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Context – what is it?

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I will start with very notorious statement: *context* is the word probably the most frequently used in psychology. We conclude very often that our experience and/or behavior are dependent on context. It is particularly the case in the field of sensation and perception.

It is well known, from many studies, that quality and intensity of our sensation and perception are strongly influenced by context. The examples are chromatic and achromatic simultaneous and successive contrast, perceptive illusions, and many others.

These, and many other examples, show us that in almost every case there is some particular mechanism of context influence. Obviously, mechanism of effect of intensity of other stimuli on subjective intensity of target stimulus in psychophysical experiment is quite different from mechanism of influence on experience of some color which is surrounded by different colors. Does it mean that we should talk only about contexts and not on context as a general, unique phenomenon?

What is context? In psychology, context is a part of stimuli pattern, and is usually not in the focus of observer's attention, but it can influence the experienced value of target stimuli pattern as well as other individual's mental processes and behavior. Colman (2006) added information as influence factor on organism's response to a stimulus, besides surrounding objects and events.

Context and the target stimulus could exist concurrently, i.e. in the same time and place with the focused part of stimuli pattern, but context could also be apart of the target stimulus in time and place. Context objectively and experientially usually (but not always) represents a larger whole compared to the target stimulus (or content).

Albright and Stoner (2002) said that "context is the sensory/behavioral/cognitive milieu that influence the way each sensory feature is perceived".

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In my opinion there are two main reasons for context influence. One is incompleteness of stimulus pattern and the need to complete it, and the other, more general, is need for meaning of stimuli pattern.

Many authors speaking on context influence stress the interaction between target stimulus and the surrounding. It means that there is not influence in one direction only.

If we are looking at it from the evolutionary standpoint, we see that our mind has developed in an environment in which everything was in some kind of context, everything happened or existed in some surroundings. Is there anything in our perception and in our judgment which is outside of some present or past or imagined context? That is why our mind's normal behavior is to perceive and judge everything in relation to the things which are surrounding the target stimulus.

It is very easy to agree with statement which connects perception and evolution (Gordon, 1989): "To understand what an animal's perceptual systems can do we must consider the environment in which they evolved, for it is this environment which shaped the system. We should consider the animal and its environment as two interacting systems. (…) The environmental niche determines the structure of an animal and its senses. (…) Perception is an activity."

Gordon (1989) also cites J. J. Gibson: "The words 'animal' and 'environment' make an inseparable pair. Each term implies the other. No animal could exist without an environment surrounding it. Equally, though not so obvious, an environment implies an animal (or at least an organism) to be surrounded".

In essence, up to this point, Gibson with his direct perception and ecological optics, and Gestalt psychologist were thinking in a similar way. Gestalt psychologists consider that our experience is integrated at a much higher level then the receptive field, although their supposition of neurophysiologic substratum was wrong. In this sense Gestalt psychologists are generally right, and I strongly agree with Ricardo Luccio when he says (Zagreb, 2007): "... in

my opinion Gestalt theory in its more recent development can help more than other approaches in defining the exact terms of the problem."

It is quite normal that there are many different mechanisms through which context operate in different circumstances. This fact was verified in a number of studies. After Wiesel and Huber research went in the direction of searching for special functions of group cells or individual cells in the brain. But contemporary research shows us that brain functions much more as a unity, as a whole. Other parts of the brain can easily take over functions of damaged brain parts or parts destroyed by some disease, and also (as says Nakayama, 1998) spread the functions of some parts (e.g. visual cortex) to temporal lobe, i.e. wider then it was supposed up to now.

Mark Rollins (1998) also said: "Recent research in cognitive psychology and neuroscience has produced a wealth of curiously similar results about surprising effects of short-term perceptual plasticity."

Beside Gestalt approach, there are few others attempts which tried to grasp the problem target perception and the influence of its surrounding. The most known are Helson's Theory of level of adaptation and Anderson's Theory of information integration. But both of them remained on the margins.

Yet, Anderson (1992) especially emphasizes importance of context effects because they can provide a conceptual-methodological foundation for psychophysics. "The concept of psychophysical law, however, has been inhospitable to context effect. The prototypical psychophysical law is a single-variable function, intended to define 'the' relation between the physical stimulus and conscious sensation. Context effects, especially from other sensory modalities, complicate this relation and tend to be avoided. Such simplification strategy is common in science." (p. 98). Anderson also makes the point that ecological importance of context effects needs no argument.

J. Hochberg (1998) thinks that "...only an understanding of the nature and purpose of the behaviors of perceptual inquiry, and their ecological and physiological contexts, will serve as an explanation of the diverse processes of organization: not any unified isomorphic theory or mathematical model".

From this perspective it is also important what R. Luccio (2007) said: "In my opinion, what is the underlying mechanism doesn't matter". What he said should not be taken literally, but in the sense that there are a great number of various real manifestations, and context influences, and that we have to look beyond and behind these mechanisms.

So, I believe that for modern integral theory of perception we need much more knowledge on context and its effects. Also, I think that we will come to such an integral theory easier via psychophysiological research, on the first place, than by any other approach because only psychophysical methodology gives us integral results. With psychophysical methods we investigate experience which is by definition integral.

Instead of conclusion I offer few questions for which there is a need for further research, and the answers would, I hope, tell us whether the context is a universal phenomenon or not. It means that in our investigations we have to study the whole, not only some special cases, or in other words, when studying special cases we need to look for general phenomenon.

The questions are:

- What is context? Definitions which we have are only descriptions, nothing more.
- Could we say that every experience, every judgment, every decision and so on is influenced by context?
- Are there different levels of influence of different contexts?
- In which way(s) a context can be represented?
- In which way(s) the current context effects can be recognized (in every case separately, and generally)?
- Could context be quantified in every case?
- Are there individual differences in context influences?

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