



Dr. Blosa Science

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## Comprehension story 14

Read the passage below and answer the questions that follow, using your own words wherever possible.

Let us start with some biological “given,” since development is fundamentally a biological process. The key concept is *multi-potentiality*. Any living creature, but especially the higher animals and man, possesses a large number of *possibilities* for action at any one time, and for development over the whole life span. One way of characterizing the whole process of development is to say that it consists of the transformation of a large number of possibilities into a limited number of actualities. 05

The earlier the developmental stage we are considering, the larger is the number of potentialities. The act of conception rules out a tremendously large number of egg-sperm combinations that might have occurred before one particular combination takes place. A newborn infant has an almost infinitely large number of family situation and cultural environment. All these diverse potentialities are quickly lost when he begins to develop in the one family to which he has been born. At the age of one, a child has potentialities for fluent expression in several thousand languages. By the time he is two, most of these potentialities have been lost because he has had the mark of one language stamped upon him for life. 10 15

The second major biological pillar is the concept biologist have called *time’s arrow*. Whatever may be the status of time as a variable in the physical science; for living beings the important thing about it is that it runs in one direction. Furthermore, for any single individual, it is limited, and eventually it runs out. 20

The biological fact to be emphasized follows from the first two. It is the concept of *selection*. From birth to death, an organism is repeatedly required to select which possibilities are to be utilized in action and development. The factors that control the selections are in part external and in part internal – environmental pressures, motives and desires. For the human species, part of this selective process occurs 25

through conscious choice. The person is aware of the possibilities he faces and deliberately chooses one of them.

The fourth biological imperative is a fact of somewhat different sort—the phenomenon of *spontaneous activity*. It is a literal fact that a living creature is in some way active every instant from conception to extinction. Something is always going on – cells divide, the heart contracts, electrical impulses keep up their rhythmic ebb and flow. The human infant cries and kicks and looks around him, whatever his surroundings. The child walks and talks, plays and imitates, in every variety of family and culture. What those who guide development do is to modify pattern *activity*, not create them. Thus we should aim at an understanding of motivation that explains the *direction* an individual’s activities take rather than the reason for his being active at all. The emphasis psychologists have placed on stimulus-response formation about behavior can lead to an unexamined assumption that an organism act only when we or some other agent stimulates it. What is being emphasized here is whether or not any identifiable stimulus is present, if a creature is alive, it will be doing *something*.

The fifth of the essential biological ideas is the concept of *organizing structures*. The thing that transforms spontaneous activity into meaningful actions and purposes can be thought of as a structure of some sort, the parts of which fit together into organized whole. More than anyone else, it was Piaget who brought this biological concept into developmental psychology. He calls such a structure a *schema*, and has devoted a lifetime of research to finding out how the simple schemata that control infant behavior are elaborated into the complex schemata characterizing mature thinking.

The sixth concept, emphasized perhaps more by philosophers than by biologists themselves, is *emergence*. At some point in the transformation of simple organizations into systems of increasing complexity, the complex organization acquires genuinely new properties. The major evolutionary points at which such shifts have occurred are the junctures where *matter took on life*, and where *life took on mind*. According to this way of thinking, biology must make room for principles not found in chemistry and physics, and psychology must accommodate principles not to be found in biology. There need be nothing unnatural or supernatural about this. The new quality is a function of the complexity of the organization itself. While not all biologists and psychologists are convinced of the soundness of this concept of emergence, it is at least a useful tentative assumption in a theory designed to

undergird counseling, because it leads to attach some importance to what a person thinks, as we try to understand his behavior and developmental possibilities.

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## Questions

- (a) Suggest a suitable title for the passage (02 marks)
- (b) What does the author:
- (i) Mean by “... Transformation of a large number of possibilities  
Into a limited number of actualities” (line 06 – 07) (03 marks)
  - (ii) Say about “times arrow”? (line 19) (03marks)
- (c) In not more than 100 words, summarize what, according to the author,  
the factors that influence human development and behavior. (12marks)
- (d) Explain the meaning of the following words and phrases as used in the passage,  
using you own words wherever possible
- (i) Act of conception (line 09) (02 marks)
  - (ii) Stamped on (line 17) (02 marks)
  - (iii) Spontaneous (line 31) (02 marks)
  - (iv) Rhythmic ebb (line 31) (02 marks)
  - (v) motivation (line 38) (02 marks)
  - (vi) identifiable stimulus (line 42 - 43) (02 marks)
  - (vii) evolution (line 55) (02 marks)
  - (viii) took on life (line 56) (02 marks)
  - (ix) make room for (line 57) (02 marks)
  - (x) tentative (line 62) (02 marks)
- (20 marks)

Spellings, Punctuation and Grammatical Expression (SPGE) (10 marks)

## Suggested answers

- (a) Suggest a suitable title for the passage (02 marks)
- ❖ The factors that influence human development and behavior
  - ❖ Multi-potentiality of man
- (b) What does the author:
- (i) Mean by “... Transformation of a large number of possibilities into a limited number of actualities” (line 06 – 07) (03 marks)  
It means only few of the large number of human potentials are truly filled in his life span
- (ii) Say about “times arrow”? (line 19) (03marks)  
Time moves in one direction, limited is limited and consequently runs out at a given time
- (c) In not more than 100 words, summarize what, according to the author, the factors that influence human development and behavior. (12marks)

### THE FACTORS THAT INFLUENCE HUMAN DEVELOPMENT AND BEHAVIOR

The factors that influence human development and behaviors are influenced by the possession of inherent larger number of potentials or possibilities at birth; time’s arrow or limited and directed life span; selection or ability to choose from among the many possibilities what to actualize; spontaneous activity or ability to perform random series of activities; organizing structure or ability to transform the random activities into meaningful actions and purpose; and lastly emergence or ability to transform simple organization into systems of increasing complexity where matter turns into life, and where life took on mind.

- (d) Explain the meaning of the following words and phrases as used in the passage, using you own words wherever possible
- (i) Act of conception (line 09) (02 marks)  
Origin of /onset/commencement of life
- (ii) Stamped on (line 17) (02 marks)  
Imprinted on/ impressed on/made permanent
- (iii) Spontaneous (line 31) (02 marks)  
Random/natural/unplanned
- (iv) Rhythmic ebb (line 34) (02 marks)  
describes something that changes in a regular and repeated way

- |        |   |            |
|--------|---|------------|
| (v)    | motivation (line 38)<br>drive/incentive/force/inspiration                           | (02 marks) |
| (vi)   | identifiable stimulus (line 42 - 43)<br>causes/sources/roots of observed activities | (02 marks) |
| (vii)  | evolution (line 55)<br>advancement/development/growth                               | (02 marks) |
| (viii) | took on life (line 56)<br>started living, assumed life                              | (02 marks) |
| (ix)   | make room for (line 57)<br>explain/accommodate                                      | (02 marks) |
| (x)    | tentative (line 62)<br>for the time being/provisional                               | (02 marks) |
|        |   | (20 marks) |

Spellings, Punctuation and Grammatical Expression (SPGE) (10 marks)

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**Thanks**

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