



New course

- Linguistics 195S *Neuroscience and Multilingualism* (NS, STS, R)

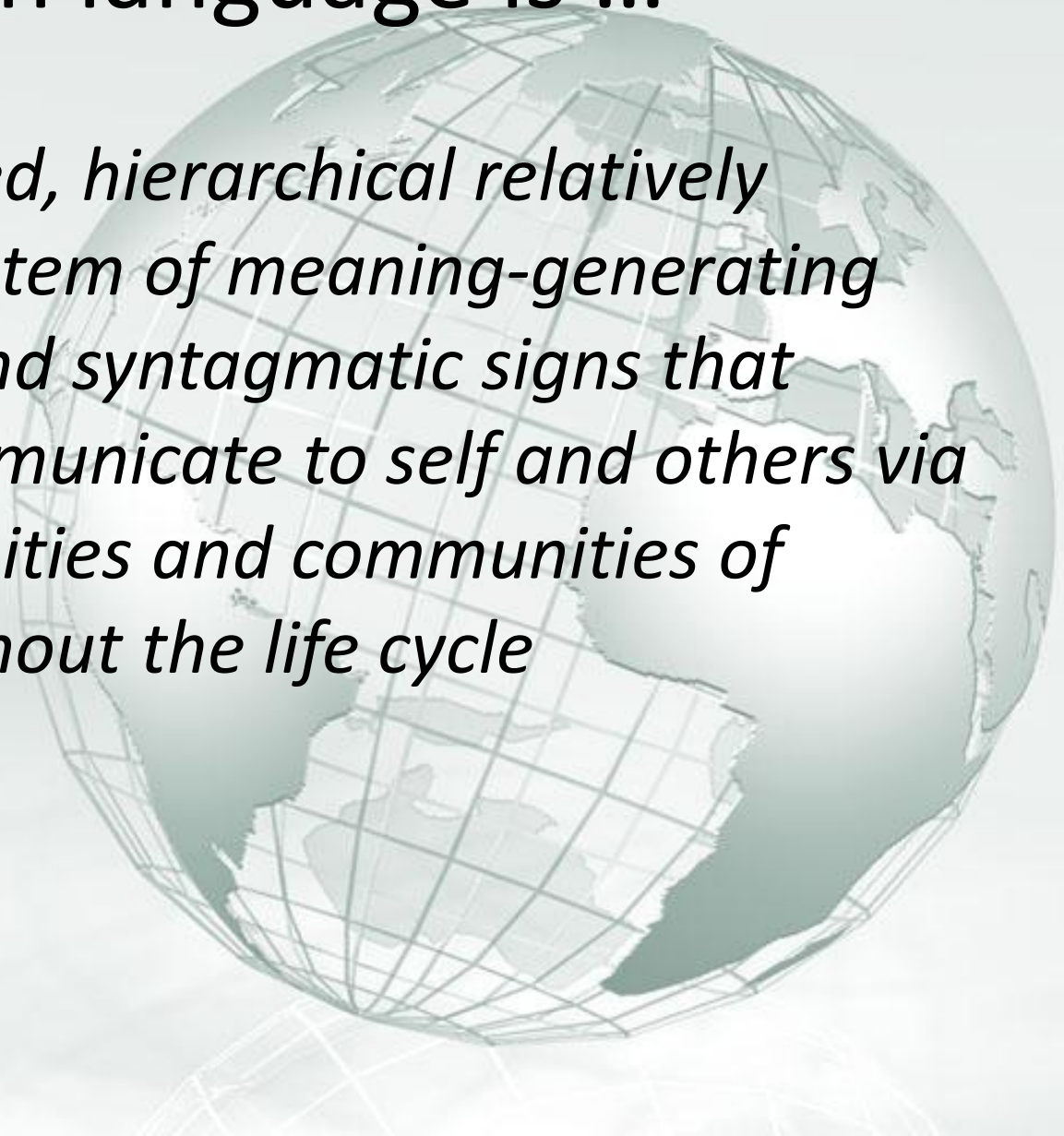
Defining human language



Where language is NOT equal to
speech

Human language is ...

- *Dynamic, learned, hierarchical relatively autonomous system of meaning-generating paradigmatic and syntagmatic signs that signify and communicate to self and others via speech communities and communities of practice throughout the life cycle*



Central controversies of the field of *Brain and Language*

Learned/innate

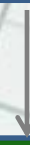


Degree of localization



Appropriate definitions of critical periods

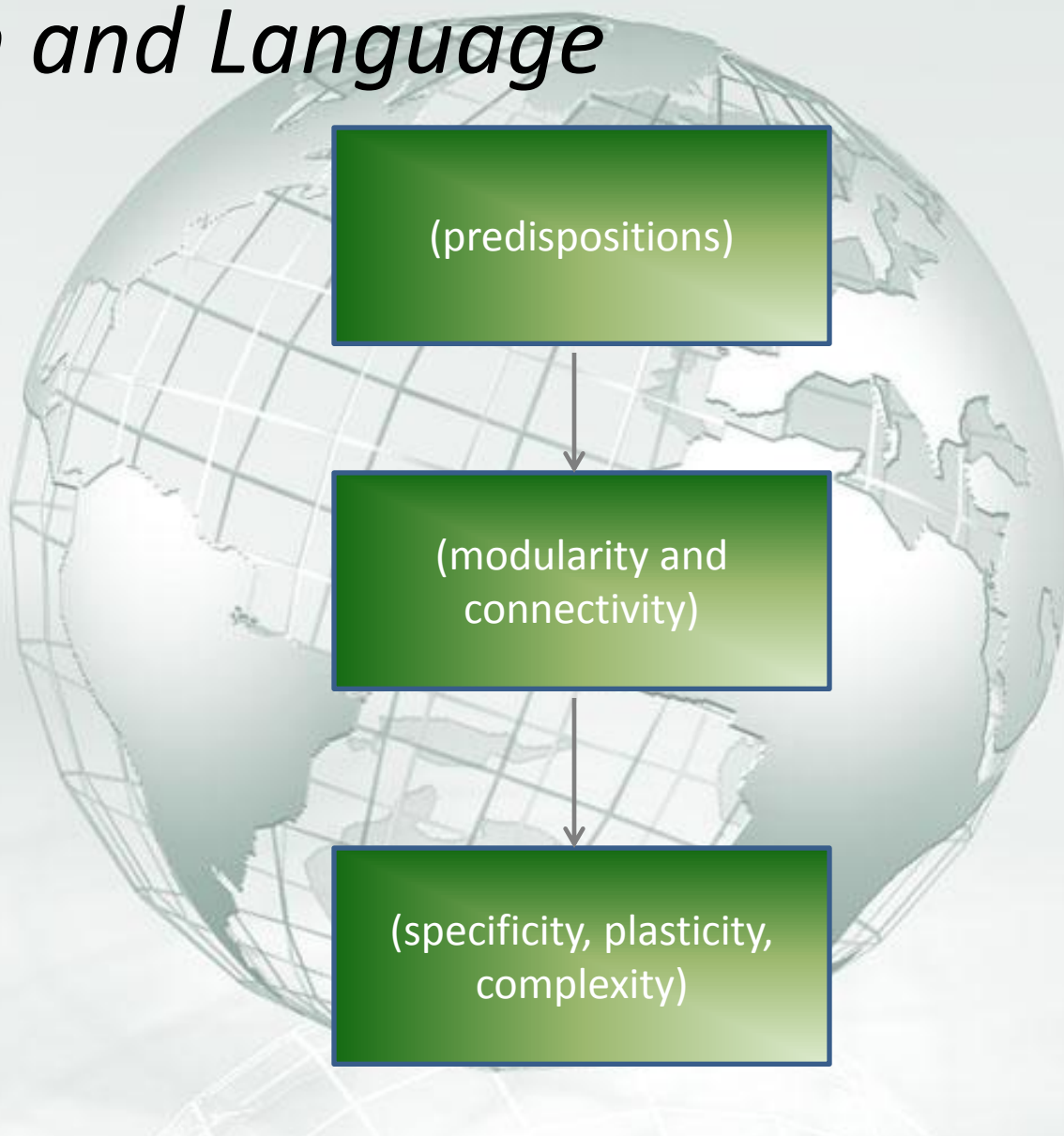
(predispositions)



(modularity and connectivity)



(specificity, plasticity, complexity)

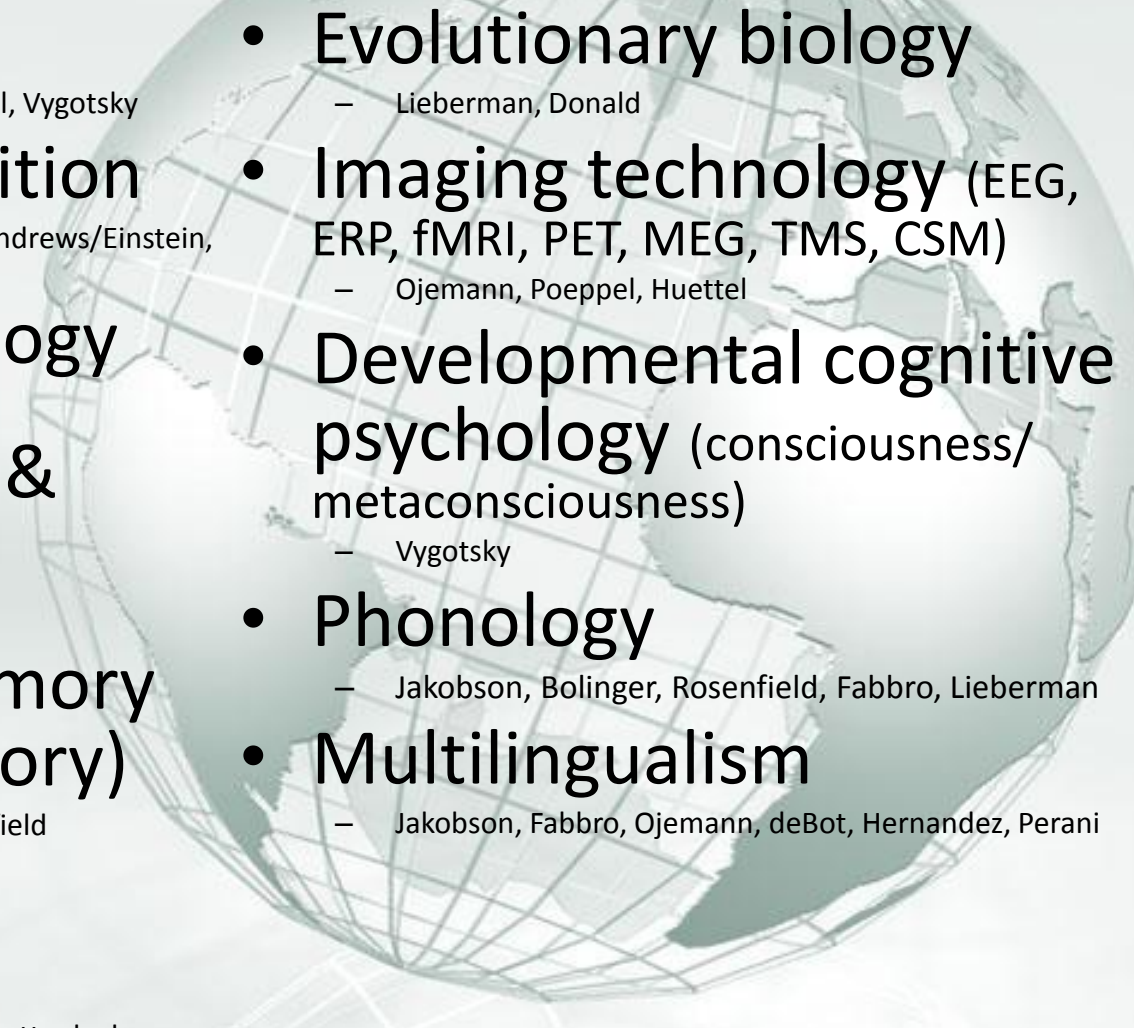


Central disciplines of the field of *Brain and Language*

- **Neuroanatomy**
 - Ojemann, Dowling, Rose, Parnavelas, Huttenlocher
- **Neurophysiology**
 - Ojemann, Rose, Huttenlocher
- **Biochemistry**
 - Rose, Ojemann, Huttenlocher
- **Neurofunctionality**
 - Poeppel, Fabbro, Rosenfield
- **Neurolinguistics**
 - Lieberman, Poeppel, Fabbro, Andrews, Jakobson
- **Neuroimaging**
 - Huettel, Poeppel, Ojemann



Central topics of the field of *Brain and Language*

- Linguistic theory
 - Jakobson, Bolinger, Lieberman, Poeppel, Vygotsky
 - Lesion-deficit tradition
 - Fabbro, Rosenfield, Damasio, Skotko/Andrews/Einstein, Sacks, Luria
 - Cultural anthropology
 - Donald
 - Language, culture & identity
 - Jakobson, Donald
 - Language and Memory (& collective memory)
 - Rose, Jakobson, Donald, Squire, Rosenfield
 - Developmental neurobiology
 - Dowling, Rose, Parnavelas, Ojemann, Huttenlocher
 - Evolutionary biology
 - Lieberman, Donald
 - Imaging technology (EEG, ERP, fMRI, PET, MEG, TMS, CSM)
 - Ojemann, Poeppel, Huettel
 - Developmental cognitive psychology (consciousness/metaconsciousness)
 - Vygotsky
 - Phonology
 - Jakobson, Bolinger, Rosenfield, Fabbro, Lieberman
 - Multilingualism
 - Jakobson, Fabbro, Ojemann, deBot, Hernandez, Perani
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Result ...

- **New field of *Brain and Language***
 - Poeppel, Vygotsky, Jakobson, Andrews, Lieberman, de Bot, Bookheimer, Stowe, Price
- **Deepened collaboration with other Duke units**
 - Duke Institute for Brain Sciences
 - Brain Imaging & Analysis Center
 - Medical School Anatomy labs
 - Joint research projects (behavioral and imaging)

