Phonological Problem 3

Describe the changes in the synchronic phonological system produced by the following diachronic phonetic changes, first in structuralist, then in generative terms.

Assume that Late Latin had the stops *p, t, k, b, d, g* plus fricatives *s* and *h*, sonorants *r,l, m, n* and the glides *w* and *y*. Assume five vowels *a, e, i, o, u*. Assume no other phonemes! Assume that the following changes to Italian took place in the order given.

1. *ay* > *e* (e.g. Latin *caelum* [kaylum] > **celum* [kelum]) 'sky'

2. *k* > *č* and *g* > *ǰ* /__*e* (e.g. **celum* > Italian *cielo* [čelo] 'sky', *legere* > *leggere* [leǰǰere] 'to read', BUT *legō* > *leggo* [leggo] 'I read'; NB: ignore the fact that some consonants become geminates!)

3. *y* > *ǰ* (e.g. *iūrō* [yu:ro:] > *giuro* [ǰuro] 'I swear', *maiorem* >*maggiore* [maǰǰore] 'greater'.

4. *l* > *y* /stop$_{[velar]}$__V (e.g. *clāmō* > *chiamo* [kyamo] 'I call'; *glandem* > *ghianda* [gyanda] 'acorn'.

For solution scroll down:

Structuralist:

1. complete merger (loss of contrast between /ay/ and /e/) (that one is a diphthong doesn't matter)
2. non-phonemic (creation of new allophones of /k/ and /g/)
3. complete merger (/y/ merges with /ǰ/) and conditioned split (/ǰ/ now contrasts with /g/; note the example before /o/)
4. non-phonemic (creation of new allophone of /l/; NB that as I given the problem, the old /y/ is already gone, so this is not a merger).

Generative:

1. restructuring
2. rule addition (the two different forms of the verb 'to read' make it certain that this is rule addition)
3. restructuring and rule loss (and actually more restructuring)
4. rule addition *or* restructuring (no evidence here to force assumption of rule addition)