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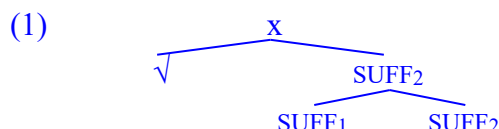homepage: http://www.trees-and-lambdas.info/matushansky/

THINGS THAT SAY -*NIE*!
Slavic Linguistic Society (SLS) 20, Verona, September 10–12, 2025

1 INTRODUCTION

Theoretical side: **the micromorphology hypothesis** (Stump 2017a, b, 2023): affixes can form complex constituents to the exclusion of the lexical root (stem):

(1)

Empirical side: **Slavic N/T action nominals**:

(2) a. načę-tŭ 'begin.PPP' → načetĭje 'beginning'   Old Church Slavonic, Meillet 1934
    b. děla-nŭ 'do/make.PPP' → dělanĭje 'doing, action'

Composition: a verbal stem, the passive past participle (PPP) suffix and an abstract nominalizer (the J-suffix):

(3) děl- a-   n   ĭj e
    do√ TH   PPP   J   NSG.NOM

All composing morphemes have independent justification (as you can check in your preferred Slavic language)

Slavic N/T action nominals cannot be explained by regular suffixation:
> ➢ their interpretation is not compositional
> ➢ intermediate links are systematically missing
> ➢ prosody can be wrong

The structure in (1) can account for these irregularities

2 MOTIVATION FOR COMPLEX SUFFIXES

A notion taken for granted in traditional grammars but absent from realizational approaches to morphology (i.e., Distributed Morphology and Nanosyntax)

In English, it often happens in non-native vocabulary:

(4) a. abolish → abolition, absorb → absorption   suffix -*tion*-
    b. truncate + tion → truncation   or -*[t]ion*-?
    c. explain → *explaintion, ✓explan**ation**, cf. explan**atory**   phonology?
    d. expect → *expection, ✓expect**ation**, cf. protect/protection

The inser**tion** of -*a[t]*- does not seem to be straightforwardly phonologically motivated and is not limited to one suffix:

(5) a. event → eventive, expense → expensive, immerse → immersive   suffix -*iv*-
    b. provoke → provoc**ative**, provoc**ation**; form → form**ative**, form**ation**

And sometimes -*a[t]*- is not enough:

(6) a. classify → classif**ication**, classif**icatory**   suffixal complex -*ic-at-[t]ion*-
   b. simplify, gamify, spotify…

What is -*ic*- doing here?

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And is it the same *-ic-* as in (7)?

(7) a.   history + ic → historic (important in history), + al → historical (related to history)
b.   electr- + ic → electric (uses electricity), +al → electrical (related to electricity)
c.   meter + ic → metric (using meters as base), metrical (related to poetic meter; involving measurement)
d.   nonsense → *nonsensic, ✓nonsensical
e.   whimsy → whimsical, type → typical

Traditional approach: these are complex affixes, *-ation-*, *-ical-*, *-ication-*…

"Micromorphology" (term from Stump 2019; formalizations in Bochner 1993, Soukka 2000, Luís and Spencer 2005, Stump 2017a, b, 2022, 2023, etc.): **affixes may form a constituent without a stem**

(8)
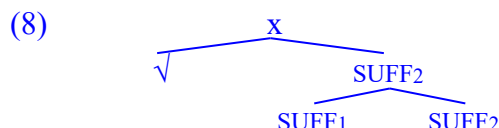
No prior implementations in Distributed Morphology
Am I just translating Stump's theory into DM? No

DM allows us to determine and/or implement:
➢   semantic effects of complex affixation: semantic deletion, allosemy and its sources
➢   phonological effects of complex affixation (a separate phonological cycle)
➢   ways of diachronic development (the merger of two syntactic terminals into one, reanalysis as one affix)

This talk: semantic and phonological composition in one instance of complex affixation (Slavic N/T action nominals)

3   THE COMPLEX STRUCTURE OF N/T ACTION NOMINALS

The J-suffix exists as an independent morpheme at least in Russian and Serbo-Croatian

3.1   The mass nominalizer J

The J-suffix started out as *-ĭj-* and retained this form, e.g., in Russian:
The surface realization of the neuter nominative singular (e/o) is allophonic

(9) a.   pitʲje 'drink' ([pʲitʲjó]) → pitej 'drink.PL.GEN' ([pʲitʲéj])   yer lowering
b.   otkrytie 'opening, discovery'   yer tensing or lengthening

In some Slavic languages (e.g., Ukrainian, Serbo-Croatian) the presence of the yer can only be surmised but it never surfaces as a vowel:
The genitive plural allomorph in Ukrainian is stress-dependent

(10) a.   žittʲá 'life.NSG.NOM' → žittʲív 'life.PL.GEN'   Ukr., Pugh and Press 1999
b.   pitánnʲa 'question.NSG.NOM' → pitánʲ 'question.PL.GEN'
c.   vesíllʲa 'joy.NSG.NOM' → vesílʲ/vesillʲív 'joy.PL.GEN'

(11) a.   vesélje 'joy.NSG.NOM' → veséljā 'joy.PL.GEN'   SC, Barić et al. 1997
b.   obećánje 'promise.NSG.NOM' → obećánjā 'promise.PL.GEN'

In Russian it has two allomorphs, *-ij-* and *-ĭj-* (cf. *zdorovje/zdravie* 'health'), with potentially additional suprasegmental distinctions (accentuation, dominance)

It has cumulative semantics, creating mass nouns, generally substance-mass rather than object-mass, in function of the input

Object-mass nouns from N and A stems (semi-productive, apparently accentually dominant, post-accenting):
For a discussion of these see Matushansky 2024b

(12) a. *duračjó* 'fools' (cf. *durák* 'fool')   (semantically animate) neat mass
    b. *vorʲjó* 'thieves' (cf. *vor* 'thief')
    c. *dubʲjó* 'cudgels' (cf. *dubína* 'cudgel')   inanimate neat mass
    d. *rvanʲjó* 'tatters' (from *rvánɨj* 'torn')
    e. *starʲjó* 'old stuff' (cf. *stárɨj* 'old')   inanimate mess mass

Productive nominalization from PP bases (ca. 120 nouns in Zaliznjak 2010): apparently also accentually dominant, but pre-accenting:
For similar SC data see Simonović and Arsenijević 2014, Arsenijević 2020

(13) a. *bezvódʲje* 'lack of water, aridity' (from *bez* 'without' and *vodá* 'water')   Ru
    b. *primórʲje* 'seaside' (from *pri* 'by, next to' and *móre* 'sea')
    c. *poxmélʲje* 'hangover' (from *po* 'along, post (i.e., after)' and *xmelʲ* 'inebriation')
    d. *privólʲje* 'free space, freedom' (from *pri* 'by, next to' and *vólʲa* 'freedom')

And a few others (including compound formation and part of complex suffixes), e.g., *dejstvije* 'action'; all of these already attested in OCS

N/T action nominals can be mass (complex event nominals), but may also become count (result nominals and semantic drift)

Hence the semantics of N/T action nominals is a subset of the general semantics of the J-suffix

3.2 Evidence for the PPP suffix

The PPP suffix has three allomorphs: *-en-*, *-n-* and *-t-*
    ➢   the context for the *-t-* allomorph varies across Slavic
    ➢   *-n-* is used after the thematic suffix *-a-*
    ➢   *-en-* is used elsewhere

The PPP allomorph for a given stem determines the shape of the N/T action nominal:

(14) pre- obraz- ov- a- |n-| o   →   pre- obraz- ov- a- |n- ij-| e   Ru
    trans-form VBZ TH PPP NSG   trans-form VBZ TH PPP NMZ NOM
    transformed   *transformation, transform*

(15) ot- kry- |t-| o   →   ot- kry- |t- ij-| e
    from cover PPP NSG   from cover PPP NMZ NOM
    opened, discovered   *opening, discovery*

(16) na- poln- |en-| o   →   na- poln- |en- ij-| e
    on full PPP NSG   on full PPP NMZ NOM
    filled   *filling*

This correlation is observed throughout Slavic
Noted by Meillet 1934:§290, Lunt 2001 for OCS; Babby 1993, 1997, Sadler, Spencer and Zaretskaya 1997, Pazelskaya and Tatevosov 2008 for Russian; Bloch-Trojnar 2023 for Polish, Herrity 2016:264–267, Marvin 2002,

for Slovenian; Zlatić 1997, Simonović and Arsenijević 2014, Ignjatović 2019, Arsenijević 2020, etc., for Serbo-Croatian; Karlík 2007, Havranová 2020 for Czech; Pchelintseva 2022 for Ukrainian, etc.

(17) a. děla-nŭ 'do/make.PPP' → dělanǐje 'doing, action'   OCS, Meillet 1934
     b. načę-tŭ 'begin.PPP' → načętǐje 'beginning'

(18) a. plava-n 'swim.PPP' → plavanje 'swimming'   Slovenian, Marvin 2002:96
     b. odpr-t 'open.PPP' → odprtje 'opening'

(19) a. pisa-n 'write-PPP' → pisanie 'something written, a writ'   Bulgarian, Markova 2011
     b. pi-t 'drink-PPP' → pitie 'a drink'

(20) a. lomlj-en 'break.PPP' → lomljenje 'breaking'   Serbo-Croatian, Simonović 2022
     b. otkri-t 'open/discover.PPP' → otkriće 'discovery'   Zlatić 1997

(21) a. čita-n-yj 'read-PPP-MSG' → čitannʲa 'reading'   Ukrainian, Pchelintseva 2022
     b. my-t-yj 'wash-PPP-MSG' → myttʲa 'washing'

(22) a. pisany/pisani 'write.PPP.PL.NV/V' → pisanie 'writing'   Polish, Swan 2002:307
     b. ścięty/ścięci 'cut down.PPP.PL.NV/V' → ścięcie 'cutting down'

There are exceptions, but generally non-systematic (with the exception of Bulgarian, section 8Appendix A)

4   INTERNAL MORPHOSYNTAX OF N/T ACTION NOMINALS

Babby 1993, 1997: N/T action nominals cannot be derived from PPPs, since they can be formed from verbs that have no PPPs:
As also noted by Marvin 2002:112 for Slovenian, by Karlík 2007 and Havranová 2020:136 for Czech, by Markova 2011:415 for Bulgarian, and by Ignjatović 2019 for Serbo-Croatian, among others, including traditional grammars

(23) a. otpastʲ (-*ot.pad*-) 'fall off.INF' → otpadenie/*otpaden(nyj)   Russian
     b. staratʲsʲa 'try.INF' → staranie/*staran(nyj)
     c. pravitʲ 'govern.INF' + INS → pravlenie 'government, board'/*pravlen(nyj)

Marvin 2002:116: Slovenian PPP-based actor nominals may be non-passive
Russian has a few of these too, e.g., *béženec* 'refugee', *snabžénec* 'supplier'. In both languages these seem to be the exception rather than the rule, but they exist

(24) a. slavljenec 'the person celebrating'; ≠'the person celebrated'
     b. doslužejnec 'the person that finished serving'; ≠'the person that was served'

Babby 1993: the N/T suffix is a "deverbalizer" creating [+N αV] stems: for both PPPs and N/T nominals "the initial verb's external theta-role is dethematized, and the initial verb stem is converted into a [+N] (nominal) stem"

Rozwadowska 1997, Englehardt and Trugman 1998, Rappaport 2001, etc., citing earlier work on nominalizations elsewhere: Slavic N/T nominals are built on passives
Cf. Alexiadou 2001 assuming unaccusative structure in action nominals vs. Borer 2020 arguing for passivization

Pazelskaya and Tatevosov 2008: **N/T action nominals are eventive**, while PPPs are stative

Pazelskaya and Tatevosov 2006, 2008: a two-step derivation:

(25)
$$\text{stem} \begin{cases} + \varnothing & \to \text{verb} \\ + \text{N/T} & \to \text{nominal} \begin{cases} + \varnothing & \to \text{participle} \\ + \text{-}\text{ĭj}\text{-} & \to \text{nominal} \end{cases} \end{cases}$$

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Pazelskaya and Tatevosov 2006: the N/T suffix is an eventizer (cf. Paslawska and von Stechow 2003), compositional semantics provided for transitives

> Remaining (technical) issue: N/T action nominals derived from intransitives

Further puzzles come from other Slavic languages

4.1   The prosody of Serbo-Croatian N/T action nominals

Simonović and Arsenijević 2014, Arsenijević 2020, Simonović 2022: two types of N/T action nominals in Serbo-Croatian:
➢   morphosyntactic distinction: perfective vs. imperfective stems (simplified)
➢   prosodic distinction: accentuation
NB: notation from Simonović 2022: **the accent mark indicates an underlying high tone**, stress is predictable from tone (more on this below)

(26) a.   rijeešíti 'solve.PFV.INF' → rijeešén → rješeenjé '(re)solution'   S&A 2014
      b.   rješaaváti 'solve.IPFV.INF' → rješáavaan 'solve.IPFV.PPP' → rješaaváanje

Perfective stems: obligatory H after the J-suffix

Imperfective stems: same accentuation as the infinitive (some exceptions, on which later)
Simonović 2022 for Neo-Štokavian dialects: imperfective-based *je*-nominals have the same prosodic pattern as the infinitive, perfective-based *je*-nominals are assigned the high tone on the last syllable
Ignjatović 2016:16: accentuation of imperfective N/T action nominals is the same as that of the infinitive

Table 1: Serbo-Croatian action nominals

	"perfective"	"imperfective"
productivity	idiosyncratic	productive
perfectivity	perfective (occ., imperfective) base	imperfective base
compositionality	idiomatic	compositional
prosody	right-aligned H spreading on the penult	faithful to base

The different accentuation of the J-suffix correlates with the morphosyntax of the stem

Additional puzzle: why are "imperfective" N/T action nominals faithful to the infinitive rather than the PPP?

(27) a.   rješaava$_H$ti   rješ**a**$_{Ha}$vaan   rješaav**a**$_{Ha}$nje   S&A 2014
      b.   volje$_H$ti 'love.IPFV.INF' →   vo**o**$_H$ljen →   volj**e**$_H$n-je/vo$_H$ljen-je
      c.   pridružiiva$_H$ti 'conjoin.IPFV.INF' → pridruž**i**$_{Hi}$vaan → pridružiiv**a**$_{Ha}$nje

Could there be two different affixes, like in Bulgarian (section 8Appendix A)?

4.2   Perfectivity

Many Slavic languages disallow imperfective PPPs

Lunt 2001:110: imperfective verbs can form PPPs in OCS (cf. *znanŭ* 'known'), but it is rare

> OCS already has N/T action nominals with the imperfective gap

Meillet 1934:§401, Nandris 1969:§153: nominals in *-ĭj-* can be formed for imperfective verbs:
Meillet 1934:§401: the PPP might be based on a different allomorph, suggesting the prior existence of an adjective in *-t-* (e.g., *tvoritĭ* 'create, do.INF', *tvoritĭje* 'creation'; see also the contrast between *zabytĭ* 'forget.INF' → *zabŭvenŭ* 'forgotten' → *zabŭvenĭje* 'forgetting' and (28a)):

(28)   a.   bytĭ 'be.INF' → __ → bytĭje 'existence'   OCS, Meillet 1934:§401
       b.   ubivatĭ 'kill.IPFV.INF' → __ → ubivanĭje 'killing'

Across Slavic, **it is imperfective N/T action nominals that are generally more productive**:
Arsenijević 2020:8: equal availability of both perfective and imperfective bases for Polish and Czech

- ➢ Herrity 2016:270: Slovenian N/T action nominals are mostly based on imperfective stems, though imperfective PPPs are generally unacceptable (cf. Marvin 2002:115, 139)

- ➢ Markova 2011:416: Bulgarian *ne*-nominals cannot be formed from perfective bases

- ➢ Arsenijević 2020: limited productivity with perfective bases in Serbo-Croatian

- ➢ Zaliznjak 2007: full productivity with imperfective bases in Russian, which always allow for a process reading (pace Arsenijević 2020:8)

The link does not appear to be semantic in nature (cf. Pazelskaya and Tatevosov 2006, 2008)

4.3   Intermediate summary

N/T action nominals can be shown to properly contain the PPP (N/T allomorphy)

The formation of N/T action nominals is non-compositional:
- ➢ the intermediate PPP may be missing due to intransitivity or imperfectivity
- ➢ the accentuation is unexpected (Serbo-Croatian)
- ➢ the semantic composition of a PPP and a collective suffix should not yield an action nominal

Imperfective-based N/T action nominals differ from perfective ones across Slavic in that they:
- ➢ are more likely to denote processes
- ➢ seem unconditionally productive throughout
- ➢ systematically lack the corresponding PPP bases

N/T action nominals differ across Slavic languages, but these are clear tendencies

> How could the N/T action nominal have arisen?

Proposal: complex suffix formation can explain this

5   COMPLEX SUFFIX FORMATION IN PROTO-SLAVIC N/T ACTION NOMINALS

Diachronic hypothesis: complex affix formation still in proto-Slavic

<u>Stage 1</u>, fully compositional: the original N/T nominals formed from **perfective PPPs** denoted the **result of the action** (including resulting objects)

The perfective PPP of a verb V denotes the set of entities x such that x has been V-ed:
Semantics after Pazelskaya and Tatevosov 2006, simplified

(29) $[\![\text{pis-a-n}]\!] = \lambda x$. $\exists s \exists e \exists y$ [AGENT $(y)(e) \wedge$ write $(e) \wedge$ THEME $(x)(e) \wedge$ CAUSE $(s)(e) \wedge$ written $(s) \wedge$ ARG$(x)(s)$]

The J-suffix closes this set under sum, creating an abstract mass noun denoting the set of sets of entities x such that x has been V-ed:

Semantics after Matushansky 2024b, assuming that mass formation has the semantics of the *-operator (Link 1983)

(30) a. $[\![\breve{i}j]\!] = \lambda P . \lambda x . x \in *P$
      b. $[\![*]\!] = \lambda P . \wp(P) \setminus \emptyset$
      c. $[\![\breve{i}j]\!] ([\![pis\text{-}a\text{-}n]\!]) = \lambda z . z \in \wp [\![written]\!] \setminus \emptyset$

This is very similar to what happens when the J-suffix applies to substance nominal roots

The closure under sum of all entities created by writing is the result of writing

> At this stage N/T nominals can only be formed from existing PPPs

The perfectivity preference is semantic: a result state is needed for PPP formation
Linking this to telicity (inner aspect) also explains why some imperfectives can form PPPs

Stage 2, semantic drift: some N/T nominals acquire entity interpretation (e.g., *pomyšlenije* 'the thought' (Nandris 1969:153)), and presumably, the process interpretation
The result/process ambiguity need not start from the "complex event" interpretation, but nothing depends on this hypothesis if the J-suffix includes some coercion of mass input (see section 5.1)

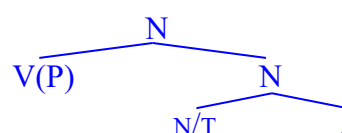Stage 3, reanalysis: the complex N/T+J suffix, creating process/result nominals
For independent evidence for this type of reanalysis see Haspelmath 1995

Proposal: "reanalysis" means complex affix formation
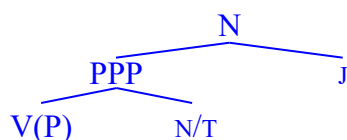
(31) a.   iterative suffixation   b.   complex suffix

This is all still proto-Slavic

> Important: both structures must be available at the same time

5.1   The semantics of complex affixes

The complex structure in (31b) is uninterpretable
  ➢   The N/T suffix is strictly deverbal and creates participles
  ➢   The J-suffix is strictly non-deverbal and creates mass nouns

> Complex affix formation is not excluded by DM (it is even expected, if it's "Syntax All The Way Down")

However, this constituency imposes constraints on the interpretation

Proposal: **semantic deletion** (cf. Matushansky 2023a, b, 2024a for the complex suffix *-tel^j-ĭn-*, I have been working on this for quite a while):
  ➢   One suffix in a complex suffix structure must be semantically null
  ➢   Empirically, it is generally the inner suffix

The **desired outcome is a process/event nominal**

If the inner N/T suffix is semantically deleted, the interpretation of (31b) should amount to the application of the J-suffix to the verbal stem

➢ Sergei Tatevosov, p.c.: but the verbal denotation is already cumulative (mass)
➢ Which means that the output should be identical to the input
➢ Except for the nominalization, which contributes reification

Hence ⟦J⟧(VP) denotes the set of *entities* x such that x is a VP-event, i.e., a **closure under sum of the relevant events reified**

This seems to be about right, as this is also what it does PPs (cf. also (13) above):

(32) a. prȉ-obaal-je 'coastal area'   SC, Arsenijević 2020
        by-coast-J

     b. prí-moor-je 'seaside'
        by-sea-J

The complex suffix may inherit the c-selectional constraints of the inner suffix (which required verbs)

The preference for imperfective bases is not unexpected, compatibility with perfective bases is not ruled out

5.2   Accentual dominance in complex suffixes

Kiparsky 1984, Halle and Vergnaud 1987a, b; Inkelas 1997, etc.: A dominant suffix deletes all accents to its left (i.e., within its cycle)

In a word with more than one dominant suffix, the rightmost wins (cf. also Garde 1968:135 for Russian)

Accentual dominance is a cyclic phenomenon: an affix is only dominant in its own cycle

Which means that **a complex affix containing a dominant affix will not be dominant itself**

N/T action nominals come in two structures, *ex hypothesi*:

(31) a. **iterative suffixation**   b. **complex suffix**

If the J-suffix is accentually dominant, it is expected to remain so in (31a)

Table 1 (repeated): Serbo-Croatian action nominals

	iterative suffixation	complex suffixation
productivity	idiosyncratic	productive
perfectivity	perfective (occ., imperfective) base	imperfective base
compositionality	idiomatic	compositional
prosody	right-aligned H spreading on the penult	faithful to base

In (31b) a dominant suffix would delete the accent associated with the PPP suffix (if any) and keep its own

No accentual dominance expected

6   INTERMEDIATE CONCLUSION

The PPP allomorphy inside N/T action nominals can be explained if the N/T suffix can appear in two different configurations:

- ➤   as part of the PPP stem combining with the J-suffix, as in (31a), and yielding result nominals

- ➤   as part of the complex affix, as in (31b), where the N/T suffix has to be semantically null, yielding process/result nominals

Complex-affix formation forces semantic deletion as a precondition for semantic composition

No preference for perfective or imperfective stems is predicted at this stage

Both structures can be (and most likely are) still available in each given Slavic language, though some further developments are expected (e.g., the *-ij-* allomorph in Russian instead of *-ĭj-*)

The complex affix in (31b) can trigger the next stage: the reanalysis of the complex affix as a single affix (cf. Bulgarian *-ne*)

7   ACCENTUATION IN SERBO-CROATIAN N/T ACTION NOMINALS

Puzzle to solve: imperfective N/T action nominals are faithful to the infinitive rather than to the PPP (Ignjatović 2016, Simonović 2022), with a few exceptions (Simonović and Arsenijević 2014):

(33) a.   kòpati 'dig': kòpānje (cf. kȍpān)   Ignjatović 2016:6
        b.   čúvati 'take care': čúvānje (cf. čûvān)

Proposal: the PPP suffix is specified as unaccentable (cf. Matushansky 2025 for Russian); this deficiency is repaired inside a complex affix

7.1   Introduction: Serbo-Croatian tone and stress

Inkelas and Zec 1988 following Jakobson [1937] (1962), Browne and McCawley 1973, a.o.: tone and length are separate properties

Four traditional types of accents and their analysis:

(34) a.   Long Falling (ȏ): zaa sta va 'flag' (no spreading, word-initial only)
              z**â**stava   μμ μ μ
                            HL L L

        b.   Short Falling (ȍ): je   ze ro 'lake' (no spreading, word-initial only)
              j**è**zero   μ   μ μ
                            H   L L

        c.   Long Rising (ó): raaz li ka 'difference' (H spreads to the preceding long σ)
              r**á**zlika   μμ μ μ
                            LH **H** L

        d.   Short Rising (ò): pap ri ka 'pepper' (H spreads to the preceding short σ)
              p**à**prika   μ   μ μ
                            H   **H** L

Stress is assigned to the leftmost syllable bearing H

With rising accents, the underlyingly specified high tone spreads one mora to the left
And it never happens that a high tone is assigned to both moras of a long vowel

Browne and McCawley 1973, Halle 2001, Zec 2024: the same system governs the distribution of stress in Russian and in Serbo-Croatian

In what follows, this insight will be applied to the relevant very small subset of the data

7.2   Underlying accentuation and stress assignment

Browne and McCawley 1973, Langston 1997b, Zec 2024: three underlying accentual types:
The underlying accentuation of many roots and suffixes turns out to be identical to Russian

(35) a.   H tone prelinked in the lexicon (= accented)
        b.   H tone linked consistently post-morpheme: floating H tone (≈ post-accenting)
        c.   no H tone (= unaccented)

More than one morpheme in a word may bear an underlying H, but only one high tone surfaces and only one stress is assigned

The surface realization of stress and tone is very similar to the **Basic Accentuation Principle** of Kiparsky and Halle 1977, Halle and Kiparsky 1979 (cf. also Halle 1973 and Melvold 1989):

(36) Assign stress to the leftmost accented vowel; if there is no accented vowel, assign stress to the initial vowel.

Zec and Zsiga 2010: two-step stress and tone assignment procedure:

(37) a.   Assign stress to the syllable preceding the leftmost high tone
            If none (if H is initial or absent), assign stress to the leftmost syllable

        b.   Assign H to the stress-bearing syllable

In the following representations **the underlying H will be indicated by an acute accent** on the H-bearing vowel

7.3 Stress assignment in PPPs and N/T action nominals

Simonović 2022 (for *i/i*-verbs): full neutralization, in PPPs the H tone is assigned to the root-final syllable irrespective of the accentuation of the thematized stem

This neutralization is "undone" in N/T action nominals

Table 2: Serbo-Croatian CVC imperfective verbs in the *i/i* class

	post-stem stress lomiti 'break.IPFV'	variable stress moliti 'pray.IPFV'	stem stress nuditi 'offer.IPFV'
INF **IMP.2SG** **PAST.PTCP**	lomíti lomí lomío	molíti molí molío	núditi núdi núdio
PRS.3SG (a mora)	lomíi	mólii	núdii
PPP	lómʎen	móʎen	núdʑen
N/T action nominal	lomʎéeɲe	moʎéeɲe	núdʑeeɲe
Zec 1994	unaccented root	post-accenting root	invisible theme
Simonović 2022	pre-linked H on -*i*-	floating H on -*i*-	epenthetic default H

Post-stem accent in the infinitive: **the thematic vowel is affiliated with a H tone**

Facts to account for the three types of verbs:
➢   Why is the accent retracted in the present tense in variable-stress verbs?
➢   Why is it retracted everywhere in PPPs?
➢   Why does this retraction fail in N/T action nominals?
➢   (Why is the thematic vowel lengthened in N/T action nominals?)

The last question is the easiest:
➢   Simonović and Arsenijević 2014, Simonović 2022: the J-suffix introduces a mora
➢   Possible explanation: the J-suffix underlyingly contains a yer (-*ĭj*-, as in Russian)

Zec 1994:§5.8: a non-vocalized yer leads to:
(i)   **Metatony**: if the yer bears H, this tone is assigned to the previous syllable
(ii)   **Lengthening**: if it is preceded by a sonorant, the preceding vowel is lengthened

Lengthening in N/T action nominals is predictable

7.3.1   Present-tense retraction

I'm not an OT fan, so I will not spell out the technicalities of Simonović's analysis

Different assumptions about what the present-tense suffix is:

➢   Zec 1994, Langston 1997b: the present-tense suffix is vocalic (incidentally the same vowel as the theme, or /e/)

➢   Simonović 2022: **the present-tense suffix is a mora**

➢   Me: a mora with an unlinked [–back] (vocalized as [e] for athematic verbs)

Zec 1994, Langston 1997b: accent retraction in the present tense of unaccented roots is due to vowel-before-vowel truncation (cf. Jakobson 1948, Lightner 1972 for Russian)

Langston 1997b: theme vowels are long in the present tense *pace* Zec's representation

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Simonović 2022: accent retraction in the present tense is due to the lengthening of theme vowel by the present-tense suffix: the floating H resists association to non-underlying long vowels
Important: the post-stem vowel is short in *i/i*-PPPs, but long in *a/a*-PPPs (Barić et al. 1997:246). But Simonović's (2022) solution for PPPs does not rely on vowel length

Neither Zec 1994 nor Langston 1997b treat the PPP or the N/T action nominal
But vowel truncation wrongly predicts the same accentual pattern for the PPP as for the present tense

7.3.2 PPP retraction

The H tone is on the root for all types of *i/i*-verbs (full neutralization):

Table 2 (abridged): Serbo-Croatian CVC imperfective verbs in the *i/i* class

	post-stem stress lomiti 'break.IPFV'	**variable stress moliti 'pray.IPFV'**	**stem stress nuditi 'offer.IPFV'**
INF	lomíti	molíti	núditi
PPP	lómʎen	móʎen	núdʑen
N/T action nominal	lomʎéeɲe	moʎéeɲe	núdʑeeɲe

Simonović 2022: final H is the default for Serbo-Croatian
With some caveats: five *i/i*-verbs with an optional stem-penultimate H, none with an obligatory one. Barić et al. 1997:246 provides instances of PPPs with a non-stem-final stress in the *a/a*-class (*daròvati* 'to gift'/*därovān*)
  ➢ the PPP suffix introduces a new cycle (unlike verbal inflection)
  ➢ the accent is assigned to the theme in the [V-TH] cycle
  ➢ hence the accent becomes non-floating for the next (PPP) phase
  ➢ the theme vowel turns into a glide before the PPP suffix (the *-en-* allomorph)
  ➢ its tone surfaces on the stem-final syllable

Empirically, the PPP suffix seems to be pre-accenting (dominant) here but this is not an option for frameworks assuming one H per word (and there's evidence against it)

7.3.3 N/T action nominals: dominance and phase neutralization

Difference between perfective and imperfective bases:
  ➢ perfective: inflectional accent
  ➢ imperfective: accent as in the infinitive
Simonović's apparent prediction: same accent as in the PPP
Simonović's repair: empirically motivated phases (cycles):
  ➢ the PPP phase is "neutralized" in the imperfective N/T action nominal
  ➢ all structure is "flattened" in the perfective N/T action nominal, triggering default prosody (final H)

In essence, different structures for different derivations:

  ➢ no motivation for the phase/cycle status of PPPs (whether independent or inside an N/T action nominal)

  ➢ perfective-based N/T action nominals, being idiomatic, follow language defaults (see Arsenijević 2020, Simonović 2020 for framework and implementation)

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The morphosyntactic framework assumed separates the phonological (and probably semantic) content of affixes (which is treated as belonging to roots only) and category assignment (which is located in phonologically null functional heads

7.4 Complex affixes and accentuation

General assumptions needed (independently motivated):
- ➢ floating H is assigned to the rightmost available syllable
- ➢ when the thematic vowel turns into a glide (before the PPP suffix *-en-*), its H is left floating

Novel assumption: the PPP suffix is unaccentable (cf. Matushansky 2025 for Russian)
If the TBU in Serbo-Croatian is the syllable (cf. Langston 1997b), *-en-* does not project one

- ➢ it cannot be taken as missing a mora because it lengthens the thematic suffix in *a/a*-verbs (Barić et al. 1997:246), though this might be a different allomorph

- ➢ it might be an underlying yer, vocalized exceptionally (i.e., distinct from the usual front yer. I would assume a floating [–back], without [–tense] or [–high] to ensure vocalization)

Advantage of this view: only one N-allomorph, coalescing with the *a*-theme and vocalized as [e] after the *i*-theme
Too many details to spell this out properly here

The floating H of the glide cannot surface on the PPP suffix

> As a result, the H that the unaccentable *-(e)n-* cannot bear surfaces on the preceding syllable
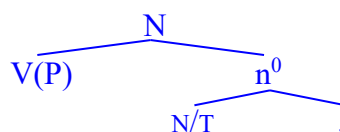
What happens in N/T action nominals?

Proposal: the J-suffix is dominant post-accenting (as in Russian)
I remain agnostic on the question of why certain affixes are dominant because in Russian the plural suffix *-a-* is dominant when combining with non-neuter stems, but very few native derivational suffixes are
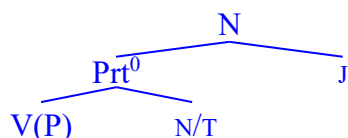
(31) a. **iterative suffixation**   b. **complex suffix**

Assuming the structure in (31a) for perfectives, inflectional stress is predicted

The n^0 node in (31b) is a (morphophonological) cycle (in the old sense of the word)

Assuming the n^0 cycle, consisting of the unaccentable PPP allomorph *-en-* and the J-suffix:

- ➢ the J-suffix **lengthens the vowel of the PPP suffix** (due to yer deletion if the suffix is still underlyingly *-ĭj-*; or due to its floating mora, as in Simonović and Arsenijević 2014, Simonović 2022)

- ➢ the dominant J-suffix cannot remove the accent of the PPP suffix because the PPP suffix is unaccented; **the resulting n^0 node is post-accenting but not dominant**

- ➢ due to lengthening, the PPP suffix is no longer unaccentable

The n^0 node (*-een-*H) combines with the thematized *i*-stem triggering glide formation:

(38) $[V - i_H] + \textit{-een-}_H \rightarrow [V_H - j] + \textit{-een-}_H$

Because the PPP suffix is no longer unaccentable, it can bear the H of the thematic suffix

The default post-stem accent, as in Simonović 2022, might also work, since the J-suffix is no longer accentually dominant in this cycle, though I confess to not being clear on what counts as a stem in this approach

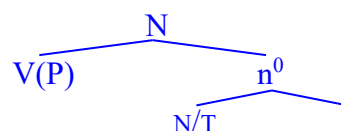> Post-stem accent on the complex N/T-J suffix is correctly predicted

8   CONCLUSION

Main proposal: N/T action nominals in Slavic involve two different structures:
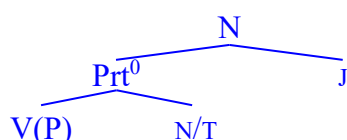
(31) a. **iterative suffixation**   b.   **complex suffix**

The structure in (31a) is straightforwardly compositional:
> ➢   based on existing PPPs
> ➢   creating result readings (modulo semantic drift and/or coercion)

The structure in (31b) involves semantic deletion of the inner suffix (the N/T suffix) and yields process readings (modulo semantic drift and/or coercion)
> ➢   abstract mass nominalization on the basis of the verbal stem
>   cf. Chierchia 2010, proposing that ING-nominalizations are object-mass nouns

> ➢   creating eventive readings, especially for secondary imperfective stems
>   cf. Schoorlemmer 1995 listing some exceptions like *vsxlipyvanie* 'sob'

The two structures give rise to different phonological cycles, neutralizing accentual dominance in (31b) and forcing resyllabification of an unaccentable suffix

A complex affix provides for a natural way of handling language change, from reanalysis and towards a new unanalyzable suffix

Markova 2011:411–416, for Bulgarian:
> ➢   *ne*-nominals involve an imperfect stem and the simplex suffix *-ne*
> ➢   *nie*-nominals involve a PPP stem and the suffix *-ie*

N/T allomorphy requires linear adjacency but permits a cyclic boundary (evidence from Polish, where the T allomorph seems to be productive, cf. Bloch-Trojnar 2023)

Appendix A   BULGARIAN PROCESS VS. RESULT N/T ACTION NOMINALS

Dimitrova-Vulchanova and Mitkovska 2009, Choo 2011, Markova 2011: two types of action nominals in Bulgarian: process nominals (suffix **-ne**) vs. result/object nominals (suffix **-nie**)

(39) a.   pisane (the act of writing)   Bg, Markova 2011
       b.   pisanie (writings, writ)

(40) a.   sŭbirane 'collecting'
       b.   sŭbranie 'meeting, assembly'

Crucial: Bulgarian *ne*-nominals exhibit no N/T allomorphy:

(41) a. brŭsn-a-t 'shaven' → brŭsn-e-ne 'shaving'   Markova 2011
      b. pi-t 'drunk' → pi-e-ne 'drinking' (vs. pi-t-ie 'a drink')

No evidence for the PPP stem in *ne*-nominals

Furthermore, *ne*-nominals are derived from imperfective bases only
Derivatives in *ne* can also be used as accusative-assigning gerunds, but then their syntax is not nominal

Table 3: Bulgarian action nominals

	-ne	*-nie*
source	native	OCS
productivity	productive	idiosyncratic
transitivity	non-obligatory	non-obligatory
perfectivity	imperfective only	perfective or imperfective
argument structure	yes	no
eventivity	process (occ., object)	object or abstract concept (occ., event)
interpretation	predictable	idiomatic
N/T allomorphy	*ne* only	N/T allomorphy

The morphological distinction is leveled in Macedonian (both end in *-nie*)

Dimitrova-Vulchanova and Mitkovska 2009, Choo 2011, Markova 2011: *nie*-nominals denote results rather than events, but exceptions are possible in both directions
Markova 2011 lists *gonenie* 'persecution' and *jadene* 'meal/eating'

Arsenijević 2020: *nie*-nominals have been borrowed from OCS, *ne*-nominals are native

The puzzle already existed in OCS: one stem might form both an N and a T action nominal:

(42) a. *pětĭe, pěnĭe* from *pětĭ* 'sing.IPFV.INF'   Lunt 2001:111
      b. *prognatie, prognanie* from *prognat^j* 'chase away.PFV.INF'   Old Ru, Pil'gun 2003:63

Is this the use of a default allomorph or a **structural ambiguity**?

Appendix B   SERBO-CROATIAN CONJUGATION PROSODY, A SKETCH

Assuming that roots can be unaccented, post-accenting and accented (cf. Langston 1997a), the *i/i*-theme can be regarded as post-accenting (bearing a floating H tone)

Zec 1994: (the theme is always affiliated with a tone, and) the roots can be:
  ➢ unaccented (toneless)
  ➢ post-accenting (bearing a floating H)
  ➢ toneless special (rendering the theme invisible for tone): see Langston 1997a for arguments against this proposal

My alternative (see also Langston 1997a): the last class contains accented roots

Table 4: Serbo-Croatian CVC imperfective verbs in the *i/i* class (my alternative)

	unaccented root lomiti 'break.IPFV'	post-accenting root moliti 'pray.IPFV'	accented root nuditi 'offer.IPFV'
UR	lom- i ⋮ H	mol- i ⋮ ⋮ H H	nud- i | ⋮ H H
INF	lomíti	molíti	núditi
PRS.3SG (a mora)	lomíi	mólii	núdii
PASS.PTCP	lómʎen	móʎen	núdʑen
PRS.3SG (a mora)	lomíi	mólii	núdii
deverbal noun	lomʎéeɲe	moʎéeɲe	núdʑeeɲe

Accented roots will keep the accent on the root

Core assumption: floating tones associate to the right if they can, otherwise to the left

B.1   What happens in the present tense?

Assuming that the present-tense suffix is a mora

(43)   post-accenting root, end result: stem-final stress

    a.   mol- i   (associate to the right)

             H H

    b.   mol- i μ (associate to the right)

             H H

    c.   mol- i μ (OCP violation)

             H H

    d.   mol- i μ (repair the OCP violation, H ends up on the root)

             H H

H on the second mora of a long vowel might be a violation in itself, but it is not important how it is repaired

The mora is question may start out as a front yer, which would make it not part of a long vowel in the beginning, allowing the association to go through

(44)   unaccented root, end result: post-stem stress

   a.   lom- i   (associate to the right)

             H

B.2   What happens with the PPP?

Core idea: the PPP suffix cannot bear tone (cf. Matushansky 2025 for Russian)

(45)   post-accenting root, end result: stem stress

    a.   mol- i   (associate to the right)

            H H

    b.   mol- i en (associate to the right FAILS)

            H H

    c.   mol- j en (glide formation → invalid configuration)

            H H

    d.   mol- j en (associate to the right FAILS)

          H H

    e.   mol- j en (associate to the left)

            H

(46)   unaccented root, end result: stem stress

    a.   lom- i   (no association)

            H

    b.   lom- i en (associate to the right FAILS)

            H

    c.   lom- i en (associate to the next right)

            H

    d.   lom- j en (glide formation → invalid configuration)

            H

    e.   lom- j en (associate to the right FAILS)

            H

    f.   lom- j en (associate to the left)

            H

All of this can be restated in OT terms

Appendix C   INDEPENDENT EVIDENCE FOR COMPLEX AFFIXATION (FROM RUSSIAN)

My main argument comes from my own detailed work on the agentive suffix *-telʲ-* in the context of the adjectival suffix *-ĭn-* (Matushansky 2023a, b, 2024a)

Most agentive *-telʲ-ĭn-* adjectives lack a corresponding noun (this "missing link" phenomenon is also known as **affix telescoping** (Haspelmath 1995)

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Sometimes the noun is present but cannot be the base for the adjective:

(47) a. *izbirátʲ* 'to elect' → *izbirátelʲ* 'elector, voter'
      b. *izbirátelʲnɨj* 'electoral, election (attr.), voting' ≈ 'related to voting/election'
      c. *izbiratelʲnɨj učastok* 'polling station'
      d. *izbiratelʲnɨj bʲulletenʲ* 'voting form'

(48) a. *predoxranítʲ* 'to protect, preserve' → *predoxranítelʲ* 'electrical fuse, safety device'
      b. *predoxranítelʲnɨj* 'preservative, preventive, protective'
      c. *predoxranitelʲnɨe merɨ* 'precautions, precautionary measures'

And the resulting *-telʲ-ĭn-* adjective does not have to include an agentive component:

(49) a. *razdražátʲ* 'to irritate (IMPF)' → *razdražítelʲ* 'irritant' (from the perfective stem)
          razdražítelʲnɨj 'irritable'

      b. *nosítʲ* 'to carry, wear, bear' → *nosítelʲ* 'carrier' (rocket carrier, information bearer)
          nosítelʲnɨj 'wearable, transportable'

The adjective is semantically linked to the verb rather than to the intermediate noun:

(50) $[\![\sqrt{}–X_{TELʲ}–Y_{ĬN}]\!] = [\![Y_{ĬN}]\!]([\![\sqrt{}]\!])$ affix conglutination

This phenomenon is known as **affix conglutination** (Haspelmath 1995, Stump 2022)

C.1 Russian complex adjective formation and the loss of agentivity

Systematic semantic deletion of the [+human] nominalizer in adjective formation

Haspelmath 1995 following Kiparsky 1975:267-268: the complex suffixes *-česk-* and *-čestv-*:

(51) a. *tvoréc* 'a creator' → *tvórčeskij* 'creative', *tvórčestvo* 'creation'
      b. *pereselénec* 'migrant, settler' → *pereselénčeskij* 'migrational'
      c. *jazɨkovéd* 'a linguist' → *jazɨkovédčeskij* 'linguistic'
      d. *studént* 'a student' → *studénčeskij* 'student', *studénčestvo* 'students as a class, the time of being a student'

The nominalizing suffix *-ĭc-* (surface [ec]/[c]) is productive, as are the suffixes *-ĭsk-* (surface [esk]/[sk]) and *-stv-* (surface [estv]/[stv])

The non-productive agent ([+human]) suffix *-ar-/-arʲ-* might be an exception to the inability of the suffix *-ĭn-* to combine with animate nouns:
The final palatalized consonant of the nouns in (52) is depalatalized before [n]

(52) a. *pékarʲ* 'a baker' → *pekárnɨj* 'baking (attr.)' (cf. *pekú* 'bake.PRES.1SG')
      b. *kustárʲ* 'handicraftsman' → *kustárnɨj* 'handicraft (attr.)'

The meaning is 'related to/characteristic of the profession(al)' (*pekárnɨj* is linked to bakers and bakery (*pekárnʲa*, *-ĭnʲ-* is a non-productive location suffix), not to the baking process itself)

The non-native nominalizer *-ik-* becomes semantically null in a complex suffix *-ič-esk-*:
Surface [ičesk] with corresponding nouns in *-nik-* and *-ščik-* has different prosodic properties

(53) a. *alkogólik* 'an alcoholic' → *alkolíčeskij* 'alcoholism-related'   parallel derivation
          alkogólʲ 'alcohol' → *alkogólʲnɨj* 'alcoholic'

      b. *xímik* 'chemist' → *ximíčeskij* 'chemical'   glide insertion in the abstract noun
          xími[j]-a 'chemistry'

    c.   *nevrótik* 'a neurotic' → *nevrotíčeskij* 'neurotic(al)'   stem allomorphy
            nevrós 'neurosis'

    d.   *fízik* 'physicist' → *fizíčeskij* 'physical'   likely reanalysis with the root *-fiz-*
            fízika 'physics'

And the corresponding human nouns may even be null-derived:

(54) a.   *kardiólog/*kardiologik* 'cardiologist' → *kardiologíčeskij* 'cardiological'
           *kardiológi[j]-a/*kardiologika* 'cardiology'

      b.   *xirúrg/*xirurgik* 'surgeon' → *xirurgíčeskij* 'surgical'
           *xirurgí[j]-a/*xirurgika* 'surgery'

English creates *-ist-* adjectives by conversion (and no one wonders about the loss of agentivity), Russian uses the suffix *-ĭsk-* (surface [esk]/[sk]):

(55) a.   *kommuníst* 'a communist' → *kommunistíčeskij* 'communist (attr.)'
      b.   *artíst* 'an artist, performer' → *artistíčeskij* 'artistic'   cranberry root

The adjectives *communist* and *capitalist* are not derived from the corresponding human nouns

C.2   Russian augmented feminitives and ambiguity avoidance

Ambiguity avoidance may drive complex affix formation in feminitives:

(56) a.   *grek/grečánka* 'a Greek' (cf *grečka* 'buckwheat')   *-ʲan-ŭk-*
      b.   *slugá/služánka* 'servant' (cf. *služka* 'lay brother')   *-ʲan-ŭk-*
      c.   *górec/gorʲánka* 'mountain-dweller' (cf. *gorka* 'mountain.DIM')   *-ĭc-/-ʲan-ŭk-*

Other cases cannot be so explained:

(57) a.   *cʲórt/certóvka* 'devil', *plut/plutóvka* 'rogue'   *-ov-ŭk-*
      b.   *geógraf/geografíčka* 'geography teacher'   *-ik-ŭk-*

But here an augment is also used in derivation

C.3   Russian augmented plurals

The plural nominative *-a-* is **both accented and dominant with non-neuter nouns** (Coats 1976, Zaliznjak 1985, Alderete 1999:166, Timberlake 2004:136, Munteanu 2021, Iordanidi 2020):

(58) a.   *proféssor* 'professor.NOM'   b.   **professorá 'professor.PL.NOM'**
          proféssora 'professor.GEN'   *professorámi* 'professor.PL.INS'

There exist no non-neuter *a*-plurals that have stress on the stem
Two exceptions: the "baby-diminutive" suffix *-ĭnŭk-* (surface [ʲonok]/[ʲonk]), suppletive plural form *-ĭnt-* [ʲat], see Gouskova and Bobaljik 2022, and **augmented plurals in *-ĭj-*:**

(59) a.   *brat/brátʲja* 'brother.SG/PL'   masculine, stem-final stress
      b.   *knʲazʲ/knʲazjá* 'prince.SG/PL'   masculine, inflectional stress
      c.   *déverʲ/deverʲá* 'husband's brother.SG/PL'   masculine, inflectional stress
      d.   *kólos/kolósʲja* 'ear (of a cereal).SG/PL'   masculine, stem-final stress
      e.   *dérevo/derévʲja* 'tree.SG/PL'   neuter, stem-final stress
      f.   *krɨló/krɨlʲja* 'wing.SG/PL'   neuter, stem-final stress

Matushansky 2024c: these roots are **underlyingly specified as singular**, the augment is needed to enable morphological pluralization

As the suffix *-ĭj-* is neuter, it cannot combine with [+human] roots → complex affix formation

Evidence: different stress patterns for human and inanimate nouns

C.4   Russian verbalization: loanword stems and ACT-*be*

Affix pleonasm (Gardani 2015) in loanword integration: with loanword roots the suffix *-ow-* is often preceded by the sequences *-iz-*, *-ir-*, and *-iz-ir-*:

(60) a.   kompil-ír-ov-a-tʲ 'to compile'
     b.   social-iz-ír-ov-a-tʲ 'to socialize'
     c.   real-iz-ov-á-tʲ 'to realize'

Extremely productive with loan stems

These loan suffixes cannot function as verbalizers (unlike in Serbo-Croatian (Simonović 2015))

The suffixal complex *-n-ik-e[j]-* (surfacing as *-niča[j]-*):

(61) a.	báb	-n	-ič-	aj	-e	t	b.	bab	-n	-ik
	woman-ADJ	-N -	VBLZ	-PRES	3SG			woman	-ADJ	-NMLZ
	womanize.PRES.3SG							*womanizer*		

(62) a.	nérv	-n	-ič	-aj	-e	t	b.	nérv	-n	-aj	a
	nerve-ADJ	-NMLZ	-VBLZ	-PRES	3SG			nerve	-ADJ	-LF	FSG
	be nervous.PRES.3SG							*nervous*			

(63) a.	jábed	-n	-ič	-aj	-e	t	b.	jabed-	a
	sneak-ADJ	-NMLZ	-VBLZ	-PRES	3SG			sneak-NOM	
	carry tales.PRES.3SG							*a sneak, a telltale*	

Also subject to "agent incorporation" (see Grestenberger and Kastner 2022 for references and discussion): their interpretation does not involve the agent even when they look like they might be denominal (61)

Appendix D   NON-RUSSIAN INSTANCES OF COMPLEX SUFFIXATION

D.1   Hebrew adjectival doublets

Laks 2024 (citing Bolozky 2023): systematic existence of an *-ani-* variant for adjectives derived with the suffix *-an-*:

(64) a.   kapdan, kapdani 'meticulous'
     b.   mahapexan, mahapexani 'revolutionary'

The suffix *-an-* is ambiguous (like the English *-ian-*), deriving both nouns and adjectives:

(65) a.   saxyan 'swimmer'
     b.   saxkan 'actor'

     c.   kabcan 'beggar'
   d.   yevuan 'importer'

Nouns in *-an-* can be further suffixed with the default adjectivizing suffix *-i-* yielding 'typical of, related to, etc.' interpretation (e.g., *saxkani* 'actor-like, actor-related')

A few *-ani-* adjectives have no *-an-* counterpart (Laks lists *racxani/*racxan* 'murderous, cruel')

The *-an-/-ani-* doublets differ in animacy: *-an-* adjectives can only apply to animate nouns

Proposal: this is complex suffixation with semantic deletion of the inner agentive suffix *-an-*:

(66) a.   **adjective in -*an*-**   b.   **doublet in -*ani*-**   c.   **denominal adjective in -*i*-**
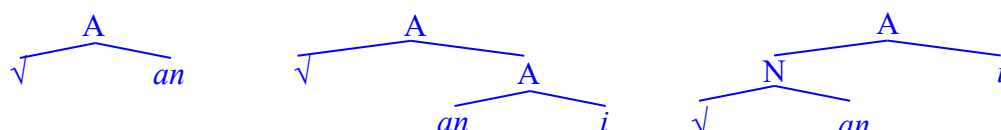
If the suffix *-an-* is specified to derive animates (adjectives or nouns) semantically, semantic deletion will remove this

The nominalizing agentive *-an-* derives agents and instruments (e.g., *mazgan* 'air-conditioner'), yet, as discussed by Laks 2015, *-an-*-instruments are being "phased out"

Hence no doublets, just parallel derivation, with occasional gaps (*racxani/*racxan* 'murderous, cruel', and the opposite: *aclan/%aclani* 'lazy'), just like *whimsical*)

Laks 2024: "the addition of the suffix *-i* is motivated by the desire to reduce polycatergoriality in the language", i.e., to distinguish adjectives from agent nouns

Once again, result-orientation (lookahead)

D.2   Romance "interfixes" and suspended affixation

Plénat and Roché 2004, Plénat 2005: diminutive "interfixes" in French:

(67) a.   tarte 'cake' → tart**el**ette 'tartlet' (cf. boule 'ball' → boulette 'meatball, pellet')
       b.   nappe 'tablecloth' → napp**er**on 'doily' (cf. blouse 'blouse' → blouson 'jacket')
       c.   brique 'brick' → briqu**et**ier 'bricklayer' (cf. pot 'pot' → potier 'potter')

Plénat and Roché 2004: three apparent options:
➢   augmented suffixes (e.g., *-elette-*)
➢   unattested intermediate stems (e.g., **tartelle*)
➢   semantically neutral interfixes

Driving force: **phonological constraints** (result-oriented, lookahead)
NB: all these "interfixes" have a separate life as diminutives or nominalizers

Roché 2002 (for Occitan): "**postponed suffixation**" with a semantically neutral suffix

(68) a.   *clau* 'key' → *claveta* 'little key; bushing key, dowel…'
       b.   *clavetièra* 'keyhole'

Despite the presence of the diminutive suffix, (68b) is semantically linked to the root only (cf. Haspelmath 1995 for the French *-erie-*)

D.3   English T-stems

Stump 2019: **the English suffix -*at(e)*-** has a dual status: as a verbalizer (*saliva/salivate*) and as a former of a T-stem used in further derivation:

(69)   a.   provoke → provoc**ative**, provoc**ation**
       b.   form → form**ative**, form**ation**
       c.   explain → explan**ation**, explan**atory**
       d.   probe → prob**ation**

Hypothesis: maybe it's the suffix observable in *celibate*, *reprobate*, *apostate*…

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