The Shughni verb in a historical light
(*Шугнанский глагол в историческом освещении*)
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Introduction

Information on verbs in the Shughni language can be found already in the earliest works dedicated to the languages of the Shughni-Rushani group.

One of the first descriptions of Shughni specifically is that of Robert Shaw (1877), which includes texts and a comparative dictionary for the other Pamir languages. The materials of Shaw were then used in the work of V. Tomashek, where a historical-comparative analysis of the Shughni verbal system is given. Interesting linguistic material was collected by D. L. Ivanov in the 1880's and was studied in the work of K. G. Zalemann. Around the end of the 19th century and the start of the 20th century, a general work on Iranian philology was published which included sketch of the Pamir languages.

Around this same time, a body of work appears which is dedicated to various aspects of the Pamir languages.

However, a detailed investigation of the grammar of "Shughni proper" was first carried out by I. I. Zarubin, who compiled a dictionary on Shughni that accurately reflects the language's phonemic inventory, as its transcription is based on phonological principles.[1] The texts provided by Zarubin provide the opportunity both to create a grammatical sketch of Shughni and to undertake historical-comparative research. At the present time, a «Shughni-Russian Dictionary» with approximately 25,000 words is being prepared (Karamshoev 1988 – which at this time was still in press). The material used in this work is being prepared on the basis of the phonological system developed by Zarubin and refined by V.S. Sokolova (1953). This dictionary includes virtually all of the Shughni verbal lexicon from all of its dialectal varieties. In 1979, a synchronic grammar of the Shughni language was published (Bakhtibekov 1979).

Within the extant historical and comparative phonetics and morphology of the Iranian languages, much credit is due to G. Morgenstierne (1926; 1927; 1928; 1932; 1938; 1949; 1970; 1974). His works contain historical reconstructions and etymological observations which are extremely valuable for historical-comparative research on the Shughni verb system. One sketch (Morgenstierne 1926) is dedicated to the phonetics of Shughni. The appearance of the *Etymological Dictionary of the Shughni-Rushani Group of Languages* (Morgenstierne 1974), which contains a significant part of the Shughni lexicon, is of considerable significance for future research on the these languages. The diachronic study of the phonetics and morphology of Shughni has been continued with the help of new linguistic material;[2] these works provide the possibility of analyzing the Shughni verbal system. A significant contribution to research on Shughni in general, and its verbal system in particular, has been made by V. S. Sokolova. Two of her books (Sokolova 1967; 1973) are dedicated to issues regarding the historical-genetic classifications of the languages of the Pamir group. V.S. Sokolova was the first to provide a detailed comparative-

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[1] The term "Shughni proper" («собственный шугнанский язык») is used in Karamshoev 1970, О диалектном членении шугнанского языка «On the dialectal subdivision of the Shughni language".

[2] Dodykhudoev 1962a; Dodykhudoev 1962b (thesis presentation at a conference); Edelman 1973; 1975; 1976; 1977; 1980-1981; 1982; Pakhalina 1971; 1977.

historical investigation of these unwritten languages, in which the entire linguistic system is examined with an eye toward the synchronic and diachronic interrelations among the languages. Such a detailed approach to investigating the development of these languages has allowed for a systematic phonological reconstruction of the proto-language.

A historical-typological analysis of changes in the verbal system of Iranian languages (including Shughni) is being developed. This issue is the topic of the work titled *Опыт историко-типологического исследования иранских языков* (1975), which was carried out under the leadership of V.S. Rastorgueva. In a part of the section of this work titled *Грамматические категории глагола* (Edelman 1975: *Категория времени и вида. Категория наклонения*), Edelman lays out the principle of the systemic study of the restructuring of the verb system in Iranian languages, and she describes the forces underlying the formation of the modern verbal system of Shughni. Insofar as the present work builds on this proposed system of development, it is worthwhile to bring a few of its key points to attention. The ancient Iranian tense-aspectual relations are characterized by the leading role of aspectual meanings, which are built on three basic oppositions: present, aorist, and perfect. Later on, with the weakening of the aspectual meaning of finite forms, the category of tense takes on the leading role. Thus began the gradual process wherein the inflected past-tense forms are supplanted by participial constructions. This process, originally affecting only the perfect, gradually spread to the preterit as well, and in this way participial combinations enter into the paradigm of verbal conjugations.

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As a result, in the majority of Iranian languages, the participial forms completely supplanted the original past-tense forms, although in a few languages the imperfective forms have been preserved (for instance in Sogdian and Yaghnobi). The breakdown of the Old Iranian tense-aspectual system was hastened for many Iranian languages by the phonetic process whereby posttonic syllables weakened and fell off. It was precisely in this position that verbal inflection was found. Hence, a system initially took hold in which present-tense forms, formed from present stems, opposed the group of past-tense forms (built on participles) and predicative combinations with participles in *ta*. The most essential characteristics of inflected verb forms proved to be the following:

> **(i)**　the opposition of present and past tenses, which was expressed via a series of inflectional endings;
>
> **(ii)**　the opposition of the present stem as a means of expressing present tense, on the one hand with the participle one the other, which entered into the paradigm of verbal forms and turned into a past stem and a means of expressing the past tense.

The opposition of the series of inflectional endings gradually fell into history, and what arose was the opposition of "present stems with the participles in -*ta* as a productive means of expressing tense. This opposition characterized the transition to a new morphological type."

Based on what has been said above, it can be stated that in the literature we have to date, the synchronic stage of development has been described, and that there is much material collected which is necessary for carrying out comparative-historical research. The working out of a comparative-historical analysis of phonetics allows us to trace the history of specific Shughni verb stems in terms of the differing developments of stressed/unstressed and umlauted/unumlauted verb stems, different grades of stem vowels, the reflexes of different consonants and consonant clusters, etc. This allows us further to establish which stems continue the ancient type (and which type of ancient stem they continue), as well as which stems are borrowed and which are novel formations. We can also establish their relative chronology. The established historical-typological model for the reconstruction of the verbal system of Iranian languages will serve as the base for the investigation I undertake here into the reconstruction of Shughni verb stems.

The modern temporal aspectual verbal system of the Shughni language consists of the present-tense forms and a series of different types of past tenses: the past tense, the perfect, and the pluperfect. Future verbal forms do not exist. A special function is held by the infinitive, which is used in a predicative function.

The opposition of the past tense and the present tense is realized via the presence of distinct stems, on the one hand, and distinct person-number endings, on the other. That is, in the present tense we find person-number suffixes, while in the past tense we find (detachable) markers – i.e. second-position clitics.

It is well known that in Shughni, present-tense verbs are formed with the present stem along with personal endings, for example with verb *ti- : tūyd* 'go':

tiyum   *tiyām*
tiyi   *tiyet*
tīzd   *tiyen*

Past tense verb forms consist of a past stem and independent person-number markers, which in some cases are also used as copulas. Take, for instance, the paradigm for the past tense of the same verb:

tūyd=um   *toyd=ām*
tūyd=at   *toyd=et*
tūyd=Ø   *toyd=en*

From a historical standpoint, present stems can be traced back to old present stems in the ancient Iranian languages, or in some cases they have been formed via analogy with these. Past stems, for their part, can be traced back to Old Iranian participles, or in some cases they have been formed via analogy with these.

Present-tense personal endings are the reflex of Old Iranian inflectional endings. The etymology of these is presented below:

Singular:

1ˢᵗ: =*um* < *am* <**ami*
2ⁿᵈ: =*i* < **ahi*
3ʳᵈ: =*t/=d* < **(a)ti* (with the early loss of the thematic vowel)

Plural:

1ˢᵗ: =*ām* < **amahi*
2ⁿᵈ: =*et* < **aita* or **ata*, with the influence of *-en*
3ʳᵈ: =*en* < **anti*, with *i*-umlaut and the typical reflection of a stressed vowel?

(on these etymologies, see V.S. Rastorgueva (6,: 106-104), L. A. Pirejko (74, 250-); D.I. Edelman (114).

The detachable past-tense markers continue, in part, enclitic pronouns, a fact which is responsible for their position immediately following the first stressed element of the clause, and in part copular forms with their later contamination with the clitics. The etymology of the past-tense clitic forms is provided below:

Singular:

1ˢᵗ: =*um* < *am* < copula **ahmi* < **ami* – facilitated by (i) syncretism with the present-tense form and (ii) contamination with the enclitic form **mai*
2ⁿᵈ: =*at* < outcome of the clitic **tai*
3ʳᵈ: =*i* < pronominal enclitic **hai*, or possibly the demonstrative pronoun **i*

Plural:

1ˢᵗ: =*ām* < copular form **hmahi*, with the later contamination in voicing via leveling with the present-tense form, cf. also Av. *mahi*
2ⁿᵈ: =*et* < copular form **sta*, with the possible contamination of the present-tense form
3ʳᵈ: =*en* < copular form **anti*

(on these etymologies, see G. Morgenstierne (161); Rastorgueva (76, p. 186); Sokolova (98, pp. 132-134); L.P. Pirejko (74, pp. 250-); D.I. Edelman (114).

The reason for the dissimilarity in markers (regarding their etymology?) apparently lies in the fact that past tense forms in modern Shughni continue participial constructions which whose structure differed for intransitive and transitive verbs. The formation of intransitive verbs was of the following type: subject in the direct case, copula, and participle which agreed with with the subject in person and number. Transitive past-tense constructions were formed somewhat differently: subject as an oblique noun, oblique full pronoun, or (oblique) pronominal enclitic, along with participle. The use of the copula in transitive constructions was optional. The full form of the

pronoun could alternate with the enclitic forms, which slowly turned into the verbal markers. Later, as a result of contamination of both types of constructions, the copular forms came to be identical to the pronominal enclitics (excluding the third-singular) and, also as a result of this, came to be found in second position of the clause. The perfect – and later, the pluperfect – developed analogously.

(
Intransitive: SUBJ$_{DIR}$ COP   PTPL
      → PTPL agrees with subject in person/number(/gender?)

Transitive: SUBJ$_{OBL}$ (COP)   PTPL
        OBJ=SUBJ$_{CLTC}$ (COP)   PTPL
      → PTPL may or may not agree in person/number/gender with subject (I don't know)

→ for transitive constructions, the subject clitic and copula come to be associated with one another, resulting in a mixing of the two. eventually, many of the forms coincide and both person clitics (now agreement markers) and copula appear in second position. it appears that another way in which the copula assimilated with the clitics is that it took on second position in the clause.
)

Under this system, aspectual contrasts expressed via grammatical means are practically non-existent. The perfect is included in the general paradigm of indicative forms, although under the influence of Tajiki, modal-like meanings have appeared for the perfect – namely evidentiality.

Therefore, the temporal-aspectual system of Shughni boils down to the opposition of present forms and past forms. Moreover, the forms of the past tense are different from the present tense not only in their formation, but also in their greater exponence of grammatical categories which are not expressed in present-tense verbs, namely: transitivity/intransitivity, gender, and the double expression of number (via enclitic forms *and* verb stem form for intransitive stems). A significant portion of intransitive verbs have preserved the ability to express gender and number in their past stems, features which have come down to them from their use as participles. The expression of the categories of gender, number, and (in)transitivity is generally the same for past and perfect stems, albeit with certain distinctions in the ways these categories are expressed.

Past-tense intransitive stems which inflect for gender and number agree with the subject. This, together with the fact that we find oblique pronominal forms as transitive subjects in the past tenses of certain languages of the Shughni-Rushani group, as well as the fact that copular forms in these languages come from pronominal enclitics, indicates that at an earlier stage of these languages, transitive stems either exhibited agreement with objects, or appeared only in an unchanging masculine form (110, 177).

Sokolova (1973: 94-141) is of the opinion that the conjugation of transitive and intransitive verbs developed from different types of constructions. In particular, the conjugation of intransitive verbs developed from constructions of the following type: subject in the direct case, participle, copula (e.g. *azəm ni(h)asta ahmi* – lit. 'I am sat'). Transitive conjugation, for its part, developed from

possessive constructions of the following kind: oblique subject, participle, pronominal enclitic (e.g. *manā karta=m* lit. 'my done=me' = 'that which I did').

(This paragraph is not clear to me.) M.N. Bogolyubov (1982) believes that in the ancient Iranian languages, past (or perfect) participles were used in a context where they only optionally corresponded with (the action of?) a specific person (i.e. 'impersonal patientive passive' for transitive verbs). In certain living Iranian languages, the active forms of past-tense transitive verbs correspond to the same non-changing participle (which historically was homonymous with the ancient neuter participle), and for which at first agreement was carried out with the direct object. During the diachronic development of the Shughni-Rushani languages, the type of agreement for each of these participles was used to distinguish intransitive conjugation from transitive conjugation. Hence, the category of (in)transitivity is reflected rather clearly.

The present work, which is based on the positions of the authors previously described, has the goal of identifying the patterns and stages of development of verb stems of the Shughni language in the process of the language's historical development.

In doing so, the following tasks are set forth for the present work: (i) the analysis of verb stems in Shughni, including the establishment of their structure and genesis as well as the historical correspondence of types of modern Shughni verb stems with the original Proto-Iranian (or later) model; (ii) the characterization of formal and partially functional features which are realized within the realm of verb stems and the ways in which these features interacted with one another; and (iii) the identification of archaic forms and innovated forms, as well as the identification of the tendencies by which verb stems in Shughni developed and changed.

This work is based on Shughni materials (texts, phrases, and individual verbal lexemes, recorded with a phonological transcription and with a recording system – *магнитофон*). These data are taken from the following sources: Zarubin's *Шугнанские тексты и словарь*; Bakhtibekov's *Шугнано-русский словарь* and *Грамматика шугнанского языка*; and the collection at the Rudaki Academy of Sciences of the Tajik SSR. Also used are materials collected by the author during fieldwork excursions to Khorog, Shughni Rayon, GBAO) from the period between 1976 and 1982.

Comparative linguistic examples are taken from the following:

-*Бартангские тексты и словарь* (Zarubin 1937)
-*Бартангские тексты и словарь* (Sokolova 1960)
-*Рушанские и хуфские тексты и словарь* (Sokolova 1959)
-*Генетические отношения язгулямского языка и шугнано-рушанской группы* (Sokolova 1967)
-*Генетические отношения мунджанского языка и шугнано-рушанской группы* (Sokolova 1973)
-*Бартангский язык* (Karamkhudoev 1973)
-*Рошорвский язык* (Kurbanov 1976)
-*Язык рушанцев Советского Памира* (Fayzov 1966)
-*Сарикольско-русский словарь* (Pakhalina 1971)

-Язгулямско-русский словарь (Edelman 1971)
-Язгулямский язык. Таблицы глаголов (Andreev 1930)
-Ягнобские тексты (Andreev and Pereshcheva 1957)
-Языки восточного Гиндукуша. Мунджанский язык. Тексты, словарь, грамматический очерк (Gryunberg 1972)
-Ванджские диалекты таджикского языка (Rozenfeld 1964)

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Materials from ancient Iranian languages are taken from the following:

- *Altiranisches Wörterbuch* (Bartolome)
- *Awestisches Elemtarbuch* (Raykhelt)
- *Old Persian* (Kent)
- *Авестийский язык* (Sokolov)
-*Язык Авесты* (Sokolov)
- *Древнеперсидский язык* (Barrow)
- *Санскрит*

Proto-Indo-European examples come from *Indogermanisches etymologisches Wörterbuch* (Yu. Pokornij)

With the goal of elucidating the fundamental directions of the historical development of Shughni verbs, around 600 simplex verbal lexemes are provided, with the majority of them having reliable etymologies or a clear type of formation. Part of the verbal lexicon consists of borrowed words from various languages (e.g. Tajiki).

The etymological analysis of materials is undertaken in the fourth chapter, which is a list of verbs with their etymologies. These etymologies generally come from Sokolova (1967) and Morgenstierne's *Etymological vocabulary of the Shughni Group*, works in which etymologies from earlier works are collected and analyzed. Additionally, etymologies from the work of Edelman are used, which are given in Edelman (1981; 1982; 1984); and in her lecture series on "Fundamentals of the historical grammar of the Shughni language".

Certain concepts used in this work need defining. Foremost among such concepts are the periods in the history of Shughni (and Iranian more generally) and etymological methods. In the study of the history of Shughni, which has no written records, certain difficulties arise in the delineation of time periods.

In line with tradition, in this work a few chronological sections are outlined which form the scale of phonetic and morphological phenomena in Shughni and its older prototypes. In particular, these are:

1. Indo-European,
2. Indo-Iranian,
3. Proto-Shughni,
4. Modern Shughni.

This gradation is to be used as a working model which may serve for the relative demarcation of stages of development of the language.

In dealing with the verbal lexicon, the tradition has been to identify the etymological root. The original stage is taken to be the Proto-Iranian root. It is thus useful to look at the notion of the 'root' itself. The root of the word is "underived" foundation which is the bearer of the essential meaning of the word. The root in this sense is identified in this dissertation in the way it is reconstructed for Proto-Iranian. In cases where it is difficult to identify later (i.e. Iranian) stages of the root, Indo-European roots are given. This rigorous definition of 'root' and its types for Proto-Indo-European was formulated by E. Benveniste. He also proposes an interpretation of a number of patterns connected with roots. For this work, the following are important:

> **(i)** The Indo-European root is monosyllabic, consisting of a stem *e* between two different consonants.

> **(ii)** With the help of suffixes, from the root there are two alternating stems which are formed: (1) stressed root with full vocalization and zero-grade suffix; (2) root in the zero grade and stressed suffix in the full grade

> **(iii)** Only a single extension may be added to the suffix, either after the suffix to stem Type 1, or inserted between the root element and the suffix in stem Type 2. (Benveniste 1955: 201)

Thus, the presence in Proto-Indo-European of more extended (long) roots is explained by the extension of primary roots via extenders (i.e. extra morphemes?), which can be identified thanks to the fact that there exists in parallel either a root with a more simple form (alongside an extended form), or synonymous roots which differ only in the final element. Suffixes may be added after the extender, the collection of which for verbal stems is more or less stable. Roots whose meanings corresponds to a sound and which have an onomatopoeic nature give, as a rule, examples of the most diverse extenders. Gradually, apparently, there is a complex process whereby elements are redistributed (or reinterpreted?), which leads to the inclusion of different extenders and suffixes into the structure of the root itself. Sometimes this process is seen already in the Proto-Aryan period. This must be taken into account for the given work, insofar as the reflexes of the "pure" root and the root with extenders are found in the modern Shughni language. For example, the Indo-European root *√*rab-* is found in the Shughni verb *wirāfc-*: *wirūvd* 'stand up; get up'; the Indo-European root *√*sker=t=* with the extender *=t=*, which at the Iranian level was included in the root, as in *√*skart*, in modern Shughni is found in the verb *xičand-: xičuxt* 'cut'. We can also likely see the later inclusion of the Indo-European suffix *=s* after the extender in the structure of the following root: I-E. *br=au/ai=*, Ir. *brauš, *braiš*, Sh. *viraγ̌-: viruxt* 'break (tr./intr.)'. Cf. Tajiki *buridan* 'cut' from the "pure" root √*bar-*.

Below are types of roots in Proto-Indo-European which were preserved through to the Iranian period and the reflexes of which are observed in Shughni (types of roots are given in the zero grade; examples of roots themselves are given in the full grade):

        (i) Consonant (sonorant) + Consonant (sonorant) :
        CC, CI, CU, CR̥, CN̥
        → so-called 'light root'

        (ii) Consonant (sonorant) + Sonorant + Consonant (sonorant) :
        CIC, CUC, CIC, CR̥C, CN̥C
        → so-called 'hard root'

        (the definition of roots is given in the works of S.N. Sokolov (1958; 1979))

Proto-Indo-European roots with a final long vowel $\bar{a}$ of the type $\sqrt{d\bar{a}}$ are considered by E. Benveniste (1955) to be roots of the type CVC because of the consonantal nature of ∂, where the vowel and the second consonant are represented by the formula $e + \partial = \bar{a}$. However, at the Indo-Iranian stage and beyond, roots of this type either act as if they have a long $*\bar{a}$ in final position, or receive a final $*y$ (hence we get roots like $*\sqrt{m\bar{a}(y)}$ and $*\sqrt{sn\bar{a}(y)}$ in Bartolome's (1961) dictionary. The phoneme $*y$ may or may not be reflected even in forms which come from a single root, for instance: *zini-:zinod* 'wash', from $*sn\bar{a}=ta$, $*sn\bar{a}(y)$ and *zinoys-: zinêyd* 'slip and fall', where the past stem is of secondary formation (i.e. formed via analogy?) and the present stem is from $*sn\bar{a}y + s=$, $*sn\bar{a}(y)$.

In the ancient Iranian languages both finite forms and nominal (non-finite) forms – i.e. participles and deverbal nouns – were derived from the root. Both finite and non-finite forms, in turn, served as the basis for the formation of Shughni verbs: finite forms (namely, the *präsens*) were used in the formation of present stems, and participle and deverbal nouns for the past-tense stems and infinitive.

The verb stems of the modern Shughni language are the object of this study – i.e. the present, past, perfect, pluperfect, and infinitive stems. Regarding their provenance, it is necessary to mention that the greatest role in the Shughni verbal system generally, and in the classification of verbs into regular/irregular, in particular, is played by present and past stems. This is because the correspondence between the present and past stems serves as the basis for identifying the place of the form in the verbal system. It is also necessary here to define what is meant by regular/irregular verbs, which are understood in the literature on the Shughni-Rushani group in the following way: "regular verbs are those whose present stem is identical to their past stem and to other verbal forms derived from them via the (regular) alternation of vowels and consonants. Irregular verbs, for their part, are those whose present stem differs from their past stem and verbal forms derived from it via the alternations of vowels and consonants (Karamkhudoev 1973).

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Chapter 1: Present stems

1. Shughni present stems generally continue Proto-Iranian present stems, which in turn go back to the Indo-European *präsens* stems.

Verb stems in the Indo-European *präsens* can be realized as pure stems as well as stems which are transformed by means of various formal methods. In addition to the presence or absence of formants, stems are characterized by their stress and by ablaut -- both qualitative and quantitative (Semeren'i 1980: 86-108, 281-297; Meye 1938: 213-237). According to these characteristics, present stems in Proto-Indo-European are typically classified in the following ways:

> **(i)** root (pure)
> **(ii)** reduplicated
> **(iii)** nasal
> **(iv)** inchoative
> **(v)** with the suffix *=ie*
> **(vi)** with the suffix *=eio*
> **(vii)** denominal
> **(viii)** etc.

Formants added to the root originally worked to specify the fundamental meaning of different stems, but in the present time it is difficult to identify the precise meanings they added. In the majority of cases, stems can only be clearly delineated by formal markers (Semeren'i 1980: 282-297).

2. D. Kerns and B. Schwarz, authors of a work on finite forms of Proto-Indo-European verbs, believe that by the late stages of PIE all of the types of verbs indicated above could act as either thematic or athematic. Athematic stems of the category *Active indicative presens* could were conjugated in the following way: in the 1st, 2nd, and 3rd persons singular, the stem was stressed and in full grade; in the 1st, 2nd, and 3rd persons plural and dual, the ending was stressed and the stem was in the zero (or reduced) grade. What results is a two-phase stem alternation of the

type: *léikʷ-/ likʷ-ént.* The frequency with which the 3rd person plural form in *-ént* was used, and possibly other reasons, led to the appearance of a new 3rd-person singular formation in *likʷé-t*, which came to exist alongside the older *léikʷ-t.* This led to the building of the entire paradigm on the model of *likʷé-*. This form is the prototype of the thematic type which Kh. Bartolome calls "third class", needing only a qualitative ablaut, i.e. the change of the final stem vowel *-e-* to *-o-*. The thematic type became widespread (the old forms *léikʷ- / likʷ-* developed a thematic rival in *likʷé-* (with stress on *e*), a formation which imitated the stressed endings on stems with such formants as *-ske* and *-ie*. The parallel existence of the two forms *léikʷ-* and *likʷé-* in Proto-Indo-European gave impetus to the development of a new type in *lêikʷe-* (the 2nd class for Bartolome). The majority of thematic stems belong to either the 2nd or 3rd class (of Bartolome's); the 3rd class was older, but the 2nd class became more widely used both in neologisms as well as in the restructuring of old forms. If for a given type of stem there is a lack of a form similar to the 3rd type, it can be assumed that this type of stem is a later formation. However, one must take into account later changes in stress, individual cases, the different tendencies of various daughter languages, and later formations in which alternations were used automatically without conforming to the earlier system of ablaut.

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The Proto-Iranian system of present classes has been reconstructed mostly on the basis of stems in Avestan and Old Persian, while also taking into account material from Sanskrit and Proto-Indo-European reconstructions. An exhaustive classification of present forms for the Old Iranian period was carried out by Bartolome (1895-1901: 67-85). See also the classification of G. Reichelt (1909; 1978: 192-231) and S. N. Sokolov (1979: 208-212; 257-258) for the Avestan and Old Persian languages.

The reconstructed system was used to describe the origin of the system of verbal stems in various Middle and Modern Iranian languages (several works are listed here).

In his classification, Bartolome delineates 32 classes of present stems based on the way in which they are formed from the root – see the table on the following page. (Compare the 19 classes of Reichelt and the 12 classes of Sokolov.) The types of stem are listed not chronologically, but rather systematically. Bartolome's schema corresponds to the delineation of stems in Sanskrit by Indian linguists (10 classes – see Barrow 1976: 381-283; Zaliznyak 1978: 844-854).

In the attested material for Old Iranian languages, a portion of verbal lexemes have only type of present-stem formation, although in some cases several different stems of differing types can be formed from a single root. In some cases they differ from one another in that each expresses a special type of action, while in others there are no distinctions in either aspect or other types of meaning. Different stems formed from the same root can be used in different verbs. Here, the shared provenance of these stems is explained by the fixing of certain preverbs on the type of stem in question (sources are given for this).

Thematic and athematic verbs can be identified based on their types of conjugation. A distinguishing characteristic of stems with a thematic vowel is that when they are inflected, there is no alternation in stem vowel (i.e. ablaut?) and no shift of stress. It should be noted that under Bartolome's classification, stress is closely linked to the system of ablaut. There is a strong interdependence among the place of stress, aspect, vowel grade of the root, and the suffix/infix/ending.

Thus, a certain phonological organization of the root and stress – which is associated with a certain suffix, ablaut, and series of formants (which, for their part, as a rule are used only in the formation of present stems and not in the formation of other verbs) – make up the system of formal means whereby present stems are formed. The investigation into the dynamics of this system could, together with the presence of fixed landmarks for previous linguistic periods, lead to a holistic picture of the development of verb forms and types of expression of grammatical categories in Shughni present stems. However, in practice one must make do with only fragmentary materials from the ancient languages and with an already well established system in the modern Shughni language. On the basis of data from Old Iranian, Sanskrit, and Proto-Indo-European, the types of present stems in Proto-Iranian have been reconstructed. Present stems in modern Shughni can in many cases be regarded as the reflexes of these reconstructed Proto-Iranian stems. This determines the order in which the subsequent material is presented: beginning with the classification of Bartolome, the Proto-Iranian prototype of stems is adopted and the reflexes of these stems are examined in the modern Shughni language.

Bartolome's Table:

Proto-Iranian Type	No.	Formula	Skt. class	Avstn or OP Example
Primary	1	F√, Z√	*ásti*	*čōret, kəršva*
	2	F√ + *a*	*bhávati*	*bandāmi, pačata*
	3	Z√ + *a*	*tudáti*	*druǰaiti*
	4	L√, L√ + *a*	*rásti*	*tapaito*
Reduplicated	5	red. F√, red. Z√	*juhōti*	*daðāiti, dadātuv*
	6	red. Z√ + *á*	*tíṣṭhati*	*hištaiti*
	7	strong red. F√	*cákarti*	*daēdoīšt*
		strong red. Z√		
Nasal	8	Z√*ná, Zn* (?)	*yunákti*	*mərənčaitē*
	9	Z√*n* + *á*	*vindáti*	*vindat, ?*
	10	Z√ + *náu (anáu)*	*sunōti*	*kərənaciti*
		Z√ + *nu (anu)*		*akunavam*
	11	Z√ + *nā (anā)*	*punāti*	*zānənti*
		Z√ + *n (an)*		
	12	Z^n√ + *n*		*frākərénaot, akərənəm*

	13	Z√ + ani + á	iṣanyáti	zaranimnəm
Sibilant	14	√sh + a (inch.)	ṛcáti	tərəsaiti
	15	√ + a, √ + a + a	tā́šti	čašte
	16	red. √ + a + a	cíkīrsati	vīvənghatū
	17	√ + si + a	yōkṣyáti	vaxsyā
	18	√ + d	mṛdáti	snāðayən
	19	Z√ + t + a	?	ruftad?
	20	√ + u + a	tū́rvati	ǰvāhi
	21	Z√ + ä́	?	mravāite
	22	√ + ī	āsīt	vainīt
	23	Z√ + āi + a	gṛohāyati	agarbayah
	24	Z√ + ai + a	iṣayaty	išayas
	25	Z√ + ai	bhujēma	nišhiðōiš
Stems in *-ya	26	F√ + i + a	náśyati	stāyamaide
	27	Z√ + i + a(P)	yujyátē	zayeiti
	28	L√ + i + a	śrāmyati	rāmyāt
	29	red. Z√ + i + a	dediśyáte	yaēšyantīm
Stems in *-aya	30	L√ + śi + a(K)	pātáyaty	srāvayat
		F√ + ái + a(it.)	vardháyati	vaxšayatō
	31	Nom.St. + i + a	bhiṣajyati	baēšazyati
	32	Nom.St.	biśakti	vārentaē

Note: «Class formulas» include the following abbreviations and symbols:

√ = root
d(L) = lengthened grade
h(F) = full grade
t(Z) = zero grade
st = stem
red = reduplicated
verst. red = (stronger?) reduplicated
inch. = inchoative
p. = passive
k – causative
it. = iterative
nom. = denominal

Note also that PIE *s* and aspirated (stops?), as well as the Proto-Aryan reflex of the PIE palatal are represented in accordance with modern transcription.

The Proto-Indo-Iranian verbal stem can coincide in its form with the root; this is the so-called "root stem". The present stem of Bartholome's Class 1 consists of a stressed root in the full grade or an unstressed root in the zero grade (i.e. athematic alternation?). By the Old Iranian stage, only a few verbs are conjugated in this way, as the process of thematicization has already been occurring rather vigorously. Athematic formations are reconstructed on the model of thematic ones (Sokolov 1961: 100-101; Bartholome 1895-1901: 68). For instance, in Avestan from the root *√kar- 'do', we get the thematic formation kərənava; from the root *stau 'praise', we get stavanuha; from *√gan 'kill' we get ǰanaiti; formations from the root *√kaiθ are also conjugated as thematic in addition to a non-thematic type: čōiθaite, čōiθat.

The Proto-Iranian thematic vowel *-a- (from PIE *-e-, -o-) attaches directly to the root. On Bartholome's classification system, stems of Class 2 consist of a stressed root in the full grade together with a thematic vowel; stems of Class 3 consist of a root in the zero grade and a stressed thematic vowel. As noted above, despite the fact that Class 3 is older, Class 2 became much more widespread, both in new formations as well as in old stems which came to be reconstructed based on the thematic model.

The subsequent history of Iranian languages is characterized by the shifting of internal morphological boundaries and the redistribution of the elements of forms. It is likely that the thematic vowel in verb stems came to be reinterpreted as part of the ending or came to be associated with the alternation of stress, and as such the process of reduction stopped happening without leaving a trace (Rastorgueva 1975: 121-131; Edelman 1975: 78).

Apparently, Shughni present stems underwent a similar evolution, in which the final syllables of Old Iranian fell off. However, traces of old thematic vowels have been preserved in certain modern stems.

2. (sic) In Shughni it is difficult to distinguish the reflexes of Class 1 stems from those of thematic stems (Classes 2 and 3). This is because, first and foremost, at some point in time the process of thematicization took place, and secondly, because later on there was a process whereby the thematic element itself weakened.

For Class 2 of Proto-Iranian present stems, the formula was the following: the stem is the stressed, full-grade root together with the thematic vowel *-a. In Shughni, a significant number of verbs can be traced back to this class. Modern Shughni present stems which go back to this class have a long ā in their stem. (CP: I think this is because for root stems, there is nothing between the root/stem vowel and the thematic vowel or endings which would prevent the former from being in a-umlaut position. Maybe?)

According to Sokolova (1967: 36), the lengthened root ā (Sr. o) comes from *a in present stems implies conjugations in -a . . . This a may continue either a long ā (as in the endings *āmahi-,

*āmi plus the possible contamination with the -a- of the subjunctive mood in the other persons), or a short a. Both of these vowels in unstressed morphemes could give the same result: a neutral non-long vowel (i.e. schwa?), as well as a non-reduced a. The position of the root vowel in this class is defined by Sokolova as a-umlaut position. In this regard, it is necessary to give here the traditional definition of umlaut as "the change of a vowel under the influence of a subsequent vowel in anticipation of the articulation of the latter" (Guchman 1962: 141). Most often, the assimilation is undergone by the stressed root vowel under the influence of the unstressed vowel of the suffix. This type of combinatorial changes in vowels likely already took place in the Proto-Iranian stage. There was also a connection between stress and vowel length. The absorption of the vowel quality of the unstressed final vowel by the stressed vowel, as well as the gradual reduction of the final syllable and its eventual disappearance, took place because of the accentual structure of the Old Iranian verb form and gave the result that we observe in the modern Shughni language.

Precisely this phonetic organization of the Old-Iranian stem, namely: the combination of ablaut and stress (stressed full grade stem + a) caused the appearance in modern Shughni of the long ā in the root. Compare with the present stems which belong to Class 3.

With the total process of thematicization which took place in Old Iranian languages, we can assume the later reconstruction of other types of stems based on analogy with this widespread type.

Below we examine verb stems which can be traced back to Class 2 (including possibly verbs from Class 1 which were reconstructed rather early and thus entered into Class 2), with the later reconstruction of vowels via a-umlaut.

In the interest of ease of presentation, examples are given by type of root ("C" corresponds to a consonant, including non-syllabic sonorants).

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
ancāv-	sew	*han-drab-a	*√drab/p
anǰāv-	grab	*han-kab-a	*√kap
bāf-	be able to	*upa-af-a	*√ap-
firāp-	arrive; reach	*fra-ap-a	*√ap-
rāv-	suck	*rab-a	*√rab/p
xičāf-	burst	*skaf-a	*√(s)kap
arrāz-	go up	*fra-raz-a	*√raz
riwāz-	fly up	*fra-waz-a	*√waz
waz-	swim	*waz-a-	*√waz
nikāx̌-	watch	*ni-kas-a-	*√kas + -x̌ (which is a back formation from the past stem)
sipāf-	suck	*us-paf-a	*√paf
wāf	weave	*waf-a-	*√waf

tāž-	pull	*tag-a-*	*√tag (PIE *tengh)

Similar structure is found for present stems of verbs which can be considered early borrowings, as well as certain sound-symbolic verbs:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
tāp-	trample; knead	*tap-a*	*√tap
wāɣ-	roar; cry		
xiqāp-	dangle; shake		

Certain verb stems which have unclear etymologies are similar to those of this type:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
pāɣ-	be sick		
wāš-	wave (with one's hands)		
širāp-	wander?; boil?		
θāp-	eat (something loose?)		
warθāp-	look for sthg.		
woyāf-	aspire; aim		

Verbs with the sonorant *r̥, which by their type of present stem can be included in this class, should logically have in their stem the reflex of a vowel which has undergone *a*-umlaut. For this group of verbs, a stem in the full grade is characteristic, i.e. (we would expect?) *-ar. However, reliable examples of the reflex of *r̥ or *ar in *a*-umlaut position are not available, and therefore we work with oblique data by reconstructing the full grade of the sonorant as below. It is possible that somewhere in the development of these words we get *a* (as a vowel element), which undergoes the influence of umlaut.

Stems of this type include the following:

wārv- 'boil' *warb-a-,=   *√warb, PIE *bher-eu, *bher-u
gārð- 'turn' *gard-a-   *√gart, contaminated with *wart- and *gard* ?

In the latter example, the preservation of the initial *g indicates that the indigenous form has been contaminated with Tajik *gardan.* The current form of the stem may be the result of levelling based on the *a*-umlaut type.

Sokolova (1967: 56) writes that *r̥ in Shughni results as a vowel (initially a short vowel) + r. The quality of the vowel depends on its position – i.e. in this case in a-umlaut position. The use of this vowel is limited to only one phonetic position: when it is before r in a closed syllable with two final consonants (because *r̥ arose normally before consonants).

Therefore, it can be understood that the stems given below to not confine themselves to this rule, as there is no second consonant in them. It is likely that these are later formations, either coming about when the sonorant *r̥ had already stopped being a sonorant and had become either a vowel or the consonant r, or the vowel element lengthened in these stems into ā via analogy with verbs with a-umlaut vocalization in their stems (cf. wārv). It is possible that this is the recent lengthening of *a before a single consonant – cf. čān 'dig'. In any case, reconstructing the original grade of the vowel is only possible in a few verb stems, namely by working with the changes in their consonants (cf. e.g. palatalization of k to č in bix̌čār-).

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
bix̌čār-	draw; ladle; scoop	*upa-skar-a	*√skar (PIE *(s)ker-. Palatalization of k to č indicates that the stem was in full grade
nix̌pār-	step (on)	*ni-spar-a	*spar
tār-	clean up	*tar-a	*√tar
zidār-	sweep	*us-tar-a	√tar
vār-	bring	*bar-a	√bar-
xār-	eat	*xwar-a-	*√xwar

In stems with nasal sonorants, there are extremely few etymologically clear examples with a vowel that continues *m̥ or *n̥. It is difficult to say whether the reflex of the Proto-Iranian *a which arises from zero-grade *m̥ or *n̥ is always equal to the reflex of an original *a (i.e. one which did not arise from these sonorants) (Sokolova 1967: 62). Thus, long ā in modern Shughni might me be either the regular reflex of a sonorant, or it might have another origin.

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
sifān-	go up; rise	*us-fan-a	*√fan
čān-	dig	*kan-a	*√kan
šānd-	laugh	*xand-a-	*√xand

In the latter two examples (čān- and šānd-), the palatalization of the velars k/x indicates that there the stem was in the full grade.

Here we will look at a few verbs which don't have reliable etymologies: late borrowings and onomatopoeic verbs:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
dām-	fan (fire)		
fām-	know		
y̌ām-	jingle; clink; shake? (from cold)		

In present stems with roots ending in the sonorant *u̯*, (where the sonorant in this position is either a diphthong or else is part of a cluster with a vowel), we get different results across the Shughni-Rushani languages. In Shughni, the cluster -*āw* prevails. It is difficult to judge the historical vowel grade of the root here, although it appears that it was in the zero grade. It is possible that -*āw* is the result of the later lengthening of -*aw* (<*aw*). It cannot be excluded, however, that irregularities in -*aw*, -*āw* we have the result of contamination of clusters of -*aw*, -*āw* which were once meaningfully different (Sokolova 1967: 54).

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
firāw-	be rinsed	**fraw-a-*	**√fraw*
birāw-	stop suckling	**upa-raw-a*	**√raw*
nāw-	cry	**naw-a-*	**√naw*
pišāw-	stop crying; calm down	**pati-xaw-a*	**√xaw*
sāw-	go	**čyaw-a-*	**√čyaw*
θāw	burn	**θaw-a-*	**√θaw*
wizāw-	go out (of a fire)	**awi-zaw-a-*	**√zaw*
warðāw-	dangle, rock?		

It is possible that *a*-umlaut vocalization was formed in verbs which in PIE had the suffix **ske*; for instance:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
wilāmb-	knock down	**awi-ramb*	**√rab*
wirāfc	stand up	**awi-rab-sa-*	**√rab*
xāfc-	go down	**xuf-sa-*	**√xuf/b* (cf. Sogd. *xwfs*, PIE **keu-bh-*)

To this group we can likely add the following verbs of unclear etymology:

pāxc- 'be sick'
lāxc 'limp'

Stems of verbs which have roots of the type CIC or CUC in the full grade with a diphthong in the root can also frequently be analyzed as thematic and belonging to Class 2 (see p. 45). However, in light of the possible later thematicization it is not always possible to say whether their original

stems were thematic or athematic. The presence of a thematic vowel can only be materially confirmed with reflexes of stems which had a final *k or *g, which underwent palatalization as a result of the effect of the thematic vowel and became *č, *ǰ in Proto-Iranian. Later, these became modern Shughni *dz*, as in:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
CIC			
parwedz-	sift; screen	**pari-waic-a-*	**√waik*
CUC			
ðůdz-	milk	**daug-a-*	**√daug-, PIE dheug-*
wiðůdz-	purge; pinch	**awi-rauǰ-a-*	**√raug*

The following are examples of verbs with more reliable etymologies and which have a full diphthong grade in the root

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
(C)CIC			
mez-	urinate	**maiz-*	**√maiz*
teb-	cut; slice	**taip-*	**√taip-*
tew-	stir; mix	**taiw-*	**√taiw*
weð-	put; insert	**waid*	**√waid*
wirex̌-	cut off	**awi-raiš-*	**√raiš, =x̌ in the present stem is via analogy with the past stem*
wižeb-	return	**awi-gaib-*	**√gaib; PIE *gei-bh-*
x̌eb-	beat	**xšaib-*	**√xšaib, PIE kseip-; *kseib-*
žeb-	spin (yarn?)	**gaib-*	**√gaibm PIE *geibh-*
CUC			
ðuv-	gather	**daub-*	**√daub*
niyůy̌-	listen	**ni-gauš-*	**√gauš-*
růb-	sweep (snow)	**raub-*	**√raub*
ziyůy̌-	wither; fade	**us-hauš-*	**√hauš*

3. In the Bartolome's classification system, there is still another class (Class 3) with the thematic suffix *-a-*, which, it seems, has left a trace in the system of present stems in Shughni. The proto-forms of this class had as their stem a root in the zero grade and a stressed thematic vowel. Almost all verbs in Shughni which can be traced back to this class have a sonorant in their stem.

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
(C)CR			
šikar-	look for; search	**skr̥-a-*	**√skar, PIE *(s)ker-

In this example, we can confirm the zero grade of the root by the fact that the root-initial consonant *k* has not become palatalized – cf. *bixčār-*.

Here we can also tentatively add the onomatopoeic verbs with old etymology:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
šipal-	shine; glitter	**spal/l-a-*	**√(s)pal
pal-	burn (dimly)	**pal-a-*	**√(s)pal

We can also add here the following verb with unclear etymology: *žiwal-* 'shine'.

It is impossible to establish the historical vowel grade of these roots, although it should be noted that their modern vowel *a* is different than the modern *ā* found in the previously discussed group of verbs, which belonged to Class 2.

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
CUC			
kaɣ̌-	slaughter	**kuš-a-*	**√kauš
pargaɣ̌-	drill; peck	**pari-kuš-a-*	**√kauš
rarð-	dig; burrow	**fra-ruð-a-*	**√raud-, or perhaps stem **fra-r̥d-a-* from root **√rad
pinidz-	wear; put on (clothes)	**pati-muč-a-*	**√mauk-

The difference in modern verb stems between *a* and *i* from **u* is connected with the fact that **u* in unstressed position can result in either one of these vowels. The resulting vowel depends on the influence of nearby consonants: next to palatal **č, **u* results in *i* (Sokolova 1967: 45-).

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
pidwið-	roll up (sleeves)	**pati-wid-a-*	**√waid
parwið-	suppress (weeds)	**pari-wid-a*	**√waid
wiš-	mix; stir (food)	**awi-ix-a-*	**√aix
wiz-	to fit (into a loycation)	**wič-a-*	**√waik, where the pres. stem reflects the O. Iranian vowel -*i*-
wixi-	unlock	**awi-sriy-a-*	**√sray

To this group we can add a number of other verbs which in modern Shughni have short *i* in their stems:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
čis-	watch	**čas-a-* < **kas-a-*	**√kas, with *i* here being explained by the fact that in unstressed syllables which by the Proto-S.R. period had lost their significance, **a* can be reflected as *a* or *i* (S. 1967: 38). Here, we may get *i* because of influence from *č*.
pikin-	pull out	**pati-kən-a-*	**√kan*

The final example and some other analogous ones have given Sokolova reason to reconstruct for the earlier Proto-Shughni-Yazghulami period a weak diphthong (or weak sonorant combination) *-əm, *an.* The reason for the reconstruction of such a weak diphthong might be the fact that the *k* in *pikin-* has not been palatalized (cf. *čān-* 'dig'). It is possible that we have here the early phonologization of **ə* which came to be identified with **a* distributed a unified cluster on independent phonemes. (I don't understand this) (Sokolova 1973: 51-53).

Obviously, stems of this type could also be linked to Class 3.

4. Some verbs whose stem vowels can be traced back to **-a-* have in modern Shughni a short *a* rather than long *ā.* It is possible that in such cases, particularly those which contain a short *a* and can be traced back to a sonorant in the zero grade, short *a* is the reflex of a reduced vowel. However, there is still the possibility here of the later shortening of the vowel from *ā* to *a* (Sokolova 1967: 37).

In these cases we can consider than an earlier period, we can reconstruct a zero grade root and stress on the stem vowel. Later, the stress would have moved to the root vowel. Here, then, we would have a situation where a modern stressed vowel is the reflex of a historically unstressed vowel.

For this reason, the verbs below of this type are more likely to belong to Class 3, rather than to Class 2:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
biraf-	touch	**upa-raf-a-*	**√rap*
raf-	touch	**raf-a-*	**√rap*
raz-	fall (off)	**raz-a-*	**√raz*
xay-	thresh	*xwah-a-*	**√xwah*
yad-	come	**yat-a-*	**√yat*
andidz-	get up	**han-tač-a-*	**√tak*
ti-	go	**tač-a-*	**√tak*
naẍti-	leave	**niš-tač-a-*	**√tak*

The three last stems from the root **√tak* are set apart by their reflexes in Shughni. If we consider the fact that in Avestan we find a present stem of Class 2: *tača-*, then it would be possible to link the modern form to this class. However, the short vowel *i*, which is present not only in stem-final position (as in *ti-*, *naẍti-*), but also in the position before one consonant, forces us to posit that at some stage in Shughni there was a palatalizing effect of **č* on the vowel, as well as an alternation in stress, whence we might posit a Proto-Shughni form of the type **tačá-*, which would be analogous with a Class 3 form *tič-á-*, which would later result in *ti-* and *didz-*.

For the verbs given below it is impossible to reconstruct their original vowel grade. At the present time all stems ending in -*rð* (-*rθ*), as in other present stems, are stressed. It is possible that this kind of vocalization when the root vowel is in stressed position is the result of later leveling via analogy with stems which continue **ar*. The fact that we have a short *a* here might be, as said above, the result of its phonetic position before **rt, *rd* or leveling via **r̥*-vocalization.

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
CRC			
šarð-	defecate	**xard-a-*	**√xard*, PIE **ker-d-*. For the stem *šarð-*, a stem in the full grade is reconstructed with certainty, as **x-* (cf. Yz. *xůð*) was palatalized to *š* (S. 1967: 58. The shortness of the vowel with **ar*-vocalization is not clear: is this the result of the phonetic position before **rd* or the result of leveling via analogy with a

			sonorant in the zero grade

.

To this group we can apparently also add the following:

tarð-	'fight; struggle'	**tar/r̥d-a-*	**√tard*
zidarð-	'tear'	**us-tar/r̥d-a-*	**√tard-*

5. There are a number of roots with the PIE extender (suffix?) *-s-*. Verb forms whose present stems are formed in the Pre-Iranian period with the help of this suffix thereafter insert this suffixal element into the stem, as a result of which the suffix passes through all conjugations of the verb. Thus, the reinterpreted stem functions in the language as a root. This type of stem is described by Bartolome as belonging to Class 15, such as with Proto-Aryan? *k̂axš-* 'see', Av. *čašte* (B. 1895-1901: 76). Thus, in the present stem **raixš-*, which is formed with the PIE suffix *-s-*, we find the root **√raixš*, which is also found in modern Shughni:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
pirex̌-	pour?	**pa(ri)-raixš-*	**√*raixs- < **√raik*= + **-s-*
wirex̌-	cut off	**awa-raixš-*	**√*raixš, < **√raik*= + **-s-*

Here we also get the following verbs:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
viraɣ̌-	break	**bruš-*	**√*bruš-, **√brauš* , Av. *bray-*, **bhrei̯/eu̯* + -s
wix̌aɣ̌-	scratch (oneself)	**awi-xšuš-*	**√*xšauš, < **√xšau*= + **-s-* < PIE **ks-eu* + **s*
ziraɣ̌-	bite (of an animal?)	**gruš-*	*√grauš-, < grau-* + *-s*

6. The reflex of the PIE suffix **-sk̂e* is in some Indo-European languages productive even now, while in others only traces of it have been left behind. With regard to its semantics, it has taken a variety of paths. In some languages, the primary meaning associated with it is that of inchoative, while in others it has an iterative/durative/distributive meaning (Semern'i 1980: 289).

In the Proto-Iranian period, the Proto-Aryan suffix **-sča-* continues the thematic model of formation, and for this reason light stems have full vocalization while hard stems have zero vocalization. For instance: **tafsa-, *√tap, √tr̥sa-, √tars-*. The old meanings of these stems,

which are preserved frequently in Old Iranian languages, is inchoative. They are generally intransitive. Some of them have been preserved as the only representative of the/a verb (sources are given here).

Verb stems which contain the suffix *-sa and continue PIE *-sḱe- in Shughni are heterogeneous. Some of these verbs are inherited from an older period, while another part can be considered as new developments.

The suffix -sa was used widely in a previous stage of Shughni to mark intransitive verbs and became a universal marker of intransitivity.

Verbs which can be linked to the Old Iranian Class 14 can be considered direct continuations of the PIE suffix *-sḱe-, Ir. *-sa-. In Shughni these are the following:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
sitafc-	fry (intr.)	*us-taf-sa	*√tap, Av. tafsa-
naɣ̌jīs-	pass	*nir-ga-sa < nir-gm̥-sa	*√gam, Av. ǰasa-, Skt. gaccha
yos-	carry	*yā-sa < *ym̥sa,	√yam, where the initially zero-grade sonorant becomes *a and then undergoes lengthening to *ā
x̌ofc-	sleep	*xwaf-sa-	√xwap-, cf. Av. xᵛapsa-, √xvap.

The following verbs can be traced back to the ancient type with *-sḱe with less certainty, as there is the possibility that they are later formations with *-sa via analogy with the verbs above. This suffix was quite productive up until a very recent time in the Shughni language.

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
(C)CAC			
anǰafc-	set about	*han-kaf-sa	*√kap
čarǰafc-	clamber; scramble	*kaf-sa-	*√kap
x̌ikafc-	bloom	*skaf-sa-	√(s)kap
cirafc-	burn	*us-raf-sa	√rap
CAC/CNC			
biðafc-	close; shut	*upa-daf-sa, *upa-dab/dm̥b-sa	*√dab
niðafc-	stick; adhere	*nir ?-daf-sa < nir ?-dab/dm̥b-sa	*√dab
piðafc-	stick; adhere	*pati-daf-sa < pati-dab/dm̥b-sa	*√dab

CUC			
angaxc-	pierce	**ham-kux-sa*	**√kauk
sikaxc-	survive	**us-kux-sa-*	**√kauk, where the reflex of the root **k* has been preserved in its pure form in Shughni
CI(C)			
wižafc- / wižifc-	return	**awi-gib-sa*	**√gaib
bes-	disappear	**apa-ai/i-sa*	**√ai̯
piðis-	go out (of a fire)	**pati-di/dai-sa*	**√dai̯*, PIE *dei̯-*

The following verb with unclear etymology belong to this group: *sakc-* 'startle; wince?'. Some verbs marked with the suffix **-s* have long *ā* in their roots. This can be seen as evidence of the later *a*-umlautization of some verbs with this suffix. Such verbs include the following:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
wirāfc-	stand up	**awi-raf-sa-*	**√rab
xāfc	go down	**xuf-sa-*	**√xuf-/b-* ; cf. Sogd. xwfs- ; PIE **keu-bh-*

We may also be able to add the verb *pāxc* 'be sick' (unclear etymology) to this group.

Some verbs whose roots end in **k* or **g* stand out regarding their reflex in Shughni. We can tell the original vowel grade of these stems via the forms of other languages of the Shughni-Rushani group – namely Rushani, Khufi, and Bartangi – in which the final consonants **k* and **g* have as the reflex *y* after **i* and **a* vocalization of the root and as *w* after **u* (Edelman 1984).

CP: a couple examples are given here, but I don't understand their relevance. Note that the verb *redow*, *ris-* apparently has the -s prefix attached to its present stem). Another two verbs which are apparently relevant here are the verbs *wiriwc- / wirawc-* '?' and *kirīws-* 'flow out'.

A special reflex of a stem-final consonant is seen with **t, *d*, which become spirantized with the later addition of the -*s*-. Examples:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
nixarθ-	collapse; be destroyed	**ni-kr̥t-sa*	**√kart
parxarθ-	be sick	**pari-kr̥t-sa-*	**√kart (the fact that we get *x* rather than *š* attests to the zero grade of the stem)
parwarθ-	to slide off a fur flotation device to swim	**war/r̥t-sa*	**√wart
warwarθ-	turn around; capsize?	**war/r̥t-sa-*	**√wart (here, the original grade of the stem is debatable)

The fact that we get short *a* in the stems above might either be the result of the position before **-r̥t* before **ar* vocalization, or alternatively the result of the leveling via **r̥*-vocalization. And vice versa, since in modern times these stems are stressed, it is possible that they are the result of analogy via **ar*-vocalization (with initial **r̥* vocalization). (I don't understand this paragraph.)

Note also that the verb *nīstow/nīθtow* has this structure – i.e. its present stem contains θ. It comes from the present stem **ni-had-sa* or **ni-hid-sa*, **√had*, or perhaps there is an alternative etymology.

Another group of verbs with a final **t* or **d* in their root has long *ī* in their stems, which points to the idea that they were in *i*-umlaut position in their proto-forms. This can be confirmed with data from other languages of the group. This position could have arisen because of influence on the stem vowel from the suffix **-ya* or **-sya*. However, in this case we might posit the later origin of this model of formation or perhaps the superposition of one suffix on the other. Or it is also possible that we have the induction? model of the suffix *-s* and in this way a mixed type of stem was built. It is possible that the appearance of these (following) forms was the result of developing particles of synonymous word-formational models.

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
CAC			
ambīθ-	fall; collapse	**ham-pad-s-ya*	**√pat/d
nax̌fīθ-	be pulled out; fall out?	**nir-fat-s-ya*	contamination of the roots **√fan* and **√pat*
pirīθ-	tear	**pati-rad-s-ya-*	**√rad
ricīθ-	flee	**frat-rad-s-ya-*	**√rad-
sixīθ-	separate; become detached	**us-xad-s-ya-*	**√xad
CNC			
pidvīθ-, pidvīs-	grow together; merge	**us-xad-s-ya-*	**√band

Another special group of verbs should be mentioned which have the later addition of the suffix -*s*, apparently on an already formed and solidified stem with strong stem vocalization. These are:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
riwoys-	starve; go hungry	**fra-waya- +s*	**√wa(y)
zinoys-	slip and fall	*snāya- + s	*√snā(y)
kidoys-	flow out	*tak+s*	*√tak (but unclear etymology)
paloys-	work; busy oneself		unclear etymology

A special process of forming intransitive verbs via *i*-umlaut, which apparently played a big role in Yazghulami, is discussed here.

It is important to set aside for discussion the verb *pešc-* 'ask'. This verb has its originals in a stem formed with the PIE suffix -*ske-* from the PIE root *√prk̥*. (Some discussion is given regarding this verb and its cognates in Sanskrit.)

The fact that we get *š* here instead of *r* can be explained by the fact that in Shughni, *r* before *s* becomes devoiced and turns into *š*, while the vowel ends up as it does before *r*. Perhaps we also have here the influence of conjugations in –(a)ya, where the fact that we get *e* instead of *ī* might be explained by the lengthening effect of voiceless *š*.

7. In the majority of Indo-European languages, at earlier stages of development, the word-formational method using a nasal suffix and infix is well known. Stems with a nasal infix are only well-preserved in Indo-Iranian (Semeren'i 1980; Meye 1938).

For Indo-Aryan and Proto-Iranian, Bartolome identifies 6 classes with nasal affixes – i.e. suffixes and infixes. In stems with the nasal infix, the element *-n-* is inserted before the final sound of the root. The root, as a rule, was in the zero grade. These forms in Proto-Indo-European were still athematic. However, these stems are rarely preserved in their athematic forms. In the subsequent development of languages, these forms became thematic (Class 8) rather early on. On the other hand, already in PIE there existed a means of forming present stems via the thematic type with a nasal infix (Class 9).

The suffix *-nau-* forms Class 10 stems, while the suffix *-na-* forms Class 11 stems. With respect to stress and ablaut, these classes belong to the athematic type: they have the root in the zero grade and, as a rule, a stressed suffix. The same can be be said for Class 12, with the only difference that the suffix *-nu-* is added to the form with the nasal infix, as in Greek. As A. Meye has written, formations with *-ne-* / *-no-*, which we find in various languages, are the result of complex innovations rather than the direct reflexes of PIE forms.

Among nasal stems which have been preserved until the modern time in Shughni, we can identify ancient Iranian stems with *n, which can be traced to roots with nasals, as well as the nasal suffix and infix.

The following verbs can be traced to roots with nasals:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
wiremb-	stand (tr.); place	**awi-ramb-(aya)-*	**√rem, √rab, PIE rem + bh. Here, *e* comes from *ā*, which in *i-*umlaut position should result in ê, but we get *e* because of the following nasal
wilāmb-	knock down	**awi-ramb-a-*	√ramb
xičand-	cut	**skand*	√skand- ; PIE **(s)ken-(d)-
čemb-	wish	**kām-aya -b*	the *b* here arose via comparison with verbs whose stems ended in -b/-p

We can't always distinguish a root nasal from an infix. In the examples below, as early as PIE we have parallel nasal and non-nasal forms:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
biðemb-	close	**upa-damb-aya*	**√dab, *damb , PIE *dhebh-, *dhṃbh-, *dhembh-*
xamben-	lower	**xamb-*	√xamb + the later causative suffix -en ; PIE *keu-b(h), kum-b(h)*; cf. *xāfc-*

Stems with nasal infixes include those from Class 8, 9, and 12. In Shughni they are continued, for example, by the following:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root

wižeb-, wižemb-	return (tr.)		
wiẍkamb-	pluck wool?		
ẍičand	cut		
pirend-	tear		
parɣand-	cover; beat?		
ciremb-	burn; hurt		
niẍciramb-	pinch; pluck		
kirānd-	scratch	**krand-*	**√krad, PIE *(s)ker-d*

(see *kirānd-* for an example of the etymology which shows that there is no nasal in the root)

Old Iranian stems with nasal suffixes are represented in Bartolome's Classes 10-14. Differences between the various classes, which arose as a result of the reduction and loss of stem-final sounds have gone away in recent times, and modern Shughni stems preserve the historical nasal suffix in the form of a nasal consonant which is nowadays not detachable from the stem. For this reason, it is difficult to determine which stems belong to which classes.

The following Shughni stems are traditionally considered to be a continuation of Class 10, whose stem is made up of a root in the zero grade and a suffix – *-nau* or *-anau*, or *-nu-* or *-anu-*:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
kin-	do	**kr̥-nau/nu-*	*√kar*
ẍin-	hear	**sr̥-nau-/nu-*	*√srau* (cf. Persian *šenav-*
tān-	lay; weave	**ta-nau < tn̥-nau*	…

The following Shughni stems directly continue Class 11, which had the following formula: the stem was the root in the zero grade and a suffix *–(a)nā* or *–(a)n*:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
wizůn-	know	**awi-zā-nā* or **awi-zā-n-*	*√zan*, cognate with Persian *dān(estan)*
win-	see	**win-nā-* or **win-n*	*√wain*, cognate with Persian *-bīn-*

For the following verbs, it is difficult to pinpoint the class to which they belonged, but it is clear that they had a nasal suffix:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
piðin-	set fire to	**pati-di-na-*	*√dai*
widzin-	choose	**awi-či-na*	*√kai*

sipen-	pour	*us-pāra-aya-*	√*par*, PIE *pl̥-no-*
aỹān-	cover		
yān-	grind	**ar-nā*	**√ar*
ziban-	jump	**us-bu-na*	**√baw-*

8. The PIE suffix **-ie-* shows up differently in the various daughter languages. For example, in Indo-Iranian languages it is continued in thematic forms. From a semantic standpoint, these forms typically denote a state, and from a formal standpoint they typically have a root in the zero grade. This type has been preserved in Iranian languages. In Sanskrit, we can see relatives of this type in passive forms in **-ya-*; for instance: *pū-ya-ti*.

In the Indo-Iranian period, passives in **-ya-* and causatives in **-aya-* took over one of the functions of the active-middle opposition, namely the role of distinguishing transitive and intransitive verbs. But unlike in Sanskrit, in Old Iranian these verbs did not take on voice characteristics (i.e. they were not true passives). At the ancient Iranian period of language development, stems in **-ya* are represented by verb forms which are: (i) semantically heterogenous and (ii) of various etymological origins.

The core of the group of so-called passive verbs is made up of verbs which clearly have a passive meaning. As a rule, they have an active counterpart, which is a verb of the same root without the suffix *-ya* in the stem, for instance: Avestan active *dā-* 'give' has passive *dā-ya*, and Avestan active *zan-* 'give birth (to)' has passive *zaya-*.

In the classification system of Bartolome, stems in **-ya* fall into four classes: 26-29. There are no traces of the latter two classes (i.e. 28 and 29) in Shughni, but we can find in a number of verbs the reflexes of classes 26 and 27, which differ from one another in the same way as Classes 2 and 3, namely in root vowel grade and in place of stress.

In Indo-Iranian, the original formula was with suffixal stress, after which began the process by which stress shifted onto the root syllable, which ended up forming Class 26. The stem for Class 26 is the stem in the full grade plus the suffix **-ya-*, which can be seen in Shughni in the form of *i*-umlauted root vowels. Although if we consider the fact that there is only a single example, and that this example is for root shape CAC, then the full grade is inevitable. There is only one reliable example of a reflex of this type:

Sh. Pres. Stem	**Gloss**	**Reconstructed stem**	**Root**
binis-	to become lost	**apa-nas-ya*	√nas

It is possible that the verb *pis-* (past *pêxt*) also belongs to Class 26. This verb has the reconstructed present stem **pač-ya*, **√pak*, cf. Av. *paca-* (Class 2), cognate with Persian *paz-*. A stem with the suffix **-ya* is reconstructed via indirect evidence from other Shughni-Rushani languages and Yazghulami: Ru. *pis:poxt*, Bt. *pis:pöxt*l Yz. *pas: pux*. On the basis of data from Rushani and Bartangi we can conclude that modern stem-final *-s* goes back to **č-y-*; cf. *saw*

<*čyaw-. (Cf. also *ris:red* 'stay', where in Rushani and Bartangi we have the stem *rays-*, but in Yazghulami we have the stem *raxs-*, which indicates that there was a prototype in the form of *√raik + s, without the suffix *-ya*.)

In Class 27, the stem was equivalent to a root in the zero grade and a stressed suffix *-ya*:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
(C)NC(C)			
zi- (zod)	give birth	*za-ya < *zn̥-ya	√zan
(C)CU			
ci- (cid)	press; squeeze	*dru-ya*	*√draw
pi- (pud)	rot	*pu-ya*	*√paw
vi- (vud)	be	*bu-ya*	*√baw
CR(C)			
cif- (cift)	steal	*tr̥f-ya*	*√tarp
mār- (mūd)	die	*mir-ya < *mr̥-ya-, *mar-ya*	*√mar; here, r̥-vocalization was apparently original, after which it underwent a change and was reconstructed. The original vocalization has been preserved in the following verb…
pirmir- (pirmirt)	wither; fade	*pari-mir-ya*	*√mar

In this section it is also pertinent to examine a number of verb stems with a long *ā* in their roots. However, it must be stipulated that, because there are various interpretations of the roots (see Introduction), there are likewise various possible explanations of the stems formed these roots. For instance, the stem *maya*, from the root *√mā(y)- can be analyzed as belonging to Class 2 (*may-a*) or as belonging to Class 27 (*ma-ya*):

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
ði- (ðod)	fall; find oneself (in a place)		*√dā
di- (ðod)	beat		*√dā
rimi- (rimod)	order, command	*fra-ma-ya*	*√mā(y)
x̌ici- (x̌icod)	freeze	*stra-ya*	*√strā
zini- (zinod)	wash (oneself)	*sna-ya*	*√snā

The following verb should be looked at separately:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
wix̌i- (wix̌ud, wix̌id)	unlock	**awi-sraya-*	**√sray, which may have been reconstructed via analogy with the reflexes of verbs in (-ya- and reinterpreted as a root in the zero grade plus -ya- *sri-ya-*, but see p. 27.

The suffix **-eio* was its most productive in the late Proto-Indo-European period and was used in the formation of both deverbal and denominal present stems, In Indo-European languages, we find thematic inflectional patterns for stems with this suffix. In Proto-Indo-European we can identify a few different types of verbs with this suffix (iterative-causative; denominals; stative verbs). In individual daughter languages, these types of verbs associated with this suffix became mixed once again.

In ancient Iranian languages, forms in **-aya* are also not uniform in their provenance. We find: (i) old denominals which did not have a causative (intensive) counterpart; (ii) proper causatives (intensive); (iii) newly formed denominals and voice-neutral stems. In the group of causatives proper, many verbs do not have attested non-causative counterparts.

In the subsequent development of Iranian languages, the suffix **-aya* loses its causative meaning. From the ancient causative-forming suffix, only phonetic traces are preserved into the later periods. Apparently, at some point in the development of modern Shughni, this suffix became a productive model of formation.

In Bartolome's classification, stems in **-aya* belong to Class 30, in which we find stems with roots in the lengthened or full grade and a stressed suffix **-aya*. It must be noted that later on the stress in these forms moved from the suffix to the root vowel, and Proto-Shughni causative formations of this type have root stress, because of which in modern Shughni the same forms have a stressed stem vowel.

Quite a few ancient Iranian causatives have been preserved in Shughni. However, they underwent significant changes with respect to both their form and their meaning. In many cases,

the meaning of force has been lost (in some cases it never existed at all), and the verbs ended up being simple transitives.

The lengthened grade of the root vowel, together with *i*-umlaut position, resulted in the Shughni root vowel *ê* for forms which reflect -*aya*:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
(C)CAC			
têb- (têpt)	twist	*tāp-aya	*√tap
rêv-	suckle	*rāb-aya	*√rab
rinês- (rinŭxt)	forget	*fra-nās-aya	*√nas
wêz-	make swim	*wāz-aya	*√waz
têz-	filter; strain	*tāč-aya-	*√tak
ziwêð-	pull out	*us-wād-aya	*√wad

Practically the same vowel reflex is found in roots with the sonorant *r̥*:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
(C)CR			
čêr-	plow	*kār-aya	*√kar
ðêr- (ðūyd)	have	*dār-aya	*√dar
sêr	trail; follow	*sār-aya	*√sar
CR̥C			
wêrv-	boil (tr.)	*wārb-aya	*√warb
zidêrð-	tear	*us-tārd-aya	*√tard

It is possible that we have a non-traditional reflex of the sonorant in the following verbs:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
fišêy̆z-	squeeze out	*abi-xārz-aya	*√xarz
pêx̌c-	ask	*pārs-aya	*√pars

Roots with the sonorant (w?) in final position have the same type of reflex:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
čêw-	plow	*kāw-aya	*√kaw
pattêw-	throw	*pati-tāw-aya	*√taw or *√daw
sirêw-	separate; detach	*us-raw-aya	*√raw
birêw-	(make) stop suckling	*upa-raw-aya	*√raw

The following examples likely illustrate the later restructuring of verbs in -*aw* via analogy. It also cannot be excluded (though it is less likely) that we have in these verbs the reflexes of causatives in *w* < *v* < -*apaya*-; cf. Wakhi and Munji:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
nimêw-	show	*ni- + *√mā + w	
x̌icêw-	freeze (tr.)	< *√strai-	

Apparently, the same lengthened grade in *i*-umlaut position is reflected in the following verbs with unclear etymology:

sirêp- 'cause to wander / boil?'
tifêr- 'cause to hurry'
x̌êθ- 'melt'

A full list of causative verbs formed on this type can be found in the appendix.

Before nasals, the same root vowel (*ê*) ends up as *e*. This type includes verbs with nasals root-finally or else with a nasal in the root:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
(C)CN̥			

biǧen-	shake	*(a?)pa-sān-aya, *apa-hi-šan-aya*	*√han
diven-	blow (of wind, e.g.)	*dwān-aya*	*√dwan
nax̌fen-	pull out	*niš-fēn-aya*	*√fan
piǧen-	string (sthg together)	pati-gān-aya	*√gan
pičen	string (sthg together)	pati-kān-aya	*√kan
sen-	raise	sān-aya	*√san
sifen-	raise	us-fān-aya	*√fan
kiten-	drag	tān-aya	*√tan
ziben-	make jump		*√baw, with later restructuring
CN̥C			
parθenc-	stretch out a (pelt) on (something)??	*pari-θānǰ-aya*	*√θang
pirend-	tear	*pati-rānd-aya*	*√rad
biðemb-	close (eyes)	*upa-damb-aya*	*√dab
niðemb-	stick	*ni-dāmb-aya*	*√dab
piðemb-	stick	*pati-dāmb-aya*	*√dab
ciremb-	burn; scorch	burn; scorch	*√rab
wiremb-	stand; place	stand; place	*√ram
čemb-	wish; desire	kām- + b + -aya; in the latter to examples, we may not only be dealing with the addition of -b based on analogy with verbs like *biðemb-*, but this may also be a vestigial reflex of the suffix *-āpaya- (see Sokolova 1973: 159)	*√kam

Causative stems with the root in the full grade and the suffix *-aya also have reflexes in Shughni, although far fewer. This type was not actively productive for very long, and only a few stems of this type have been preserved:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
CAC			
parǰīv-	take away	pari-ǰab-aya < pari-kab-aya	kap
pīdz- (pêxt)	cook	pač-aya	pak
CN̥(C)			
bizīn-	herd; drive (cattle)	upa-gan-aya	gan
zīn	kill	ǰan-aya	gan
pidvīnd-	splice (connect)	pati-band-aya	band
vīnd	connect; bind	band-aya	band
naɣ̌dzimb-	accompany; make pass	nir-ǰam-b-aya, here -b is possibly a relic of the suffix *-āpaya	gam

Stems with a diphthong in the full grade (*-aṷ or *-aị) in the root did not preserve a special i-umlaut reflex different from the reflex of neutral position, and for this reason it is difficult to distinguish the stems of Class 2 and 30 (from roots of these types?).

Present stems with an active (transitive) meaning may belong to either type, as in the following:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
CUC			
pidrůf-	pile up	pati-rauf-a- or pati-rauf-aya-	raub
warðůdz-	de-pit (an apricot)	pati-rauf-a or pati-rayf-aya	daug
tardůš-	bring up; educate		taux
angůx-	entangle	han-kauk-a/-aya	kauk, causative of anxaxc-

sikůx-	rid; release		taus-
CIC			
parwedz-	sift	pari-waič-a-/-aya-	waik
pireǯ-	pour; sprinkle		raik
reθ-	rub; polish		raid
teb-	cut	taip/b-aya or taip/b-a	taip
tew-	stir; mix		taiw
weð-	put; lay	waid-a or waid-aya-	waid
wireǯ	cut off		raiš
ǯeb-	beat	xšaip-a/-aya-	xšaip/b
žeb-	spin (syarn)		gaib

Apparently, we should pay attention to the fact that practically all verbs with a full-grade diphthong in the stem have a transitive meaning. We can assume that either a full-grade diphthong marked Class 30, or else the vowels -*ů*- and -*e*- were later reinterpreted as having a causative meaning.

———p. 45———

The verb *wižeb-* 'return' needs to be explained separately. This verb has an alternative present stem *wižemb-*, which can be considered confirmation that -*e*-vocalization is recognized (by speakers) as a marker of transitive verbs. The infix -*m*- has appeared via analogy with verbs of the *biðemb-* type.

Additionally, a number of verbs later restructured their vocalization in Shughni by analogy with verbs that have -*au*- > -*ů*- in their stems, as in the following:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
andůdz-	make get up	han-tač-aya	*√tak
růdz-	make up (eyes, eyebrows, etc.)		
lův-	say		
tůx-	emit smoke		tap

The following verbs with unclear etymology also likely belong to this group: *biẙdz-* 'smash the head of an animal'; *cův-* 'pull out'; *pičirůx-* 'reprimand'.

The Old Iranian type of formation for causatives – via the suffix *-aya-* – changed later on into a stem-internal reflex. Now, (in)transitivity is marked via vowel alternations. On the one hand, transitive and present stems are marked with the root vowel *-ê-* (via analogy with ancient Iranian Class 30). On the other, intransitive verbs can have a variety of different origins with respect to their present stems (e.g. Class 2, 3, 14, 26, 27). Hence, the root vowel of the intransitive counterpart can be represented as the vowels *i, a, o*, etc. Thus, there are often secondary formations of causatives from intransitive stems, as in:

Intr. Pres. stem	Gloss	Tr. Pres. stem	Gloss
ricīθ-	flee >	*ricêθ-*	make flee
parwarθ-	slide off a float device	*parwêrθ-*	collide two float devices
ziban-	jump	*ziben-*	make jump

Formations of this kind appear to be rather late. Additionally, it is likely that modern Shughni vowels *ů* and *e*, which continue full-diphthong-vocalization, are recognized (among speakers) as markers of transitive or causative verbs. This creates condition for the formation of a new type of transitive (causative) verb, which are discussed below.

10. In addition to the previous type of causative in Shughni, a new type of causative formation came about with the secondary suffix *-en* (Karamshoev 1963: 165-167). For example:

raẙdzen-	'make shiver, shake'	< *rāẙdz-*	'shiver; shake'
šanden-	'make laugh'	< *šānd-*	'laugh'
paxcen-	'cause to suffer, be ill'	< *pāxc-*	'suffer; be ill'
riwoysen-	'to kill with hunger'	< *riwoys-*	'to be hungry'

The causative suffix *-en* is generally thought to be a borrowing from Tajik. However, in addition to the influence of Tajik, in the Shughni-Rushani group there were additional, intralingual pre-conditions for the formation of the causative suffix *-en* (Sokolova 1973: 157-).

The suffix -*en* likely arose in connection with the loss of causative meaning in the class of verbs which continue **-aya*, whose fundamental marker was the stem vowel *ê*. This is precisely the type of vowel used in the new type of causative suffix. The phonetic discrepancy between *ê* and *e* is explained by the regular transition of *ê* to *e* before a nasal. In other words, the vowel of the causative suffix reflects that of old causative verbs and therefore uses the same phonetic marker for causatives.

The following are examples in which the new causative suffix -*en* attaches to present stems which have the old PIE suffixes **-sa*, **-ya*, etc:

Tr. Pres. stem	Gloss	Intr. Pres. stem	Gloss
riwoysen-	starve (tr.)	*riwoys- (riwêyd)*	make flee
raysen-	leave (something)	*ris- (red)*	stay
biǧaysen-	make swollen	*biǧis- (biǧed)*	swell
nawen-	make cry	*nāw-*	cry
andidzen-	make get up	*andidz-*	get up

In a few cases, from a single intransitive verb we find two causative counterparts – one formed with the stem vowel *ê* and the other with the suffix -*en* added to the intransitive stem. Examples include the following:

Intr. Pres stem	Gloss	Old causative	New causative
ðak-	lick	*ðêk-*	*ðaken-*
rāv-	suckle	*rêv-*	*raven-*

For a full list of causative stems in -*en*, see Appendix B.

The appearance in recent times of a class of transitive and sometimes causative verbs marked with marked with the suffix -*ůn* leads us to believe that there is a new type of causative formation inspired, on the one hand, by the full-grade dipthong-type *aw > ů*, and on the other, by the borrowed Tajik causative suffix -*on > -ůn*. Verbs of this type include the following:

čarůn-   pasture; shepherd
čakkůn-   drip
xovůn-   knock down
tiltůn-   torment

11. In addition to the addition of the variety of affixes discussed above, during various periods of the history of Shughni – beginning with Proto-Indo-European and ending with Proto-Shughni – verb stems could be formed via reduplication. Verbs which were formed via reduplication include the following:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
ðāð-	give; hit	**da-dā*	**√dā*
parðāð-	sell	**pari-da-dā*	**√dā*
dives- (divixt)	to appear (to show?)	**di-ðes-*, with dissimilation, cf. similar dissimilation in the pairs: *ðidīrm/vidīrm* 'broom' *ðêy̆dzn/vêy̆dzn* 'birch	**√dais*
rarð-	dig	**ra-ṛd* or **ra-rud-*	
rīy̆dz- / rāy̆dz-	shake	**rarz-* or *ra-riz*	
tidarð-	fight; scuffle	**ti-taṛ/rd*	

The following verbs with y̆ in their stems likely also belong to the reduplicated class. Here, the idea is that the sound y̆ likely is from **š* in a position before **i*. The sound **š*, in its turn, is likely from PIE **-s*:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
ay̆as-/ay̆īs	lie (лежать)	**ā-hi-šak-sa*	
ay̆ān-	cover		
biy̆en-	shake		
zêz-	take		

12. In modern Shughni, another type of stem is that of new formations. In particular, verbs may arise from Tajik borrowings or from Arabic borrowings via Tajik. The following are examples:

bardor-   fling oneself? rush?
daryov-   touch (a holy *object*)
dawům-   continue
di-   drive; chase
fām-   know; understand
for-   want (lit. be desired) – cf. Tajik *foridan* 'to please'
ǰumb-   shake
lāxc-   limp
mol-   rub
nol-   groan
qilāp-   search
qīw-   call
rāxs-   dance
sipor-   entrust
tilāb-   ask for

Some of these stems have ben contaminated with native stems of their type:

boz- (bêǎt)   play
gārð- (gaǎt)   turn around

In this work, I have specifically identified onomatopoeic verbs which are practically undescribed in the literature on Pamir languages. Only Karamshoev's work on grammatical gender has a short section on such words, in which he lists around 40 such verbs. A special characteristic of this type of verbs is that they are all derived from present stems.

However, some old onomatopoeic verbs (some of whose present stems are examined in their relevant sections of this work), some of which can apparently be traced back to Proto-Indo-European, have developed past stems in their own particular ways, for instance:

rāy̌dz- (rīy̌dzd)   shake   PIE *leiĝ*
ðāk- (ðikt)   lick   PIE *lak*
vām- (vīmt)   jingle (from cold)
y̌ās (y̌īst)   ''

The following verbs, all of which mean 'to shine' do not have an original past stem, but they nevertheless can be traced back to the old Indo-European root *(s)pal:

ǎipal-
pal-
žiwal-

It is possible the following verbs also can be traced back to an old root:

māw-   to meow
tag-; *tug-*   to knock

In sum, we can say that in Shughni, the reflexes of a variety of types of Proto-Iranian present stems have been preserved, and that additionally there are a number of new formations.

Although it is often difficult to pinpoint the class of a specific verb, as a rule, it is possible to identify its general type. Thus, the reflexes of the following types of verbs have been preserved in Shughni: simple thematic (Classes 2 and 3 – possibly also athematic verbs in Class 1); verbs with the suffix *-s, *-sa (Classes 14 and 15); verbs with the suffix *-n- (Classes 8, 9, 10, 11 and possibly also 12 and 13); verbs with the suffixes *-ya- (Classes 26 and 27) and *-aya (Class 30); as well as reduplicated verbs (Classes 5-7). The numeration of the classes is done in line with that of Bartolome; see Table 1.1.

It should be noted that in certain types of Shughni verb stems, we can see different types of reflexes for the same Old Iranian vowels, even within the same modern phonetic environment and in the same positions in earlier linguistic eras (i.e. in instances where there is a lack of deviations due to *a-* and *i*-umlaut positions). This leads us to posit the consistent reflex of the accentual structure of Old Iranian stems – see e.g. the difference between Classes 2 and 3. Comparison with Old Iranian and Sanskrit materials (see Bartolome's conceptualization of the accentual system) confirms the reflex in Shughni of the ancient flexible stress (at least in the verbal paradigm) – see the analogous phenomenon in Ormuri and Sogdian (sources).

But in many cases there is a process whereby certain present stems are re-structured via analogy with another verb which continues various types of ancient stems. It appears that we can consider the following verbal derivational means productive almost up until the present time: stems in *-s, -c* and also stems in *-ê-*. The first two are the result of the generalization of *-*sa* as a marker of intransitivity. The latter is a marker of transitive verbs and is built on the reflexes of lengthened grade *i*-umlaut stems – i.e. via analogy with stems in *-*aya-*.

Shughni has also developed a new modern type of causative stem in *-*en* and -*ůn*, which essentially constitute Shughnified borrowings. New onomatopoeic stems are also actively produced. And although the verbal lexicon is largely made up of complex verbs, stem formation in fact continues to be productive.

Chapter 2: Past, Perfect, Pluperfect, and Infinitive Stems

1. Past-tense stems (which are taken here to include for Shughni *past, perfect,* and *pluperfect* stems), as is well known, in many Iranian languages including Shughni have an ultimately nominal (adjectival) origin (Rastorgueva 1975: 112-). With respect to the genetic correspondence of stems, we can identify the following: (i) **past-tense stems**; (ii) **perfect stems**; (iii) **pluperfect stems**, and (iv) **infinitive stems**, which stand apart from the rest.

2. Past stems in Shughni are either the reflexes of Proto-Iranian past or perfect participles in *-ta*, which later became generalized as past stems, or else they are new formations based on these. A few types of past stems can be distinguished which differ from one another historically:

Type 1: those which continue, in one way or another, verbal nouns:

a. the oldest past stems going back to participles in *ta*, which were formed from the root;

b. later formations which go back to the infinitive stem or were re-structured based on its type (the reason for the appearance of such a type of stem was the contamination of past-tense stems and infinitive stems, which started early on).

Type 2: Relatively later formations:

a. early Shughni secondary stems formed from present stems or restructured based on their type

b. stems which were formed at the modern stage of language development.

The first group of stems – Group (1a) – goes back to historical past or perfect participles, which were generally formed from the zero-grade root together with the suffix *ta*. These, in turn, can be divided into a few groups based on the type of vocalization in the stem: zero, full, or lengthened. As a rule, past stems from participles or roots with a syllabic sonorant component reflect a zero-grade root, while past stems from participles of a root with *a* reflect a root in the full grade – or more rarely, in the lengthened grade.

The following are past stems with a root sonorant, which reflect zero-grade vocalization of the root vowel:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
CI			
ci- (cid)	press; squeeze	*dri-ta; In this verb, we are likely dealing with the re-structuring of a past stem via analogy with the *ai̯-type, or else contamination of two roots *drai and *drau̯, as in the majority of Iranian languages the PIE root *dr is widely used with the traditional extender *eu – cf. Tajik *daravidan* 'reap; mow cut'	√dri
piðin- (piðid)	catch fire		
wix̌i- (wix̌id)	unlock		
widzin- (widzid)	remove; take away		
CIC			
dives- (divix̌t)	show (oneself)		
mez- (mix̌t)	urinate		
raz- (rix̌t)	fall (be poured?)	*riš-ta; it is possible that we have contamination of the roots *raik* and *raz*, as the modern stem reflects, on the one hand, sonorant-like vocalization of the root, and on the other a final root consonant *s or *z	*√raik

There is a group of verbs in which the root vowel is reflected as Shughni *ī*. The length can be explained both by the later lengthening before *n, v*, as well as by contamination with nominal forms in *ti*, whose continuation are modern Shughni infinitives. These include the following:

Sh. Pres. Stem	Gloss	Reconstructed stem	Root
win- (wīnt)	see	*win-ta-	√wain; PIE *u̯aid-na-
wižafc- (wižīvd)	return		
žeb (žīvd)	spin (yarn)		
x̌eb (x̌īvd)	beat		

The following are past stems ending in a single consonant (i.e. *t/d*?) from roots of the type CU:

Pres. stem	Past stem	Gloss	Stem	Root
birāw-	***birud***	stop suckling	upa-ru-ta-	√raw
pi-	***pud***	sew? rot?	*pu-ta-	√paw
parðêw-	***parðud***	grimace	pati-xšu-ta-	√pari-du-ta-
sāw-	***sut***	*go*	*č(y)u-ta-	√čyaw
vi-	***vud***	be	*bu-ta-	*√baw
warðāw-	***warðud***	dangle?	*-du-ta-	√daw
wizāw-	***wizud***	go out (of fire)	*awi-zu-ta-	zaw
šin-	***šud***	hear	*sru-ta-	√sraw
ziban-	***zibud***	jump	*us-bu-ta	baw

The following can be added here:

Pres. stem	Past stem	Gloss	Stem	Root
čêw-	***čud***	comb	*ku-ta-	kaw
pišāw-	***pišud***	calm (oneself) down	patu-ru-ta-	xaw

Here, the palatalization of the root consonants might be explained by the influence of the present stem.

In past stems ending in two consonants from roots of the type (C)UC, the vowel has a somewhat different reflex and depends on the quality of the consonant:

(1) Roots ending in *k, *g, The special characteristic of the reflex of this series of stems is that in the Shughni-Rushani group, there is palatalization of the consonant when there is a preceding front vowel – e.g. *g > γ > y, and when there is a preceding back vowel we get sonorantization to *w*: g > γ > w (see Sokolova 1967: 47, and maybe 104?). Past stems in Shughni of the *ðūyd/pinūyd/etc.* type are the late unification via the type -*yd*, as a result of which *y* consistently results in ū via lengthening -- *u > ū, and before *w*, which was preserved in the present stem and infinitive (cf. *wirīwc, wirawc, wirīwd*, etc.), *u transforms to *i*:

Pres. stem	Past stem	Gloss	Stem	Root
ðůdz-	***ðūyd***	milk	daug-ta cf. *aw > ů*	daug
warðůdz-	***warðūyd***	de-pit an apricot	dug-ta-	daug
wiðůdz-	***wiðūyd***	pinch	awi-dug-ta	daug

wirīwc-	**wirūyd**	become untwisted	awi-rug-ta-	raug
wirŭdz-	**wirūyd**	untwist		raug
kirīwc	**kirūyd**	flow out	rug-ta-	raug?
pinidz-	**pinūyd**	wear; put on	pati-muk-ta-	mauk
(2) Stems in *p, b, f				
ðŭv-	**ðūvd**	gather	dub-ta-	daub/p
rŭb-	**rūvd**	sweep (snow?)	rup-ta-	raup
wix̌kamb-	**wix̌kūvd**	take apart wool	*awi-skub-ta-	skaub

In the three last cases we see the lengthening of the reflex of *u (u> ū) before v (?)

x̌ikafc- x̌ikuft blossom   *skup-ta-*   *√skaup/f*

(3) Stems ending in *-s *(š?)*

Pres. stem	Past stem	Gloss	Stem	Root
kaɣ̌-	**kux̌t**	slaughter	*kuš-ta-	kauš
pargaɣ̌-	**pargux̌t**	drill; bore	*pari-kuš-ta-	kauš
niɣŭɣ̌-	**niɣux̌t**	listen	ni-guš-ta-	gauš
wix̌aɣ̌-	**wix̌ux̌t**	comb	awi-xšauš-ta-	xšauš
ziyŭɣ̌-	**ziyux̌t**	wither	us-huš-ta-	hauš

The following two verbs were obviously restructured via analogy with the preceding group:

Pres. stem	Past stem	Gloss	Stem	Root
viraɣ̌-	**virux̌t**	break	bruš-ta-	brauš
žiraɣ̌-	**žirux̌t**	bite	gruš-ta-	grauš

(4) Stems ending in *d

Pres. stem	Past stem	Gloss	Stem	Root
rarð-	**rux̌t**	dig; burrow	*(f)ra-ruð-ta-	rad or raud
paryand-	**paryust**	cover	*pari-gud-ta-	gaud

The following are past stems from PIE roots with the sonorant *n, which was reflected in Old Iranian languages in its syllabic form as *a or *ā -- PIE Cn̥-to > OI Ca-ta-, PIE Cn̥̄-to > OI Cā-ta-.

Pres. stem	Past stem	Gloss	Stem	Root
CN(C)				
bizīn	**bizīd**	drive (cattle)	*upa-ga-ta	gan
zīn	**zīd**	kill	*ga-ta-	gan
naχfīθ-	**naχfīd**	fall/come out	*us-fa-ta	fan
sifān	**sifīd**	go up	us-fa-ta	fan
naɣ̌jīs	**naɣ̌īd**	pass	nir-ga-ta	gam
vīnd	**vūst**	connect	bas-ta-	band
pidvīθ-	**pidvūst**	grow together	pati-bas-ta-	band

In the verb *pikin-:pikid* 'pull out', from the stem **pati-ko-ta- √kan*, in the present stem, as in the past stem, the syllabic variant of the consonant **ņ* is reflected, but not as weak diphthong **an* (as in the present stem, but as a weak vowel . . . (I don't understand this paragraph).

As a rule, the reflex of **ņ* is equal to native **a*, but in the following cases we obviously see either the secondary lengthening of the later vowel **a* (**ņ̩*) or the full grade from **ā* from PIE **ņ̄*:

Pres. stem	Past stem	Gloss	Stem	Root
yos-	**yod**	take (away)	*yā-ta-, cf. Av. *yata-, yāta-*, with a special meaning, Skt. *yāta-*	yam
zi-	**zod**	give birth	*zā-ta-, for more on the past-tense stems of this verb, see p. 85.	zan

A number of verb stems with a PIE sonorant in the root can be treated as reflecting either a zero-grade sonorant or a full grade one, as historical phonetics in this case does not provide us with a formal distinction of these two grades. It appears, however, that the root grade was most likely zero. This is verb with root **ŗ* or **i̯*.

Full grade **ar* and zero grade **ŗ* as a rule give the same result. However, with a non-palatalized reflex of certain palatalizing consonants preceding **ŗ* (i.e. **k,g,x*), we can tease apart the root grade. For example, stems with a root in the zero grade give no palatalization, as in:

šikar-: šikud **skŗ-ta-* **skar-*
nixarθ-: nixuχt **ni-kŗt-ta* **kart-*

Stems with a root in the full grade (with a palatalized initial consonant):

Pres. stem	Past stem	Gloss	Stem	Root
bixčār-	*bixčūd*	ladle; scoop	upa-skar-ta	skar
kin-	*čūd*	do	kar-ta-	kar
šarð	*šuxt*	defecate	xard-ta-	xard
xičand-	*xičuxt*	cut	skart-ta-	*skart

It is difficult to determine the original vocalization for the remaining stems, so for these both of the most likely vocalizations – zero- and full-grade – are provided:

Pres. stem	Past stem	Gloss	Stem	Root
(C)CR				
mar-	*mūd*	die	mar/ mr̥ -ta	mar
pirmir-	*pirmūd*	wither	pari-mar/ mr̥ -ta	mar
nixpar-	*nixpūd*	step on	ni-spar / ni-spr̥-ta	spar
rivir-	*rivūd*	lactate	fra-bar-ta // fra-br̥-ta	bar
vār	*vūd*	bring	bar-ta // br̥-ta	bar
yān-	*yūd*	grind	ar-ta r̥-ta	ar
xār-	*xūd*	eat		xwar
zidār-	*zidūd*	sweep	us-tar-ta // us-tr̥-ta	
CRC				
parwarθ-	*parwuxt*	slide off a float	pari-wart-ta- // pari-wr̥t-ta	wart
tarð-	*tuxt*	fight	tard-ta // tr̥d-ta	tard
tiðarð-	*tiduxt*	fight	ti-tard-ta // ti-tr̥d-ta	tard
zidarð-	*ziduxt*	tear		

The following verb has unclear etymology :

biždey̆z- : bižduxt   'stick' *√darz?

The past stem of the verb *rarð-: ruxt* 'burrow' < *(f)ra-ard-ta* or *(f)ra-r̥d-ta* from the rood *√rad* or else *(f)ra-rud-ta* from *√raud* in modern Shughni is identical to forms from roots in *rd (the cluster *rd before *t gives *x* -- Sokolova 1967: 60). This allows us to reconstruct with some certainty precisely the same root. In two verbs' past stems we get *y by association with roots in *k, g, which can be seen from parallel forms in the other languages of the group:

Pres. stem	Past stem	Gloss	Stem	Root
ðêr-	ðū(y)d	have	daɣ-ta < dar-ta or dr̥-ta, cf. forms in other languages which do not have the *y*	dar
viri-	virū(y)d	find	abi-ay-ta < abi-ar-ta or abi-r̥-ta, again cf. other languages which do not have the *y*	ar

In the following three verbs, the original root grade is unclear, as *e* can reflect not only **ai*, but also possibly the later combination of the vowel with *y* – i.e. it can reflect the cluster *i* + *y*, where *y* < **g, *k*.

Pres. stem	Past stem	Gloss	Stem	Root
(C)I(C)				
bes-	bed	disappear	apa-ai-ta or api-ai-ta-	ai
biɣis-	biɣed	get angry	api-šaik-ta- or api-šik-ta-	haik
ris-	red	stay	raik-ta or rik-ta-	raik

The following are past stems with a root **a* which have preserved the full root grade:

Pres. stem	Past stem	Gloss	Stem	Root
CAC				
Roots ending in *k, *g				
aỹas-	aỹūyd	lie down	ā-šak-ta-	hak
andidz-	andūyd	get up	han-tak-ta-	tak
kidoys	kidūyd	flow out		tak
nax̌ti-	nax̌tūyd	go out	niš-tak-ta-	tak
ti	tūyd	leave; walk	tak-ta-	tak
vidêdz-	vidūyd	sprinkle; irrigate	abi-tak-ta	tak
x̌ipirêdz-	x̌ipirūyd	cleave	abi-tak-ta	sprag

We can apparently also add the following verbs to this group:

ribi-: ribūyd 'put' from **fra-pak-ta- *√pak*, possibly contamination with the roots **√par, pak, raik*

Roots ending in *p, *b:

Pres. stem	Past stem	Gloss	Stem	Root
ancāv-	*ancūvd*	sew	han-drab-ta	drap/b
anǰāv	*anǰūvd*	grab	han-kab-ta-	kap/b
anǰafc-	*anǰūvd*	begin (intr.)		
parǰīv-	*parǰūvd*	take away	pari-gab-ta-	kap/b
biðafc-	*biðūvd*	close	up-dab-ta-	dab, damb
niðafc-	*niðūvd*	stick	ni-dab-ta-	
piðafc-	*piðūvd*	stick (begin?)	pati-dab-ta-	
cirafc-	*cirūvd*	burn; hurt	us-rap-ta-	rap/f
nixciramb-	*nixcirūvd*	pinch	niš-us-rap-ta-	rap/f
sitafs-	*sitūvd*	fry (intr.)	us-tab-ta-	tap
wirāfc-	*wirūvd*	stand	awi-rab-ta-	rab

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Roots ending in **s, z*

Pres. stem	Past stem	Gloss	Stem	Root
čis-	*čūxt*	see	kas-ta-	kas
rinês-	*rinūxt*	forget	fra-nas-ta-	nas
arraz-	*arruxt*	go up	fra-ras-ta-	raz
riwāz-	*riwuxt*	fly away	fra-waš-ta-	waz

Roots ending in **d*

Pres. stem	Past stem	Gloss	Stem	Root
ambīθ-	*ambūst*	collapse	ham-pad-ta-	pad
kirand-	*kirūst*	scrape	krad-ta-	krad
niθ-	*nūst*	sit	ni-had-ta-	had
piriθ-	*pirūst*	tear	pati-rad-ta-	rad
ricīθ-	*ricūst*	flee	frat-rad-ta-	rad

We can also add the following verb to these which has a root in *h:

xay-: xūst   thresh; beat   *xwas-ta-   √xwah

A group of verbs with the stem vowel *ā show full-grade vocalization in their past tense stem, which, being the reflex of *ā, is formally identical to the lengthened grade vocalization of verbs with a root *a:

Pres. stem	Past stem	Gloss	Stem	Root
ðāð-	ðod	give	*dā-ta	dā
parðāð-	parðod	sell	pari-dā-ta-	dā
ði-	ðod	fall	dā-ta-	dā-
di-	ðod	beat	*da-ta-	dā
rimi-	rimod	command	fra-mā-ta-	mā(y)
x̌ici-	x̌icod	freeze	strā-ta-	strā
zini-	zinod	wash	snā-ta-	snā(y)

There are only a few verbs which reflect the vowel *a in its lengthened root grade. Basically, these are verbs with lengthened grade vocalization in the present stems, and which already in the ancient languages were united by the category of transitivity as a single semantic marker. The use of different types of stems (with the relevant root vowel vocalization) to distinguish (in)transitivity, which was already taking place in the ancient languages (Sokolova 1973: 68), was not developed in Proto-Shughni. However, the past-stem vocalization in certain cases does not repeat (i.e. is different from?) that of the present stem, as it is not *i*-umlaut vocalization, but apparently was formed at the time of lengthening of the root vowel, which was obviously at some point in time a formal marker of the verb's transitivity; for example:

Pres. stem	Past stem	Gloss	Stem	Root
birêz-	birox̌t	drink	upari-āš-ta-	az
wirêz-	wirox̌t	build	awi-rāš-ta-	raz
zêz-	zox̌t	take	zāš-ta-	zaz, haz
ziwêð-	ziwost	take out	us-wād-ta-	

V.S. Sokolova (1973: 118) believes that these cases reflect the first step in the leveling of these stems via strong vocalization before the splitting off of the variants of the phoneme ö into individual vowels.

Particularly interesting in this regard are verbs with the lengthening of their root vowel in their past stems, which directly continue the vowel grade of their present stems:

aboz- abox̌t swallow   *apa-āš-ta-   az   (abêx̌tow)
boz-   box̌t   send   (bêx̌tow)

. . .

In this group we can also look at the following verb which expresses a state of a living being with an intransitive meaning, but which nonetheless behaves as a transitive type with respect to its conjugation in the past tense and which also has a lengthened grade stem vowel:

x̌ofc-: x̌ovd   sleep   *xwāp-ta-   xwap

We can also add the following verbs here:

yos-   *yod*   take   yam
zi-   *zod*   give birth to   zan

These verbs are characteristic for their continuation of *ā from zero-grade **n̥*. In their modern reflex they coincide with verbs which contain the reflex of *a in its lengthened grade – see p. 57. These verbs are transitive.

It should be noted that the lengthened grade of the root vowel did not become a general marker of transitive verbs in the past stems in Shughni. Certain verbs which constitute transitive/intransitive pairs , and which have distinct present stems, share a single past stem for both the transitive and the intransitive variant:

	PRS.	PST.	GLOSS	ROOT
Tr.	wiruz-	wirūyd	untwine	raug
Intr.	wirīwc-	wirūyd	become untwined	
Tr.	kidêz-	kidūyd	pour out	tak
Intr.	kidoys-	kidūyd	be poured out; flow out	
Tr.	anǰāv-	anǰūvd	grab	kap
Intr.	anǰafc-	anǰūvd	begin	
Tr.	piðin-	piðid	ignite	dai
Intr.	piðis-	piðid	ignite	
Tr.	wižeb-	wižīvd	return	gaib
Intr.	wižafc-	wižīvd	return	
Tr.	wizêw-	wizud	put out (fire)	zaw
Intr.	wizāw-	wizud	go out (fire)	
Tr.	birêw-	birud	make stop suckling	raw
Intr.	birāw-	birud	stop suckling	

Tr.	*θêw-*	*θud*	burn (tr.)	θaw
Intr.	*θāw-*	*θud*	burn (intr.)	
Tr.	*ziderð-*	*zidux̌t*	tear (tr.)	tard
Intr.	*zidarð-*	*zidux̌t*	tear (intr.)	
Tr.	*pīdz-*	*pêxt*	cook (tr.)	pak
Intr.	*pis-*	*pêxt*	cook (intr.)	
Tr.	*ðāð-*	*ðod*	throw; hit	dā
Intr.	*ði-*	*ðod*	throw (oneself)	

Certain verbs in Shughni don't have separate present stems for their intransitive/transitive forms, but see the Rushani/Bajuwi counterparts:

Pres. stem	Past stem	Gloss	Stem	Root
viraẙ-	*virux̌t*	break		cf. Bj. tr. *virand-*
žiraẙ-	*žirux̌t*	bite		cf. Bj. tr. *žirand-*

In this section on past stems which continue participles in **ta*, it is worth mentioning verbs which are difficult to trace etymologically, as they supposedly have several likely etymologies. Moreover, the verb *deð-: ded* 'enter' for instance, is apparently suppletive. The past stem could come from the roots **ati-ga-ta-, √gam* . . . The root **√yad* is likely to be used to form the present stem (see p. 60).

In the verb *yad: yat* 'come', the root, it would seem, comes from the root **√yad*, but in this case the reflex of the root vowel in the past stem would be rather uncommon, as **a* before a single consonant in neutral position should result in *ī*, or before two consonants in *ū*.

Additionally, in these verbs one can posit a secondary formation in the past and perfect setms as well.

The (chronologically?) next group of past stems which goes back to deverbal nouns in **ti,* or else ? arose via a rather early contamination of past stems with infinitive stems. This was able to happen at a time when transitive verbs had already stopped inflecting for gender and number, and had an uninflecting stem (see Intro), which could have been replaced by another. This would have been unlikely to take place if the categories of gender and number were still expressed on transitive past stems. The point of view that transitive verbs were always uninflecting would suggest a shift in the time period of contamination into the depths of the

centuries. If the uninflecting hypothesis is correct, then past stems would have undergone contamination with infinitives at a very early stage.

Contaminated stems became fixed for the long haul in the Shughni verbal system. In their morphology, it seems that these verbs do not have any special meaning besides that typically ascribed to the past stems of other verbs. However, obviously as a part of formations adapted to them later via analogy with ancient types of contaminated stems. These stems, like those examined before, can be divided into various groups depending on their root vowel grade and type of root. V.S. Sokolova, in her material on Munji, points to the use by intransitive verbs in the formation of past stems, not of participles in *ta, but of deverbal nouns in *ti, as voice-neutral, as in Munji i-umlaut vocalization was preserved in old past stems mainly of intransitive verbs, and also of verbs which express involuntary actions such as crying and laughing (Sokolova 1973: 100). In Shughni, as can be seen from the examples, the majority of verbs here also have intransitive meanings. An exception are verbs with a root of the CAC type, where a part are transitive.

Past stems which reflect null grade vocalization of the root vowel are mostly stems from roots with the sonorants *u̯, *r̥. In these verbs, a restructuring takes place via analogy with the infinitive type. Modern reliable examples are lacking, but supposedly with the normal reflexes of *u, ū in i-umlaut position before two consonants, we get short i, which is also found in stems with a root in *u, ū:

Pres. stem	Past stem	Gloss	Stem	Root
angaxc-	*angixt*	get stuck; pierce	han-kux-ti	kauk
kafc-	*kift*	stuck into; pierce	kub-ti	kaub

Here, we can likely add the following verbs which do not yet have reliable etymology:

Pres. stem	Past stem	Gloss	Stem	Root
sikaxc-	*sikixt*	survive		
sakc-	*sikt*	shake; flinch		

In stems with the sonorant *r̥ before -z we get the relatively late spirantization of *r to γ̌. The vowel in i-umlaut position in this case results, as it does when r is preserved, in long ī. The root vowel grade is not fully clear, but it is likely to be either full grade or zero grade.

Pres. stem	Past stem	Gloss	Stem	Root
rāγ̌dz-	*rīγ̌dzd*	shake	rarz-ti-	*rarz,* PIE *leig
wārv-	*wīrvd*	boil	warb-ti	*warb,* PIE *bhereu-*

Stems which preserved the full vowel grade. In these stems, we can tell that they are later formations in some cases (roots ending in *r, * b, *f) by the fact that we don't have changing stem-final consonants. That is, we would expect these consonants before *t to result in vd, but here we don't get that result:

Pres. stem	Past stem	Gloss	Stem	Root
(C)AC				
bāf-	bīft	be able to	*upa-af-ti	ap/af
firāp-	firīpt	reach; arrive	fra-ap-ti	ap
wāz-	wīx̌t	swim	waš-ti-	waz
rāv-	rīvd	suck	rab-ti-	rab
θāp-	θīpt	eat (sthg. loose?)	θap-ti-	θap
sipāf-	sipīft	suck	us-paf-ti	paf
wāf-	wīft	weave	waf-ti-	waf
x̌ičāf-	x̌ičīft	burst	škaf-ti-	(š)kaf/p

Obviously, to this group we can add the following verb with unclear etymology:

širāp-:širīpt 'wander?; be in full swing?'

Pres. stem	Past stem	Gloss	Stem	Root
CU				
nāw-	nīwd	cry	naw-ti-	naw
CN(C)				
čān-	čīnt	dig	kan-ti-	kan
šand-	šīnt	laugh	xand-ti-	xand

In the three final examples, we can also posit *a as the original vowel, as the final sonorant *u̯ or *n̥ is preserved in the form of a consonant in all forms in modern Shughni.

A group of verbs with long *ā in the stem can also belong to the group of verbs with a root vowel in the full grade:

Pres. stem	Past stem	Gloss	Stem	Root
CĀ(C)				
zinoys-	zinêyd	slip; fall		snā(y)
x̌oy-	x̌êyd	read		srā(y)

riwoys	***riwêyd***	starve; go hungry		*wā(y)*
poy-	***pêyd***	shepherd; graze		*pā(y)*
nimoy-	***nimêyd***	be visible		*mā(y)*
di-	***dêt***	drive?		*dā*

Stems which reflect lengthened grade vocalization of the root vowel. In this group of examples, past stems preserve the reflex of *i*-umlaut, while present stems reflect a root vowel **a* in the lengthened grade (see pp. 61-62):

Pres. stem	Past stem	Gloss	Stem	Root
CAC				
boz-	***bêšt***	play	āš-ti-	*az*
wox̌	***wêšt***	fall	wāš-ti-	*waz*
žoz-	***žêšt***	run	gaš-ti-	*gaz*
CN				
wizůn-	***wizent***	know	awi-zān-ti-	*zan*
CRC				
noy̌-	***nêy̌d***	wander	nārz-ti-	*narz*

There is only one verb in this group with i-umlaut reflex also in its present stem:

nixêrθ-, nixêx̌- : nixêšt   destroy   kart-ti   √kart

However, the past stem here might just be a copy of the present-stem vocalization.

The next type of formation constitutes early Shughni secondary past stems, frequently formed from present stems or in a way that resembles them, often with their own special development. For instance, the verbs: *pis: pêxt* 'cook (intr.)' and *pīdz-:pêxt* 'cook (tr.)'. The past stem of these verbs goes back to the root *√pak but not to the participle *pakta, as would be expected, but rather to *pax^wa < *paxwa*, cf. Skt. *pakva-*, with the later addition of *-t*. On this verb, see Sokolova 1973: 140. See also the verb *niwoz-: niwêzd* 'to play a musical instrument'. The past stem of this verb comes from **wāk- + ti,*. Here, it is probable that *z* came later from the present stemand that we have a late stem vowel change; however, it is not excluded that the present stem is an early Tajik borrowing; cf. Ru. *niwōz-: niwix̌t*.

The following verbs are reflected in a similar way. In these verbs, the final *z* is a secondary formation from present stems:

Pres. stem	Past stem	Gloss	Stem	Root
wiz-	***wizd***	place; position	**wiz-ta-* or **wiz-ti-*	*waik*
moz	***mīzd***	build	**maz-ti-*	*maz*, cf. PIE **mag*
tāž-	***tīžd***	pull	taž- + ti	*tag,* PIE *tengh-*

It is not always possible to distinguish past stems which have been formed at the modern stage and the previously discussed early Shughni secondary formations, which frequently do not have a reliable etymology, and for this reason they will henceforth be examined together. Presumably, the means of forming past stems from present stems was already productive at the Proto-Shughni stage. This means of formation boils down to the quite early addition of the past-stem marker *-t/-d- < *-ta-*, sometimes with a purely phonetic change to the end of the root, as in the following:

ci-: cid   'harvest'
anafc-:anafst   'be found'
teb-; tept   cut
čemb-: čem(b)   desire
x̌āð-:x̌āðd   melt (of butter)

A full list is found in Appendix 2.

In this section, we will look at causatives, onomatopoeic verbs, and borrowed verbs, which are the most characteristic for this type. The means of formation in question are productive for past stems even at the present time.

Among the vast group of causative verbs, we can identify old and new formations. The former, as is well known, are the reflexes of stems with **aya-*, where the vowel is the regular reflex of lengthened-grade **ā* in *i*-umlaut position: i.e. *ê* (or *e* before a nasal), The second type – i.e. new formations – are formed via the addition of the suffix *-en* or *-ůn* to the unmarked stem (see p. 46-48), for instance:

nix̌êb-: nix̌êpt   'put to sleep'
ðêk-: ðêkt   'make lick'
picêr-: picêrt   'mix (food)'
têx-: têxt   'shave; hew'
andidzen-:andidzent 'make get up'
naraysen-:naraysent 'put an end to'
xamben-: xambent   lower (tr.)
etc.

Onomatopoeic verbs are also formed, as a rule, by adding the par-tense marker to the present stem, as in the following:

čak-: čakt   'drip'
furx-:furxt   'snort'
fus-:fust   'wheeze'
zir-:zirt   'chirp'
etc.

In addition, the past stems of late borrowings are formed in a similar way, as in:

bardor-:bardort   'tackle (a job)'
čarůn-:čarůnt   'make shepherd?'
lův-:lůvd?   speak???

Presumably, at the initial stage, perfect stems were secondary participles in *-ta-ka-*. Later, perfect stems are formed via analogy with those formed with *-ta-ka-*, and in Shughni there is a unification which takes place whereby the vocalization in perfect stems takes on that in past stems. In this section, we look at both old and new perfect formations, as it is not always possible to tell the two apart. In places where we can be sure of the difference, this is specified. Let's first look at perfect stems which correspond to past stems which were not restructured via analogy with present or infinitive stems, i.e. those which can be viewed as original.

Perfect stems which have preserved a zero grade root vowel (examples are given in the following order: present, past, perfect):

CI
ci: cid: ciðǰ   harvest   √drai
piðin-: piðid: piðiðǰ   ignite   dai
wiǩi-: wiǩid: wiǩiðǰ   unlock   srai
wizin-: wizid: wiziðǰ   take away   kai

CIC
dives-: diviǩt: diviǩč   show; seem   dais
mez-: miǩt: miǩč   urinate   maiz
raz-: riǩt: riǩč   fall; be poured raik or ras/z
wiz-:wizd:wizǰ   fit; be placed waik

In the following group of perfect stems, the root vowel follows the past stem vowel in being reflected as *ī*:

win-: wīnt: wīnč   see   wain
wižafc-: wižīvd: wižīvǰ   return   gaib
žeb-: žīvd: žīvǰ   spin (yarn)   gaib
ǩeb-: ǩīvd: ǩīvǰ   beat   ǩšaip

In the formation of perfect stems with roots of the type *√baw, *u* is preserved as it is in past stems. This is only the case for Shughni proper. In Bajuwi, for this type of root we get *ū* in the past stem:

CU
birāw-: birud: biruðǰ (cf. Bj. *birūðǰ*)   stop suckling   raw
parðew-: parðud: parðuðǰ   grimace   daw
pix̌êw-: pix̌ud: pix̌uðǰ   shear wool   xšaw
sāw-: sut: suðǰ (cf. Bj. *sūðǰ*)   go   čyaw
vi-: vud: vuðǰ (cf. Bj. *vūðǰ*)   be

The following verbs behave in the same way:

θāw-: θud: θuðǰ   burn   θaw
sirāw: sirud: sirud   separate   raw
warðāw-:warðud: warðuðǰ   chatter   daw
wizāw-:wizud: wizuðǰ   go out (of a fire)   zaw
x̌in-:x̌ud: x̌uðǰ   hear   sraw
ziban-:zibud: zibuðǰ   jump   baw
pišāw-:pišud: pišuðǰ   console oneself   xaw

(C)CUC
Roots ending in *k, g*:
ðůdz-: ðūyd: ðūyǰ   milk   daug
warðůdz-:warðūyd:warðūyǰ   de-pit (an apricot)   daug
wiðůdz-:wiðūyd: wiðūyǰ   pluck; clean   daug
kirīwc-:kirūyd: kirūyǰ   flow out   raug?
wirīwc-:wirūyd:wirūyǰ   untwine   raug
pinidz-:pinūyd:pinūyǰ   put on   mauk

Roots ending in *p, b*:
ðův-:ðūvd: ðūvǰ   gather   daub
růb-:rūvd: rūvǰ   sweep (snow?)raub
wix̌kamb-:wix̌ūvd:wix̌kūvǰ   take apart wool with one's hands (skaub)
x̌ikafc-: x̌ikuft: x̌ikufč   blossom   skaup

Roots ending in *s*
kaẙ-:kux̌t:kux̌č   slaughter   kauš
pargaẙ-:pargux̌t:pargux̌č   drill   kauš
niɣůẙ:niɣux̌t: niɣux̌č   hear   gauš
wix̌aẙ-:wix̌ux̌t:wix̌ux̌č   comb (oneself)   xšauš
ziyůẙ-:ziyux̌t:ziyux̌č   wither; shrivel

The following two stems, presumably, were restructured just like their past stems via analogy with the preceding verbs:

viraɣ̌-:viruẋt:viruẋč	break	brauš
žiraɣ̌-:žiruẋt:žiruẋč	bite	grauš

Roots ending in *d

rarð-:ruẋt:ruẋč	burrow	raud or rad
parɣand-: parɣust: parɣusč	cover	gaud

CNC

The following verbs are from roots with the PIE sonorant *ṇ, which is reflected in Proto-Iranian in its zero grade as *a:

vīnd: vūst: vūsč	connect; bind	band
pidvīθ-:pidvūst: pidvūsč	grow together	band

Next is a group of verbs with Indo-European sonorants *ṛ or *i̯ in the root. The root vowel grade, as a rule, is impossible to determine, as was the case with the past stems, as roots with the sonorant *ṛ give the same result whether it is in the null or the zero grade. Here, too, we can only determine the original vocalization indirectly with the help of the initial root consonants *k, *g. These undergo palatalization before *a (see p. 58).

The following are perfect stems with a root in the zero grade (i.e. without palatalization of the initial consonant):

ẋikar-:ẋikūd:ẋikūvǰ	look for	skar
kin-:čūd:čūɣ̌ǰ	do	kar
šarð-:šuẋt:šuẋč	defecate	xard
ẋičand-:ẋičuẋt:ẋičuẋč	cut	skart

It is quite difficult to determine the original vocalization of the rest of the perfect stems, as well as for their past stems (see p. 59). The two most likely vocalizations are zero and full:

(C)CR

mar: mūd: mūɣ̌ǰ	die	mar
pirmir-:pirmūd:pirmūɣ̌ǰ	wither	mar
niẋpar-:niẋpūd:niẋpūɣ̌ǰ	step on	spar
rivir-: rivūd:rivū(ɣ̌)ǰ	give milk	bar
vār-:vūd:vūɣ̌ǰ	bring	bar

The following verbs behave in the same way:

yān-: yūd: yūy̌ǰ	grind	ar
xār-: xūd: xūy̌ǰ	eat	xwar
zidār-:zidūd:zidūy̌ǰ	sweep	tar

CRC
parwarθ-:parwux̌t:parwux̌č	slip off a float	warθ
tarð-:tux̌t:tux̌č	fight	tard
tidarð-:tidux̌t:tidux̌č	fight	tard
zidarð-:zidux̌t:zidux̌č	tear	tard

And the following verb with unclear etymology:

biždey̌dz-:biždux̌t:biždux̌č	stick (to)	darz?

(From p. 74–95, just notes on what I think is important)

p. 75: There is a group of verbs whose perfect stems, if their reflexes were regular, would have an *ū* as their stem vowel. Instead, they have *ī*, as in their past stems. This is apparently the result of leveling. We would expect the vowel *ū* as the regular reflex of **a* before two consonants, which is what we have with **-ta-ka-*. We get *ī* in the past stem as the regular reflex of **a* before a single consonant (i.e. before **-ta*). These verbs apparently have their **a* from the reflex of earlier PIE **n̥* :

bizin-: bizīd: bizīðǰ	'herd cattle'	√gan
zīn-: zīd: zīðǰ	kill	gan
nay̌jīs-:nay̌jīd:nay̌jīðǰ	pass	gam
nax̌fīθ-:nax̌fīd:nax̌fīðǰ	fall out	fan and pat
sifān-:sifīd: sifīðǰ	rise; go up	fan and pat

p. 76: The most regular way of forming perfect stems is via the past stem, exchanging the past *t/d* for *č/ǰ*. This is how most causative verbs, as well as onomatopoeic verbs and borrowed verbs have their perfect stems formed.

The pluperfect stem is the perfect stem with the suffix *-at*, which Sokolova (1967:38) traces back to a shortened version of the auxiliary verb *vud*. Bartangi and Roshorvi still (or now) form their pluperfect with the full auxiliary *vud/vad*.

p. 77 is primarily about gender. There are potentially some new/interesting points made here, but most of it seems to be already known.

p. 84 is where the section on infinitive stems starts. "Infinitive stems in Shughni are the continuation of Old Iranian types of verbal nouns with the suffix *ti < *taị. In Avestan, these nouns are used in oblique cases in a function similar to that of an infinitive (some examples are given here of these nouns in the dative case).

From the ancient from with *ti, the modern form has preserved the consonant *t/d. Moreover, as a rule, the stem vowel has *i*-umlaut vocalization. Later formations are built on that very same type and are the result of phonetic reconstructions based on analogy with the ancient type. It is difficult, however, to tell apart later formations form earlier ones, and for this reason infinitive stems will all be examined together. They are subdivided only based on their formal properties.

In the ancient languages, forms with *ti were built on a verbal root and were essentially action nouns.

For some infinitives, we do not have the lengthening of the stem vowel:

piðin-: piðid: piðidow   ignite (tr.)
widzin-: widzid: widzidow   'choose'
ci-:cid: cidow   harvest
dives-: diviǩt : diviǩtow   show ; seem
mez-: miǩt: miǩtow   urinate
wiz-:wizd: wizdow   place; put
raz-:riǩt: riǩtow   pour out (intr.?)

p. 86

But for another group of verbs, we have the lengthening of the vowel *ī*, apparently before *v* and *n*:

win-:wīnt:wīnt   see
wižafc-:wižīvd:wižīvd   return
ǩeb-:ǩīvd:ǩīvd   beat
žeb-:žīvd: žīvd   spin (yarn)

Other verbs (without lengthening)

pi-: pid: pid   rot
pišāw-:pišud:pišid   entertain oneself
sāw:sut:sit   go; become
θāw:θud:θid   burn

vi:vud: vid	be	
wizāw-:wizud:wizid	go out (of a fire)	
xin-:xud: xid	hear	
pixêw-:pixed:pixid	cut (hair?)	
ziban-:zibud: zibid	jump	

The following verbs come from roots ending in **k, g* and appear to have a **u* or **au* in their original root/stem. For these verbs, in their infinitive stems, as in their present stems (but unlike in their past stems), the consonant *w* (< **k, g*) has been preserved. The fact that we get a stem *ī* in these verbs is explained by the transformation of **u* before *w*, with the possible later lengthening of the vowel (cf. roots of the CI, CAC type, where this is a regular process):

ðůdz-: ðūyd: ðīwd	'milk'	√daug
warðůdz-:warðūyd: warðīwd	'depit (an apricot)'	daug
wirīwc/wirāwc-:wirūyd:wirīwd	pinch	daug
kirīwc-:kirūyd:kirīwd	flow out	raug?
pinidz-:pinūyd:pinīwd	put on (clothes)	mauk

In verbs with a final **p, b*, this appears to turn into *f, v*, respectively. In the case of *v*, where we get the cluster *vd*, the result is often a lengthened vowel in the stem:

růb-: rūvd: rīvd	sweep (snow)	raub
wixkamb-:wixkūvd:wixkīvd	take apart wool	skaub
ðův-: ðūvd: ðīvd	gather	daub

Compare the following with **p*:

xikafc-: xikuft:xikift	blossom	skaup
kafc-:kift: kift	become stuck	(s)kaup

In many verbs, the combination *š* + *t* seems to result in the cluster *xt*:

kaў-: kixt: kixt	slaughter	*kuš-ti-, √kauš
pargaў-:parguxt: pargixt	drill	*pari-kuš-ti-, kauš
niɣůў-: niɣuxt: niɣixt	listen	*ni-guš-ti; √gauš
wixaў-: wixuxt: wixixt	comb	*awi-xšuš-ti, xšauš
ziyuў-: ziyuxt: ziyixt	wither	*us-huš-ti-, hauš

The following verbs are reconstructed via analogy with the preceding group:

viraў-: viruxt: virixt	break	*brušti-, brauš
žiraў-: žiruxt: žirixt	bite	*gruš-ti-, grauš

In roots where we have a stem ending in a vowel followed immediately by the suffix *ti, the result is modern Shughni stem-final *d* in the infinitive stem:

bizīn-:bizīd: bizīd	herd	*upa-ga-ti-, gan
zīn-: zīd: zīd	kill	
nay̌jīs-: nay̌jīd: nay̌jīd	pass	*nir-ga-ti, gam
nax̌fīθ-:nax̌fīd: nax̌fīd	fall/come out	*niš-fa-ti-, fan
sifān-:sifīd, sifīd	rise; go up	*us-fa-ti-, fan

It appears that when a stem ends in *d* and is followed by the consonant *t* (as in *-ta, -ti*), the result is the cluster *st*:

vīnd-:vūst:vīst	connect	*bad-ti-, √band
pidvīθ-:pidvūst:pidvīst	grow together	*pati-bad-ti, band

For roots with the sonorant *r – which can be in either full grade as *ar or zero grade as *r̥ – we can generally only tell the original grade by the preceding consonant(s). If the preceding consonant is palatalized (i.e. *k* > *č*, *x* > *š*, etc.), then we can posit that there was a vowel *a*, and hence the sonorant was in the full grade. If not, we can posit that it was in the zero grade. For instance, for the following verb *nixix̌tow* 'collapse', the original *k in the root is not palatalized to *č/š* (via *x*), and hence we can posit that the root was in the zero grade as *x/kr̥t*:

nixarθ-: nixux̌t:nixix̌t	collapse	*nir-xr̥t-ti, *√kart

In the following verbs, the palatalization of the root-initial consonant tells us that the sonorant *r must have been in the full grade and thus contained a vowel *a*:

šarð-: šux̌t: šix̌t	defecate	*xard-ti-, *√xard
x̌ičand-:x̌ičux̌t: x̌ičix̌t	cut	*skart-ti-, *√skart

Note here that the cluster *(a)rd-tV generally appears to result in the modern Shughni cluster *x̌t*.

In the following cases, which contain a non-palatalizing consonant root-initially, the original grade of the sonorant *r is unclear:

mar-:mūd:mīd	die	*mar-ti- OR mr̥-ti, √mar
pirmir-pirmūd:pirmīd	wither	*pari-mar-ti OR pari-mr̥-ti, mar
rivir-:rivud:rivid	lactate	*fra-bar-ti OR fra-br̥-ti, bar

In some verbs, the vowel *e* in the stem might have come about via the diphthong **ai* in the full grade:

bes-: bed: bed	disappear	**apa-ai-ti* or *apa-i-ti*, √ai
biȳis-: biȳed: biȳed	swell; sulk?	**api-saik-ti-*, haik
ris-: red: red:	stay	**raik-ti* OR *rik-ti*?

The following infinitive stems have preserved the full grade of the root; note here that we have in common a (masculine) root vowel *ū* in the past stem and a root vowel *ī* in the infinitive stem:

andidz-: andūyd: andīd	get up	**han-tak-ti-*, √tak
kidoys-: kidūyd:kidīd	flow out	**tak-ti*, tak
ti-:tūyd: tīd	go; walk	**tak-ti*, tak
naẋti-:naẋtūyd, naẋtīd	leave; go out	**niš-tak-ti*
vidêdz-:vidūyd: vidīd	irrigate	**abi-tak-ti-*, tak

The same vowel pattern is found in infinitive stems which have preserved the full grade of the root and which have a final **b,p*:

ancāv-:ancūvd:ancīvd	sew	**han-drab-ti*, √drab
anjāv-:anjūvd:anjīvd	grab	**han-kap-ti*, kap
parjīv-:parjūvd: parjīvd	take	**pari-kap-ti*, kap
biðafc-:biðūvd:biðīvd	close (intr.)	**upa-dab-ti*, dab, damb

(also *niðafc-/niðūvd/niðīvd* and *piðafc-/piðūvd/piðīvd*

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cf. also:

cirafc (cirīvd)	burn (tr.?)
niẋciramb (niẋcirīvd)	pinch
rāv (rīvd)	suck
bāf- (bīft)	be able to
wāf- (wīft)	weave
sipāf (sipīft)	*k*suc
ẋičāf- (ẋičīft)	burst
ẋikafc- (ẋikīft)	blossom
firāp- (firīpt)	arrive
θāp- (θīpt)	eat (something loose?)

The fact that in the last two examples we have the modern cluster *pt* rather than *vd* indicates that they are later formations.

Cf. also the following verbs, which have a root-final *d*, and which, as indicated above, in combination with a following *t* from -*ta*, -*ti*, we get the modern cluster *st*:

ambiθ-: ambūst: ambīst	collapse	*han-pad-ti
kirānd-: kirūst: kirīst	scrape	*krad-ti-
niθ-:nūst: nīst	sit	*ni-had-ti-
pirīθ-:pirūst : pirīst	tear (intr.)	*pati-rad-ti
ricīθ- : ricūst : ricīst	flee	*frat-rad-ti-, rad

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The following verbs come from roots ending in *s, z*. Note that here, the combination of *s-t* in the stem results in *x̌t*:

čis-: čūx̌t: čīx̌t	watch	*kas-ti-, kas
rinês-: rinūx̌t: rinīx̌t	forget	*fra-nas-ti
arrāz-:arrux̌t: arrix̌t	rise; go up	*fra-nas-ti-
riwāz-:riwux̌t-riwix̌t	fly (away)	*fra-was-ti-

The fact that we get a short *i* rather than long *ī* in the final two examples in not clear – cf. the verb *wīx̌tow* (meaning?) from the same root *√waz. It's possible that the increase in the number of syllables (with the appearance of the pre-verbal element *fra-*) is what caused the vowel to be shortened.

See the following pattern:

Pres. stem in *i-*, past/perf stem in *o*, infinitive stem in *ê*:

rimi-:rimod:rimêd	command	*fra-mā-ti*
x̌ici-:x̌icod:x̌icêd	freeze	*strā-ti*
zini: zinod: zinêd	wash	*snā-ti*
…		

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See the following patterns:

pres. stem in *o*, past/perf in *ê*, inf. in *ê*

wox̌:wêx̌t:wêx̌t	fall	*wāšti	waz
žoz-:žêx̌t:žêx̌t	run	*gāš-ti-	gaz
boz-:bêx̌t:bêx̌t	play		
aboz-:abêx̌t:abêx̌t	send	*apa-āš-ti	az
niwoz-:niwêzd-:niwêzd	play (an instrument)	*ni-wāz-ti-	

pres. stem in *ê*, past/perf in *o*, inf. in *ê*

zêz-:zox̌t:zêx̌t	take	*zāš-ti-	zaz
ziwêð-:ziwost:ziwêst	take out	*us-wād-ti-	wad
wirêz-:wirox̌t:wirêzd	build	*awi-rāš-ti-	raz

pres. stem in *o*, past/perf in *o*, inf. in *ê*

x̌ofc-:x̌ovd:x̌êvd	sleep	*xwāp-ti-	xwap

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"Perfect, pluperfect, and infinitive stems are generally dependent on the past stem, and the reconstruction or restructuring of the past stem entails the restructuring of the others."

There may have been a time during which vowel lengthening was a marker of transitivity.

Perfect stems' dependence on past stems can be seen in three main ways:

(i) in some examples the perfect stem follows the past stem in having *i*-umlaut vocalization;
(ii) in some examples the perfect stem has *ī* (as in the past stem), where we would expect *ū* as the regular reflex of *a (from zero-grade *n̥) before two consonants.
(iii) we observe a difference in the vowel length in past and perfect stems in Bajuwi, but not in Shughni proper, where it has been leveled.

Chapter 3: Process of restructuring and unification of verb stems

1. The comparative-historical approach entails the conception of language as a constantly developing and changing system. The development of language manifests itself in the restructuring and disappearance of old forms and the construction of new forms. The individual elements of the process of change can be identified only in connection with one another.

Within the diachronic development of the verbal system of the Iranian languages, we can identify three main parallel processes (Rastorgueva 1975: 112):

> **(i)** the internal (root-) reconstruction of ancient system of inflection;

> **(ii)** the development of outside, analytical methods for expressing grammatical meaning;

> **(iii)** a secondary synthesis

"These processes do not perfectly line up from a chronological standpoint. One of them is more characteristic of the initial period which saw the reconstruction of the morphological system of Iranian languages and the transition from synthetic to analytical. The other (two) act in parallel with one another during different stages of this general, complex process." (Rastorgueva 1975: 113)

Following the breakdown of the ancient system of stem formation – and parallel to this process – there is the formation of certain models for stem formation as well as innovated verb forms and stems. The aforementioned processes, the appearance of which goes back to an earlier stage – namely Proto-Iranian – are carried out more intensively in the following periods. They are recorded for the Proto-Shughni stage and continue in action even beyond this stage into the modern period.

For the period of development including modern Shughni, we can identify the following general principles for the phenomenon of reconstruction:

> **(i)** the process whereby the makeup of the verbal lexicon changes

> **(ii)** the process of leveling by analogy – i.e. the progressive unification of the system of models for verb-stem formation.

> **(iii)** the shrinking of the number of models and the generalization of a few productive types of stem formation; the rise of new grammatical-lexical markers for present stems based on the unification and reconstruction of word-forming morphological elements – i.e. suffixes of ancient present stems. One/some of this suffixes fell out of use and/or

stopped being productive (*-a-, -aya-, -ya, -n). Others were restructured and generalized, becoming actively productive: *-s-, -en, where -e- comes from *aya and -n comes from *-n- or a borrowed suffix from Tajik.

(iv) the augmentation of the role of formation by analogy and the standardization of models of verb-stem development;

(v) the transition of verb stems from single-function to multi-function and on this basis, in the future, elimination of a series of other stem models. Thus, for instance, the feminine perfect form serves not only to mark feminine gender, but also to mark plural number. The plural perfect form for a number of verbs has is practically an anachronism.

In this chapter, we will look at the process of reconstruction of verb stems. These processes can be subdivided into a) **formal** processes and b) **functional** processes. Formal processes, for their part, are divided into *internal* processes, i.e. the reconstruction of the stems of a single verb based on its other stems, and *external* processes, i.e. the reconstruction of a verb's stems based on analogy with the stems of another verb.

The fact that Shughni is not a written language has a direct effect both on its development as a language, as well as on its usage by native speakers. In particular, native speakers, upon receiving an education, come to master a second, written language, and they use it during their daily lives as a literary/official language. Their native language is used only in household and other non-official spheres. They also widely use dialectal and colloquial forms which contribute to the existence of various Shughni varieties. Moreover, people who speak a second language transfer some of the norms and models from this language onto their native language.

2. As is well known, a significant portion of the modern Shughni verbal lexicon is made up of **simplex (non-derived) verbs**, which have been inherited into the language from the ancient Iranian period, as well as **complex (derived) verbs**, which also vary w.r.t. the period of their formation. Derived verbs can be formed in the following three ways:

(i) as **complex verbs consisting of a nominal element and a native auxiliary verb,** such as *kor čīdow* 'work'; *gāp ðêdow* 'speak'; *mot sittow* 'become tired'. Auxiliary verbs are generally some of the most commonly used verbs in the language, and they include *čīdow* 'do'; *ðêdow* 'fall'; *ðêdow* 'hit/give'; and *sittow* 'go; become', *weðdow* 'put'; *tīdow* 'go'. as well as a few others. This type of formation has been one of the most productive since ancient times and remains so to this day;

(ii) with **prefixal pre-verbs**, which are attested in Shughni, as a rule, sa the reflexes of ancient Iranian preverbs. However, as a means of verb formation they are not productive in the modern language. Examples include: *parðāð-: parðod*, with the preverb **pari-*, *riwāz:riwuxt*, with the preverb **fra-*. At the modern stage, there are a number of prefixal formants such as *ki-* in the verbs *kidêdz-:kidūyd* 'pour out'; *kidoys-:kidūyd* 'flow out'; *kirez:kirezd* 'pour out'; *kiriwc-:kirūyd* 'flow out'; and *kiten-:kitent* 'drag'; the preverbal

element *far-* as in *farčêp-:farčêpt* 'recognize'; *farčimůdz-:farčimūyd* 'unstick'; the preverbal element *fi-* as in *fišeў̆dz-:fišeў̆dzd* 'squeeze out'; *biž-* in the verb *biždeў̆dz-:biždux̌t* 'stick on'; and the preverbal element *war-* as in the verbs *warwarθ-:warwarθt* 'slide off a float', *warðůdz-: warðūyd* 'depit an apricot'; *warðāw:warðūd* 'dangle?', *warðir-:warðirt* 'entertain'; and others. These preverbal elements may have a prototype in ancient Iranian languages, but they have non-traditional reflexes and their provenance has not been precisely determined, although it can be posited that they are the reflex of a rather late process of verb formation via preverbs;

(iii) suffixation. This productive means of formation is used to form causatives of the new type.. The new type of causative is formed with the suffix *-en/ůn*, which attaches to a present stem, as in the verbs *bučaqen-:bučaqent* 'throw', and *čarůn:čarůnt* 'shepherd'. Moreover, at an earlier stage, the suffixes *-n* and especially *-c/-s-* had a wide use as a means of forming verb stems. A means of formation which was very active until relatively recently was the formation of causatives via a change in the stem vowel (i.e. via *ê*).

One of the means used to "fill in" the verbal lexicon is that of borrowings. The composition of borrowed verbal lexemes is very heterogeneous. These verbs differ w.r.t. their time of formation and can be either very early or among the most recently borrowed words in the language. This is generally clear from their phonetics. Moreover, these verbs are heterogeneous w.r.t. their origin: they may be borrowed from various Indo-European languages (most often Iranian languages but also Russian and others); from Semitic (Arabic); from Turkic (Uzbek); and there are even a number of "areal" morphemes whose language of origin is unknown. Borrowed verbs can be divided into simplex and complex. For simplex borrowed verbs, we have a borrowed word (e.g. verb stem) which becomes a present stem in Shughni, and for which past, perfect, and infinitives stems are generally formed via the model of the present stem with the addition of -t/d or -č/ǰ. For complex borrowed verbs, we have a borrowed noun which is used together with a native auxiliary verb. Examples of borrowed simplex verbs include the following:

dām:dāmt	fan (a fire)
famůn-:famůnt	explain
gīr:gīrt	agree; consent
kowůn:kowůnt	peck at; pick at
niviš:nivišt	write
pečůn-:pečůnt	wrap up; muffle?
tāp:tāpt	trample down
tikriz-:tikrizd	fan; blow
zaq-:zaqt	be bored; OR to long for ?

In two cases the past stem has been contaminated or reconstructed via analogy with another Shughni past stem, which suggests a rather early borrowing:

boz-:bêx̌t   play (contaminated with *žêx̌t* 'run')

gārð-:gāǎt   turn around (where the past stem has preserved the vocalization of the present stem but the consonants are the regular reflex of **rt > ǎt* in the past stem – cf. *parwuǎt* 'slip off a float'

3. Formations via analogy have a special place in Shughni w.r.t. the language-internal formal restructuring of verb-stem formation. It should be noted that within the verbal system, present and past stems play a fundamental role in the reconstruction of verb formation which takes place via analogy. Leveling via analogy can be subdivided into two fundamental types: (i) leveling based on analogy with a present stem and (ii) leveling based on analogy with a past stem. Unification and the leveling of verb stems via analogy with present stems (i.e. Type 1) are usually done on the basis of frozen types of non-positional alternations of vowel and consonants and/or the automatic (unconscious) addition of past/infinitive markers -t/-d and perfect markers - č/ǰ. Among the leveling of the first type, we can identify the following standardized types of formations: borrowed forms, onomatopoeic forms, and new and old causatives. These forms are defined by the type of present stem. A significant number of verbs of later formation are built on analogy with present stems and a frozen model of regular formation. formations via analogy with present stems are always regular.

Within the group of verbs formed via analogy with past stems are included only those verbs which have an independent past-stem development, i.e. from old participles in **-ta/-ti*. This determines their position in a series of irregular verbs.

Leveling of both the first and second types may be either **complete** – where all stems are unified – or **partial** – where only some of the stems are unified.

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Attested are both cross- (i.e. bidirectional) and unidirectional types of influence in verb stems in Shughni. These are examined below.

The correspondence of vocalization types in present and other stems indicates that the vowel grades in present and past stems, as a rule, either are the same or have the relations: zero-zero; full-zero; lengthened-zero/full. This is fully natural if we consider their ancient prototypes. It is unusual for there to be examples of the opposite relations. These are very few in number and are thus listed in their entirety here:

Zero-full
kin-čūd,   pres. < * kṛ-nau-*, past < **kar-ta-*, √kar
ði-:ðod   pres. < *daya, past < **dā-ta-*, √dā
rimi-:rimod   pres. < **fra-maya-*, past < **fra-mā-ta-*, √mā(y)
ǎici- :ǎicod   pres. < * *straya-*, past < **strā-ta-*, √strā(y)
zini- :zinod   pres. < **snaya-*, past < *snā-ta-*

<u>Full-full</u>
ðāð-:ðod   pres. < *da-dā, past < **dā-ta-*

Besides these verbs, but with a considerable amount of uncertainty, we can also add the following verbs :

<u>Zero-full</u>
biǧis- :biǧed   swell   Prs. **api-šik-sa-*, past **api-šaik-ta-*
ris- :red   stay   Prs **rik-sa-*, past **rik/raik-ta-*
ti-:tūyd   go; walk   Prs. **ta-* or *tič-a-*, past **tak-ta-*
andidz-:andūyd   get up

Insofar as types of formation in present stems are the most diverse, the types of influence of present stems on past, perfect, and infinitive stems is also the most diverse:

A. The lengthened-grade vocalization of a present stem may show up in the remaining stems in an unchanged form, albeit with regular consonant changes:

xofc-: xovǰ: xovd: xovd (shouldn't this be *xêvd*)
aboz-:aboxč:aboxt:aboxt (shouldn't this be *abêxt*)

The lengthened grade of the present stem may have come to the other stems when there was still no *i*-umlaut:

birêz-:biroxt:biroxč:birêxt   drink
wirêz-:wiroxt:wiroxč:wirêxt   built
(here, we don't have past stems *birêxt/wirêxt*, which would indicate that the lengthened grade came on while there was *i*-umlaut (of the pres. stem)?)

The lengthened grade of the present stem comes to the past stem, after which the past and perfect stem apparently undergo further influence of the infinitive stem:

noǧ-:nêǧd:nêǧǰ:nêǧd   turn
wizůn-:wizent:wizenč:wizent   know
žoz-: žêxt:žêxč:žêxt   run

niwoz-:niwêzd:niwêzǰ:niwêzd   play a musical instrument
(here, unlike the previous group, there is *i*-umlaut influence in the past and perfect stems)

B. The suffix/infix of the present stem comes to the other stems:

pex̌c-: pex̌st: pex̌(s)č: pex̌stow	ask	(otherwise *pex̌tow*?)
win-:wīnt: wīnč: wīnt	see	(otherwise *wīdow* ?)
biðemb-: biðem(p)t: biðem(p)č: biðem(p)tow	shut	
niðemb-	stick	
piðemb-	stick	
ciremb-	burn; hurt	
wilāmb-	knock down	
wiremb-	stand; place	
pirend-	tear with one's teeth	

(the idea here is that the nasal is original to the pres. stem only and then spreads to the other stems)

C. The phonetic influence of the present stem on the other stems comes through especially clearly in that in some verbs, the final root consonants, which were transformed (already) in the ancient present stem, show up in the same transformed state in the other verb stems or change slightly, whereas they should have been preserved in their original form or should have undergone a change in another way. Such anomalies serve as confirmation of a later formation or of the restructuring of the (past) stems on analogy with the present stem. A number of verbs with uncertain etymology can also be considered in this group, as they appear to be subjected to the same rules. It is unsurprising that here we have primarily causative and borrowed verbs as later formations. Undoubtedly, the verb *firāp-:firīpt* 'reach' is not derivative (not sure what this word means here), although the contamination of the past and infinitive stems indicates a later formation. The same can be said of the verbs *wiz:wizd* 'fit'; *moz-:mīzd* 'build'; *tāž-:tīžd* 'pull'.

Later causative formations can be marked with the root vowel *ê* (on analogy with ancient causative roots of the type **√tap-* with *i*-umlaut reflex of the root vowel in the lengthened grade). Examples:

farcêp-:farcêpt	recognize (by feeling)
šêb:šêbt	explode (tr.)
kirez-:kirêzd	pour out
pidrêz- : pidrêzd	lean (against)
riwêz-:riwêzd	cause to fly away

Borrowed and onomatopoeic verbs can also be considered later formations:

tikriz-:tikrizd	fan; blow
niviš-:nivišt	write
biyůdz-:biyůdzd	smash the head of an animal (before cooking)
čilāp-:čilāpt	?

In the following verbs, the final root consonant of the present stem becomes voiceless before the past-tense marker *-t*, whereas in ancient Iranian participles in **-ta-*, ancient Iranian **b* becomes modern Shughni *v* in the past stem:

sitêb-:sitêpt   stir; mix
têb-:têpt   twist
teb-:tept   cut off
tilāb-:tilāpt   ask for
nixêb-:nixêpt   put down to sleep
(cf. the verbs *nixcirūvd, rūvd*, etc.)

The series of onomatopoeic verbs, with the exception of a few, are apparently very old and have regular formation. And although tracing the origin of each individual verb is difficult, it can be said in general that these are formed from onomatopoeic interjections and adverbs. For instance:

puf-:puft   blow
ðik-:ðikt   lick
bīl-:bīlt   blabber
pul-:pult   shine

(See a full list of onomatopoeic verbs in Appendix 3)

The largest, clearly identifiable group among formations by analogy is that of old and new causatives. Old causatives were apparently already (being) formed at the Proto-Shughni stage from intransitive verbs by adding an *ê* to the present stem in place of the intransitive vowel:

riwāz- → *riwêz*
ricīθ- → *ricêθ*

It is totally obvious that causative stems with a root in **ā(y)* were reconstructed based on this type:

nimêw-:nimêyd   make show
xicêw-:xicod   freeze, cf. *xici-:xicod*

The presence in modern Shughni of a large quantity of new formations and the constant process of formation of brand new formations attests to the productivity of this means of formation in the modern time. These causatives are formed as a rule form non-derived stems, although the possibility of formations from old causatives points to the presence of a standard model (suffixes *-en, -ůn*):

gārð-:gāxt → *garðen-:garðent*
nāw:nīwd → *rinêw, nawen-*
ricīθ-:ricūst → *ricêθ-: ricêθent*

Related to the questions examined above are questions of the reform of old causative forms. There is a group of old causatives which in some cases, parallel to the innovated stem, have also preserved the original past stem, which has been developed directly from the ancient Iranian

participle. It is possible, however, that the special past-tense is simply borrowed from the non-derived form (i.e. intransitive form?). Examples:

birêw-:birud/birêwd	take a child off the teet
kidêdz-:kidūyd/kidêzd	pour out
parðêw:parðud/parðêwd	sell
pix̌êw-:pix̌ud/pix̌ewd	shear wool
rinês-:rinūx̌t/rinêst	forget
sirêw-:sirud/sirêwd	separate
θêw-:θud/θêwd	burn

Moreover, a series of causative formations (of which only *wizêw-:wizud* 'put out' has an intransitive pair), which have lost their meaning of forceful causation, have preserved the ancient past stem and have developed new forms in parallel:

birêz-:birox̌t	drink
ðêr-:ðūyd	have
vidêdz-:vidūyd	irrigate
wizêw:wizud	put out

The influence of the past stems shows up not only on perfect and infinitive stems, but also on present stems:

A. In present stems, we sometimes find a root consonant which comes from the past stem. There are only five such examples and all are of the same type: a final Old Iranian **s, *z,* or **rt*, which has a normal reflex *x̌* in the past stem, but is also reflected in the present stem:

wox̌-: wêx̌t	fall	waz
nikāx̌-:nikāx̌t	stare intently	kas
parwêx̌-:parwêx̌t	turn around; capsize?	war, wart
xêx̌-:xêx̌t	knead (dough)	xwas

The influence of past stems on perfect stems is the most widespread and diverse, a fact which can be explained by a series of historical factors. As a rule, perfect stems assimilate entirely to past stems w.r.t. to their stem-vowel vocalization, for instance:

ancāv-:ancūvd:ancūvǰ	sew
parðāð-:parðod:parðoðǰ	sell
nižêr-:nižêrt:nižêrč	moisten

However, in some examples from roots of type *√*baw*, despite the fact that we find this type of assimilation by the perfect stem in most Shughni dialects, in the Bajuwi dialect this assimilation does not take place (see p. 69):

sāw-:sut:suðǰ (Bj. *sūðǰ*)
vi-:vud:vuðǰ   (Bj. *vūðǰ*)

We might consider special a certain group of verbs with root *ī* < **a* in their infinitive and past stems with the later leveling of the perfect stem based on this type:

naȳjīs-:naȳjīd: naȳjīðǰ   pass   (would we expect *naȳjūðǰ* b/c of the two consonants?)
naχ̌fīθ-:naχ̌fīd:naχ̌fīðǰ   fall out
sifān-:sifīd   rise
zīn-:zīd   kill

B. The influence of the past stem is also seen in infinitive stems. This is particularly visible in irregular verbs which have ancient past stems going back to the historical participle in **-ta-*. Examples:

farčimůdz-:farčimūyd: farčimūyd(ow)   unstick
parɣand-:parɣust:parɣust(ow)/parɣist(ow)   beat; cover
pidvīθ-:pidvūst:pidvūst(ow)/pidvīst(ow)   grow together
sakc-   startle; flinch
…

The phonetic influence of the infinitive stem on the past and perfect stems is in the fact that we sometimes find *i*-umlaut vocalization in past and perfect stems:

kafc-:kift: kifč: kiftow   pierce
poy-:pêyd:pêyǰ:pêydow   graze (tr.)
rāv-:rīvd:rīvǰ:rīvdow   suckle
χ̌ičāf-:χ̌ičīft:χ̌ičīfč:χ̌ičīftow   explode

pidvīθ-/s-:pidvūst/pidvīst:pidvīstow/pidvūstow   grow together
pitaxc-:pitixt:pitixt   stick
…

4. In order to identify the modern state of the language and the direction of the tendencies whereby old verbs (from historical participles and nouns) change into past, perfect, and infinitive stems, and to evaluate the level of development regarding new verb stems via analogy, in this work I will bring a statistical analysis. Verbs are examined in three lists: a) verbs which have a reliable etymology; b) causatives of the old type; and c) all recorded verbs.

A. In order to research the change in structure of old stems, we will only take into account verbs which have a reliable etymology, i.e. which have clear distinctions of an ancient Iranian or Proto-Shughni formation type. Later, verbs did not participate in processes of historical transformation of ancient verbal nouns, and their stems were formed via analogy directly from present stems. Among later verbs we have secondary causatives with -*en/ůn*, as well as many of the onomatopoeic verbs, areal and borrowed verbs, and verbs of nominal origin.

In this dissertation, from a total of 575 recorded verbs (counting onomatopoeic pairs as a single verb), only about 300 have a more or less reliable etymology and can be distinguished as a clearly not-late formations, These verbs are given in Chapter 4. Excluded from the list are verbs which are clearly borrowings or later formations. Therefore, we begin with a total of only 298 regular and irregular verbs for our analysis. In cases where a verb has two parallel past stems (one which goes back to the ancient Iranian form and a new formation formed via analogy), the verb is considered to be irregular (see also the calculations given from the Wakhi verbal system by B. B. Lashkarbekov).

169 verbs (57% of the 298) are irregular verbs which can be traced back to ancient verbs, 135 (45% of the 298) still have not undergone (any kind of) reformation via analogy and have preserved the old stem forms where other verbs have lost them. This type of verb is shown in Appendix 1. In this appendix are also included verbs without a reliable etymology. Of the 169 irregular verbs, 34 of them have already begun undergoing leveling in modern Shughni via analogy with their present stems. That is, in these cases, new stems formed via analogy with present stems are in existence alongside old stems.

We must take into consideration the fact that a number of verbs of this series can preserve one or two of the customary past, perfect, and infinitive stems (see Appendix 7), or can have a parallel collection of new and old stems. Perfect stems, which, as a rule, follow the development of past stems, in this case are often formed from the present stem and sometimes the same occurs with infinitive stems. In some cases, together with the ancient Iranian infinitive form, or instead of it, the past stem is used (as an infinitive), Apparently, at the modern stage, a majority of verbs is undergoing (or has undergone)a process of reconstruction via analogy with other verb stems, especially present stems.

B. The dynamics of the development of the system of verbal stems can be illustrated on the example of historical (old) causatives and verbs which later restructured their stems on the model of old causatives. The stems of these verbs in the vast majority of cases are formed via analogy with the present stem (see Appendix 4, where a full list of old causatives is given).

Of 97 verbs with reliable etymologies, 80 are regular verbs. In 17 of them, on the other hand, the ancient Iranian past-tense stems are preserved, although 15 of these are already undergoing a process of "renewal" and have parallel forms derived from the present stem. For instance:

rinês-:*rinūx̌t*:*rinūx̌č*:***rinêstow/rinīx̌tow***   forget
parðêw-:***parðêwd/parðud***:*parðêwǰ*: *parðêwdow*   sell

(in the former, two parallel forms exist for the infinitive; in the latter, two parallel forms exist for the past stem)

The use of historical suffixes marking (in)transitivity in the present tense led to a situation in which causative verbs and their intransitive pairs were used for a period of time as a single past-tense stem (cf. labile infinitives?). Later, undergo the influence of processes of reconstruction via and analogy, causative verbs developed an independent type of past , perfect, or infinitive stem with a lengthened vowel on the basis of the present stem:

birāw-:birud:biruðǰ:birīd/birāwd   'stop suckling'
→ *birêw-:bireud/birêwd:biruðǰ:birêwǰ:birīdow/birêwdow*   'cause to stop suckling'

C. Later, old causatives began to finally be leveled via their present stems in all possible cases, as in the verb: *ažêr:ažêrt:ažerč:ažêrtow* 'moisten'.

In the second case we base our analysis on all recorded verbs, which are a total of 575. Here are included such clear cases, and for the most part, later formations as onomatopoeic verbs and secondary causatives. Of these we have 178 irregular and 387 regular verbs – i.e. 32% irregular and 68% regular.

5. A special place among formations by analogy is held by "outside" leveling – i.e. the leveling of one verbal lexeme via analogy with other verbs within the linguistic system. As a result of influence of various verbs on one another, there is a kind of assimilation and standardization which takes place w.r.t. the "sound" of stems. For instance, the verb *wizin-:wizid/wizud* has a secondary past stem *wizud* based on analogy with other verbs of the *i/u* type. The same can be said for the verb *wiǩi-:wiǩid* 'unlock', which apparently has a secondary past stem *wiǩud* which his formed on analogy with verbs of the *vi-/vud* type. Another example is *wižafc-/wižīvd* 'return', where we have the parallel past stem *wižūvd*.

(Here, we can see that changes are sometimes actually occurring in a direction that makes a verb more irregular. That is, the past stem is becoming more unlike the present and infinitive stems. Although this is apparently only happening in a few cases.)

Cases where we see the appearance of infixal forms of present stems alongside a (regular) root or thematic forms are uncommon. Examples:

wižeb/wižemb-:wiževd 'return'

(This is another case where the stems are becoming more unalike).

Apparently, the phenomenon whereby *-b* is attached to the end of the present stem is also a later formation for the verb *čemb-:čemt* 'want; desire', from root *√kam – cf. Sarikoli *čomb-:čimd*, Ru./Bt. *čēmb-:čēmt*, but Yz. *k'am:k'omt* and Wkh. *kəmi-*.

An interesting illustration of a means of formation of derived causatives via root vowel alternation in the stem, a process which was productive until recent times, is that of formations of the following type (see pp. 107-110):

nimêw-:nimêwd   cause to show (from *nimoy-:nimêyd*)
x̌icêw-:x̌icêwd   freeze (from *x̌ici-:x̌icod*)

Although in these verbs, not only is the marker *ê* inserted into the stem, but the end of the stem also changes (i.e. with the addition of the consonant *w*). This indicates that these are formed on analogy with causative formations from sonorant roots of the type *√baw.

6. The progressive process of the unification and simplification of word forms and the general lowering of the total number of word forms as a result of the unification of stems, as well as the elimination of certain grammatical categories had a particularly large effect on such a vulnerable area of the verbal system as perfect stems. Precisely in the realm of perfect stems do we find a mass restructuring of verb stems in Shughni. In the perfect we can clearly see a phenomenon whereby feminine singular stems, on the one hand, and plural stems, on the other, have become formally the same. This is seen in the exclusive use of one form for both functions or the parallel use of both in both functions – cf. the past tense where today we have only two forms – masculine and the plural/fem.sg. form. Thus, in the perfect, the use of the feminine singular stem as the gender-neutral plural has spread to the majority of verbs. This is particularly true for the most commonly used verbs and those which are used often as the verbal component of complex constructions, i.e.:

ti-:tūyd,
vi:vud,
sāw-:sut

and a few other verbs in which only the historically feminine form is used:

tīc, vic, sic, respectively.

The plural perfect form of these verbs, namely *toyǰ, vaðǰ,* and *saðǰ*, respectively, is practically no longer used. Instead, the historically feminine form is used in its place as a gender-neutral plural form.

There is a story behind such a usage of the feminine singular and the plural of the perfect. Discrepancies can be seen even between the data of Zarubin (1960), which was collected in 1914, and that of Karamshoev (1963) and Bakhtibekov (1979), i.e. over a period of 50-70 years.

In Zarubin's work – *Shughni texts and dictionary* – in the text as an exception, in one case we find the use of the feminine singular in the function of the plural:

ik-id māš čīd ik-tām mīzǰin vud, Dêqůn-xůnā-ndi xā dêqůn-en=en ca **vic**
'our house was built at the time when in Dehkan-xane there were still state farmers

In the rest of the cases, both in the text and in the dictionary entries, forms are used in their corresponding gender and number – i.e. feminine singular for feminine singular subjects and plural forms for plural subjects. Examples:

wāð=en mu nān xeǯ-en vaðǰ
There were my mom's relatives

wind aray puc vaðǰ
he had three sons

tam=et bačamard saðǰ
you guys have already become adults

Likewise, feminine singular forms are used with feminine singular subjects, as in:

ik-wi fistīrpuc-and ǰin na-vic
the youngest son did not have a wife

We note that in the dictionary entries, for some verbs there are sometimes two parallel forms given, as with the verbs *andidz-:andūyd*, f. *andīc/andoyǰ*, pl. *andīc/andoyǰ*. But for other verbs, there are no parallel forms given, and a separate form is given for each of the plural and feminine singular.

D. Karamshoev writes that there are two forms for expressing the perfect plural – the feminine form and the plural form. But (as Clint reads it), the plural form is never used to express the feminine nor masculine form. I.e., the feminine form can optionally be used to express plural, but the plural form cannot be optionally used to express feminine.

In Bakhtibekov's grammar, in the section on the expression of gender in verbs, it is indicated that the feminine perfect can be used for denoting the plural, although in the perfect there is a special form for indicating the plural. Feminine singular forms and plural forms are interchangeable in a given clause and can be used in place of one another:

yā ǰinik mīǰdz/moǰǰ
that woman died

Safarmo *tīc/toyǰ*
Safarmo left

In the same grammar we also find examples where the feminine singular form is used in place of the plural form:

ded taram idi yi ǰo-ndi kaden-at yi ǰondiyen vorǰen wirīvdz
He went in there and there were dogs on one side and horses on another

…

There is also an example of the parallel usage of the feminine singular and plural perfect:

yā=y iwi ðod qāp xu toyǰ/tīc
'she grabbed it and left.

Such discrepancies point toward the complexity and heterogeneity of the facts at different stages of language development, including at the modern stage of development for Shughni. The linguistic facts here are also apparently connected to the sociolinguistic situation of Shughni as an unwritten language, which affects the way the language develops and how its native speakers use it. Within the native speaker population, the level of bilingualism differs according to age. The amount of use of a second language at each age depends on factors such as labor and whether the person spends time in a bilingual or trilingual environment, as well as on migration.

In this case, significant discrepancies in the preferred usage of the feminine perfect and plural perfect forms are observed between bi- and trilingual youth, on the one hand, and the older generation (primarily women), who generally only speak their native Shughni language, on the other hand. For youth, the almost exclusive use of feminine singular in both functions has become normal, while for the older generation the use of plural forms is still sometimes preserved. Although for both groups the parallel use of feminine singular forms and plural forms is still possible. Such a subjective assessment by informants regarding the use of these forms is of great interest.

Considering the importance of empirical research in this regard, on an expedition to the Shughni-speaking region in 1982 – specifically to the village of Buni in the Shughnan region – a test was carried out by the author in which she recorded a conversation among informants over the course of a few hours. The informants had different individual characteristics (i.e. sex, age, social status, education). However, this group of informants was living constantly in the same village and generally only spoke Shughni. The examination and assessment of the materials obtained was generally of a quantitative nature. Special attention is given to the analysis of the formulation of the utterance, although the content of the utterance was also looked at. The goal of the test was to provide a statistical measurement of the usage of certain forms, including the usage of feminine and plural perfect forms. Here, it was found that of 16 feminine perfect forms, seven were used with feminine singular subjects and nine were used with plural subjects. Not a single plural perfect form was recorded. The verbs used in conversation were typically *vidow, sittow, tīdow*. However, upon further investigation the informants indicated that the use of parallel forms was also possible.

We can use some examples recorded by the author at various villages in Shughnan in 1982 to examine the intensity of the usage of the feminine perfect form. The informants are generally middle-aged and primarily women. In the examples provided below, the first indicates the form which was actually used, and the second indicates the other possible form.

(several examples are provided, and it appears that in all of them the perfect form used is that of the feminine singular)

———————————————————————p. 115———————————————————————

An analogous picture is painted by the examples given below, which are taken from the Шугнанский фонд, a department of the Pamirology Division at the TNAS. The recordings are those of R. Shirinova and T. Bakhtibekov, which were collected in the 1960's—1980's.

(Here again there are several examples, and it appears that they are all corresponding to the feminine form and not the plural form.)

Chapter 4: List of verbs and their etymologies

Conclusion

The development of Shughni can be roughly divided into three periods:

1. Proto-Iranian:
 -process of reconstruction of the verbal system starts here
 -morphological structures are simplified, verbal nouns activated, process of development begins from synthetic to analytic morphosyntactic type
 -formation of the Eastern Iranian dialect, characterized by the productivity of a few morphological processes in present stems:
  > thematic/athematic classes
  > causatives in *aya*
  > inchoatives from PIE *ske*, which become intransitives
  > nasalized stems, which become transitivies
  > passives in *-ya*, which have intransitive meaning

The ancestors of past, perfect, and infinitive stems at this stage are still living forms with their own inflection.

2. Proto-Shughni

> -fixation of the results of the processes which began in Proto-Iranian
> -new verbal system based on the opposition of present stems, which go back to ancient present stems, and past stems which go back to participles in *-ta
> > two series of opposing stems are formed: (i) those descending from causatives in *aya and those descending from passives in *ya, which shows up in Shughni as ī; (ii) nasal stems in *n* and their counterparts in *s* (< *sa). Neither of these processes remained productive. In part, for the first series, this is because the vowel ī is also the result of Proto-Iranian *a* in neutral position. The marking of transitive/causative verbs with *ê/e* stayed productive for quite a while, however.

We can also attribute another interesting phonetic phenomenon to the Proto-Shughni period. This process is not known (to have occurred) in Iranian languages outside the Pamir area. This is defined by V.S. Sokolova as *a*-umlaut. Comparative-historical analysis of Shughni present stems has indicated that *a*-umlaut takes place in verb stems which continue the 2nd (thematic) class (in modern Shughni this shows up as a long *ā* as the stem vowel). A significant porition of these verbs have a causative pair of ancient formation:

rāv-:rīvd 'suckle'
rêv:rêvd 'make suckle'

wāz-:wīx̌t 'swim'
wêz-:wêzd 'make swim'

Also to the Proto-Shughni stage we can attribute a series of processes of the fledgling process of stem unification through leveling by analogy. Thus, we can explain the partial processes of formal analogy through:

> a) lengthening of the root vowel of the past stem via analogy with the type vowel in the present stem for some transitive verbs, e.g. *aboz-:abox̌t* 'swallow'; *birêz-:birox̌t* 'drink'
>
> b) the intrusion of present suffixes into other stems, as in *angaxc-:angaxct(ow)* 'get stuck'
>
> c) a significant number of formations based on ancient causatives, particularly from intransitive verbs, as in *ricīθ-:ricūst > ricêθ-:ricêθt*
>
> d) the restructuring of certain present stems via analogy with other present stems, such as with *wiẑemb-:wiẑeb-* (we don't expect the -m).

At this stage we also have the solidification of past stems with *i*-umlaut vocalization, which is apparently explained by the earlier contamination with verbal nouns. This is connected with the use of not only participles in *ta* as predicates, but also with verbal nouns in *ti*. as indicated by V.S. Sokolova.

In past and perfect stems of intransitives we find the active solidification of independent feminine and plural stems from their corresponding historical participles.

3. Modern Shughni is characterized by the relative stability of the verbal system which began to form at the Proto-Iranian stage. This manifests itself in the lexicalization of meanings connected at the Proto-Iranian stage with verb stems, in the formation of new, innovated means of expressing certain grammatical meanings (e.g. causatives in *-en, ůn*), and in the deepening and intensification of processes of formal and functional analogy.

The inductive position of present and past stems in the verbal system is defined by the restructuring of (plu)perfect and infinitive stems based on the former:

> A. A large number of verbs of later formation and also the restructuring of all stems based on the present stem;
>
> B. Verbs which have an independently developed past stem, generally of ancient origin. A series of perfect and infinitive stems is leveled via analogy with past stems. The perfect is particularly tied to the past stem and follows its development. IN certain cases, unification affects the perfect system very deeply. The perfect stem not only follows the past stem in its *i*-umlaut vocalization (?), but it may also violate the regular rules of sound change in Shughni, which dictate that **a* should be *ū* in neutral position in two consonants. Here, we sometimes find *ī*, as in the past stem (e.g. *naǧǰīdow*), which is the reflex of **a* before a single consonant. This affects Shughni proper but not Bajuwi.
>
> C. The correspondence of types of vocalization in different stems indicates that certain vowel grades of the root vowel found at the Proto-Iranian stage are correspondingly reflected in modern Shughni vowel stems. Where the stems have developed without leveling, the root past, perfect, and infinitive stems coincide w.r.t. the reflex of the root vowel grade. These stems might also coincide in the vocalization with that of the present stem, although some verbs constitute exceptions to this rule.
>
> D. In modern Shughni, we find processes of the progressive formal and functional unification and reconstruction of verb stems via analogy. Functional unification at the present time is consistently affecting only two of the perfect stems of intransitive verbs, which exhibit gender and number. Thus, the active solidification of the feminine singular form being used with plural subjects is observed, a process which is leading to the elimination of the earlier plural form and to the the dual functionality of the feminine singular form. This process can be viewed as the reconstruction of the perfect stem via analogy with past stems, where the feminine singular and plural forms came to be syncretic due to purely historical phonetic factors. As a result, a tendency is developing toward the formation of a symmetrical system for all three past stems.

Formal unification is taking place in a consistent manner, encompassing an ever-increasing number of stems. The most widespread such process at the modern time is that of phenomena connected with the restructuring of verb stems of various tenses via analogy with the present stem, the "goal" of which is the creation of regular verbs, which for their part replace irregular verb stems which were formed at various stages of the development of Shughni.

This process at the modern stage is well under way, which allows us not only to observe its development, but also to determine the level of its development and its direction.

It is enough to compare regular and irregular verbs in two lists:

(i) In the first list, we have simplex verbs which have a more or less reliable etymology or a clear manifestation of their class of Proto-Iranian or Proto-Shughni formation. In this list there are 298 verbs, of which 169 (57%) are irregular and therefore use the ancient stems, and 129 (43%) are regular and have not preserved the ancient stems, but rather use stems which have been formed via analogy with the present stem;

(ii) In the second list, we have all recorded Shughni verbs, which number 575. Of these, 178 (32%) are irregular and 397 (68%) are regular.

On the basis of these calculations we can see the direction of development of stem formation and the most productive means of forming verbs at the present stage of the development of Shughni.