History

- Development began in September of 2003
- Began as embedded scripting language hosted on the JVM
- Focus shifted as features were added incrementally
- Moved away from JVM to native code generation
- Today has extensive user libraries

• Basic syntax & semantics

- The stack & postfix notation
- Postfix example (RPN with a stack, 1 2 + sort of thing)
- Other stack-based languages
- Parsing algorithm
 - * "
 - * token
 - · ordinary word (terminology, incl. "vocabulary")
 - · parsing word
 - * number
- Example ordinary words: stack shufflers
- Example parsing words: quotations

• Concatenative programming

- "Pipeline code"
- Whitespace = function composition
- Point-free style
- Origin of name "Factor"

• Stack effects

- Basic stack effects: stack shufflers illustrated
- Complex stack effects: row polymorphism & types
- Stack checker

• Control flow

- Combinators
 - * if
 - * each
 - * while
- Dataflow combinators
 - * Dip/keep

- * Cleave
- * Spread
- * Apply
- Object system
 - tuples
 - generics & methods
- \bullet Libraries & metaprogramming
 - Results of evolution
 - locals?
 - fry?
 - macros?
 - functors?
 - ffi?