thinkers, perception causes behaviour (Gregory 1970). However, in both of the conditions, the cases of perception and behaviour both, expect embodied involvement of the perceiver. Well, here it is necessary to clarify that the term ‘behaviour’ refers to all of those actions or manners that a person does for communicating with her surrounding environment as well as its living-nonliving all kinds of inhabiting objects. The term also refers to those gestures that a person makes for using the objects for fulfilling her needs. One more thing is to clear here that the term ‘use’, in a broad sense, refers to ‘behaviour’. For, it is natural that the act of using necessarily expects a user’s bodily involvement. A person grasps, earns, or achieves (prāpta) the object of her perception through some bodily gesture or behaviour. For example, if a thirsty person sees a glass full of water then she moves towards the glass, stretches her arm to reach the glass, opens her fingers to grab the glass, closes the fingers to hold the glass properly, closes her elbow to bring the glass near to her mouth, and drinks the water. All the actions she performs for using the object of her need, called water, for quenching her thirst through her behaviour. The noticeable thing is that the occurrence of the behaviour, its smoothness, accuracy, etc. everything is dependent on the perception, and its smoothness and accuracy. Through the process of perception, a person knows directly her habitat environment, surrounding arrangements of

objects, and gradually cope up with the environment. The actions of perceiving and behaving are, by nature, situated. The actions may vary in respect to the present moment, place, and situation, which are decided from a perceiver's perspective.

The notion of the perceptual process involves the state of the intentionality of the perceiver. It is to add here that in the process of perception, a human being participates as an embodied being, who desires for something and intentionally efforts to fulfil the desire. One thing is to mention here that the adjective 'embodied' refers to that aspect of a human being, in which she has the feeling or realisation that her I-hood is not separated from her consciousness, mental states, emotions, etc. and especially not separated from her body. It is such an aspect in which a human being owns the sense that she is different from a humanoid or some of her replicated model. In the state, she can embody her human-hood that makes her aware of her independence and individuality in the mass of other human beings or other living beings from different species. Following the link, in regard of the context of perception, it can be said that as embodies being the perceiver perceives something through embodying the present situation, place, etc. objective factors, and her subjective factors like pain, pleasure, etc. Therefore, instead of seeing an object merely as a piece of matter, she perceives it as a means that may serve her need. For that along with the objective features of the object like colour, shape, etc. she also can perceive its use(s) or need-fulfilling-abilities directly.

In this context, the matter of graspability (*prāpyakāritā*) can be mentioned. The matter of graspability is a part and parcel of the perceptual process. Perception cannot be meaningless or purposeless. Every perception has its object that the perceiver desires to grasp or shun. Through perception, a person sees the object directly as it is and gets also as it is. For seeing and grasping an object of perception directly the perceiver has to get involved with the environment and its

ambience not just as the agent of perceptual action, but as the owner of the act of perceiving, including perceptual experiences and its related behaviours. The point is, the role of the perceiving agent is not passive as a zombie, robot, or a slave but as a free individual authority or owner of the action of perceiving, moving, and grasping the perceived object.

For grasping or using objects people are supposed to get involved with the environment as embodied beings. For, the perception occurs in respect to the body of a perceiver. Her body movements, postures, shapes, etc. provide the perceiver with some perspective(s). How to perceive an object, which part of it to perceive, and how to use it for fulfilling some purpose – these matters are related to the perceiver's desire, mood, state of mind, intention, the intensity of the need, etc. and of course on the ability of her body. For example, let us think of a party situation. A man in that party looking for a place to sit and found only a barstool as unoccupied in a two-step distance. However, the man instead of moving towards that stool moves towards a centre table a little more distance from him and seats in a corner-portion of that centre table, which was there as a piece of decoration as well as for placing coffee mug, etc. on it. The noticeable thing is the man is not unaware of the real purpose of the table, despite he uses it for some other purpose that does not go with the concept of a table, in general. There are some reasons behind that kind of behaviour of the man. He is quite aware of her own body's height, which is short, and at that moment and position, he sees directly that his own body's height and the barstool's height are not compatible, for sitting-in. Moreover, if he tries to climb the barstool to sit-in it, the people in the party may laugh at him. Therefore, to avoid that embarrassing and awkward situation he chooses to use the centre table to fulfil her need or purpose. In that situation, he considers that table as a suitable sit-in-able object in respect to her body's height and structure, i.e. the body-perspective. Another reason is there behind that kind of behaviour of

that person. He directly sees and embodies that centre table, at that present moment and situation, as affording him sit-in-ability, capability for carrying her weight, etc. as well as the temperament of the present situation and the environment.

The environment, irrespective of the presence of its inhabitants, has a special kind of character that affords some abilities or features of its objects, surfaces, structures, etc. quite openly. Inhabitants of that environment are supposed to perceive those features by their own and use them as they want to. Those features or abilities are purely objective and stay there in the environment. However, from the subjective aspect, perception and interpretation of the features depend on some factors like the species-culture, social and geographical culture, orientation, etc. That is why a human being sits in the chair, whereas a cat uses a chair as a sleeping place. Again, the chair is used in European culture for sitting purposes, whereas in the classic Chinese culture there is no use of a chair, instead, they sit on the floor and so on. These abilities remain there in the environment. Organisms following their mental and bodily orientations, training or culture, mood, need, present situation, etc. opt the ability (or abilities) and use the object of perception. According to the supporters of the direct perceptual process, these features are objective, real, independent of the perceiver. Perception of these characters also happens directly. Gibson has talked about this essential and real aspect of the environment by coining the term 'affordance'. According to him, affordances remain there in the objects as well as in the environment naturally.

Perception of affordances or the objective abilities or uses is another phenomenological matter. It cannot reach to an individual through some medium rather she directly perceived affordances from the very structure or pattern of the object of perception. The process of the perception of affordances involves a person's embodied presence, faculty of experience. If the object of

perception is some living being then along with the former two factors the process includes another factor called intersubjectivity. Without direct interaction between the perceiver and environment perception of object, distance, speed, shift, change, etc. are difficult to explain. Since perception is a complete process that involves the activity of the perceiver's whole body, therefore, it is obvious that apart from the visual sense organ remaining sense organs also, more or less, become activated and involved in the same action of perception. In real situations, a case of visual perception is supported by the other perceptual systems, too. Since among the activities of all the systems, the visual system works more strongly or effectively that is why the earned perceptual experience or cognition is known by the name of the visual sense organ.

In support of the principal hypothesis of this research, the theories of perception of J. J. Gibson and the Nyāya school of Indian philosophy have been followed with great importance. These two theories represent two models of direct perception. In the next let us explain the ideas of the five chapters of the thesis, respectively, so that the approach of the thesis can be understood.

The central claim of Chapter 1 is perception is a holistic process, in which the perceiver appears as an inevitable part. American Psychologist James Jerome Gibson (1904-1979) is the proponent of this view as well as the claim. His theory of visual perception is famously called the ecological theory of perception because his approach towards perception is ecological. According to Gibson, perception is an action that is supposed to be done to know the object of perception. Perception occurs by direct contact between the perceiver (instead of her sense organ only) and object. In this process, the object is connected with the perceiver as a whole, instead of her visual sense organ only. The process happens in the conscious and aware state of the perceiver. Therefore, it is not an unconscious process. According to Gibson, the environment is one of the important and significant factors for perception. It provides a living place, ground for

staying or standing, background, horizon, and many more things, which are associated with the perceptual process. These factors together shape perception. For perceiving an object of perception, a person directly picks up information from the environment. During perceiving some desired or aimed object, for example, a box on the table, the surrounding environment of that person, in which she and the box both are placed, becomes the matter of her perception, too. The term ‘environment’ refers to the surfaces of the ground, upon which the person and the object are placed, the background and horizon of the object that helps the perceiver to see the distance and size of the object in respect of her own position and body structure. It also refers to its inhabitant living and non-living objects, surrounding lights, present ambience, etc. Instead of the intrusion of sense data, the perceiver by herself collects information by moving through the environment to see some object. The approach of direct perception denies the sole importance and activity of the brain. According to Gibson, “natural vision depends on the eyes in the head on a body supported by the ground, the brain being only the central organ of a complete visual system [instead of] the eye, which is connected to the brain” (Gibson, 1979/1986: 1). From Gibson’s account, it is clear that according to him in the process of perception, the perceiver takes part with her entire body and self-reflected consciousness. In this context, the term ‘self’ refers to the state of I-hood that is represented to the external world through the body and bodily expressions.

In Gibson’s theory of perception, environment and information are two essential factors among others. For him, information is optical information i.e. the ambient optic. Again, in the Gibsonian context, the term ‘environment’ has an expanded reference that includes surfaces of the ground and objects, their textures and gradients, structure and shape of objects, patterns of lights and shades, etc. everything. All of these factors affect a person’s perception. All these factors,

regarding some particular object, are included in the information that the perceiver picks up. It is important to mention here that to pick up information for perceiving an object, as properly as possible, the perceiver has to locomote or move in the environment. Naturally, the activities like moving, picking up information, taking a tour around the object, seeing involves the perceiver's immediate, direct, and of course active engagement.

From Gibson's account, it extracts that behaviour is a part and parcel of the process of perception. For, it is not something separate from perception or caused by perception rather behaviour goes in a parallel manner with perception. Perception and behaviour are like two sides of one same coin. With the reference of the previous example of the barstool and the short heightened man, the inseparable relation between perception and behaviour can be shown. In the case, as the man feels the need to sit, he starts to look around for a suitable seat by moving his eyes, head, and body. Then as he finds an unoccupied seat and recognises that as a barstool, she embodies all the situation and related consequences. Later, following that, moves towards a centre table and uses that for sitting purposes. In the case, the man through looking around, moving eyes, head, and hand perceives and behaves together for finding a way that can fulfill his purpose. Secondly, the verbs, 'finding' and 'recognising' respectively, refer to the actions of observing and recalling the use of the object in reference of the previous experience(s) related to it. These two actions, perception and behaviour, are included in the holistic perceptual process. The action of embodying the situation and its consequences also comes under the process of direct perception. And at the last, his action of moving towards the chosen centre table and using that for sitting purpose reflects the behaviour of that man. Therefore, it can be seen that behaviour in the context of direct perception is not mere physical expression or (visible)

movements but it is the execution of the action of perception. It includes the perceiver's instant realisation, learning, thought, etc.

Chapter 2 covers the very well established Nyāya theory of perception that represents another kind of model of direct perception. The Nyāya model of direct perception supports the intention of the thesis. The Nyāya theory also argues that perception is a direct process that occurs by immediate relation (*sannikarṣa*) between sense organs and its respective object. However, there is a fundamental difference between the Nyāya approach of direct perception and Gibsonian approach of direct perception. According to the Nyāya account, the term 'perception' represents, simultaneously, a kind of cognition (*pramā*) and a kind of means (*pramāṇa*) of cognition. According to the Nyāya view, there is a causal relationship between perception and action i.e. the behaviour of a perceiver. Depending on the perceptual cognition the owner of that cognition desires for the object of perception and proceeds to have or grasp (*prāpta*) that. Including desire, some internal stages appear in between the occurrence of perceptual cognition and achievement of the object. The stages are desire (*icchā*), will (*cikīrṣā*), volition (*prayatna*), and effort (*ceṣṭā*), respectively. The theory accepts that the role of a perceiver in perception and behaviour is active and direct. She remains actively present in the processing of perceptual cognition and its related behaviour, too. In the Nyāya context the phrase 'the perceptual process' or 'the process of perception' has been used to refer to the entire activities of perceiving and behaving together. In a complete perceptual process, the behaviour part expresses the subjective aspect of a perceiving agent regarding her choice, mental state, etc. internal matters. The behaviour also expresses the perceiver's attitude towards the world. The perceiver participates in the process not partially, but completely with her mind, body, and I-hood i.e. the sense of self-awareness and self-understanding.

From the Nyāya account of the body, i.e. *śarīra*, it seems that the body of a perceiver has some significant role in the process of perception. It contributes to the act of knowing the world around her and interacting with it. An agent of perception embodies all of her earned experiences of pleasure and pain through her body. These embodied earned experiences, in the form of memories or traces (*samskāra*), works later as relations in the process of extraordinary perception (*jñānalakṣaṇa pratyakṣa*).

It is true that in the Nyāya theory, the matters like environment, sociocultural backgrounds, etc. of the perceiver are not treated as to be discussed separately, but it seems that these matters already are there in the Nyāya concept as natural, obvious, and so presupposed factors. The mental states, present situation, ambience, experiences regarding felt pain and pleasure, etc. of a perceiver together influence her desire, will, and volition. Following that, the effort i.e. the action of the perceiver regarding the object of perception is expressed. In the state of effort, the perceiver moves her motor organs, which are very part of the body, to grab, shun, or avoid the perceived object.

The matter of Chapter 3 of this thesis is different from the central hypothesis of the research work. This chapter contains an elaborated discussion on the process of indirect perception. The fundamental claim of this discussion is perception is an indirect and mediated process. The intention behind the inclusion of a discussion on indirect perception is to see whether the central hypothesis of this thesis that ‘it is only possible to explain the mechanism of embodied perception of a human being following the approach or model of direct perception, instead of the established approach of indirect perception’ is justified or not. Moreover, the objective of this chapter is to uphold the positive aspects of the direct approach in disguise. For discussing indirect perceptual processes, the information processing approach has been chosen among

others. According to the approach, perception is the outcome of processing of information that enters in the brain through the door of the sense organ, following connecting nervous pathways. The brain plays the role of the processor. The chapter mainly contains a discussion based on Richard Langton Gregory's (1923-2010) theory of visual perception that represents perceptual constructivism. Gregory claims that perception is construction. Depending on the passively received fresh sense data and stored memory, the brain hypothetically constructs perception. In the hypothesis, the amalgamation of newly entered sense data or sensory information and stored memory pieces works as the antecedents that imply perception as consequence. It is necessary to say that the method of construction is induction. For that reason, there remain open scopes for error in perception.

Gregory describes the brain as the memory bank. According to his explanation, information that comes from the external world does not reach the brain as an intact or as continuous flow. For various reasons, like the blinking of eyelids, the momentary distraction of mind, external obstruction, etc. the flow of information is discontinued. Apart from that, the information in the form of signal enters through the retina then received and decoded by transducers and then reaches the brain. During this journey also, some parts of the information get dissolved or missing. Therefore, during the processing of the information the brain picks up similar, consistent, and compatible snippets of stored information from the memory bank and fills the gaps in the flow of information. In this way, the brain interpolates perception and later depending on the interpolated perception the brain extrapolates behaviour i.e. the consequence of that perception. The brain at the primary stage depending on the received information and snippets of consistent memories constructs a hypothesis, following which it interpolates perception and

extrapolates behaviour. Since perception and behaviour both are produced being based on hypothesis therefore there remains an open scope of mistake or being wrong.

From the perspective of this research work, the main problem of the indirect approach of perception is it does not accept the involvement of the human body in the process of perception. According to Gregory in the process of perception, the role of a human being is indeed passive, mechanical. For him as well as for the information processing approach in general, perception is not something that a human being does by himself following her physical ability and mental states like, desire, volition, etc. Instead, it is something that is produced in the brain of a human being. A human being is not supposed to see or behave according to her own mental states, external situation, and environment; rather, she is bound to see and behave according to her brain's commands. The theory accepts neither the active participation of human beings nor the body's independent activity and coping ability with the environment. The theory argues that every organism, especially human beings, are born with some innate abilities to understand and cope with the environment. Rests of actions are subject to be learned. Despite the passivity of the agent in the process of perception, Gregory describes his theory as an active theory of perception, due to the brain's sole supremacy.

The flaw of this theory is it is not able to explain the fact of coping with the present situation, environment, etc. to get fit into it. The fact of coping expects optimum grip on the environment for an organism. If the organism does not encounter her surrounding environment, etc. factors directly, then it is impossible to cope up with them. The very notion of coping expects the bodily involvement of the perceiver. The perceiver, for knowing the environment whether it is inhabitable or not, is supposed to sense it bodily. Therefore, it can be seen that it is quite difficult to explain the embodiment of perception following the theory of indirect perception.

Chapter 4 of the thesis contains one more model of indirect perception that is the Sautrāntika theory of perception following Dharmakīrti's *Nyāyabindu* and Vasubandhu's *Abhidharmakośa*. The chapter is divided into two halves. The first half contains a discussion from the perspective of perceptual cognition, following *Nyāyabindu* and the second half covers the issue of perceptual experience, following *Abhidharmakośa*. In this thesis, the chapter is counted under the category of indirect perception, which is contradictory to the convention. People may wonder that the Buddhist theory of perception is famously known as a theory of direct perception. There are a few reasons for choosing the Buddhist view of perception as a model of indirect perception. The first reason is Dharmakīrti's description of perception (according to *Nyāyabindu*) contains a model of constructivism in it, which has a quite close similarity with Gregory's constructivism. Secondly, despite claiming perception as a direct process Dharmakīrti does not accept that an object is perceived as it is or someone can get it as it is by herself, following her desire or convenience. For Dharmakīrti the bare particular of an object (*svalakṣaṇa*) is the real and pure form of the object. In the state of indeterminate perception, this bare particular directly gets connected with the sense organ of the perceiver and gets received as information. At the later stages of the indeterminate perception like sensory perception (*indriyajñāna*), mental cognition (*manovijñāna*), and self-cognition (*ātmasamvedana*) the information is processed and as result perception is caused as pure cognition (*samyagjñāna*). Thirdly, the Buddhists do not accept determinate perception as 'the perception' (in the pure sense) at all. Rather they categorise determinate perception as inference or construction of mind. Only in a figurative sense, they call the determinate aspect as 'perception'. To separate the determinate perception that includes experience and behaviour from indeterminate perception, they call it *saṃjñā*. Fourthly, Buddhists accept that cases like recognising, using, or experiencing objects are all the matters of inference.

For them besides the bare particular of objects rests are merely constructions of mind and apart from indeterminate perception other kinds of cognition, including determinate perception, are categorically nothing but an inference. Along with that, it can be mentioned that for Buddhists emotions, feelings, desire, etc. mental states are also inferential matters, deals with an object's universal character, therefore, none of these can provide pure (a form of) knowledge.

Again, in Abhidharmakośa, Vasubandhu at the beginning agrees that accepting the figurative reality of worldly objects, emotions, experiences, etc. are necessary. For according to him, through material enjoyment, a person knows the futility of these matters and realises the truth of momentariness (*kṣaṇīkatva*), non-eternity (*anityatva*), non-self (*anātmata*), and dependent origination (*pratītyasamutpādatva*). In fact, in Abhidharmakośa despite giving an elaborated explanation of determinate perception, Vasubandhu argues that all these are constructed being dependent on the first reception of the bare particular of the object of perception. Therefore, it can be said that the Sautrāntika theory of perception ultimately represents an indirect model of perception in the structure of constructivism that accepts inference as the central mechanism. Like other indirect theories of perception, this theory is also unable to reach the notion of embodiment in the context of perception. On the ground of the theory of momentariness, Buddhists do not accept the permanence or one-ness of the body of a human being until her death. Therefore, following the link, they also deny the continuous existence of the consciousness and experience of that human body.

Chapter 5, i.e. the last chapter, contains a proposal for a model of perception that is built upon the triad of Gibson's theory of perception, the Nyāya theory of perception, and the notion of embodiment. The model is named as the model of embodied perception. The main argument of this chapter is: perception involves action. It is not right to consider an individual, who has the

sense and ability of perception, merely as an agent of the action of perception. In the entire process of perception, the individual remains present (as one of its inseparable part) there with her body, mind, consciousness, experiences, expressive or non-expressive feelings, etc. In short, she remains present there as a complete embodied being. Her ego or the I-hood recognises its own existence as embodied and experiences her own physical structure as 'my body'.
