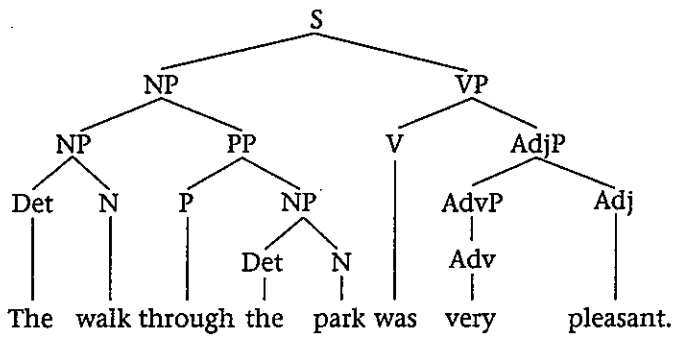
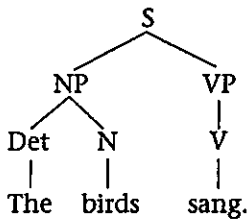
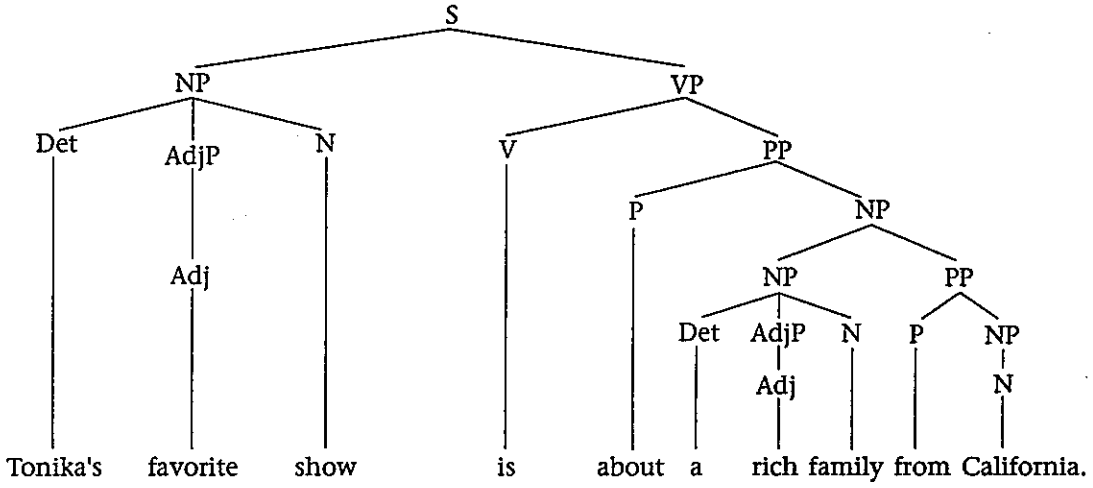
g.



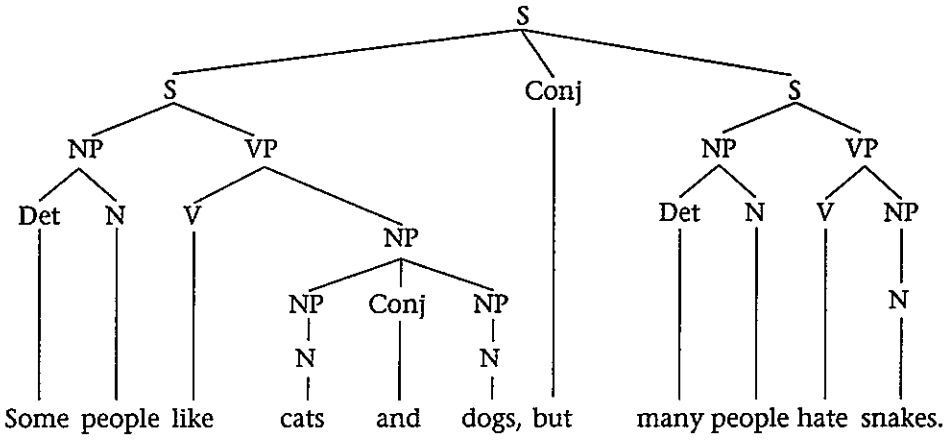
h.



i.



j.



File 6.5 Phrase Structure Rules

1. a. i. no
   ii. no
   iii. yes
   iv. yes
   v. yes
   vi. yes
   b. (varies)

c. Change NP → DET N to NP → (DET) N;
Add the rule NP → NP$^+$ CONJ NP.

d. Yes. There are rules allowing for an infinite number of NPs within an NP and an infinite number of VPs within a VP.

2. a.

S	→	NP VP	N	=	*John, Janet, Marilyn, Larry, guitar, trumpet*
NP	→	(DET) N	DET	=	*his, the*
VP	→	V_t NP	V_t	=	*strummed, played*
VP	→	V_i	V_i	=	*sang, danced*

b. Janet and Marilyn sang.
Larry sang and danced.

c. VP → VP$^+$ CONJ VP
CONJ = *and*

d. John played the trumpet and danced.
Marilyn sang and strummed the guitar.

3. a. A verb with a sentence

b. VP → V_s S

c. Pro = *he*
N_{pr} = *Sally, Robert, Cathy, Reno, Bill*
N = *mother, piano, car*
V_t = *bought, plays*
V_i = *lives*
V_s = *denied, claimed, said*
DET = *her*

d. The new rule VP → V_s S, in conjunction with S → NP VP, allows an infinite loop.
In S → NP VP, if we apply the new rule, we get S → NP V_s S, in which there are sentential categories on both sides of the arrow, thus making the rule sequence recursive.

4. a. Sally lives in Reno.
Sally went to New York.

b. Harry met Sally in Chicago.
Harry kissed Sally in New York.

5. In an NP like *a very intelligent woman,* the phrase *very intelligent* is neither an adjective nor a sequence of adjectives. It is a phrase composed of an adverb and an adjective. Hence, we need the modification (no pun intended).

File 6.6 Transformations

1. The PS rule VP → V_t NP allows only transitive verbs to be followed by NP objects in a VP. *Disappear* and *elapse,* which are intransitive verbs, can't be followed by NP objects. The *Wh-* question transformation applies only to VPs where there is an NP (of the kind PRO *wh-*) in the VP. Since declarative sentences like

*John disappeared what.
*John will elapse what.

cannot be generated by the PS rules, the Wh-question transformation can't apply to these sentences so as to produce

*What did John disappear?
*What will John elapse?

2. a. To transform the (i) sentences into the (ii) sentences, move the first NP so that it immediately follows the second NP, and then insert *to* before the NP just moved.
   b. To transform the (i) sentences into the (ii) sentences, delete the part of the VP following the auxiliary verb in the second of the conjoined identical VPs.
   c. To transform the (i) sentences into the (ii) sentences, first move the PP from inside the VP to the beginning of the sentence, then move the (subject) NP so that it immediately follows the verb.
3. a. Passive
   b. The prepositional phrase transformation found in part (c) of question 2.
   c. Passive
   d. Verb + particle shift
   e. Passive

File 6.7 Word Order Typology

1. a. i. SOV
      ii. head-initial features: (none)
      head-final features: a, b, c, d, e, f
   b. i. SVO
      ii. head-initial features: a, b, c, d, f
      head-final features: e
   c. i. SOV
      ii. head-initial features: (none)
      head-final features: a, b, c, d, e, f
2. a. i. head-final
      ii. PP → NP P
   b. i. head-final
      ii. VP → S *that* V_s
   c.

		$[\,[\,[\,]_{NP}\,]_{PP}\,[\,]_{NP}\,]_{NP}$
Boston from people	=	[[[Boston] from] [people]]
the barn in the mouse	=	[[[the barn] in] [the mouse]]