Nasal vowel unpacking or segmentalization in Albanian

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Introduction: Paradis and Prunet (2000) describe a phonological process they call "Nasal vowel unpacking" in which nasal vowels are borrowed and adapted as two segments: an oral vowel followed by a nasal consonant. Examples (1-2) are French borrowings into Fula.

- (1) French enquête $\langle \tilde{\mathbf{a}} \mathbf{k} \epsilon t \rangle > \text{Fula } \langle \mathbf{a} \mathbf{n} \mathbf{k} \epsilon t \rangle$ 'inquiry' $(\tilde{\mathbf{a}} > \mathbf{a} \mathbf{n} / \mathbf{k})$
- (2) French /k3tin3/ > Fula /k3ntinan/ 'continent' (3 > 5n / t)

Similarly, Hock (2021: 118) describes a process he calls "segmentalization" by which one segment develops into two segments (3-4), upgrading key features into separate segments.

- (3) Indo-Aryan (Bengali) $ph\bar{u}l$ 'flower' $> p\phi\bar{u}l > \phi\bar{u}l > f\bar{u}l$ ($p^h > p\phi$)
- (4) Liverpool English lock [lokh] > [lokx] > [lox] $(k^h > kx)$

The similarities evident between "nasal vowel unpacking" and "segmentalization" naturally raise the question of whether these are distinct processes or instead are one and the same. I argue here, based on evidence from dialectal Albanian, that they are indeed the same, just two different names for the same basic process. The Albanian language is divided between the Gheg dialect spoken in the geographic north and Tosk to the south. Gheg preserved nasal vowel from Proto-Albanian, while Tosk has lost distinctive nasalization in all environments (de Vaan 2018). Gheg has also preserved the intervocalic alveolar nasal -n- adjacent to nasal vowels, while this has rhotacized in Tosk to -r- [r] (S. Demiraj 2013). Relevant data on unpacking and segmentalization comes not only from Gheg and Tosk, but also from the Malsia Madhe region, which has historically preserved lexemes with nasal vowels (Dedvukaj and Ndoci 2023).

Data: In (5-6) below Gheg/Malsia has preserved nasal vowels and the intervocalic alveolar nasal -n-, while Tosk has lost nasal vowels and the -n- rhotacized to -r-.

- (5) Gheg/Malsia ûni /ũ:ni/ ~ Tosk uria /uria/ 'hunger'
- (6) Gheg/Malsia trûni /trũ:ni/ ~ Tosk trươi /truɾi/ 'brain(def.)'

Before plosives, the nasal vowel unpacked/segmented into an oral vowel and a nasal consonant of the same place of articulation as the consonant it precedes. In (7) and (8), the nasal vowel $\frac{5}{5}$ unpacked/segmented into an oral vowel $\frac{4}{5}$, and the alveolar nasal consonant $\frac{4}{5}$ of the same place of articulation as the consonant it precedes $\frac{4}{5}$, with subsequent voicing of $\frac{4}{5}$ and $\frac{4}{5}$ and $\frac{4}{5}$ being triggers the voicing of $\frac{4}{5}$ and $\frac{4}{5}$ and $\frac{4}{5}$ being triggers the voicing of $\frac{4}{5}$ and $\frac{4}{5}$ and $\frac{4}{5}$ being triggers the voicing of $\frac{4}{5}$ and $\frac{4}{5}$ being triggers triggers.

- (7) Malsia tât /tɔ̃:t/ 'yours' ~ Tosk tëndë /təndə/
- (8) Malsia lât /λ̃5:t/ 'tree, oak tree' ~ Tosk lëndë /ləndə/ 'acorn'

Before fricatives, the nasal vowels unpacked/segmented in Tosk and subsequently deleted. Because fricatives do not completely obstruct the passage of airflow through the oral cavity as the plosives do, which is a key component to why the nasals surface before a plosive, the nasal consonant is deleted (9-10). In (11), Tosk also loses nasalization in open syllables.

- (9) Gheg/Malsia $p\hat{e}s$ / $p\tilde{e}s$:s/ ~ Tosk $pes\ddot{e}$ / $p\epsilon s$ ə/ 'five' (Proto-Indo-European *penk**e 'five')
- (10) Gheg/Malsia $v\hat{a}th/v\tilde{\mathbf{5}}$: θ / 'earing' ~ Tosk $v\ddot{e}th/v\tilde{\mathbf{9}}\theta$ / (Cf. Doric Greek $\dot{\alpha}\dot{\alpha}v\theta\alpha$)
- (11) Malsia $t\hat{a}/t\mathbf{5}$:/ ~ Tosk $t\ddot{e}/t\mathbf{9}$ / 'it'; Malsia $k\hat{a}/k\mathbf{5}$:/ ~ Tosk $k\ddot{e}/k\mathbf{9}$ / 'whom'

Conclusion: "Nasal vowel unpacking" is the separation of the features of a nasal vowel into two distinct segments (an oral vowel and nasal consonant). "Segmentalization" is likewise the development of one segment with an additional feature into two segments. The historical changes in the Tosk Albanian dialect provide a case where nasal vowel unpacking and segmentalization are different labels for the same process and conclusion: one segment (the nasal vowel) developing into two segments (oral vowel + nasal consonant), with subsequent deletion of the nasal consonant before a fricative or in an open vowel (\tilde{V} : > VC / T; \tilde{V} : > V / F; \tilde{V} : > V / #).