

ISSN: 2349-2147



# Modern Research Studies

Editor-in-Chief  
Gyanabati Khuraijam

**An International  
Journal of  
Humanities and Social  
Sciences**

*An Indexed & Refereed e-Journal*

[www.modernresearch.in](http://www.modernresearch.in)

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**Volume 1, Issue 3  
December 2014**

**pp. 427–448.**

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## **Development of verb stem derivation in Indo-Aryan**

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**Abstract:** The essay deals with the derivation on the level of verb stem and concerns either stems derived directly from the verb root (primary derivatives), or from the already derived stems. On the other hand, it also includes denominative verb stems. It follows formal, i.e. morphological processes, as well as semantics of the verbs, during all three stages of the development of Indo-Aryan (OIA, MIA, NIA). In the OIA stage, classification of verbs according to their semantic properties shows entire system of verb classes based on morphological means of derivation. Gradually the language loses ability of morphological derivation, hence in the latest stage of NIA many semantic properties of verbs are expressed periphrastically, i.e. by means of verbo-verbal and verbo-nominal expressions.

**Keywords:** Sanskr̥t, verb stems, denominative, Prakrt, Apabhramśa, causative, derivation.

## 0. Introduction

The aim of this essay is to describe the development of morphologic and phonologic tools taking part in verb derivation. The repertoire of types of derived verbs contains primary derivatives, i.e. present tense verb stems derived from the root and classified into nine classes, and also secondary derived verbs, either from the already derived stems, or from the nominal bases.

The first kind is entirely developed in Sanskr̥t and OIA, while in later language (MIA and NIA) derivational tools are simplified and highly reduced.

The essay concentrates primarily on the so called secondary derived verb stems. These derivatives include three kinds of deverbative verbs and one kind of denominatives:

- Verbs denoting actions caused by an agent, but pursued by another performer, who usually remains unapparent, i.e. unmarked as a participant of the action. This kind of verbs is named *causative* or causal verbs.
- Verbs denoting *intensified*, or rapid, or multiplied, i.e. frequent action, so called *frequentative* verbs.
- Verbs denoting desired actions, so called *desiderative* verbs.
- Some verbs have their origin in nominal bases, which are verbalized by special affixes. These verbs, called denominals or *denominatives*, also include a type of verbs, which resemble class of verbo-nominal compounds.
- Passive voice stems are derived either from the verb root, or they may be related to the above mentioned four kinds of derived verbs and so regarded as tertiary derivatives, e.g. causative passives, desiderative passives, etc.

## 1. Sanskr̥t and OIA verb stem derivation

The verb derivation system of Indo-Aryan languages is very complex and includes numerous morphonologic devices. Formation of conjugational stems from verb roots, known as *primary derivation*, is based on some formative elements, as well as phonological processes. Thus in Sanskr̥t, according to formation of present tense stem, all verbs are divided into two groups: *thematic* and *athematic*, according to presence or absence of the basic formative element, connecting or thematic vowel *a*. All verbs are classified into ten classes, which differ in other morphonological elements and processes, such as strengthening (*guṇa* and *vṛddhi* processes) besides the adding of thematic vowel (first class), insertion of *-y-* before the thematic *-a* (fourth class), lengthening of the root vowel (e.g.  $\sqrt{\text{kram-}}$  > *krāma-* to step (first class, or *krāmya-* (fourth class). In the athematic conjugation nasal insertion in different shapes takes place in several classes: as series of allomorphs in the seventh class: *na, n, ṇ, ṅ, ñ* (e.g.  $\sqrt{\text{yuj-}}$  to join > *yunaj-*, *yuñj-*;  $\sqrt{\text{rudh-}}$  to obstruct > *ruṇadh-*, *rundh-*), as *m* with several verbs of the thematic sixth class ( $\sqrt{\text{lip-}}$  > *limpa-* to smear,  $\sqrt{\text{lup-}}$  > *lumpa-* to steal, as well as in eighth class as *-nu* and *-no* allomorphs ( $\sqrt{\text{su-}}$  to press out > *sunu-*, *suno-*), and in the ninth class: *-nā* and *-nī* ( $\sqrt{\text{krī-}}$  to buy > *krīṇā-*, *krīṇī-*).

Another important device of derivation is the process of reduplication in the third class ( $\sqrt{\text{dā-}}$  > *dadā-* to give,  $\sqrt{\text{dhā-}}$  > *dadhā-* to put), which also occurs in some stems of the first class:  $\sqrt{\text{sthā-}}$  > *tiṣṭha-* to stay,  $\sqrt{\text{ghrā-}}$  > *jighra-* to perceive odour (Whitney 231-276).

The so called *secondary* derivations in Sanskr̥t involves formation of verb stems from already derived verb stems for the sake of expressing factitive or causative, intensive or multiplied, i.e. frequent action, or desire to perform an action.

There is one more large class of verbs, which are derived from nominal (substantive or adjective) stems, the *denominative* verbs.

## 2. Secondary verb derivatives

2.1. The above mentioned secondarily derived verb stems arise due to more complex morphonologic procedure. Verbs of the so called 10<sup>th</sup> class, where also *causative* and *denominative* verbs belong, are thematic, i.e. they are formed by using thematic vowel *-a*, which is added not directly to the root, but after the vowel *-i*, which comes with the root. This *-i* is *guṛated*, and then the *guṛa* vowel *-e* before the thematic *-a* appears in its original short diphthong shape (*ai*) and changes into *-ay*. Thus the verb  $\sqrt{cint}$ - (to think) forms present tense stem in the following way:  $\sqrt{cint}$ - to think + *-i* > *cint-i* + *a* > *cint-e-a* > *cint-ai-a* > *cintaya* to cause somebody to think (Kielhorn 171).

In case the root-vowel is short (*a, i, u, ṛ*), it is substituted by its *guṛa*-stage vowel (*a, e, o, ar*), e.g.  $\sqrt{cur}$ - to steal + *i* > *cor-i* + *a* > *cor-e-a* > *cor-ai-a* > *coraya*- to cause somebody to steal (Kielhorn 171). If the root ends in vowel, it takes *vṛddhi* stage form (*a* > *ā, i* > *āi; u* > *āu*), e.g.  $\sqrt{bhū}$ - to be + *i* > *bhāu-i* > *bhāv-i* + *a* > *bhāv-e* + *a* > *bhāv-ai-a* > *bhāvaya*- to cause to be (Kielhorn 181). Penultimate short root-vowel *-a* is lengthened, otherwise process is the same, as it shows derivation from the root  $\sqrt{man}$ - to think, to imagine:  $\sqrt{man}$ - + *i* > *mān-i* + *a* > *mān-e* + *a* > *mān-ai-a* > *mānaya*- to cause somebody to think (Kielhorn 171);  $\sqrt{pat}$ - to fall + *i* > *pāt-i* + *a* > *pāt-e* + *a* > *pāt-ai-a* > *pātaya* to cause to fall (Kielhorn 181).

The *causative* bases of roots ending in *-ā, -e, -ai, -o*, as well as verbs ending in *-i*, e.g.  $\sqrt{mi}$ - to throw,  $\sqrt{mī}$ - to destroy,  $\sqrt{dī}$ - to perish, which change into *-ā*, take one more causative formant morpheme, i.e. the consonant *-p* between the final vowel and the mentioned vowel *-ā, -e, -ai, -o, -i*. Thus the formative process has the following shape:  $\sqrt{dā}$ - to give + *p* + *i* > *dāp-i* + *a* > *dāp-e-a* > *dāp-ai* + *a* > *dāpaya*- to cause to give;  $\sqrt{dhe}$ - to suck + *-i* > *dhā+p+i* > *dhāp-i* + *a* > *dhāp-e+a* > *dhāp-ai-a* > *dhāpaya*- to cause to suck (Kilehorn 183).

The extension element *-i* by means of vowel gradation (*guṛa, vṛddhi*) before the thematic vowel *-a*- developed into *-āya*, which had more complex function in the oldest stage of IA, i.e. in Vedic. Jamison (40) shows that it was a means of derivation not only of causatives, but

also of transitive and even of 31 intransitive verbs traced in RV and AV.

**2.2** Other kinds of deverbatives are *intensives* or *frequentatives* (Whitney 362-365), which signify the repetition or the intensification of the action expressed by the primary conjugation of the root. The intensive verbs stem may be formed from nearly all the roots. The exception are roots of more than one syllable, those conjugated only causatively, and in general those beginning with a vowel, i.e. frequentative or intensive strong verb stem may be derived from any monosyllabic root of the nine verb classes which begins with consonant. The derivative process includes strong reduplicative changes with several specific rules. The root may be simply reduplicated ( $\sqrt{\text{car}}$ - to walk, to roam, to move about >*carcar*-), or only partially ( $\sqrt{\text{bhū}}$ - to be >*babhū*-), or with insertion of  $\bar{i}$ - vowel ( $\sqrt{\text{vṛt}}$ - to turn >*var-ī-vṛt*-) (Kielhorn 364). One more stem with the meaning of intensive or frequentative action, which is used in middle voice conjugation, may be derived by adding accented  $\bar{yá}$  syllable. It has either simple forms (e.g.  $\sqrt{\text{bhū}}$ - >*bhūya*-) or forms with reduplicated root ( $\sqrt{\text{bhū}}$ - >*babhūya*-) (Kale 385).

**2.3.** *Desiderative* stems signify a desire for the action or condition denoted by the simple root. The desiderative stem is formed from the simple roots by morphological process of reduplication and by appended  $\bar{sa}$ , which sometimes takes before it the auxiliary vowel  $\bar{i}$  (becoming  $\bar{i}\bar{ṣa}$  – according to Pedersen’s *phonological* rule, named ruki rule). E.g.:  $\sqrt{\text{jīv}}$ - to live >*ji-jīv*- +  $\bar{i}$  +  $\bar{sa}$ - >*jijīviṣa*- to desire to live, to long for life (Whitney, p. 372).

**2.4.** Sanskr̥t and Old Indo-Aryan verb morphology includes also the *passive* voice stem, which is formed simply by the adding of the formant  $\bar{yá}$  to the weak form of the verb root. E.g.  $\sqrt{\text{vad}}$ - to speak, to say > weak stem *ud* +  $\bar{ya}$  > *udya*- to be spoken, to be said;  $\sqrt{\text{gam}}$ - to go > weak stem *gam*- +  $\bar{ya}$  > *gamyā*- to be gone.

Yet the already derived secondary stems may further derive passive stems, appearing as *tertiary verb stem derivatives*. Thus, for example, the passive stem is allowed to be formed by adding the

passive sign  $-yá$  to the desiderative stem after elision of the final  $-a$ :  $\sqrt{\bar{a}p}$ - cl. 5. to obtain, to reach > desiderative stem  $\bar{i}psa$ - to wish to obtain, or reach > desiderative passive stem  $\bar{i}ps-ya$ - to wish to be obtained.

Not only the passive verb stem derivation, but also other kinds of the secondary derivation are allowed to form tertiary verb stems. Thus the causative form of the mentioned verb  $\sqrt{\bar{a}p}$ - to obtain, i.e.  $\bar{a}p$  - >  $\bar{a}paya$ - to cause to obtain, may derive a stem denoting desired action or process:  $\bar{a}pipayiṣa$ - to cause somebody to desire to obtain.

**2.5.** Along the above mentioned *deverbative stems*, there are in OIA and in Sanskr̥t many verbs derived from nouns and adjectives, i.e. the *denominative verbs*.

Also here formation of the verb stems may be achieved in several manners, as it is shown in the following paragraphs.

**2.5.1.** In the first place there are simply derived verb stems, i.e. formed from nominal bases “without special derivative affix, the characteristic signs of the tenses and moods and the personal terminations being added immediately to the nominal base. They are conjugated in the active voice and convey the notion that a person or thing behaves or is like that which is expressed by the nominal base” (Kielhorn 209).

Whitney says, mentioning grammarians’ teaching, that “any noun-stem in the language may be converted, without other addition than that of an  $-a$  (as union-vowel enabling it to be inflected according to the second general conjugation) into a present-stem, and conjugated as such” (Whitney 387).

Nominal base in the special tenses is treated like a root of the first class; if it contains more than one vowel, its last vowel only undergoes the changes which the vowel of the root of the first class has to undergo. A final  $-a$  of a nominal base is dropped before the  $-a$  which is added to it in the special tenses. E.g.  $mālā$  a garland >  $mālā$ - (3.sg. pres-  $mālāti$ ) to be like a garland;  $pitṛ$ - father >  $pitṛ$ - > the last vowel  $ṛ$  >  $guṇa$  stage  $-ar$  >  $pitara$ - +  $a$  >  $pitara$ - (3. sg. pres.  $pitaraṭi$ ) to behave

like a father; *rājan* a king >*rājān-* (3.sg. pres. *rājānati*) to behave like a king.

**2.5.2.** A possible morphological means to derive denominal verbs is also the affix *-ya* together with the following morphonological changes:

– final *-a/-ā* > *ī*, e.g. *putra* a son >*putrī-*+*ya-* to do efforts to obtain a son; *varṇa* a colour >*varṇa-ya-* to colour, to depict;

– final *-i*>*ī*; *kavi* a poet >*kavī-ya-* to do efforts in poetry, to behave like a poet;

– final *-u* > *-ū*: *śatru* an enemy, a foe >*śatrū-ya-* to do somebody enemy; *Viṣṇu-* Vishnu >*Viṣṇū-ya-* to treat like Vishnu;

– final penultimate *-i* and *-u* of nominal stems ending in *-r* or *-v* are generally lengthened: *gir* a voice, speech >*gīr-ya-* to make effort to speak, to praise; *pur* a wall, fortress, city >*pūr-ya-* to fortify;

– final *-ṛ*> *-rī*: *karṛ-* a doer, an agent >*karṛī-ya-* to do efforts like a doer;

– a final *-o* > *-av*: *go* a cow or an ox >*gau-ya-* >*gavya-* to wish for a cow or an ox;

– final *-au* > *-āv*: *nau* a boat, a ship >*nāv-ya-* to float like a boat or ship;

– final nasal is dropped and the preceding vowel changed as an originally final vowel would be changed: *rājan* a king >*rāja-* >*rājī-ya-* to treat somebody like a king;

– nominal bases with the final consonant take the affix *-ya* directly, with no internal phonological changes. E.g. *samidh* fuel >*samidh-ya-* to effort for fuel (Kielhorn 211).

Thus formed verb stems denote a transitive action conveying the notion of effort or wish for something. In other terms they may be defined as *factive* verbs, and they are even formally similar to another



kind of factitives, i.e. deverbative factitives or causatives (see 2.1.), since they are derived also by using affix *-ya*.

**2.6.** There are many *denominal* verbs in Sanskr̥t consisting of a noun or adjectival stem and the verb root with a general meaning ‘to be’ and ‘to do’, ‘to make’. The constructions look rather like *verbo-nominal compounds*, as the two lexical stems are conjoined. The second component, i.e. the verb, is highly grammaticalized and the whole conjunction conveys the meaning of the nominal component, i.e. substantive noun or adjective, whereas the verbal stem is conjugated. This phenomenon is described by Pāṇini in the sūtra 5.4.50: *kṛ-bhū-ās-ti-yoge sam-pad-yakartāri cviḥ*. It speaks about a nominal stem which is the agent of the verbal stem *sāmpadya-* (become), co-occurring with the verbal stem  $\sqrt{kṛ}$ - to do, to make,  $\sqrt{bhū}$ - to become, or  $\sqrt{as}$ - to be. Later Kātyāyana in Vārttika restricted application of the rule to *abhūtatadbhāvé*, i.e. ‘becoming what it was not before’: *aśuklaḥ śuklaḥ sampadyate > śukla+Cvi+bhū > śuklī-bhū* to turn or become white, and similarly *śuklī+kṛ-* to make white. Also Vasu says that “the affix *Cvi* comes after a word, when the agent has attained to the new state expressed by the word, what the thing previously was not, and when the verbs *kṛi* ‘to make’ *bhū-* ‘to be’ and *as-* ‘to be’ are conjoined with it” (Vasu 1000).

Other examples for this verbo-nominal conjunct expressions include mainly adjectives (*kṛṣṇa-* black + *ī* + *bhū-*  $>kṛṣṇībhū-$ , to become black, *kṛṣṇa-* black + *ī* + *kṛ-*  $>kṛṣṇīkṛ-$  to blacken, etc.), but also many nouns in connection with  $\sqrt{kṛ}$ - to do, express new meanings, e.g.: *hasta* a hand + *ī* +  $\sqrt{kṛ}$ - *hasṭīkṛ-*, to hand over, to deliver; *muṣṭi* a handful + *ī* +  $\sqrt{kṛ}$ -  $>muṣṭīkṛ-$  to close the hand, to clench the fist; *vaśa* will, wish, power + *ī* +  $\sqrt{kṛ}$ -  $>vaśīkṛ-$  to subdue, to subject, to reduce to; *kara* tax, tribute + *-ī* +  $\sqrt{kṛ}$ -  $>karīkṛ->$  to offer as a tribute.

As an alternative, the nominal stem may remain unchanged (as in 2.5.2): *hasta-*  $> hasta-$  or *hasṭi-* + *kṛta-*  $>hastakṛta-$  or *hasṭīkṛta-* (past passive participle derived from the mentioned compound): relating to hand, done by hand, manual, made with the hand, etc (MW 1294).

The nominal component also may occur in a case form, e.g. in Locative: *haste-kr̥-* to take in hand, to take possession of, to make one's own; to take by hand; to marry (MW 1296).

### 3. Development of the derivative process in MIA

Compared to OIA, dialects of the MIA period show a marked tendency towards simplification. Thus the primary derivation is much reduced, that is caused by:

- phonological simplification through reduction of vowels in quality and quantity; reduction of single consonants; assimilation of consonant clusters; disappearance of some OIA vowels; viz. *r̥*, *ṛ̥*, *l̥*, *ai* and *au*; disappearance of some OIA consonants, viz. *y*, *ś*, *ṣ*, *-h*, *-m*, and *-n*;
- morphological simplification through reduction of conjugation to one type, i.e. *-a* (or *-e*) conjugation; disappearance of the imperfect, the perfect, the numerous forms of the aorist and of the middle voice (Bossche 14).

Due to this development during the middle period of Indo-Aryan, not only verb root changed, but also affixes.

**3.1.** Formative affix *-aya*, which developed in *-e*, and *-(ā)paya*, which developed into *-ve/-āve*<sup>1</sup>, both have identical treatment in MIA, since one or another may form causative, as well as denominative stems. The specific MIA formation was with second type of affix, i.e. *-ve/-āve < -(ā)paya >*<sup>2</sup>. Along with the developed affixes, in many Prākṛts the older affixes (i.e. *-aya*, *-(ā)pyaya*), are preserved.

**3.1.1.** Causative derivatives are formed by the adding of *-e* (*<-ay-a*) to the strong form of the root. E.g. Sanskr̥t *√kr̥-* to do *>* caus. *kāraya-* (3. sg. pres. *kārayati*) *>*Prākṛt *kāre-* (3. sg. pres. *kārei*), to cause; *√paṭh-* to read *>* Sanskr̥t caus. *pāṭhaya-* (3. sg. pres. *pāṭhayati*) *>*Prākṛt caus.

<sup>1</sup>Pischel speaks of three possible affixes: *-e*, *-ve* and *-va* (Pischel 380).

<sup>2</sup>In OIA it occurs only with monosyllabic roots in *-ā* (e.g. *√dā->dāpaya*, *√sthā->sthāpaya*, *√mā->māpaya*, *√jñā->jñāpaya*), etc.

*pāḍhe-* (3. sg. pres. *pāḍhei*). (Pischel 376). Alongside with the form *vaḍhe-* to cause to increase (Śaurasenī Prākṛt), there are forms in older Prākṛts, i.e. in the language of Ashokan inscriptions, with *-aya*, *-iya*: Sanskr̥t  $\sqrt{vr̥dh-}$  > *vardhaya-* to increase, to augment, to strengthen, to cause to prosper > Prākṛt *vaḍhaya* (Girnar inscriptions, Mansehra inscriptions) and *vaḍhiya-* (Kalsi inscriptions) (Sen 169).

**3.1.2.** Denominative derivatives with *-aya* > *-e*, similarly to causatives, occur either in its older form: *duḥkha* pain, sorrow, trouble, difficulty > *dukhaya-* (Dhauḷi inscriptions), or in developed form *dukhe-* (in later Prākṛts) to pain (3. sg. pres. *dukhei*). Another similarity in formation with causatives shows that deverbalization can take place with no substantial change of the nominal stem, e.g. *dukkha-* (1s. sg. *dukkhāmi* I feel sorrow) in Māhārāṣṭrī Prākṛt; *putra-* a son > *putrati* he begets sons, *kathā* a story > \**katha-* > *kathati* to tell a story > Apabhraṃśa: *kahai*<sup>3</sup> (Sen 170).

**3.1.3.** Sanskr̥t affix *-(ā)paya*, forming causatives of roots ending in *-ā*, *-i*, *-ī* becomes *-ve*, e.g.  $\sqrt{sthā-}$  to stay > Sanskr̥t caus. *sthāpaya-* (3. sg. pres. *sthāpayati*) > Prākṛt caus. *ṭhāve-* (3. sg. pres. *ṭhāvei*) to cause to stay. In many Prākṛts the constituent *-(ā)ve*, also occurs with other roots, not only with those ending in the mentioned vowels *-ā*, *-i*, *-ī*, e.g.: *nir* $\sqrt{vap-}$  to sprinkle, to pour out, to offer oblation > Sanskr̥t caus. *nirvāpaya-* (3.sg. pres. *nirvāpayati*) > Prākṛt caus. *ṇivvāve-* to cause to sprinkle (3.sg. pres. *ṇivvāvedi*) (Woolner 47).

**3.1.4.** Denominative stems formed with *-(ā)ve*, developed from OIA *-(ā)paya*, have the same treatment as causatives. E.g. Sanskr̥t *śabda* sound, voice, noise > caus. *śabdāpaya-* to sound, to produce noise > Prākṛt *saddāve-* (Ardhamagadhī) (Pischel 382).

**3.1.5.** Besides substantive nouns, the process of verbalization also includes adjectives and pronouns, e.g. *sukha* pleasant > Sanskr̥t

<sup>3</sup> Alternatively, this stem may be derived also from Sanskr̥t causative *kathaya-* > MIA *kahe* (3.sg. pres. *Kahei*).

*sukhaya-* to make happy (3. sg. pres. *sukhayati*) > Prākṛt *sukhe-* (3.sg. *sukhei*).

**3.2.** The *desideratives* are not regular features in Prākṛt conjugation. Some isolated examples occur in different dialects. They are rather inherited from OIA and adapted according to Prākṛt phonology of the early and middle periods. Pischel and Sen quoted some forms from Prākṛt texts, e.g. Sanskr̥t *jugupsate* he dislikes > Māhārāṣṭrī *juuchaiḥ*, *juuchasu*; Ardhamagadhī *dugucchāi*, *dugumchāi*, *duucchāi*, *duumchāi*; Śaurasenī *jugucchedi*, *jugucchanti*; Sanskr̥t *śuśrūṣate* he wishes to hear > Ardhamagadhī *sussūsai*, Śaur. *sussūsaiṣam*; Sanskr̥t *lipsate* he desires to gain > Hemacandra *licchāi* (Pischel 379); Sanskr̥t *śuśrūṣate* > Ashokan (from Girnar) *sususera*, Ashokan (from Kalsi) *ṣuṣuṣeyu*, Ashokan (from Mansehra, Shahbazgarhi) *suśruṣeyu* (opt.), Ashokan (from Dhauri, Jaugaḍa) *susūsatu*, *sussusatu* (imper.) (Sen 170) etc.

**3.3.** The intensive verbs are formed like in Sanskr̥t, but again, the phonological changes of different MIA dialects or Prākṛts affect real shape of inherited forms: Sanskr̥t  $\sqrt{kram-}$  to step, to walk > intens. *Cākramyate* he walks swiftly > Prākṛt *\*cākammai* > *cakkammai* (Pischel 378).

In the late Prākṛts and Apabhraṃśas a denominative stem (generally onomatopoeic) sometimes carries the sense of the intensive. E.g. *mahamahāi* it emits heavy fragrance, *khusakhusai* he prompts repeatedly, *taḍapphaḍai* he works hastily, *gammāgammāi* he goes and comes repeatedly (Sen 170).

**3.4.** The *passive* stems in Prākṛts are still formed morphologically, but the passivizer affix *-ya* is added to the Sanskr̥t *seṭ*-roots, and *-iya*, *-īya* to the *aniṭ*-roots. While in OIA the passive stem was formed from the special kind of the weak form of the root, by adding the mentioned passivizer affix, in older Prākṛts, e.g. in Pāli, differentiation of root allomorphs disappeared. E.g. Sanskr̥t  $\sqrt{kr-}$  to do, to make > pres. tense stem *kar-*; weak root *kr-* > pass. stem *kr-īya-* to be done. In Pāli the only root is *kar-*, from which the passive stem is formed by adding affix

-īya-: *kar-īya*<sup>4</sup>. In later Prākṛts the passive marker *-ya/ -iya/ -īya*, due to assimilation process and afterwards by affricativization of *-y*-element, developed into: *-jja, -ijja*. Bubenik incorrectly explains this morphological change as “reduplication (from C + *ya*)” (Bubenik 118).

Thus, the passive forms of the verb *kr-* had been developed in Pāli, Ardhamāgadhī and Māhārāstrī as: *karīya-* (3.sg. *karīyati* it is done), in Apabhraṃśa as *kariija-* (3.sg. *karijjai*), and in Avahaṭṭha as *kijja-* (3.sg. *kijjai*, or *kīai*).

**3.5.** The stage of new Prākṛts, or Apabhraṃśas, which precedes the emergence of NIA, still knows the mentioned morphological derivative stems of denominative, intensive, desiderative and causative (Prakash 259), although they are sharply reduced. Only the passive and causative are quotable extensively.

**3.5.1.** The older forms of *causatives* are just recasting of the Sanskr̥t forms on Prākṛt pattern, e.g. *saṃmānaya-* > *saṃmāṇe-* to show respect; *varjaya-* > *vajje-* to desert; *māraya-* > *māre-* to kill, etc.

But the typical Apabhraṃśa causative stems are formed by affix *-āva*, e.g. *nac-* > *naccāva-* to cause to dance; *hr-* > *harāva-* to cause to take away, *dekh-* > *dekkhāva-* to cause to see, to show.

**3.5.2.** Denominatives are derived very simply: any noun ending in *-a* can be used as a verb with *a-* base. E.g. Sanskr̥t *tīkṣṇa-* sharp > Apabhraṃśa *tikkha-* sharp > *tikkhe-* to make sharp (3. sg. *tikkhei* he makes sharp). In some cases the verbalization includes phonological change *-a* > *-ī*, which resembles corresponding change in Sanskr̥t (see 2.5.5.). But here in Apabhraṃśa instead of the compounded verbo-nominal forms (e.g. *kr̥ṣṇīkr-* to blacken), emerge syntagmatic constructions of nominal forms and verbs, e.g. *cuṇṇa* powder > *cuṇṇī-* + *ho-* to be: *cuṇṇī hoi* it is crushed in powder (Mishra 41).

<sup>4</sup>One more difference is that the set of active endings: *mi, si, ti*, etc. are used in Prākṛts for passive too, while the Sanskr̥t passive uses the middle voice endings: *-e, -se, -te*, etc (Bubenik 118).

**3.5.3.** As it is said in 3.4., the passive stem in Apabhraṃśa may be formed by affix *-ia* (and esp. in Avahaṭṭha): *jān-ia-* to be known, *pāv-ia-* to be got, but passive stems formed from Apabhraṃśa verb roots by adding affix *-jja/ -ijja*, e.g. *sumar-ijja-* to be remembered, *jā-ijja-* to be gone, etc. are more frequent. Because of high frequency these forms lost their passive force towards the end of Apabhraṃśa period. Hindī and other MIA languages inherited them with no passive meanings.

#### 4. Decreasing of derivation ability in NIA

Development of the derivative processes during the Apabhraṃśa period implies increasing of simplification of forms and decreasing of their number. The only morphologically derived verb stem in Hindī and other NIA languages remain causative, as well as transitive stems, which are derived from intransitive verb stems. Seldom, in NIA nominal bases are verbalized, forming the so called *denominative* class of verbs.

**4.1.** Almost all basic verb stems in NIA are developed from OIA verb roots. They are manly intransitives, as well as transitives without intransitive counterpart, e.g. *kar-* (in Hindī, Bāṅglā, Pañjābī) to do; *de-* (Hindī, Bāṅglā, Pañjābī) to give; *le-* (Hindī), *ne-* (Bāṅglā) to take, etc.

Derivational process in NIA shows direction from intransitive and basic transitive stems to derived transitive and causative verbs, by strengthening root vowel (similarly to the earlier process in OIA derivation, where the root vowel has been gradated before the causative affix *-aya*). It does not mean that all intransitive verb stems are weak, and all transitive strong. There are primary intransitives with long vowels, as well as primary transitive stems with short vowels, e.g. *bhāg-* Vi. to flee; *nāc-* Vi. to dance (Smekal 172), and *kah-* Vt. to say, *kar-* Vt. to do, *rakh-* Vt. to put, etc. (Smekal 170). But generally, the pattern *weak stem – intransitive* and *strong stem – transitive* is considered as basic. Further “it was extended by analogy in both directions, above all in Hindī, where a whole series of *derived intransitives* has been produced by ‘re-weakening’ a root which had not been strengthened in the first place: Hindī *mājh-* to be scoured, from *mājh-* to scour < OIA *mārjati*. (Because of the obligatory English

translation, these are sometimes miscalled Passives, or Passive-Neuters, but they are reduced-valence verbs rather than passives).” (Masica 318).

**4.2.** Causative morpheme *-aya* did not survive in NIA, except indirectly in transitive endings in some dialects. “The strengthened grade of the root entailed by the lost morpheme, however, survived as a mark of transitivity in most languages – albeit a 100 per cent reliable one, since primary *intransitives* with long vowels as well as primary transitives with short vowels also existed” (Masica 317).

The basic causative marker in NIA remained *-āv*, which developed from *-(ā)p-aya-* in MIA through the process of changing *-p-* > *-v-*. It occurs today in some languages and dialects, e.g. Bhojpurī, Avadhī, Gujarātī and Western Rājasthānī, and also in a slightly modified shape *-āu* in Nepālī, Pañjābī, Braj etc. In some dialects of Bihar, e.g. Maithilī, where *-b* is allomorph of *-v*, the marker sounds *āb*. Its vowel is shortened in Marāṭhī entailing *-av*. In Konkanī only the long vowel *-u* remains to serve as a causative formant.

Further changes take place in NIA with *-āu* marker, where *-u* disappears before *-i-*, e.g. in Pañjābī, so the only marker remains *-ā*: *ban-* to take shape >*banāu-* to make + *-iā* >*banā-iā*. The loss of *-v/-u* is entire in many NIA, e.g. Hindī, Urdū, Bāṅglā, Oṛiyā, Sindhī, Lahndā, Eastern Rājasthānī, Bundelī and Sinhalese, so the remained *-ā* takes place of transitive stem marker: *kar-* to do, to make >*karā-* to cause to make; *kah-* to say >*kahā-* to cause to say, etc. Its latent alternative in Bāṅglā may be *-o/-u* marker, which occurs in isolated examples also in Hindī (e.g. *bhig-o-* to wet, to drench <*bhīg-* to get wet. In Assamese, an alternative form of the suffix *-uvā* is still present (Masica 318).

There are also competing causative suffixes of more obscure origin. Chief among them are *-ār/-ar* in Shina, Kaśmīrī and Sindhī. E.g. *uṭh-* Vi. to rise >*uṭhār-* Vt. to raise; *ḍhu-* Vi. to be washed >*ḍhuār-* Vt. to wash. According to Masica (318) there are allomorphs of the previous one, i.e. *-āḍ* in Avadhī and Chattīsgarhī, and *-āl/-l* in Hindī, Nepālī and Siraikī. Combination of the suffixes also is possible, and it gives sense of double causative, e.g. *-āvḍāv* in Gujarātī; *-āḍāv* in Maithilī, *-ārā(i)* in Sindhī and *-(a)vāv* in Bhojpurī. As a means of causative derivation

in Bāṅglā affix  $-\bar{a}no$  functions:  $u\bar{t}h-$  to get up >  $u\bar{t}h\bar{a}no$  to raise, to lift;  $kar-$  to do >  $kar\bar{a}no$  to cause to do (Thompson 332).

The procedure has preserved  $-v-$  even in those languages which have had lost it, by resegmentation, as the initial of a second causative marker:  $*-\bar{a}v + \bar{a}v > *(a)v\bar{a}(v) > -v\bar{a}$ . Some NIA languages: Bāṅglā, Oriyā and Nepālī, have no second causatives in this sense (Masica 318).

At least some NIA languages have two causative forms. Kachru (74) shows that in Hindī there are differences between causatives derived from Vi. and causatives derived from basic Vt. Thus the *primary derivatives* (or first causatives) from Vi. (derived by using affix  $-\bar{a}$ ) function as transitive verbs:  $gir-$  to fall +  $\bar{a}$  >  $gir\bar{a}-$  to fell, while *secondary derived* (by using affix  $-v\bar{a}$ ) function as ditransitives, since they take two objects:  $gir-v\bar{a}-$  to cause someone (O2) to fell something (O1).

On the other hand, *primary derivatives* of Vt. stems already function as ditransitives or the first causatives:  $sun-$  Vt. to listen >  $sun\bar{a}-$  to make someone (O1) to listen something (O), to tell. Their *secondary derived* stems function as second causatives, i.e. they take one more argument to the argument structure of the verb:  $sun-v\bar{a}-$  to cause someone (O1) to tell (or to cause to listen) someone else (O2) something (O).

**4.3. Denominatives** belong to the old types of verbs. As a means of verbalization should be mentioned at least two: transformation of the nominal bases into verb stem, and derivation by using affixes (Černyšev 52).

**4.3.1.** Often nouns are verbalized in a very simple way, i.e. the nominal basis is not changed, but it serves as verb stem, or in other words: it is transformed by the ‘zero morph’:  $dukh-$  pain + 0 >  $dukh-$  (inf.  $dukh'n\bar{a}$ ) to feel pain, etc.

In case the noun ends in  $-\bar{a}$ , during the transformation it disappears:  $t\bar{a}g\bar{a}$  thread >  $t\bar{a}g-$  (inf.  $t\bar{a}g'n\bar{a}$ ) to thread (through), to



string; *parohā* (leathern) bucket > *paroh-* (inf. *paroh'nā*) to water by using leathern bucket, etc (Černyšev 52).

**4.3.2.** Derivation by suffixes includes primarily suffixes *-ā* and *-iyā*. But suffixation causes some phonological changes inside the derived verb stem, i.e. shortening of all long vowels, and possibly reduplication (Černyšev 51).

– suffix *-ā* added to the nominal with short stem vowel(s), does not cause any other change: *śarm* shyness, prudency + *-ā* > *śarmā-* (inf. *śarmānā*) to be shy, to be ashamed.

– suffix *-ā* added to adjectives in masculine (ending in *-ā*), overlaps the ending, but simultaneously a long stem consonant is shortened, or degraded, if it is *guṇa* or *vṛddhi* grade vowel. E.g. *ūcā* tall, high > *ūcā-* (inf. *ūcānā*) to elevate; *moṭā* fat, thick > *muṭā-* (inf. *muṭānā*) to get fat, etc.

– suffix *-ā* added to the noun ending in *-ī*, causes its change into *-ii*, and afterwards this amalgamation of vowels, i.e. *-iiā*, results into *-iyā*: *ḍorī* a rope + *-ā* > *ḍorī-ā-* > *ḍorii-ā-* > *ḍoriyā-* (inf. *ḍoriyānā*) to lead somebody by the rope; *lāṭhī* a rod + *-ā* > *laṭhii-ā-* > *laṭhiyā-* (inf. *laṭhiyānā*) to beat by the rod, etc.

– suffix *-iyā* added to monosyllabic nouns ending in consonants, causes shortening of the stem vowel: *nāk* nose + *-iyā-* > *nak-iyā-* (inf. *nakiyānā*) to pronounce, to speak through the nose; *hāth* a hand + *-iyā-* > *hath-iyā-* (inf. *hathiyānā*) to take by hand.

– suffix *-iyā* added to nouns ending in *-ā*, deletes and replaces it: *kādhā* shoulder + *-iyā* > *kādhīyā-* (inf. *kādhīyānā*) to shoulder, to shoulder somebody aside, to shoulder one's way; *ādhā* a half + *-iyā* > *adhiyā-* (inf. *adhiyānā*) to divide in two halves; *jūtā* a shoe + *-iyā* > *jutiyā-* (inf. *jutiyānā*) to kick someone by shoe.

**4.3.3.** There are examples of such verbs from several sources:

First, indigenous nouns are verbalized directly, with a 'zero verbalizer' morph: *dukh-* pain + 0 > *dukh-* (inf. *dukh'nā*) to feel pain;

*pracār* propagation, promotion + 0 > *pracār-* (inf. *pracār'nā*) to propagate; *vicār* thought + 0 > *vicār-* (inf. *vicār'nā*) to think, etc. In the same way even pronouns may be verbalized, e.g. *ap'nā* one's own + 0 > *ap'nā-* (inf. *ap'nānā*) to adopt, to accept, etc.

Second, hybrid derivation occurs in Urdū, Hindī, Pañjābī and other NIA languages, since some frequent nouns, adopted from Persian, Arabic, and possibly English, very simply were verbalized, e.g. *talās* search, quest + 0 > *talās-* (inf. *talās'nā*) to search, to look for; *kharīd* purchase + 0 > *kharīd-* (inf. *kharīd'nā*) to purchase, to buy; *qabūl* admission (or adj. admitted) + 0 > *qabūl-* (inf. *qabūl'nā*) to admit, etc.

Third, in NIA vernaculars, esp. in the central NIA area, e.g. in Bhojpuri and Avadhī dialects, there are denominal verbs derived from nouns denoting body-parts. Obviously body-parts and organs serve as instruments of action; so as a result, their verbalized forms denote actions performed by the organs. E.g. *dāt* tooth > *dātiyā-* to bite with teeth; *kādhā* shoulder > *kādhīyā-* to shoulder, to shoulder somebody aside, to shoulder one's way; *ākh* eye > *ākhīyā-* to eye somebody up, to give the eye, to give a look, etc.

**4.4.** During the NIA period many morphologic derivation means fell away, but instead of them arose other means. Thus instead of morphologic reduplication as a formative means of intensive verb stems, repetitive formations of the onomatopoeic origin appeared. They convey similar function, but not the same, since as imitation of natural sounds and visual phenomena, often named idiophones, they transmit extra-linguistic elements into language. They function either as nouns or verb stems. In this sense we also may speak of verbalization of onomatopoeic nouns. Besides their intensive and frequentative function, to a large extent their expressive and affective role is apparent.

The onomatopoeic repetition taking part in verb derivation process is either full, or complete, i.e. a syllable, or lexical morph, is repeated with no change. The only verbalizer is affix *-ā*. E.g. *san-san-+ā* > *san'sanā-* to produce a whizzing sound; *chal-chal-+ā-* > *chal'chalā-* to be filled to the brim with liquid; *sar-sar- + -ā-* >

*sar'sarā-* to slither; *cham-cham-* + *-ā-* > *cham'chamā-* to move with a tinkling noise of anklets, etc. (Kachru 127).

**4.5.** Most kinds of derivatives denoting intensified action, passive voice and desiderative mood, are not present in NIA, but these verbal forms were replaced by several kinds of *syntagmatic* expressions.

**4.5.1.** The above discussed newly arisen NIA intensives are alternatively expressed in an analytic manner, i.e. as verbo-nominal syntagma, again based on repeated onomatopoeic word and grammaticalized verb instead of the affix. E.g. in Hindī, usually the verb *kar-* (*kar'nā*) and in Bāṅglā *karā* to do, is utilized: Hindī *cēcē kar-* to chirp; *bak'bak kar-* to jabber; Bāṅglā *biṛ'biṛ karā-* to talk rapidly, to jabber (Biswas 583).

In this sense in Hindī the whole forms, i.e. infinitive, participle, etc. can be repeated,

- either completely without changes,
- or partially, when one of the elements of the resultant expression, usually the second, lacks meaning and the privilege of independent occurrence. In some compounds the first component is the empty item.

Examples for the frequentative verb syntagmas are found in participial constructions: *kar'te-kar'te* during continuous action; *cal'te-cal'te* during continuous walking. Similarly *absolutive* or *transgressive* forms are repeated for the sake of expressing intensive action. E.g. *paṛh-* to read > *paṛh-paṛh* having read completely, *khā-* to eat > *khā-khā(kar)* having eaten one's fill, etc.

The second type of repetition of verb forms is represented by so called *echo-formations*, where infinitive, transgressive, or participle is partially repeated and one or more sounds are replaced by other sound(s). E.g. infinitive *khānā-vānā* to eat and the like, *cal'nā* to walk > *cal'nā-val'nā* to walk and the like, *likh'nā* to write > *likh'nā-vikh'nā* to

write end the like (Kachru 129); *khīc'nā* to pull > *khīc'nā-khāc'nā* to pull and stretch; *pūch'nā* to ask > *pūch'nā-tāch'nā* to inquire, etc.

Another manner to express intensive, multiplied or frequent action in Hindī is based on utilization of adverbialized past participle in *-ā* with the inflected (grammaticalized) verb *kar-*, e.g. *ā-* to come + *kar-* > *āyā kar-* to come frequently or usually; *paṭh-* to read + *kar-* to read frequently or usually, etc.

**4.5.2.** The process of verbalizing nouns on the syntagmatic level includes the so called verbo-nominal syntagmas, which are either complementary to the simple verbs, or the only onomasiologic means of action or process (Kostić 3). They are distinct from denominative verbs, not only because of their analytic manner, but also due to the number of verbs having verbalizing function.

**4.5.3.** Also passive stem, as it is well known in Sanskr̥t, cannot be derived morphologically in NIA, but it is expressed mainly analytically. E.g. in Hindī, Gujarātī, Bāṅglā, Oriyā, etc. (Beams, III, 73) it is based on past (passive) participle with inflected motion-verb *jā-* to go, which behaves as a passive auxiliary (Montaut 131). In Marāṭhī and Gujarātī passive is formed by adding “the substantive verb” (Beams III, 73), i.e. auxiliary verb, to the past participle, e.g. *gāī bādhī hotī* the cow was tied (Beams III, 73).

**4.5.4.** Desiderative manner expressed morphologically, entirely disappeared in NIA, and only periphrastic syntagmas with the verb ‘*to want to, to wish, to desire*’ serve to express this manner. As a main verb it is related to common verbs, as its object, obviously substantivized (nominalized), like in Hindī, Pañjābī, Bāṅglā etc.

## 5. Conclusion

The history of development of morphonologic means of verbal derivation shows their prime and full heyday in the oldest stage of Indo-Aryan, which were described by ancient grammarians and classified as special conjugational categories.

Further we follow gradual decrease of this language ability during the middle period, and finally in New Indo-Aryan languages only some remnants of the old verbal derivatives are preserved.

Along with the fall of old morphonological properties, we can notice adoption of some reconstructed derivational means, but the new manners of periphrastic or analytical expression of the semantic categories of denominative verbs, desiderative and intensive and passive voice are far more widespread in the area.

## **ABBREVIATIONS**

adj., adjective

caus., causative

inf., infinitive

MIA, Middle Indo-Aryan

NIA, New Indo-Aryan

OIA, Old Indo-Aryan

pp., perfective participle

pres., present tense

sg., singular

Vi., intransitive verb

Vt., transitive verb

O, direct object

O1, O2, indirect objects (of causatives)

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