A CFG for a fragment of English (Assume that S = Sentence, NP = Noun Phrase, VP = Verb Phrase, D = Determiner, A = Adjective, N = Noun, V = Verb):

S → NP VP

NP → D A N | D N

VP → V NP

D → the | a

A → small | red | big

N → boy | girl | cat

V → likes | kissed | saved | eats

<u>This CFG can derive:</u>

{ a small cat eats the fish, the girl kissed the boy, a boy saved the girl, . . . }

Derivation of **a small cat easts the fish :**

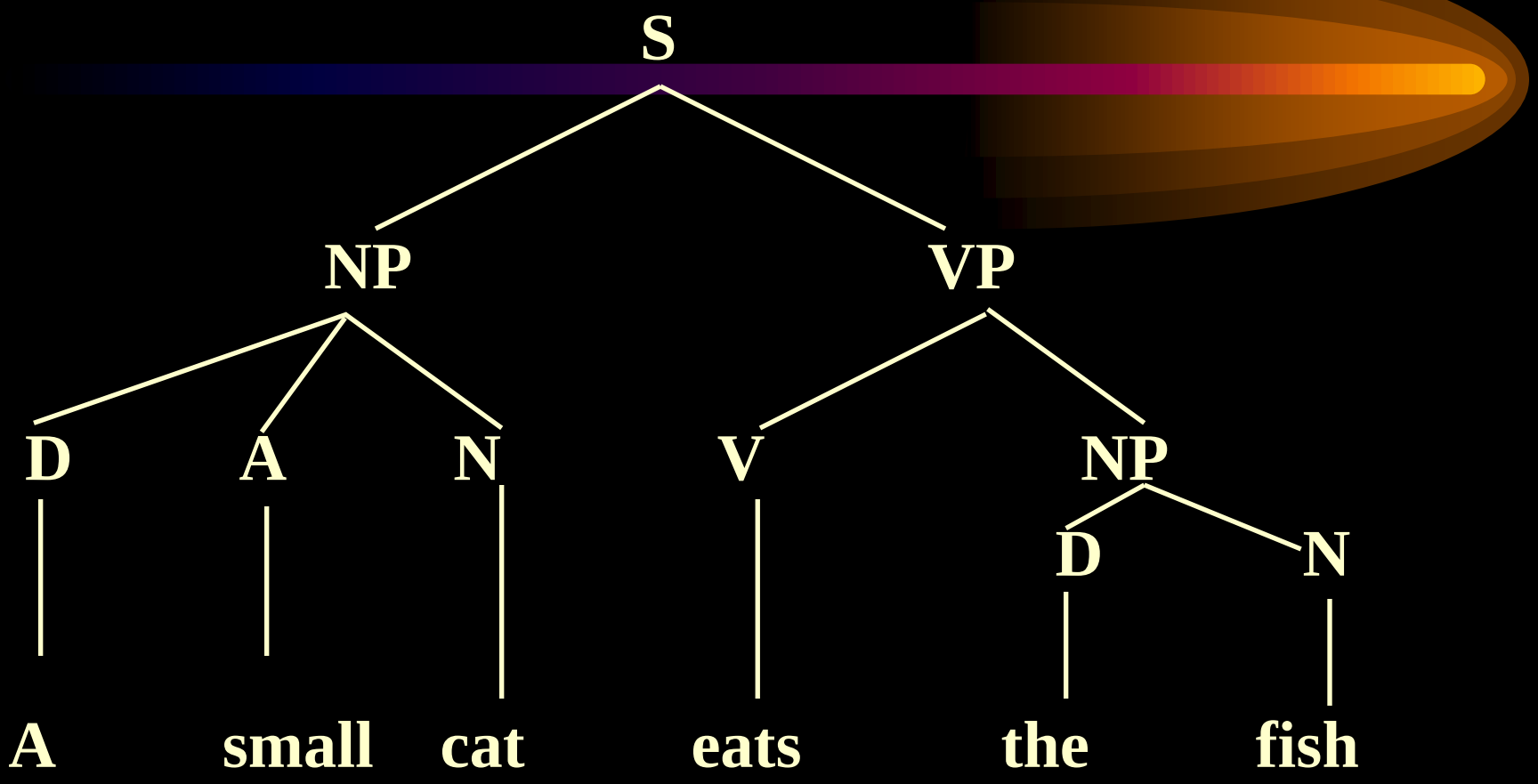
S => NP VP => D A N VP => a A N VP => a small N VP

=> a small cat VP => a small cat V NP

=> a small cat eats NP => a small cat eats D N

=> a small cat eats the N => a small cat eats the fish

According to the CFG given in the previous section, a parse tree for "a small cat eats the fish" is given below:



For more on Context-Free Grammars, visit this page:
http://www.asethome.org/mathfoundations/Context_Free.pdf