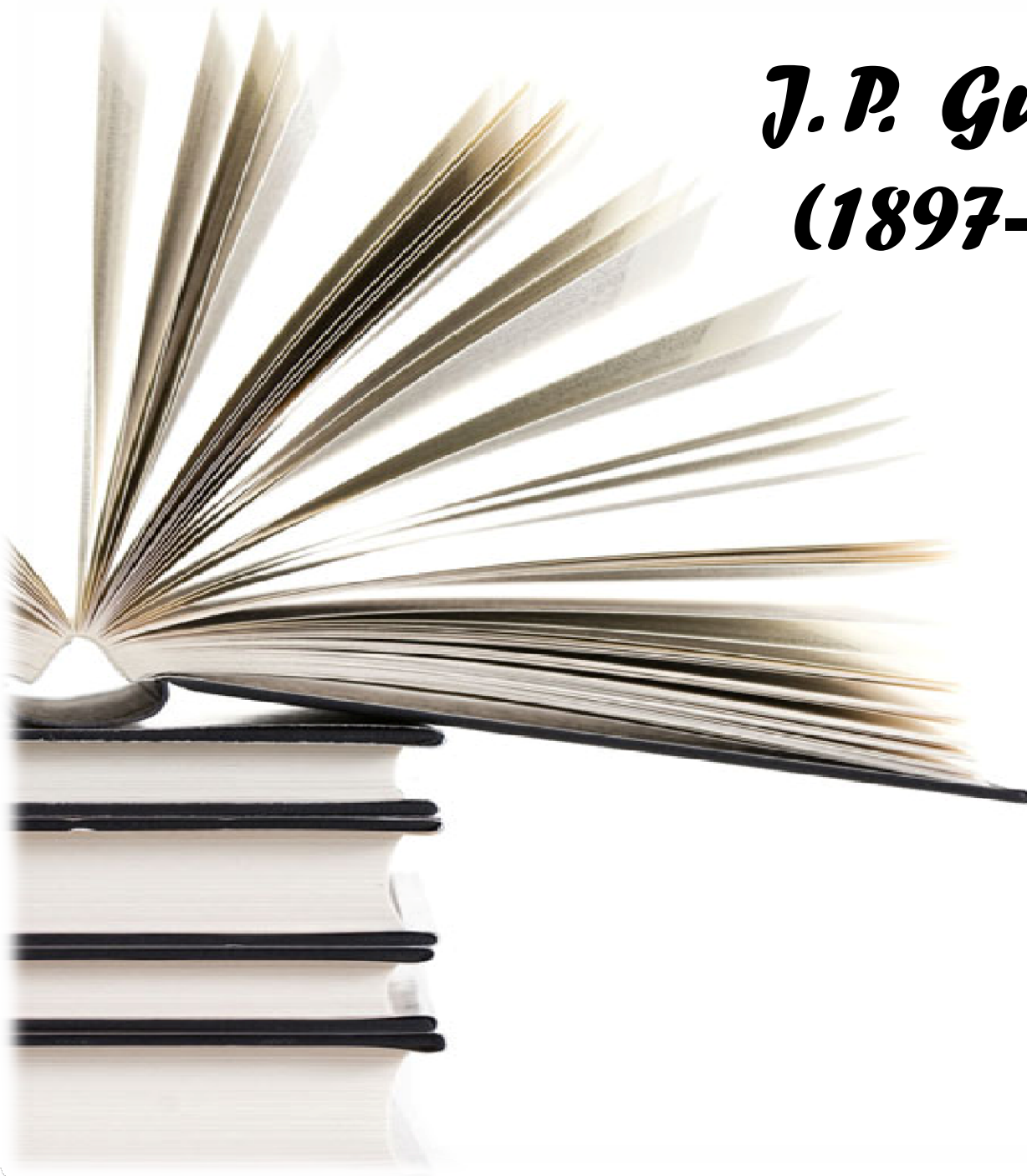


***J. P. Guilford
(1897–1987)***

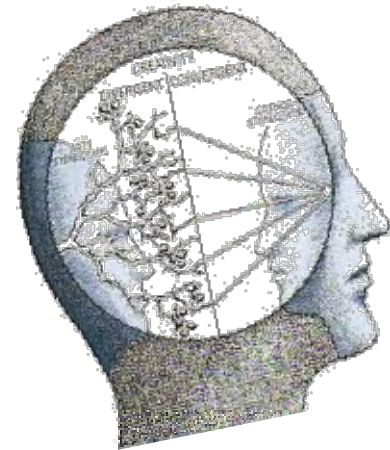


***Presented by:
Biplab Halder***



J.P. Guilford (1897–1987)

was a United States psychologist, best remembered for his psychometric study of human intelligence, including the distinction between convergent and divergent production.



Difference

Convergent Thinker

- Logical
- Objective
- Intellectual
- Realistic
- Planned
- Discriminative
- Structured
- Quantitative

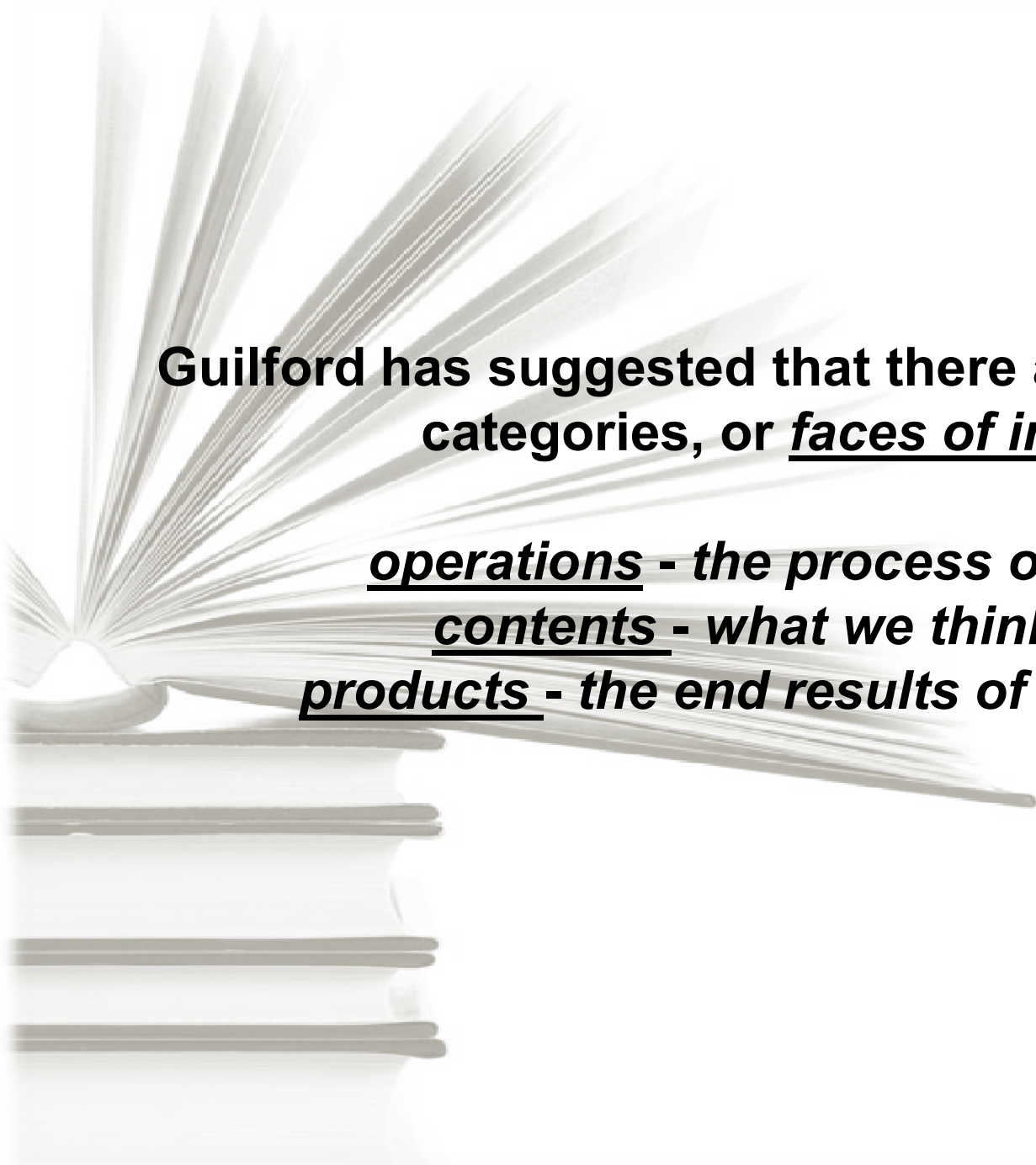
Divergent Thinker

- Intuitive
- Subjective
- Emotional
- Imaginative
- Impulsive
- Holistic
- Free-wheeling
- Qualitative

Best known for....

Proposed the concept of divergent thinking, ability to find several solutions to one problem, as a quality of creative people

- Fluency (great number of ideas in a short period of time)**
- Flexibility (simultaneously propose a variety of approaches to a specific problem)**
- Originality (produce new, original ideas);**
- Elaboration (systematize and organize the details of an idea in a head and carry it out)**



Guilford has suggested that there are three (3) basic categories, or faces of intellect:

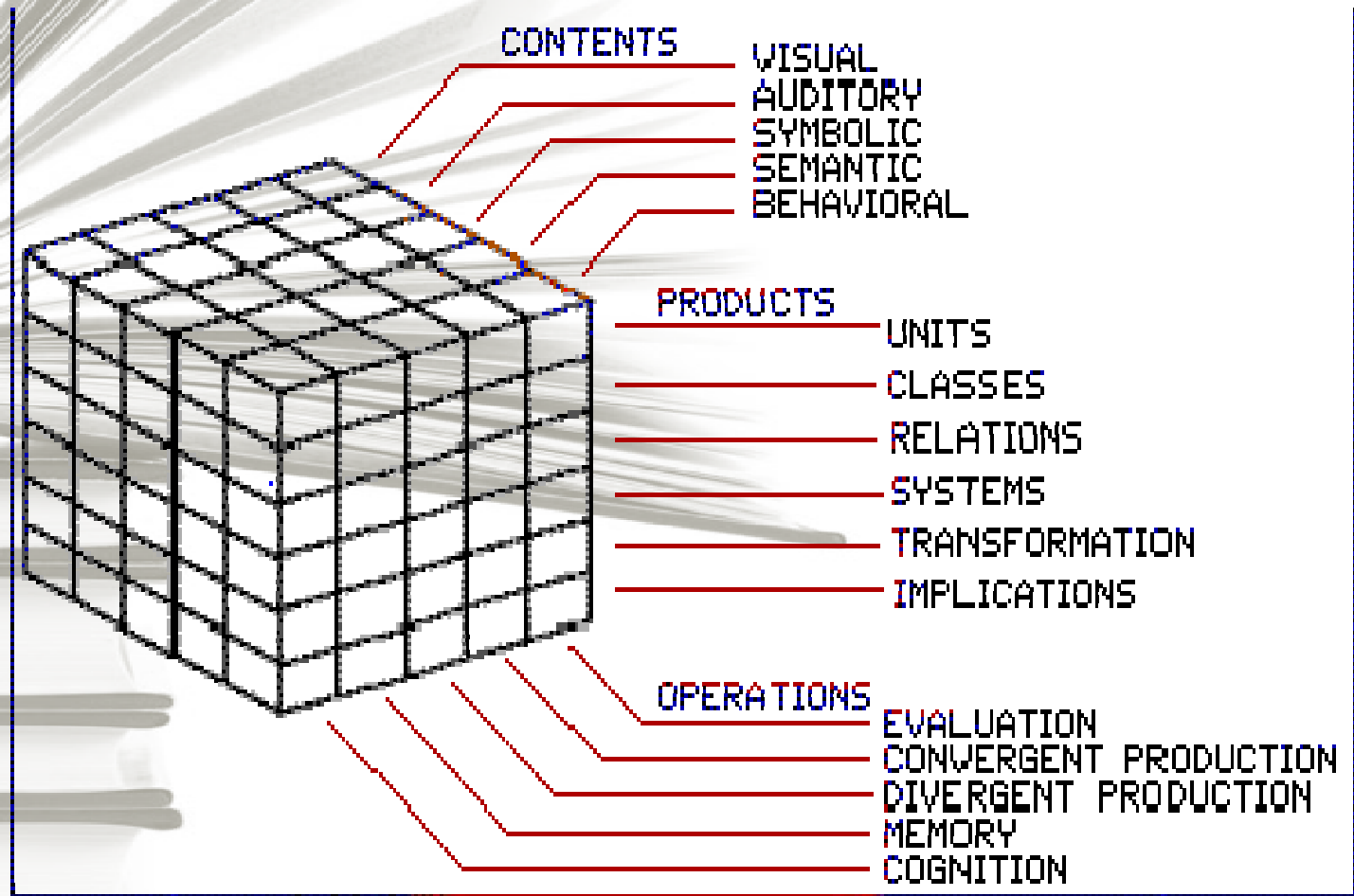
operations - the process of thinking

contents - what we think about

products - the end results of our thinking???



J.P. Guilford developed the idea of specific intelligence factors into a very detailed model beginning in the 1950s. Guilford(1967) conceives of intelligence as being a combination of three dimensions, shown in the below model:



Operations dimension



- Cognition

is the ability to recognize various forms of information and to understand information.

Example: A child who can separate a mixed pile of squares and triangles into separate piles of squares and triangles is exercising a degree of cognition.

- Memory is the ability to store information in the mind and to call out stored information in response to certain stimuli.

Example: A student who immediately answer 1 when asked to give the sine of 90° is using his or her memory.

• **Divergent** is the ability to view given information in a new way so that unique and unexpected conclusions are the consequence.

Example: A mathematician who discovers and proves a new and important mathematical theorem is exhibiting considerable ability in divergent production.

• **Convergent** is the ability to take a specified set of information and draw a universally accepted conclusion or response based upon the given information.

Example: In algebra lesson, student who finds the correct solution to a set of three linear equations have used his or her convergent production ability.

- **Evaluation** is the ability to process information in order to make judgments, draw conclusion and arrive at decisions.

Example: If we want to solve mathematics problem we think hard to solve it by simple method

Content dimension

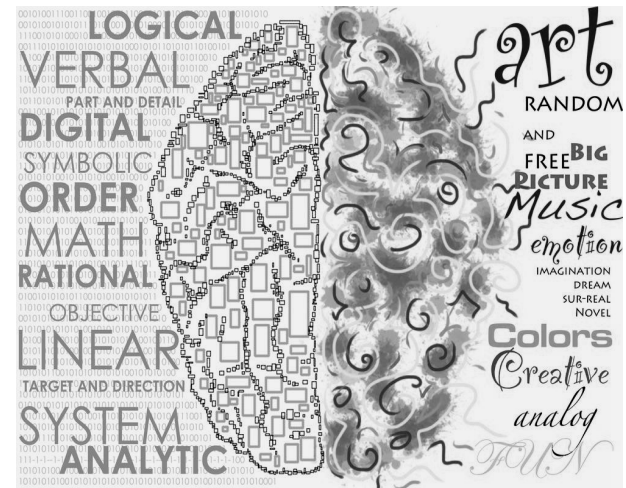
- **Visual** is information in visual form such as are shape or color.

example: triangle, cubes, parabola, etc.

- **Auditory** involves information in auditory form, such as spoken words or music

- **Symbolic** are symbol or codes representing concrete object or abstract concepts.

Example: + is the mathematical symbol for the Operation of addition.



- **Semantic** of learning are those words and ideas which evoke a mental image when they are presented as stimuli.

Example: sun, car, white, moon, etc. are word which evoke image in people's minds when they hear or read them.

- **Behavioral contents of learning are the manifestation of stimuli and responses in people can be also obtained through facial expression or voice.**

Product Dimension

- **Unit is a single symbol, figure, word, object, or idea.
Example: each real number.**

- **Classes is sets of items grouped by virtue of their common properties
Example: set of real numbers.**

- **Relations are connections between items of information
Example: equality and inequality are relation in the set of real numbers.**

• **Systems** is a composition of units, classes, and relationship into a larger and more meaningful structure.

Example: the set of real numbers together with the operations of addition, subtraction, multiplication, and division and the algebraic properties of these operations.

• **Transformation** is the process of modifying, reinterpreting, and restructuring existing information into new information. The transformation ability is usually thought to be characteristic of creative people.

Example: functions defined on the real number system.

• **Implication** is a prediction or a conjecture about the consequences of interactions among units, classes, relations, systems, and transformations. Example: each theorem about function on the real numbers.

Guilford's model of intelligence has several advantages as well as *one major disadvantage*.

The model broadens our view of the nature of intelligence by adding such factors as those related to social judgment (*the evaluation of others' behavior*) and creativity (*divergent thinking*).

Certainly, human mental abilities must be complex, but Guilford's model may be too complex to serve as a guide for predicting behavior in real situations or for planning instruction

Guilford's model clearly shows that there are many different ways in which one can examine an individual's understanding of material in collegiate courses.

Educators using traditional approaches to assess knowledge fail to tap many other aspects of learning that are equally important. Guilford's model helps educators reassess areas of learning that are routinely being examined and recognize important areas that are being unintentionally ignored.

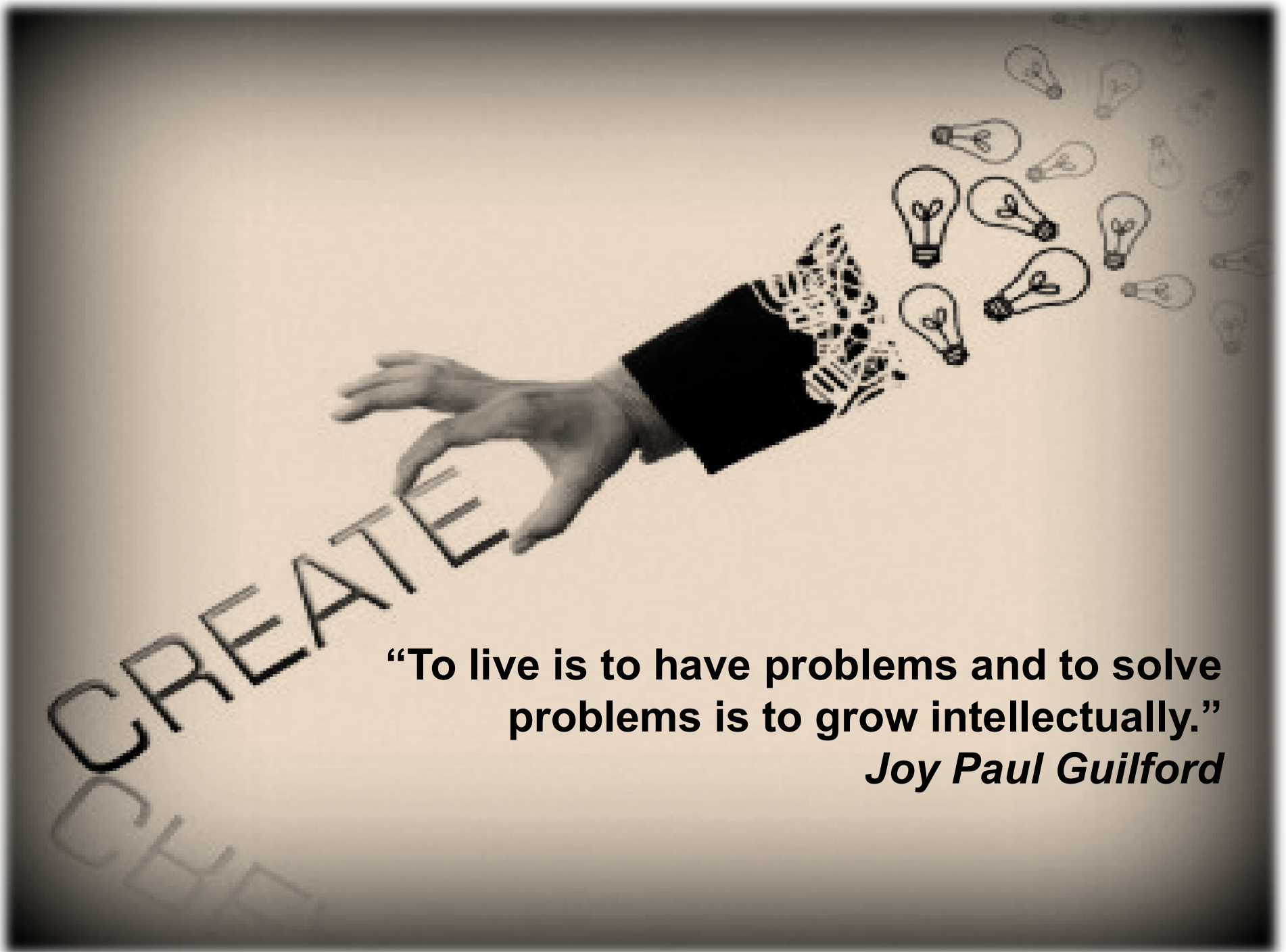


Criticism

Guilford's Structure of Intellect model of human abilities has few supporters today.

Carroll (1993) summarized the view of later researchers:

"Guilford's SOI model must, therefore, be marked down as a somewhat eccentric aberration in the history of intelligence models; that so much attention has been paid to it is disturbing, to the extent that textbooks and other treatments of it have given the impression that the model is valid and widely accepted, when clearly it is not."



“To live is to have problems and to solve problems is to grow intellectually.”

Joy Paul Guilford

Questions?

