

# Order and Perception ——The idea of E.H.Gombrich to build a “sense of order”

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## **Abstract:**

People tend to make decorations for objects. This strong desire originates from a genetic sense of order. It is this sense of order, serving as an inner reference to acts and behaviours, that enables people to extend their framework of order during the process of exploring environments and researching nature. It is from this sense of order that are born the easily perceived man-made orders, after people having absorbed natural orders and sought their own ones.

**Key words:** a sense of order; the perceived; framework; man-made orders

People are curiously willing to decorate the things that they have produced. Even among the most primitive arts and in the most impoverished tribes are seen some simple patterns on water containers as well as fabrics used as body coverings. When looking around ourselves, people play with patterns on every aspect: from tiny picture frames to grand architectures; from graphic designs to spacial sculptures. However, decorations are always viewed and accepted as a background, of which the different forms are almost doomed to escape people's

attention. Few people would be attracted to the complexity of these decorations, not to mention be interested by the question of why people are still endeavoured in decorating. The tradition of design is composed of all kinds of crafts, art forms and cultures in human's producing activities, ranging from the rhythm, to which children never tire of patting balls, the shape, which an open book would look like, to the building, of which the configuration is geometric. People's tendency to love orderliness and diversity has given rise to this tradition<sup>i</sup>.

Not only human beings, but also other lives have strong pursuit for orderliness. To survive means to take appropriate actions according to the circumstance and the difficulty that is present, upon which depend the reasonable analysis and judgement: should escaping or motionlessness be the priority in face of danger? Is the fruit edible? The environment being chaotic, animals have to learn the laws to react correctly. It is the organism's seeking of orderliness where E.H.Gombrich(1909-2001) discovered the existence of "the sense of order", which takes root in the well-known perceptual theory that he used in dealing with the concept of representation in *Art&Illusion*. The perceptual theory, also called "searchlight theory of the mind" by professor Popper, argues that organism initiatively observes and assesses the surroundings just like a searchlight radiating in the dark night.

The prerequisite for sensing the environment where include colour, noise, weight, smell and so on is the inner framework, serving as a perceptive reference, which, in order to master laws and changes as the organism evolves, plays the role of a guide to enable active prediction. The gymnarchus niloticus, for instance, utilises a specific internal radar to assess moving trails, detect enemies, discover food and recognise both its deme and mates. <sup>ii</sup>On the opposite side is the "bucket theory of a mind", according to which, human beings must have perceived -- a sensory experience -- before having any knowledge on or having anything to say about the world. This much resembles a bucket where perception and knowledge are preserved and accumulated. Over time, our understanding of the world is pieced appropriately together. <sup>iii</sup>There is no doubt that our experiences are never meaningful, nor are our actions nor observations, without an inborn framework of the mind; human brains cannot organise sensory perceptions according to chronological or spatial order, either. While perceptions fail the organism in presenting environments, survival would be even harder.

"The sense of order" that is deep rooted in human gene and plays the role of inner reference to organism actions, matters when human's behaviour deviates from orderliness. Obviously, a comprehensive perception of the objective world would be impossible with mere "knowledge", for knowledge solely does not suffice to perceive and transform itself without the existence of mind. Under guidance of the framework of order, organism reacts to various stimulations. The father of ecology, Konrad Lorenz(1903-1989), observes how paramecia react when hitting obstacles: at first paramecia turn around, then swim at a random direction; from the phenomenon does he conclude that paramecia know some objective situation of the outside world, that is, there is an obstacle in front. What the paramecia "know"

is correct: “something” blocks the way. Attention should be paid to that, though an organism needs orientation at every period of life, the inner framework itself is not an “answer”, but an instruction for continuous improvement and updating, which could be achieved by initiative search and exploration. The response of the paramecia is essentially a prediction based on the inner framework. Gombrich equals the paramecia’s inner reference of order to the sense of order: the ciliate must have supposed that the obstacle it has met stay where it was, or it would have still hit the same object despite the change of route. Therefore, the reactions of lives are based upon presumption instead of knowledge.<sup>iv</sup>

Gombrich holds the view that the environment where biology live has no order, thus, such framework meant to expand the predictive function of organism and serving as a reference to perceptive activities, is vital when the organism’s action deviates from orderliness. The abstract “framework” is what he calls “the sense of order”, which is deeply rooted in the gene of organism.<sup>v</sup> Also, through confirmation of or contradiction against the assumptions that are made according to an inner sense of order, people could gradually explore the complicated surroundings around them. It is not difficult for a child about 1 year old to find out a certain object in the home, of which he or she has learned the environment quickly. If, in an area that the child is familiar with, a mattress is put a little higher than the ground, it is highly possible that the child stumbles at the first time; but through passing the area more than once, the child would soon master the method to avoid being stumbled again by lifting a foot a bit higher, since the same way as before leads to stumbling. Then the child has overthrown the old perception of order, and has built a new sense of order. Unless the regular rhythm is broken, actions that are so simple as walking and going down the stairs are unconscious. Such common example as “going down the stairs” is used by Gombrich: the action itself has its orderliness, yet when arrived at a terrace, people would perceive a deviation from the former order, and then the order of action to walk on a flat is regained.<sup>vi</sup>

What is magnificent of “the sense of order” is its emphasise on the reaction to non-orderliness. Different from what Gestaltism highlights, that perceptions tend to have a simple form, Gombrich expects to make an artificial break in orderliness, so as to draw focus on vision and hearing; thus attentions would be attracted and interests born. In addition, it is the information theory that Gombrich referred to in building a theoretical system of “the sense of order”. The amount of information carried is measured by how accidental an event is; the information predicted is considered as “redundant”, because attention would automatically define such information as “decoded”, for which people are not interested in familiar or regular things due to a sense of monotony. The irregular events and objects that attract people, on the contrary, always carry a large amount of information. The perpetual mutual effect of orderliness and deviation in human’s perception gives rise to the establishment of aesthetic joy that exists between orderliness and disorder, between monotony and chaos.

That is how people, in perceiving the environment, gradually coordinate all the actions and activities to pursue a more complicated rhythm of life. The activities that require harmony include patting balls, which seeks an eye-hand concert, and jogging, which involves the co-work of heartbeats, respirations and actions. Under guidance of the sense of order, actions and speeds freely combine to give birth to various rhythms. The order and cooperation of actions are prime in the work of building, carrying and decorating. Also, during the long process of adjusting the rhythm of life, people have obtained flexibility and adaptability. The brain directing, the sense of order manipulating the rhythm of actions and serving as powerplant, people could make varied arts by the coordination of mind, hand, and eyes. Such complicated crafts as weaving, tapestry and sculpture require a skilled fabricator as well as his or her rhythmical breathing and heartbeats, and thus are filled with the fun of life. Those designers could make use of skill, which originates from rhythm and orderliness, to give rise to more diverse challenges.

By studying nature and seeking order, people perceived the natural order, and during the process was born a man-made order that is highly perceptive. Before we see the world as it is today, one that is composed of geometric shapes, we were much more attached to nature, which is complicated. In nature are hidden the natural orders and patterns: the symmetrical shape of snow flakes, the arrangement of flower petals, and the regular layout of feathers. All those fantastic creations trigger the astonishment of human beings. What's more, these patterns are not meaningless: the insects that conceal themselves in the forest by camouflaging amongst dead branches are hardly detected by their predators and humans; peacocks have extraordinary feathers that are meant to attract females. Throughout evolution, these two extremes, featuring the struggle of lives to survive, have attracted people's interest and were borrowed by human beings. Our attention often escapes those who share similar characteristics, so in a war such visual law is referred to: soldiers disguise themselves by smearing faces with mud and by wearing camouflaging clothes that resemble the environment.<sup>vii</sup> In comparison to chaotic environments, however, natural order is easy to be seen. Birds could construct ordered stages to draw attention of their partners; the bright colours of flowers would soon attract insects of the surroundings.

Quickly enough, people found that perception could be confused and order contradicted. They began to create abstract geometric style, since it makes up such little proportion in nature and thus could easily raise people's consciousness. The pyramids are exceptionally awesome, with the almost alien simplicity and grandness; the tiles paved in order mark directions in the wildness, being the production of human brains that are capable of controlling; residential and commercial districts that are constructed in geometry shapes surround people all the time. W·Hogarth(1679-1764) calls for diversity in pleasing, for simple geometry no longer satisfies human brains.<sup>viii</sup> Designers try their best to create patterns that conform to human eyes, by, for example, repeating the combination of shapes

according to geometric law, by the principle of stepwise complexity to present gradations in designing effect, or by enhancing contrast between similarity and diversification. Further more, in designing more complex decorative patterns, it is, after the perception of natural order, what to be underlined and what to be averaged that has to be figured out. People have enjoyed a lot during the gradual establishment from simple orders to more complex ones.

Overall, human beings have succeeded in expanding the framework of order under instruction of nature, to create designs and orders that feature more originality and diversity, among which calligraphy, painting, decoration are splendid productions of the coordination between mind and hand. In perceiving nature, people have been endowed by the sense of order with great treasure -- the constant pursuit of improvement and innovation. However, once going beyond human's inner "predictive framework", such pursuit could lead to the absence of the sense of order and the loss of a genetic support that originated from the organism tradition.

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<sup>i</sup> K·R·Popper mentioned in *Objective Knowledge*:“.. 我先是在动物和儿童身上，后来又在成人身上观察到一种对规律性的强烈需求——这种需求促使他们去探寻各种各样的规律。” Referring to *The Sense of Order* by E·H·Gombrich, translated by Siliang Yang, Yiwei Xu, and Jingzhong Fan, Guangxi Fine Arts Publishing House, March, 2015, p1.

<sup>ii</sup> *The Sense of Order*, p4.

<sup>iii</sup> K·R·Popper. *Objective Knowledge*[M]. Translated by Weiguang Shu, Rufeizhuo, Yongxin Liang, etc. China Academy of Art Press, Jan, 2017, p336.

<sup>iv</sup> *The Sense of Order*, p2.

<sup>v</sup> Idem, the preface of the second version.

<sup>vi</sup> Idem, p11.

<sup>vii</sup> Idem, p117.

<sup>viii</sup> William·Hogarth, *The Analysis of Beauty*[M], translated by Chengyin Yang, Shanghai People's Fine Arts Publishing House, Jun, 2017, p64.

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