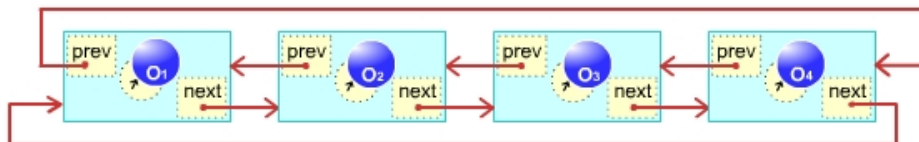


A New Algorithmic Animation Framework for the Classroom and for the Internet



Inaugural-Dissertation zur Erlangung der Doktorwürde
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To the thinking soul images serve as if they were contents of perception (...) That's why the soul never thinks without an image.

Aristotle, *De Anima*, Book III, Chapter 7.

As sight is the most highly developed sense, the name *phantasia* (imagination) has been formed from *phaos* (light) because it is not possible to see without light.

Aristotle, *De Anima*, Book III, Chapter 3.

The words or the language, as they are written or spoken, do not seem to play any role in my mechanism of thought. The psychical entities which seem to serve as elements in thought are certain signs and more or less clear images which can be 'voluntarily' reproduced and combined.... this combinatory play seems to be the essential feature in productive thought before there is any connection with logical construction in words or other kinds of signs which can be communicated to others.

Albert Einstein in a letter to Jacques Hadamard [1949]

Graphical excellence is that which gives to the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space.

The task of the designer is to give visual access to the subtle and the difficult – that is, the revelation of the complex.

[Tufte 83]

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