1 Introduction
1.1 Who am I ?
1.1.1 Zachary Weaver – not important
1.1.2 In short a Lojbanist, I.e a conlanger gone bad
1.1.3 Hence I'm interested in logical languages
Transistion: Hence Davin
1.2 Davin
1.2.1 Davin itself as a language is a product of boredom (discrete)
1.2.2 The language as used here is rather irrelevant
1.2.3 It's simply a syntactic vehicle for the set semantics
1.3 Before we begin
1.3.1 Does everyone know what a mathematical set is ?
1.3.1.1 A set is something that has other things in it
1.3.1.2 There are many operations, which we will review as needed
1.3.2 Davin in three minutes
1.3.2.1 Despite that it's only tangential, it is our chosen tool
1.3.2.2 Thus lets learn the basics
2 Body
2.1 Davin in three minutes
2.1.1 Davin for linguists
2.1.1.1 Isolational
2.1.1.2 Head final
2.1.1.3 Ergative SV AOV
2.1.1.4 This is mostly pointless
2.1.2 Phonology
2.1.2.1 It's best written in Njojsıþ
2.1.2.2 But we can use these letters too
2.1.2.3 They look like IPA, but aren't
2.1.3 Davin Word classes
2.1.3.1 aŋtah
2.1.3.1.1 Pronouns, articles, pronouns
2.1.3.1.2 Start with consonants
2.1.3.1.3 aŋtah are pushed
2.1.3.2 owpys
2.1.3.2.1 Nouns, verbs, adjectives, adpositions, etc.
2.1.3.2.2 Start with vowels
2.1.3.2.3 owpys are operators, pop 1or 2 then push
2.1.4 owpys conjugation
2.1.4.1 Default to intransitive
2.1.4.2 Assimilate nasal on first consonant
2.1.4.3 Glossed with -T
2.1.4.4 Group 5 -> Prefix l
2.1.5 An iprid is an iprid is an iprid.
2.1.5.1 An iprid is a clause
2.1.5.2 A single aŋtah is an iprid
2.1.5.3 iprid are made by combining smaller iprid with an owpys
2.1.5.4 owpys by default take one iprid
2.1.5.5 owpys are conjugated to be transitive by nasalizing the first syllable
2.1.6 aʃov
2.1.6.1 There are 10 special words
2.1.6.2 We'll explain them as we go
Transition: So now you're all fluent in Davin, right ?

- 2.2 The set semantic model
  - 2.2.1 Premise
    - 2.2.1.1 Humans like to tell stories
    - 2.2.1.2 However, Davin is declarative
    - 2.2.1.3 We use sets to specify what instead of how

Transition: Let's show this with a story

  - 2.2.2 let alter.
    - 2.2.2.1 Two people are venturing through a forest
    - 2.2.2.2 It's a poorly drawn tiger !
    - 2.2.2.3 Or so Bob wants to express from his semantic model
    - 2.2.2.4 He formulates a sentence which resolves to a set containing the tiger
    - 2.2.2.5 Sue hears the formula and creates an internal set to examine
    - 2.2.2.6 Then they run
    - 2.2.2.7 Unfortunately, bab su emfɪs.
  - 2.2.3 We specify sets that we want people to pay attention to
  - 2.2.4 It's a call to realization
- 2.3 Basic Set building
  - 2.3.1 aŋtah
    - 2.3.1.1 Whole sets.
    - 2.3.1.2 Besides names, rather rare.
    - 2.3.1.3 These are the sets of all possible interpretations
    - 2.3.1.4 Not necessarily static
  - 2.3.2 λx comprehension
    - 2.3.2.1 Reify noun owpys
    - 2.3.2.2 Comprehend over set, and get back the right elements
    - 2.3.2.3 These can be put into other comprehensions
    - 2.3.2.4 Acts like conjunction
  - 2.3.3 Relations
    - 2.3.3.1 Simply describing things cannot relate them
    - 2.3.3.2 All owpys are, in fact, defined transitive
  - 2.3.4 λxλy comprehension
    - 2.3.4.1 Iterate over both
    - 2.3.4.2 Not respective, every he is matched with every ji
    - 2.3.4.3 Only ji escapes

Transition: Then what was really happening with intransitivity ?

  - 2.3.5 Contextualization
    - 2.3.5.1 We intersect every comprehension with our context
    - 2.3.5.2 Context fills in the omitted spaces
    - 2.3.5.3 Abbreviate with C
  - 2.3.6 Example
    - 2.3.6.1 Break down piece by piece
    - 2.3.6.2 Trace “hym” through the filter ($a \rightarrow b \rightarrow c$)
- 2.4 Raising
  - 2.4.1 These are actually functional relationships
    - 2.4.1.1 Functional *relationships* not functions
    - 2.4.1.2 Needed to accommodate certain complex owpys
    - 2.4.1.3 Most owpys are just an identity function
    - 2.4.1.4 Functions map pairs to pairs
  - 2.4.2 Comprehension under this model
    - 2.4.2.1 We can represent functions as a set of tuples
    - 2.4.2.2 Essentially, we find a pair that has sets with our elements in them
    - 2.4.2.3 Then combine all such sets

Transition: This model helps explain two aʃov
- 2.4.3 Swapping things around
  - 2.4.3.1 es flips the relation
  - 2.4.3.2 ens chooses the result set
  - 2.4.3.3 When combined, they are written as one word
  - 2.4.3.4 Note for intransitive, ens lets the context escape

Transition: Motivates another really important idea
- 2.4.4 Motivate raising
  - 2.4.4.1 Refer to the relationships themselves
  - 2.4.4.2 Talk about the “ness” of a word
- 2.4.5 Raising an owpys
  - 2.4.5.1 Intransitive
    - 2.4.5.1.1 A “property”
    - 2.4.5.1.2 Two aʃov – one for convenience
    - 2.4.5.1.3 yp .. up are like parens
  - 2.4.5.2 Transitive
    - 2.4.5.2.1 A “relationship”
    - 2.4.5.2.2 Reuse eb
    - 2.4.5.2.3 Introduce ymp – let's us now what's coming up
  - 2.4.5.3 Special aŋtah
    - 2.4.5.3.1 Can be used anywhere
    - 2.4.5.3.2 Pose question in principal iprid
    - 2.4.5.3.3 Can be omitted if they occur at the beginning
- 2.4.6 Interpretation
  - 2.4.6.1 These are the same relations we explored earlier
  - 2.4.6.2 “Reified” so we can talk about them
  - 2.4.6.3 Intransitive just duplicates argument

Transition: So let's look at some uses
- 2.4.7 Filtering raised phrases and ilt
  - 2.4.7.1 Raise, describe, reapply
  - 2.4.7.2 Example is contrived, would just add efıs at the end.
- 2.4.8 Defining aŋtah and owpys
  - 2.4.8.1 Use the definitions of the terms
  - 2.4.8.2 Quote with ow, pull out with ens

3 Conclusion
- 3.1 We have only scratched the surface
  - 3.1.1 Lists and numbers
  - 3.1.2 Negation and logic
  - 3.1.3 Questions and tense
- 3.2 This generally affects the language in interesting ways
- 3.3 Remember, this is not required knowledge for speaking
  - 3.3.1 Words can be used intuitively.
  - 3.3.2 Design features to make it feel natural - co-location
- 3.4 So we have built some sets. How again ?
  - 3.4.1 aŋtah are our base sets
  - 3.4.2 We get specific with intransitive owpys
  - 3.4.3 And relate things with transitive owpys
  - 3.4.4 We can get creative swapping things around
  - 3.4.5 We can raise phrases into concepts
- 3.5 Any questions ?
- 3.6 Out of time ! But you can grab me if you want to pontificate