

Sequential and Simultaneous Processing

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Objectives

- Consider attributes of sequential and simultaneous processing
 - Suggest different ways to view the distinction(s).
 - Understand how they relate to a performance as a whole.
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- Originally, I conceived of the title as “Sequential vs. Simultaneous Processing.” Let’s see if I can explain why I changed it.

Getting Started

- The topic of sequential vs. simultaneous processing seems to come up fairly frequently in certain optometric circles.
- The different modalities are then given as the obvious causes of some other distinctions,* like:
 - Visual is simultaneous while auditory (language, verbal) is sequential
 - Simultaneous is fast while sequential is slow.
 - Simultaneous is seeing big (the big picture) and sequential is seeing small (the details).

Questioning

- As these distinctions are presented, they seem to serve almost as definitions,
- That is, they describe the observations which direct us to label what we assume is going on somewhere inside the individual (typically assumed to be the brain.)
- They are also couched in the form of dichotomies.
 - Visual or auditory
 - Fast or slow
 - Big or small

Defining Terms

- Simultaneous - occurring, operating, or done at the same time.

Oxford English Dictionary

- Sequential – following a particular order

Cambridge Dictionary

- Notice that “Simultaneous” has a time constraint while “Sequential” does not

Opposition?



Simultaneity or Sequence?

- The time constraint certainly puts us in the realm of simultaneity, but
- The sequence is difficult to ignore.
- The point is that these both represent organizations which coexist, and very probably complement each other within the visual process.

What do they represent?

- I think that they reflect an attempt to express our understanding of the organization of the visual field. We then use this as a template for categorizing (or funneling) our observations of the individual's performance.
- It seems that one of our primitive reflexes in developing this understanding is to create dichotomies, i.e. “pieces,” which often enough don't hold up to closer scrutiny.

What does that mean?

- While each moment of our visual experience presents us with many potentials simultaneously, our finite nature requires that, to be productive, we must organize them as sequences.
- Does this mean that the the ideas of sequential and simultaneous processing have no value in directing our VT activities? No.
- I do think they can have value, and the better we understand their complementary nature the more effectively we can use them.

Structuring the Field

- Every performance requires (or maybe “benefits”) from a particular field structure, an organization if you will.
- We impose this structure as we prepare to “see.”
- This structure has many elements and they are organized in anticipation of the particular performance.
- One of these elements is “volume.”

Structuring the Field

- Each type of performance can benefit from an appropriate volume.
- And can suffer from an inappropriate volume
- The skill we want to develop is the extent, stability, and flexibility of that volume so that we can better adapt to and manipulate the demands of a particular performance.

Complementary

- Facile organizing of a relatively larger field helps maintain stable relationships of elements within the field.
- This stability promotes a smooth organization of the sequences required by the performance.

Complementary

- If the organization of the relationships is too labile, orientation is disrupted and the performance is inconsistent (more random).
- If the organization is too limited (rigid) the performance becomes stiff and halting.

In Conclusion

- Create means “to bring into existence.” (Oxford Languages) Or as my grade school religion classes put it, “to make from nothing.”
- We do not create abilities. We, or our procedures, do not create things within the individual that are not already there.
- We look for situations which allow the performance to express abilities. They must learn to develop it.
- Rather than it being a totally random process, we provide direction to the performance based on our observations, our understanding of lenses, and our understanding of the visual process.

The End

Postscript

• Questions

- Why do we tend to view dualities within the visual system (central/peripheral, ambient/focal, etc.) as dichotomies?
- Elements of a performance (e.g. structuring the field) are often overlooked. How can we make them more visible in our VT?
- What relationships do you see between our ability to structure the field and our ability to attend

