Answer to Practice Final

What appears below is a very quickly written version of a sample A+ final based on the Farsi data. I expect your final to be written in complete sentences. In class on Wednesday, 1/10, I will go over the points below, how I arrived at them, and how you should approach the real final.

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Farsi (Modern Persian)

What can you tell me about Farsi on the basis of the sentences below? For example, is it a head-final or head-initial language? What's the internal structure of NP like? Is the ezafe morpheme like English "of"? Are there movement operations below that are similar to ones we've seen in English? Is wh-question formation similar to English wh-question formation? How well do Farsi phrases fit into the X' structure? Are Farsi modals like English modals (i.e., exceptional verbs) or are they ordinary verbs?

Look for ways in which Farsi fits with the theory we've discussed as well as ways in which it does not. Be as specific about the latter as possible.

(Data appears at end of answer. Some corrections have been made.)

1.   Headedness and word order

Verb follows direct object and indirect object, so VP appears to be head-final. However, the verb must precede a clausal complement, e.g., (14), (20).

Prepositions (be, (9); zir, (19); az (29)) precede their objects.

No data for order of Ns and their complements since the only NP with substantial internal structure, (19), does not contain a complement.

Conclusion: Farsi has head-final VPs and head-initial PPs. The location of clausal complements of verbs is inconsistent with this proposal. One possibility would be that the location of the clausal complements is the result of movement, but no data is given which would allow a definitive conclusion.

The basic word order for a sentence containing a transitive verb is S-O-V, (1). For a verb with an indirect object or PP complement as well as a direct object, (6), (7), (9'), (9), there appear to be two alternatives: S-DO-PP-V and S-PP-DO-V. When the DO is "Hassan-ra" and it precedes the PP as in (6), the translation is a simple sentence. When it follows the PP, as in (8), the translation given has the PP topicalized. (See section 3 below for more discussion of the difference between English and Farsi topicalization.) This suggests that the basic location for the DO "Hassan-ra" is to the left of the PP.

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            VP
            |
            V'
         ___|___
        |   |    |
       DO   PP   V
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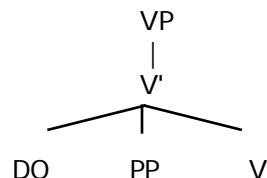
However, when the DO is "yek adam-e khub", 'a good person' the facts are reversed: when the DO follows the PP the translation is a simple sentence; when it precedes the PP, the DO is topicalized. This suggests that the basic position for the DO "yek adam-e khub" is to the left of the PP, adjacent to the V.

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            VP
            |
            V'
         ___|___
        |       |
   PP      DO      V
```
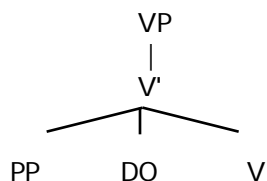
A difference between the two DOs which may be implicated in this word order difference is the appearance of the object marker, -ra. It appears on "Hassan" but not "a good person". In his discussion of the VP-adverb placement test for constituency, Radford discusses a constraint that requires adjacency between verbs and NP objects. It is this constraint which makes (a) ungrammatical in contrast with (b):

a) *   John eats frequently pizza.
b)   John speaks frequently to his family.

Perhaps -ra is more like a preposition which enables the NP to which it attaches to be non-adjacent to the verb. In order to pursue this idea, we would need answers to several questions, among them: Are the word order facts described above general for all DOs with and without -ra? Can -ra attach to all kinds of NPs? If not, is there any morphological, syntactic, or semantic property which unifies the NPs it can attach to? To begin to answer these questions we would need to know whether the following sentences are grammatical.

c)   man be Ali Hassan moa'refi-kardam
         I   to Ali Hassan introduce-1s
         'I introduced Hassan to Ali.

d)   man yek adam-e khub-ra be Ali moa'refi-kardam
         I   a   person-Ez good-OM to Ali introduce-1s
         'I introduced a good person to Ali.'

If they are both ungrammatical, then it appears that the word order difference (DO-PP-V vs. PP-DO-V) and the appearance of -ra are linked to NP-types. The obvious difference between "Hassan" and "yek adam-e khub" is that one is a proper name and one is unspecific. More data is needed to determine if this is the relevant distinction.

2.   Morphological analysis of verb forms

Agreement/pronoun suffixes:

-am.....1st person, singular, subject
-ash....3rd person, singular, object
-e........3rd person, singular, subject
-and....3rd person, plural, subject
-i........2nd person singular, subject

On the basis of (3), Farsi marks both subject and object with suffixes on the verb. The order of morphemes is V-Subject-Object. The glosses for all verbs, except participles, indicate at least one person/number agreement morpheme. On the basis of sentences where the subject and object differ in person or number (e.g., (7)), agreement appears to be with the subject.

So: subject agreement is obligatory, object agreement is not.

(4) contains a verb "zad" which does not appear to have any agreement suffixes, yet it is glossed as being 3rd person singular. This suggests that the affix for third person singular subjects is phonetically null, though syntactically present.

Distribution of agreement suffixes:

Subject marker is present whether or not subject is independently represented, (6)/(7). This is the way agreement located in the inflection node (I) behaves; same as in Spanish and Italian.

However, in sentences given, object agreement (e.g., -ash) appears only when there is no other direct object; compare (2) and (4). Raises question of whether direct object and object agreement are in complementary distribution. Need to know if (4') is grammatical:

4')   Ali-ra zad-ash
       Ali-OM beat-3s-him
       'He beat Ali.'

If ungrammatical, then direct object and object agreement are in complementary distribution. This is not the way inflectional agreement behaves. More correct to say that -ash is "weak" pronoun (like in Spanish and French) than agreement marker.

Further support for the idea that -ash is a pronoun rather than an agreement marker comes from its appearance in the noun phrase in (18) "ketab-ash-ra", 'his book'.

Verbs:

Start with past tense forms.

Past Tense Forms:

bardasht	take	bardash
bud	be	bu
dad	give	da
goft	say	gof
moa'refi-kard	introduce	moa'refi-kar
sakht	build	sakh
zad	beat	za

Note that all end in either [t] or [d] and that the two sounds are in complementary distribution: [t] follows voiceless consonants, [d] follows voiced consonants and vowels. This suggests that the past tense is marked by a suffix: [alveolar stop, ± voice]. This gives the forms on the right as possible roots. ("Possible" because there could be other processes going on that modify roots.)

Now consider participial forms:

Participles:

koste	kill (part.)	kos
hads-zade	guess (part.)	hads-za
rafte	go (part.)	raf
ta'mir-karde	fix (part.)	ta'mir-kar

These all end in either -te or -de, with the consonant again in complementary distribution. Could say participial suffix is [t/d e] -- but might also be that it is a combination of the past suffix plus [e]. (Think about participial form in English which looks like past tense in lots of cases.)

Other verbs:

ast	be-3s (present)	
bayad	must	
dar	have	
dust-dar	like	
fekr-mikon	think	(?fekr-nemikard not think (past))
hal-kon	solve	
khan/khar	read	
midon	know	
mitavan	can	
motehayer	wonder	
rav	go	
shod	become	

"Bayad", 'must' is like an English modal verb in that it does not appear with inflection. However, "mitavan", 'can' appears to be different than English modals since it does.

Negation

Negation is a prefix -ne which attaches to some part of the verb.

ne-mitavan-i	not-can-2s	
fekr-nemikard	fekr-mikard + ne attaches to mikard	not think-3s
koste ne-shod-and	kill(part.) neg-become-3pl.	
ne-rafte ast	neg-go(part.) be-3s	

The behavior of negation with the two participles is odd: in one case it attaches to the participle and in another it doesn't. Interestingly, negation also skips over the first morpheme of "think" and attaches to the second part. Leaving aside "mi", "kard" appears in two other verbs: "introduce" and "fix". Perhaps these are compound verbs of some sort, like "make an introduction" or "do a repair". In that case, "fekr" might be a noun and it is then consistent with the other cases that negation attaches to the verbal morpheme. To be consistent, we would then have to say that "koste" is a noun, which seems odd since it appears with the participial suffix.

(An advanced observation: "koste" is a passive participle while "rafte" is not. Crosslinguistically, passive participles are less verb-like than other sorts of participles, so the fact that negation "treats" the two differently in Farsi is not surprising.)

"Mi" appears in a few verbs but more data would be needed to determine whether it is an independent prefix and what its function is.

3.   Movement

Farsi appears to have a movement operation similar to that which results in English sentences like "This book, John would really like." The sentences that are most similar to English topicalization are (5) and (10)-(13), where the topicalized phrase (NP or PP) appears at the front of the sentence (to the left of the subject when the subject is overt).

There is another type of sentence which gets translated as an English topicalized sentence but which has a different word order: (15), (16), (18). In these, the topicalized phrase (NP or PP) follows the subject. The phrase appears to have been moved because in all three cases it is a complement of the verb in the embedded clause. While English has one position for topicalized elements (before the subject), Farsi apparently has two (before the subject and after the subject).

There are only two wh-questions given in the data set, (23) and (24). It appears from these two questions that Farsi question words do not move to the front of the sentence. This is most clear from sentence (24) in which the question phrase "be che kasi", 'to which person' appears in the position of other, non-question, PPs. (Compare the position of "be Ali" in (6), for example.) Other than the appearance of the question words, (23) and (24) look exactly like declarative sentences.

4.   Internal structure of NP

There are only two examples of NPs with much internal structure, in (9) and (19):

from (9)   yek adam-e khub
             a person-Ez good
             'a good person'

19)   otagh-e zir-e shirvuni-e Ali
       room-Ez under-Ez roof-Ez Ali
       'Ali's room under the roof'

The word order in (9) is D-N-Adj; the word order in (19) is N-PP-NP(possessive). Since neither NP contains a complement, we have no information concerning the headedness of NP. The ezafe morpheme appears after every word in the NP except the determiner "yek" and the adjective "khub" in (9) and "Ali" in (19).

As for whether the ezafe morpheme is like English "of", if "Ali's room" translates as "otagh-e Ali" then we might have reason to believe that it plays the same role as "of" (compare "the room of Ali"). However, the fact that it occurs after the preposition "zir" makes the parallel unlikely.

The only other NPs of interest are found in (18) "ketab-ash-ra", 'his book' and (22) "baradar-am", 'my brother'. These show what we have identified as the object pronoun "-ash" and the subject agreement marker "-am" acting as possessive pronouns. This raises the question of whether "-am" can appear as an object pronoun in sentences, i. e., is (e) grammatical?

e)   Ali zad-am
        Ali beat-3s-1s
        'Ali beat me.'

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Abbreviations:

    OM=object marker (probably something like accusative case)
    1s,2s,3s=first, second, or third person singular
    Ez="ezafe", a linking morpheme
    part=participle
    subjunc=subjunctive
    imp=imperfect
    neg=negation, i.e., "not"

1)   Mehry Ali-ra dust-dare
        Mary Ali-OM like-3s
        'Mary likes Ali.'

2)   Ali zad-ash
        Ali beat-3s-him
        'Ali beat him.'

3)   zad-am-ash
        beat-1s-3s
        'I beat him.'

4)   Ali-ra zad
        Ali-OM beat-3s
        'He beat Ali.'

5)   Ali-ra Mehry dust-dare
        Ali-OM Mary like-3s
        'Ali, Mary likes.'

6)   man Hassan-ra be Ali moa'refi-kard-am
        I   Hassan-OM to Ali introduce-1s
        'I introduced Hassan to Ali.

7)   Hassan-ra be Ali moa'refi-kard-am
        Hassan-OM to Ali introduce-1s
        'I introduced Hassan to Ali.'

8)   be Ali Hassan-ra moa'refi-kard-am
       to Ali Hassan-OM introduce-1s
       'To Ali, I introduced Hassan.'

9')   man be Ali yek adam-e khub moa'refi-kard-am   added for comparison
       I to Ali a person-Ez good introduce-1s
       'I introduced a good person to Ali.'

9)   be Ali yek adam-e khub moa'refi-kard-am
       to Ali a person-Ez good introduce-1s
       'I introduced a good person to Ali.'

10)   yek adam-e khub be Ali moa'refi-kard-am
       a person-Ez good to Ali introduce-1s
       'A good person, I introduced to Ali.'

11)   Hassan-ra man be Ali moa'refi-kard-am
       Hassan-OM I to Ali introduce-**1s**   typo corrected
       'Hassan, I introduced to Ali.'   word order corrected

12)   yek adam-e khub man be Ali moa'refi-kard-am
       one person-Ez good I to Ali introduce-**1s**   typo corrected
       'A good person, I introduced to Ali.'   word order corrected

13)   be Ali man Hassan-ra moa'refi-kard-am
       to Ali I Hassan-OM introduce-**1s**   typo corrected
       'To Ali, I introduced Hassan.'   word order corrected

14)   Ali fekr-mikone ke Mehry een ketab-ra be Hassan dad.
       Ali think-3s that Mehry this book-OM to Hassan give-3s
       'Ali thinks that Mary gave this book to Hassan.'

15)   Ali een ketab-ra fekr-mikone ke Mehry be Hassan dad.
       Ali this book-OM think-3s that Mehry to Hassan give-3s
       'This book, Ali thinks that Mary gave to Hassan.'

16)   Ali be Hassan fekr-mikone ke Mehry een ketab-ra dad.
       Ali to Hassan think-3s that Mehry this book-OM give-3s
       'To Hassan, Ali thinks that Mary gave this book.'

17')   een ketab-ra Ali fekr-mikone ke Mehry be Hassan dad.
       this book-OM Ali think-3s that Mehry to Hassan give-3s
       'This book, Ali thinks that Mary gave to Hassan.'

17)   be Hassan Ali fekr-mikone ke Mehry een ketab-ra dad.
       to Hassan Ali think-3s that Mehry this book-OM give-3s
       'To Hassan, Ali thinks that Mary gave this book.'

18)   Ali ketab-ash-ra fekr-nemikard ke man be Hassan goftam ke tu bardashti
       Ali book-his-OM not-think-3s that I to Hassan say-1s that you take-2s
       'Ali doesn't think that I told Hassan that you took his book.

19)   otagh-e zir-e shirvuni-e Ali
       room-Ez under-Ez roof-Ez Ali
       'Ali's room under the roof'

20)   a.   Hassan midone ke Ali een khane-ra sakht
              Hassan know-3s that Ali this house-OM build-3s
              'Hassan knows that Ali built this house.'
       b. * Hassan ke Ali een khane-ra sakht midone

21)   man een-ra ke tu nemitavani mas'ale-ra hal-koni hads-zade budam
I this-OM that you not-can-2s problem-OM solve-2s guess$_{part}$ be-1s
'I had guessed that you would not be able to solve the problem.'

22)   a.   man een-ra hads-zade budam ke tu nemitavani mas'ale-ra hal-koni
        b. *   man hads-zade budam een-ra ke tu nemitavani mas'ale-ra hal-koni

23)   fekr-mikoni ke Hassan mashin-ra chetori ta'mir-karde ast
think-2s that Hassan car-OM how fix$_{part}$ be-3s
'How do you think that Hassan fixed the car?'

24)   man motehayeram ke Ali een ketab-ra be che kasi dadeh
I wonder that Ali this book-OM to which person give-3s
'I wonder to whom Ali gave this book.'

25)   baradar-am be orupa rafte ast
brother-my to Europe go$_{part}$ be-3s
'My brother has gone to Europe.'

26)   anha koste shod-and
they kill$_{part}$ become-3pl
'They were killed.'

27)   anha koste ne-shod-and
they neg-kill$_{part}$ become-3pl
'They were not killed.'

28)   Hassan be madrese ne-rafte ast
Hassan to school neg-go$_{part}$ be-3s
'Hassan has not gone to school.'

29)   (man) dar-am ba Hassan az sinema mi-rav-am
I have-1s with Hassan to cinema imp-go-1s
'I am going to the movies with Hassan.'

30)   Nader ne-mi-tavan-ad engelisi be-khan-ad
Nader neg-imp-can-3s English subjunc-read-3s
'Nader cannot read English.'

31)   (man) bayad een ketab-ra be-khar-am
I must this book-OM subjunc-read-1s
'I must read this book.'