Reconstruction of the evolutionary past requires comparison of taxa through character individuation. The concept applied explicitly to this task is a historical character concept, ensuring characters are comparable but failing to regulate individuation of characters. A distinct concept, the organismal character concept, is required to ensure reconstructions reflect evolutionary history instead of researcher bias.

### Using Characters To Infer:

#### ORIGINS OF SNAKES

1) **Taxa Selection**

- **Points of comparison among biological entities**
- **Ancestral continuity**
- **Prevalent in discussions of homology and phylogeny**

2) **Character Individuation**

- **Organismal characters**
  - Parts or properties of biological entities
  - Developmental continuity
  - Prevalent in discussions of adaptation and ontogeny

3) **Phylogenetic Inference**

#### HISTORICAL CHARACTERS

- Points of comparison among biological entities
- Ancestral continuity
- Prevalent in discussions of homology and phylogeny

#### ORGANISMAL CHARACTERS

- Parts or properties of biological entities
- Developmental continuity
- Prevalent in discussions of adaptation and ontogeny

### PHILOSOPHICAL IMPACT & FUTURE APPROACHES

- The character individuation problem arises from inconsistent application of multiple biological character concepts
- Two distinct notions of character are in use but inconsistently applied
- Historical character concept applied to establish comparability
- Organismal character concept applied to establish independence
- Future approaches for development of a biological character concept: analyse application of organismal and historical character concepts in the biological literature and discussion of criteria already in use (e.g., independence)
- Diagnose and analyse other philosophical problems arising from or solved by particular applications of these concepts (e.g., adaptationist atomism as arising from unguided application of organismal character concept and exaptation-adaptation distinction as including criteria for application of historical character concept where organismal character concept is more prominent)

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