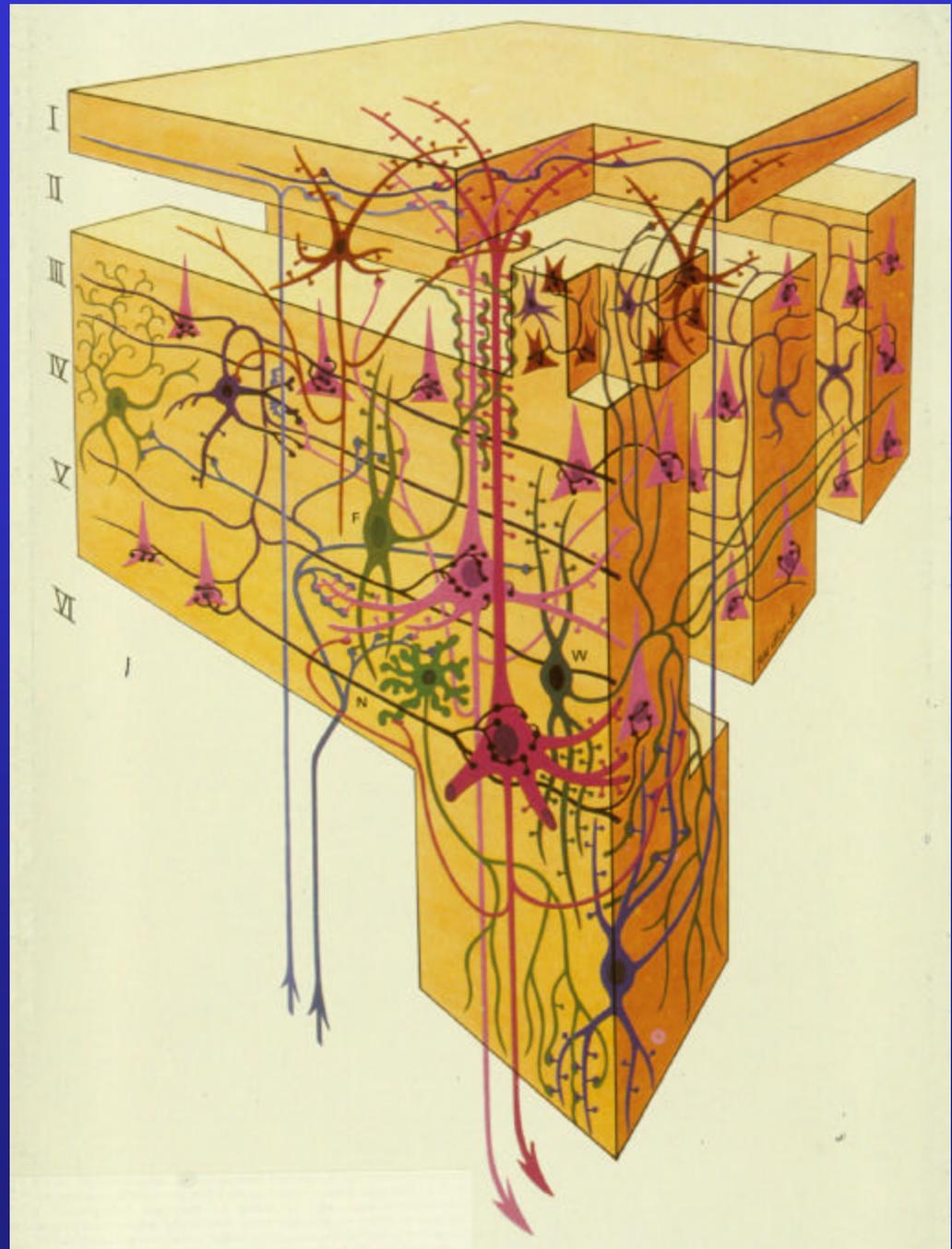


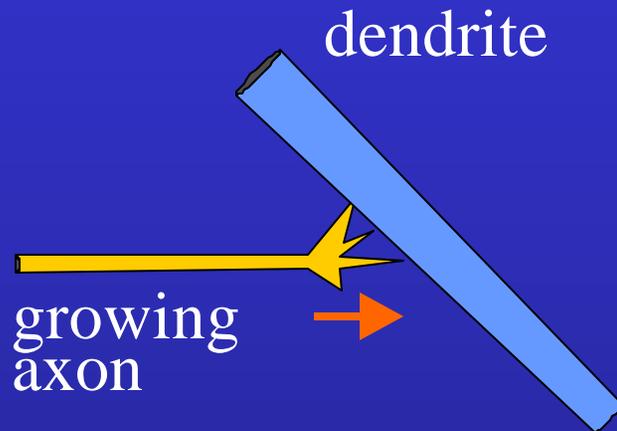
Cortical Circuitry

How Do
Cortical Circuits
Assemble
Themselves?

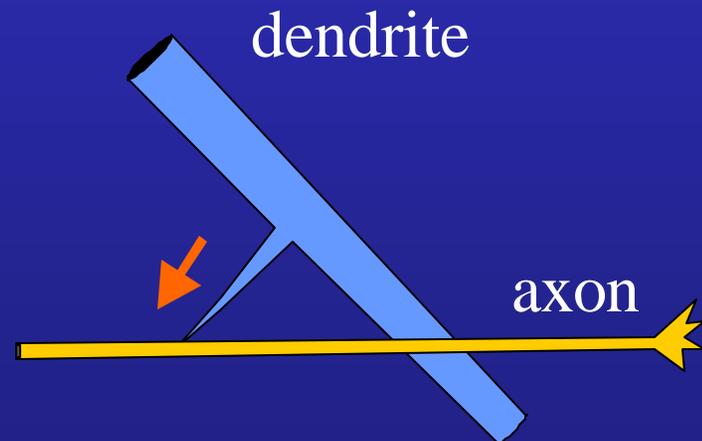
How are the
“right” synaptic
partners selected?



Who Performs the Act of Contact?



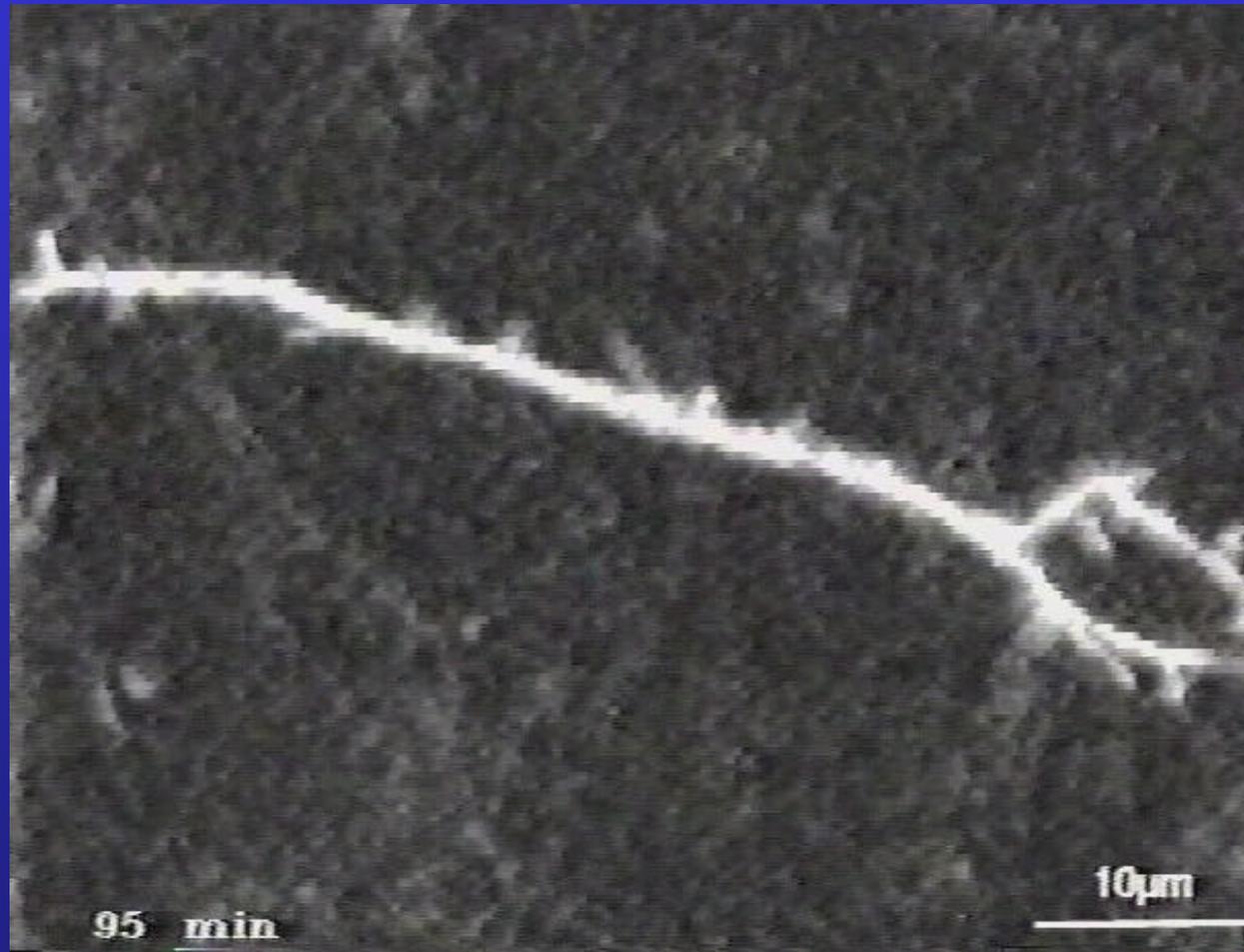
- Or -

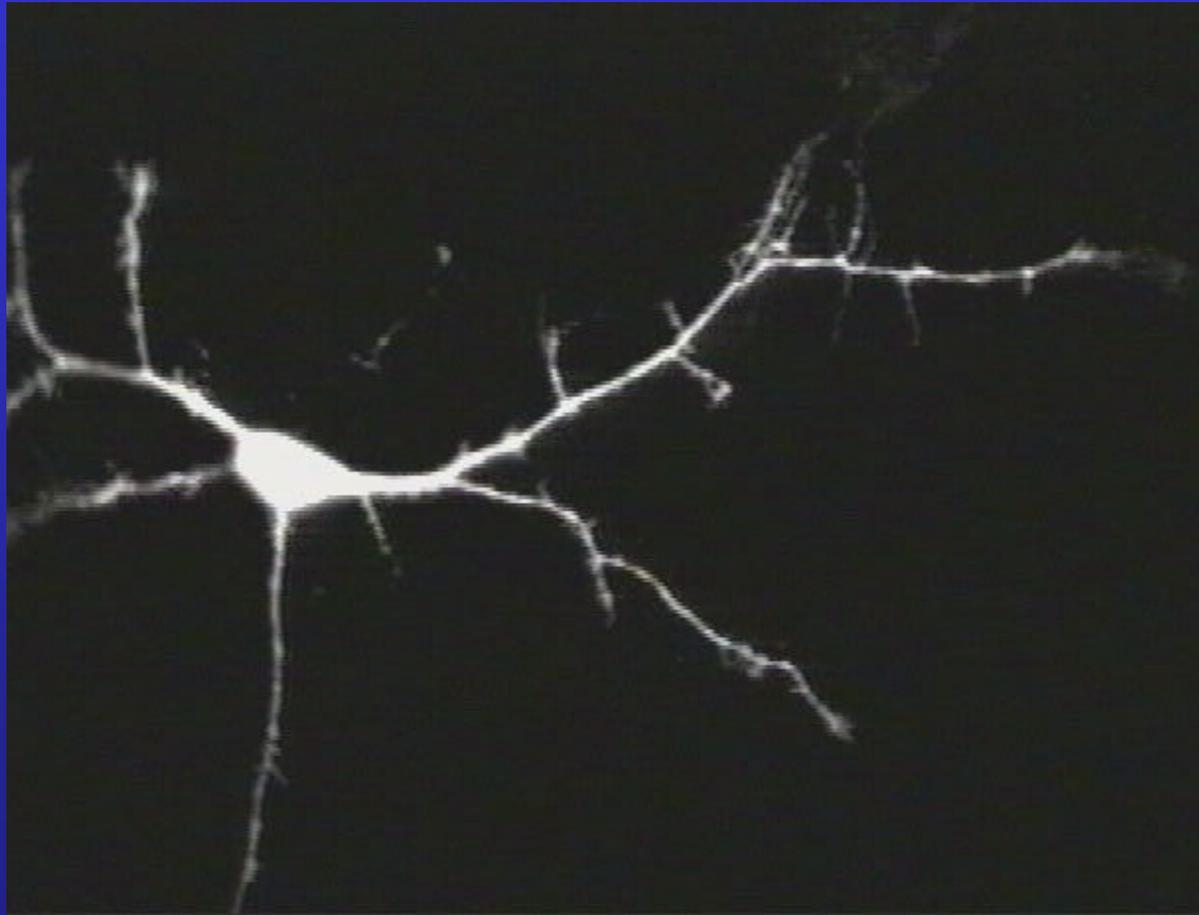


The Axonal Growth Cone:
“Conventional Wisdom”

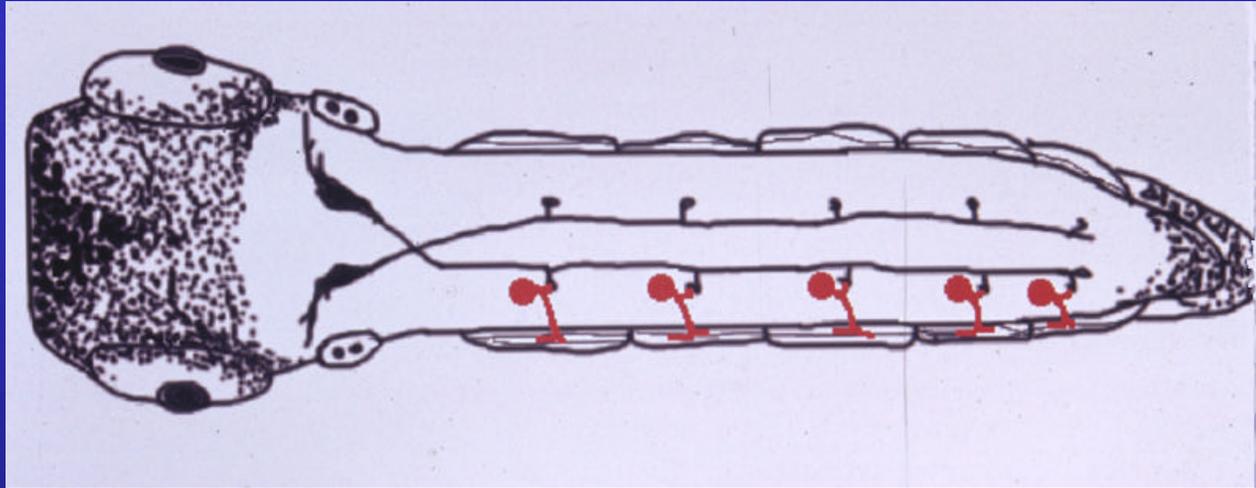
A Dendritic Filopodium???

Hippocampal Slice Culture, 7 DIV



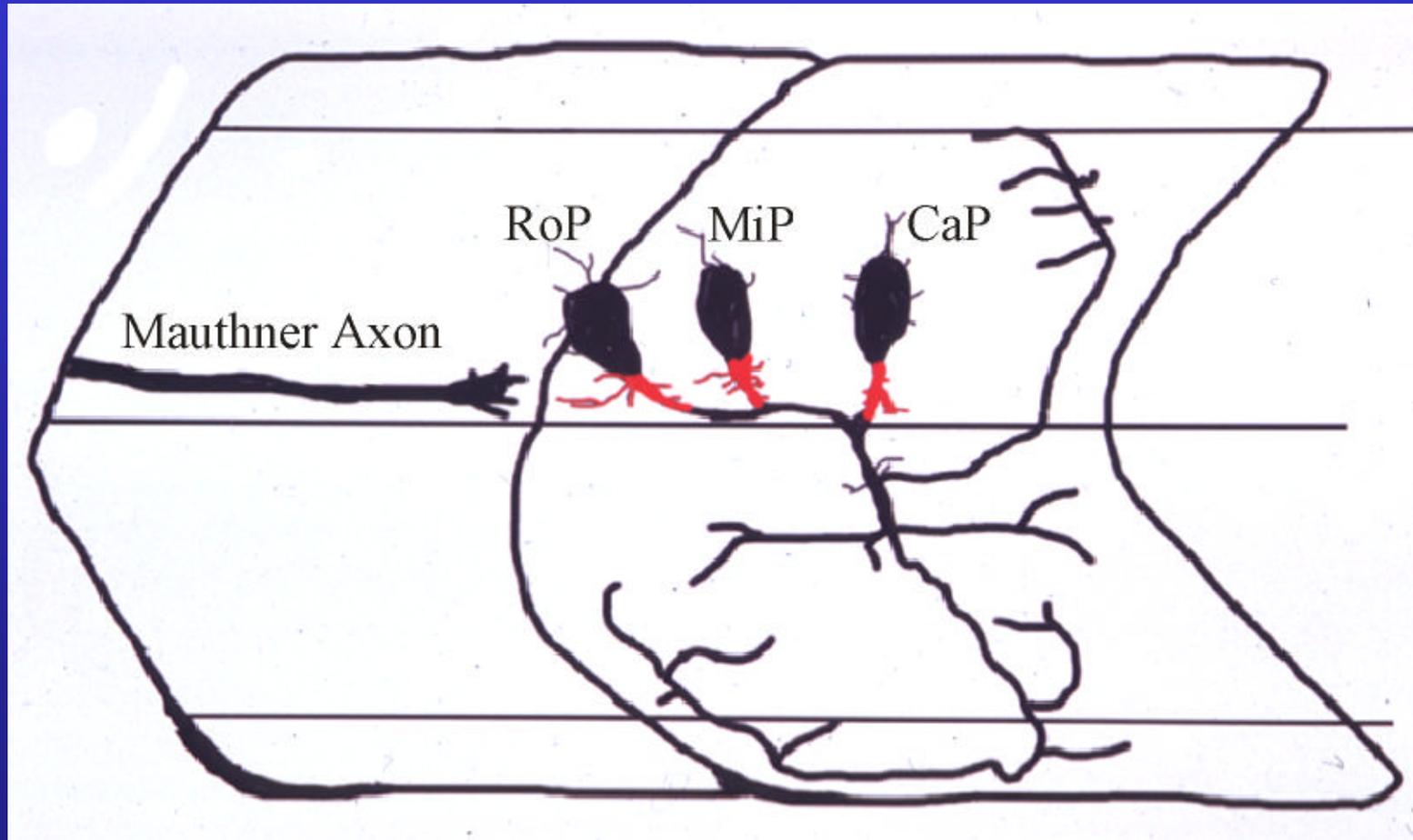


Mauthner Cells and Segmental Motor Neuron Targets



(Simplified Schematic – Sue Pike)

The Imminent Encounter...



Mauthner Axon Elongation



Mauthner Axon Growth Cone



Motor Neuron Dendrite Dynamics



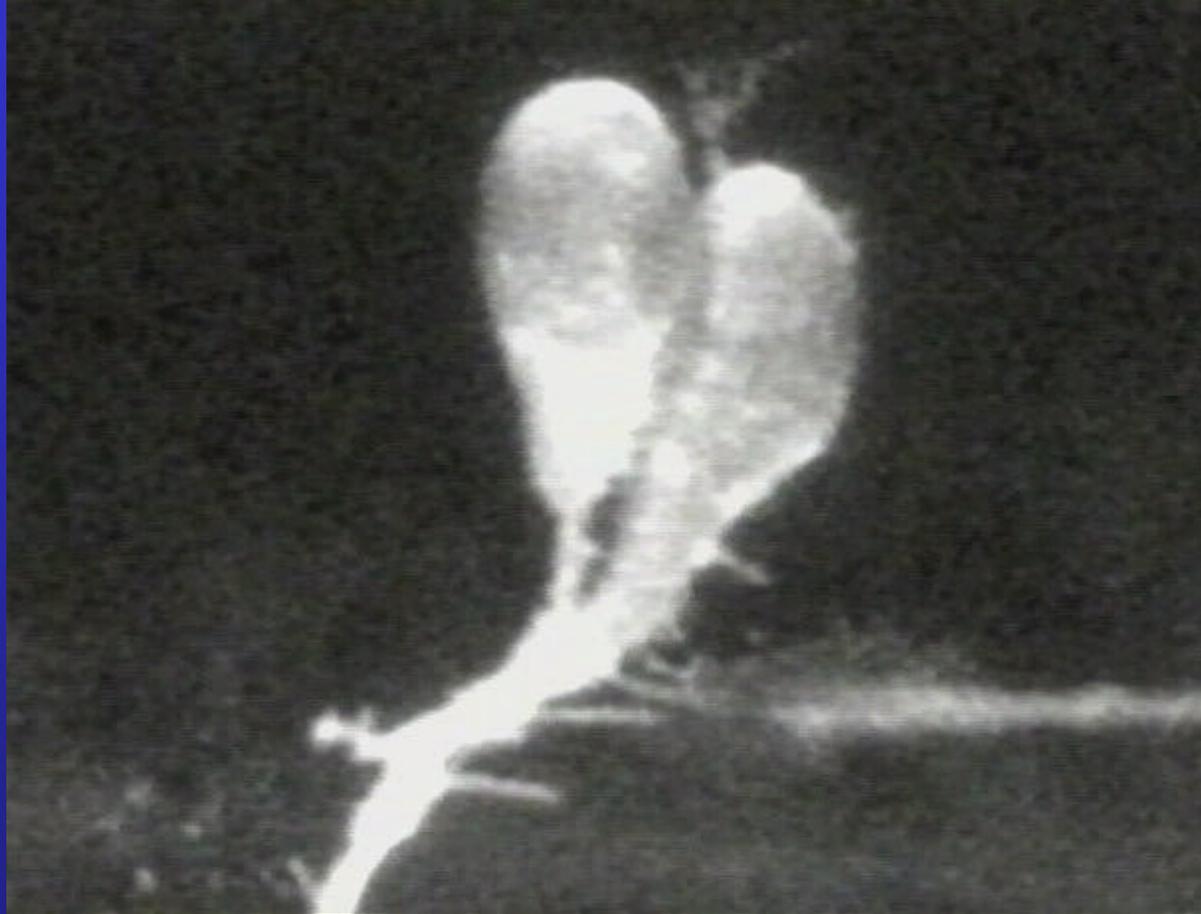
The Dendritic Filopodia?

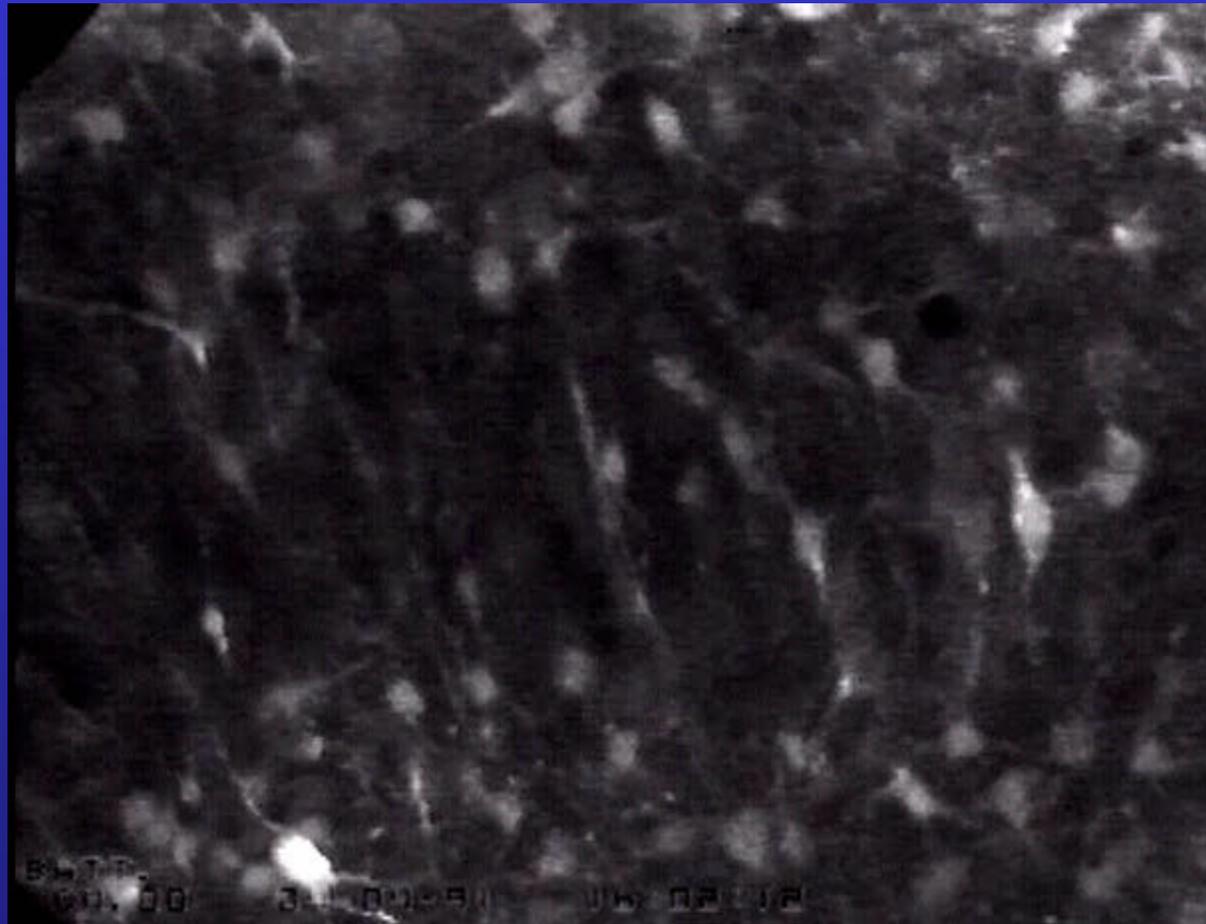


A Very Bushy Growth Cone?



Very Persistent Filopodia?





Major Thrust Areas

- Automate Two-Photon Microscopy for High-Throughput, Matrix Experimentation
- Understand Interaction of Genetic Programs and Effects of Incipient Network Function (Information Flow)