Formal Foundations of Linguistics (Linguistics 680)

Design Features of All Human Languages

- **Interchangeability**: all normal members of the community can both send and receive messages (bee dancing performed only by foragers; only male birds sing).

- **Cultural transmission**: Koreans learn Korean, etc. (There is not a proper subset of the cat communities whose members arch their backs to express fear/hostility.)

- **Arbitraryness**: there is usually no natural or inherent connection between the form of the signal and its meaning.

- **Discreteness**: complex signals can be broken down into distinct, repeatable, recombinable, meaningful units. (Some birdsong has repeatable, recombinable units, but don’t express more complex messages.)

- **Displacement**: ability to communicate about things remote in time and/or space.

- **Productivity**: ability to express an infinity of messages (most of which have never been expressed before) about an unlimited variety of subject matters. (uniquely human)

- **Recursiveness**: whole complex signals can be incorporated as parts of more complex signals. (uniquely human)

- **Multi-level patterning**: meaningless units (phonemes) combine to form minimal meaningful units (morphemes), which in turn combine to form words, which in turn combine to form phrases (including sentences). (uniquely human)

- **Learnability**: organisms that know one variant of the system (L1) can learn another (L2). (uniquely human; mockingbirds are not a counterexample because they don’t know the meanings of the songs)

- **Reflexiveness**: the messages can be about other messages, or even about the communicative system itself. (uniquely human)