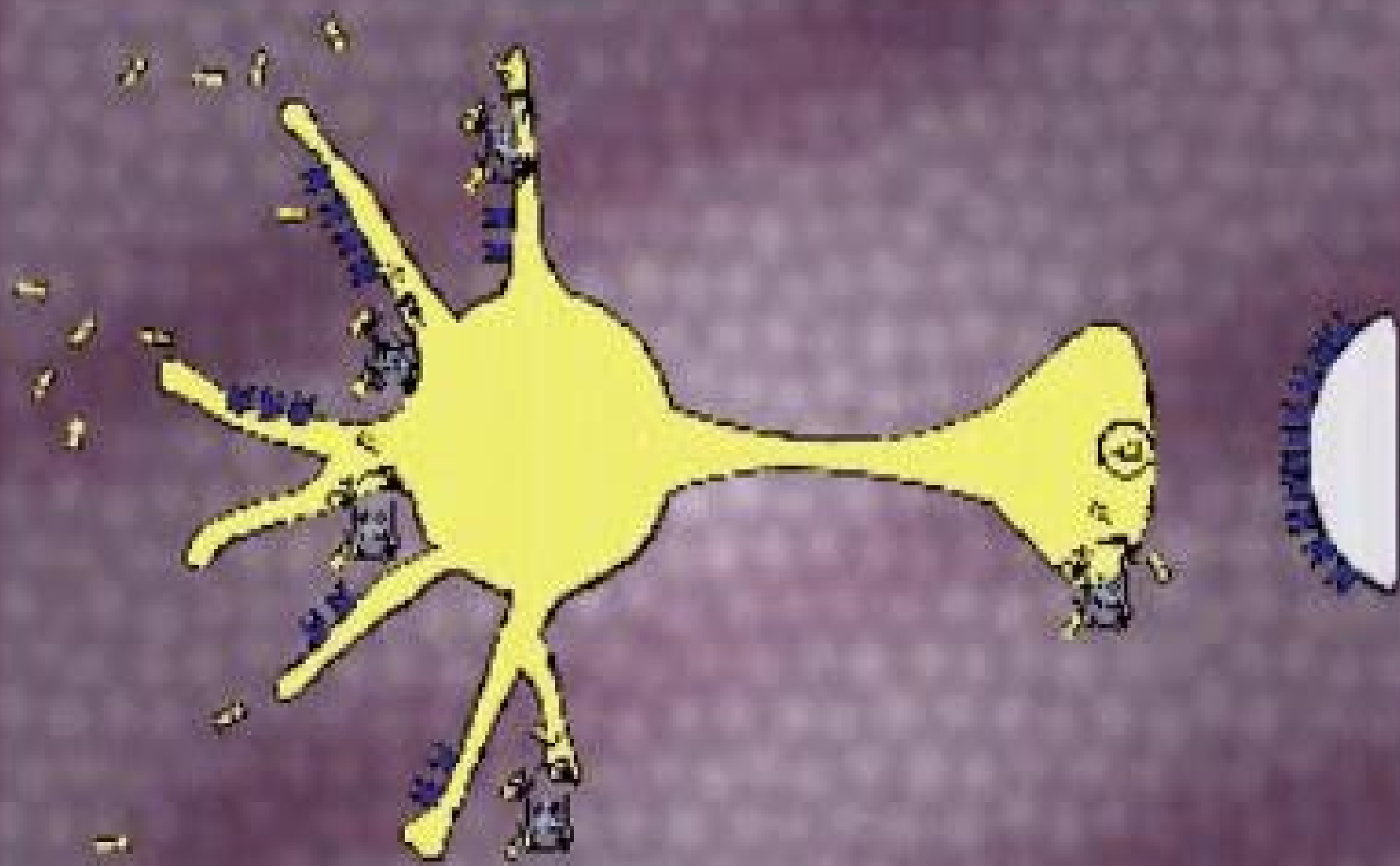


Annenberg Foundation Lecture III,
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Neurobiology of Trauma

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Biological Basis of Processing

- I. Neuronal firing during activity
- II. Activation of synapses
- III. Increased neurotransmitter activity
- IV. Long-term potentiation (LTP)
- V. LTP and protein synthesis
- VI. Encoding of information
- VII. Neurogenesis
- VIII. Top-down and bottom-up neural activity
- IX. The default brain system and SCMS
- X. The language brain



Processing of Information

- I. Multi-modal memories are processed: split up into components = deconstruction of old patterns
- II. Crossing of information between neural networks of different functional specialization
- III. Reconsolidation = re-memorizing

Epigenetics

- Aristotle (c. 300 bce) = development based on sequence of steps
- In biology since 1970s, in plants
- In humans, the study of the Dutch Famine of 1944 to 1945 (impact on metabolism, cardiovascular disease, birth weight, etc.)
- More recently: behavioral epigenetics
- In 2009, NIH started the epigenome project
- Behavioral epigenetics studies: psychiatric disorders, learning and memory, neurodevelopment, parenting, stress, neurodegenerative disorders

For additional information regarding
this subject, please contact Dr. Novac
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