The Best of Both Worlds?

- Can one have a single system combining
  - power and simplicity of set theory
  - types and functions as in higher order logic
- Common idea:
  - type system ‘layered’ over set theory
    - typechecking is theorem proving
    - guided by typechecking algorithms
  - λ-notation interpreted set-theoretically
    - shallow embedding
    - derived laws (e.g. β-conversion)
- Types as sets means types are ‘first class’
  - quantified, passed as parameters etc.