1. What is Science?

1.1.1. Science is making claims or asking questions
1.1.2. The scope of science: What claims do we wish to make (and why)?
1.1.3. The culture-dependence of science
1.1.4. The aims of science, Part I: Making true statements about reality
1.1.5. The aims of science, Part II: Advancing the boundaries of knowledge
1.1.6. The aims of science, Part III: Producing testable models in an attempt to find the best
1.1.7. The nature of scientific claims
1.1.8. The testing of claims
1.1.9. The evaluation of claims
1.1.10. The construction of models and theories

1.2. Science as a game

1.2.1. The rules of the game
1.2.1.1. Identification of the problem
1.2.1.2. Statement of the problem
1.2.1.3. Analysis of the problem
1.2.1.4. Theoretical discussion of the problem

1.3. Two types of science: formal vs. empirical

1.4. The scientific circle: description – explanation – prediction (with feedback loop from the latter to the former)

1.5. Explanation
1.5.1. First definition: Going beyond simple observables
1.5.2. Description vs. explanation
1.5.3. Two types of explanation: causal and teleological
1.5.4. The infinity of the causal chain
1.5.5. Second definition: a connection between two hitherto unconnected things (Popper)
1.5.6. Is there anything to explain?

1.6. Prediction: follows from theories and leads to new descriptions

What can and what cannot be predicted?

2. Linguistics as a Science

2.1. Linguistics as an empirical science
2.2. Three types of data in linguistics
   2.2.1. Introspective data
   2.2.2. Decontextualized data
   2.2.3. Usage data
2.3. Conceptions of language in linguistics
   2.3.1. Language as a phenomenon of the third kind
   2.3.2. Language as a psychological phenomenon
   2.3.3. Language as a cultural phenomenon

3. Macrolinguistics

   3.1. Language and Mind (Psychology) -> Psycholinguistics
   3.2. Language and Brain (Neurology) -> Neurolinguistics
   3.3. Language and Disease (Medicine) -> Patholinguistics (Language Disorders)
   3.4. Language and Time (History) -> Historical Linguistics
   3.5. Language and Space (Geography) -> Dialectology
   3.6. Language and Society (Sociology) -> Sociolinguistics
   3.7. Language and Context (Communication Science) -> Pragmatics
   3.8. Language and Knowledge (Philosophy) -> Philosophy of Language
   3.9. Language and Sound (Physics: Acoustics) -> Acoustic Phonetics
   3.10. Language and Body (Biology: Anatomy) -> Articulatory Phonetics
   3.11. Language and Number (Mathematics) -> Quantitative Linguistics
   3.12. Language and Power (Political Sciences) -> Language Planning
   3.13. Language and Art (Aesthetics) -> Rhetoric
   3.14. Language and Machine (Computer Science) -> Computational Linguistics
4. Semiotics

4.1. The study of signs
4.2. Language as a system of signs
4.3. Relationship between “signifiant” and “signifié”
4.4. The nature of “signifié”
4.5. Sign types
4.6. Sign types in language
4.7. The phylogenetic development of signs
4.8. The semiotic triangle

Semiotic Triangle (Ogden & Richards 1922)

signifié (concept, idea)

signifiant (form)  elements of extralinguistic reality
5. Functions of Language

5.1. Two main functions of language: communication and cognition

5.1.1. Communication: Producer – message - recipient

5.1.2. Cognition: language as a tool for thought
   - as a means of creating awareness
   - as a system of categories
   - as crystallized thought

5.1. Organon Model (Bühler 1936)

5.2. Jakobson’s six functions

5.2.1. expressive
5.2.2. conative
5.2.3. referential
5.2.4. metalinguistic
5.2.5. poetic
5.2.6. phatic

6. A survey of the world’s languages

6.1. A note on the origin of language
6.2. Indoeuropean
Indo-European

- Indo-Iranian
  - Indic
    - Sanskrit
    - Hindi
  - Iranian
  - Baltic
  - Slavic
    - East
    - South
    - West

- Balto-Slavic
  - Baltic
  - Slavic

- Hellenic
  - Greek
  - Albanian

- Celtic
  - Breton
  - Gaelic

- Romance
  - Latin
  - Spanish
  - Italian

- Germanic
  - North
  - East
  - West
    - Anglo-Frisian
      - Dutch
      - German
      - Frisian
      - Low-German
      - Yiddish
6.3. Africa

![Language tree diagram]

- Africa
  - Afro-Asiatic
    - Semitic
      - Arabic
    - Berber
  - Niger-Kordofanian
  - Nilo-Saharan
  - Cushitic
  - Khoisan
    - Niger-Congo
    - Kordofanian
  - Berber
  - Chadic
  - Cushitic
  - Nilo-Saharan
  - Khoisan
  - Arabic
  - Hebrew
6.4. Asia

Asia

Indo-European  Dravidian  Uralic-Yukaghir  Altaic

Indo-Hittite

Indic  Iranian  (Finno-Ugric) Samoyed Turkic Mongolian Tungus  Korean Japanese Ainu  Munda  Mon-Kmer  Sinitic  Tibeto-Burman  Austro-Asiatic  Sino-Tibetan
6.5. Oceania and Australia

Oceania

- Austronesian
- Indo-Pacific
- Australian
  - Pama-Nyungan
  - Non-Pama-Nyungan
6.6. America

[Diagram of language families in America]

- Eskimo-Aleut
  - Eskimo Aleut
  - Athabascan
  - Tlingit
  - Eyak
  - Haida

- Na-Dene
  - Algonquian
  - Iroquian

- Amerind

- Uto-Aztecan

Inuit Yupik
7. Word Classes

7.1. Open vs. closed class words

<table>
<thead>
<tr>
<th>Open class words</th>
<th>Closed class items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nouns</td>
<td>Conjunctions</td>
</tr>
<tr>
<td>Verbs</td>
<td>Prepositions</td>
</tr>
<tr>
<td>Adjectives</td>
<td>Pronouns</td>
</tr>
<tr>
<td>Adverbs</td>
<td>Determiners</td>
</tr>
<tr>
<td></td>
<td>Interjections</td>
</tr>
<tr>
<td></td>
<td>Numerals/Quantifiers</td>
</tr>
</tbody>
</table>

7.2. Status and function of word classes

7.3. Criteria for determining word classes

7.3.1. semantic

7.3.2. syntactic I: distributional

7.3.3. syntactic II: functional

7.3.4. morphological

7.4.5. phonological
7.5. Nouns

7.5.1. Classification

Nouns

<table>
<thead>
<tr>
<th>Common</th>
<th>Proper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>onomastics</td>
</tr>
<tr>
<td>Mass</td>
<td>toponyms</td>
</tr>
</tbody>
</table>

Concrete    Abstract    Concrete    Abstract
pig  difficulty butter laziness
7.5.2. Syntactic criteria for distinguishing between common and proper nouns

<table>
<thead>
<tr>
<th>Context</th>
<th>Proper Noun</th>
<th>Count Noun</th>
<th>Mass Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>No article</td>
<td>Peter</td>
<td>*book</td>
<td>music</td>
</tr>
<tr>
<td>Definite article</td>
<td>*the Peter</td>
<td>the book</td>
<td>*the music</td>
</tr>
<tr>
<td>Indefinite article</td>
<td>*a Peter</td>
<td>a book</td>
<td>*a music</td>
</tr>
<tr>
<td>Indefinite determiner</td>
<td>*some Peter</td>
<td>*some book</td>
<td>some music</td>
</tr>
<tr>
<td>Plural</td>
<td>*Peters</td>
<td>books</td>
<td>*musics</td>
</tr>
</tbody>
</table>

7.6. Verbs

7.6.1. Basic classification

Verbs

<table>
<thead>
<tr>
<th>Main verbs</th>
<th>Auxiliaries</th>
<th>Modal auxiliaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) stand on their own</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>b) require “do”-support</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>c) can take an object and a “that” clause</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>d) require linking “to”</td>
<td>e) take 3rd p. sg. agreement</td>
</tr>
<tr>
<td>---</td>
<td>------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

Plurifunctionality of “to be”, “to have” and “to do”

“to be”: She is having breakfast. – She is a real monster.
“to have”: He has witnessed the murder. – I have no money.
“to do”: Do you like frog thighs? – That’ll do the trick.
7.6.2. Verb forms

Verb

finite non-finite

shows to show
showed to have shown
show (zero marking) to be shown
to have been shown
showing (present participle)

shown (past participle)
showing (gerund)

7.6.4. Grammatical categories coded

verb

voice tense aspect mood

active middle passive present past simple progressive indicative subjunctive imperative optative
7.6.5. Subcategorization

a) intransitive: SV: The sun shone.
b) monotransitive: SVO: The lecture bored us.
c) ditransitive: SVO(i)O(d): He gave me a good example.
d) Complex transitive: SVOC: He found her an entertaining partner.
      SVOA: He put the disk on the table.
e) Copular:
      SVC: She seems nice.
      SVA: She is at home.

7.6.6. The gerund: A hybrid of noun and verb

nominal ←-----1---------2---------3---------4---------5---------6---------7---------8→ verbal

pure  real  verbal  near-  gerund  half-  present  pure
    noun  noun  noun   gerund      gerund  participle  verb

1. e.g. the ladder
2. real noun originally derived from verb. e.g. the building, the meaning, the painting
3. e.g. Who does the cooking? Her singing got better.
4. e.g. Would you mind my opening the window?
5. e.g. It is no use studying the gerund.
6. e.g. Would you mind me opening the window?
7. e.g. The train standing on platform three is bound for London.
8. e.g. to start

7.6.7. Participles

Participles

Present Participle

connected unconnected dangling

7.7. Adjectives

Adjectives

attributive predicative postpositional
7.8. Adverb

Adverbs

clausal phrasal

VP ADJP ADVP NP

7.9. Prepositions

Adpositions

preposition postposition

7.10. Conjunctions

Conjunctions

coordinating subordinating

7.11. Numerals

Numerals

cardinal ordinal
7.12. Determiners

Determiners

predeterminers  central determiners  postdeterminers
7.13. Pronouns

7.13.1. Types

- personal
- demonstrative
- possessive
- interrogative
- relative
- reflexive
- indefinite

7.13.2. Function

- Anaphoric
- cataphoric
- exophoric

anaphoric: It was George Clooney’s birthday yesterday. He turned 51.
cataphoric: I don’t like to say it but I must: “You are a liar.”
exophoric: It’s raining. It turned out that I was wrong.

7.13.3. Pronouns vs. proforms

- prototypical pronoun
- do
- one
- so

Pro-N “one”: Give me the red ball. I hate the blue one.
Pro-NP “it”: Give me the red ball. I like it.
Pro-VP “do”: People don’t like people, but I do.
Pro-S “so”: If you want to go home, just say so.

7.13.4. Survey

<table>
<thead>
<tr>
<th>Personal</th>
<th>Possessive</th>
<th>Reflexive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Object</td>
<td>Determiner</td>
</tr>
<tr>
<td>Singular</td>
<td>1 I</td>
<td>me</td>
</tr>
<tr>
<td></td>
<td>2 you</td>
<td>you</td>
</tr>
<tr>
<td></td>
<td>3 he, she, it</td>
<td>him, her, it</td>
</tr>
<tr>
<td>Plural</td>
<td>1 we</td>
<td>us</td>
</tr>
<tr>
<td></td>
<td>2 you</td>
<td>you</td>
</tr>
<tr>
<td></td>
<td>3 they</td>
<td>them</td>
</tr>
</tbody>
</table>

8. Sentences

8.1. Sentence vs. clause

8.2. Main clauses

8.2.1. finite: He is a liar.

8.2.2. verbless: What a beautiful day.

8.3. Subordinate clauses

8.3.1. finite: (I know) he is a liar.

8.3.2. non-finite: I consider him to be an honest man.

8.3.3. verbless: Although always helpful, he was not much liked.
8.4. Types of finite subordinate clauses
8.4.1. Complement clause: I feel that it is about time to leave.
8.4.2. Interrogative clause: I know who has killed her.
8.4.3. Exclamative clause: It’s incredible how fast she can run.
8.4.4. Relative clause: The country which I will visit next is certainly Spain.
8.4.5. Adverbial clause: Wait until you are called.
8.4.6. Conditional clause: If you are hungry, open the fridge.
8.4.7. Concessive clause: Although he is a bore, I invited him to my party.
8.4.8. Consecutive clause: We paid him immediately such that he could buy the ticket.
8.4.9. Adversative clause: Whereas he is a liar I am sincere.

9. Functions of word classes
9.1. A noun can function as subject, object or complement. (e.g. They elected him president.)
9.2. A pronoun can function as subject or object.
9.2. A verb can function as a predicate or a complement.
9.3. An adjective can function as an attribute, predicate or complement (e.g. I like my coffee black.)
9.4. An adverb functions as an attribute. (e.g. He walks slowly.)
10. Functions of subordinate clauses
10.1. as a subject: That we need more money is obvious.
10.2. as an object: I don’t know how to love him.
10.3. as a complement: I consider her to be reliable.
10.4. as an adverbial: When you see them, give them my best wishes.
SAMPLE QUESTIONS

1. Which grammatical category expresses the difference between “I” and “we“?
2. Name two modal verbs.
3. What is the word class of “ever” in “one of the greatest sculptures ever”?
4. Provide an example of a reflexive pronoun.
5. What is the aim of science?
6. Given an example of an empirical science.
7. What language function is illustrated in “How are you?” at the beginning of an encounter?
8. Is “they” an icon, a symbol or an index?
9. Approximately how many languages are currently spoken around the globe?
10. What is the object of study of psycholinguistics?