Appendix 1: User input (whether negotiable or not)

1. Musculine

1.1.1.1. *sarvādi*s are used as *sañjñā*? - no

1.1.1.2. Are *sarvādi*s *upasarjanībhūta* - no.

1.1.1.3. Are *sarvādi*s used in *ṭṛtīyā tatpuruṣa samāsa*?- yes. When *samāsa* machine gets incorporated.

1.1.1.4. Are *sarvādi*s used in *dvandva samāsa*? - yes. *samāsa* machine.

1.1.1.5. Are *sarvādi*s used in *bahivrīhi samāsa*? - yes. *samāsa* machine.

1.1.1.5.1. It is a *diksamāsa* - no

1.1.1.5.2. It is not a *diksamāsa* - no

1.1.1.6. None of the above - not applicable.

1.1.1.6.1. The word ends with any of the following.

"pūrva","para","avara","dakṣiṇa","uttara","apara","adhara"

1.1.1.6.1.1. It is used as *sañjñā* or not used in sense of *vyavasthā* - no

1.1.1.6.1.2. It is not *sañjñā* and used in sense of *vyavasthā* - no

1.1.1.6.2. The word ends with "*sva*"

1.1.1.6.2.1. It is used in sense of *jñāti* or *dhana* - no

1.1.1.6.2.2. Not used in sense of *jñāti* or *dhana* - no

1.1.1.6.3. The word ends with "*antara*"

1.1.1.6.3.1. Used in sense of *bahiryoga* or *upasaṃvyāna* - no

1.1.1.6.3.1.1. The next word is *'pur'* ? - yes. When we start analysing sentences instead of words.

1.1.1.6.3.1.2. The next word is not *'pur'* - same as above

1.1.1.6.3.2. Not used in sense of *bahiryoga* or *upasaṃvyāna* - no

1.1.1.6.4. The word ends with "*atara*", "*atama*" and is not equal to "*anyatama*"

1.1.1.6.4.1. Is it derived from *ḍatara* / *ḍatama pratyaya*? - yes. When *pratyaya* machine is mature.

1.1.1.6.4.2. Not derived from *ḍatara* / *ḍatama* patyaya - same as above.

1.1.1.6.5. The word ends with "*sama*"

1.1.1.6.5.1. Used as synonym of *sarva* - no

1.1.1.6.5.2. Used as synonym of *tulya* - no

1.2. The word entered ends with "ā"

1.2.1. Is this *ākārānta dhātu* - yes. When *dhātu*, *kvibanta*, *kvinnanta*, *nāmadhātu* etc. for every type of *dhātu* is known.

1.2.2. Not *ākāranta dhātu* - not applicable

1.3. The word entered ends with "*i*"

1.3.1. The word entered ends with "*saKi*"

1.3.1.1. *prādhānya* e.g. *susakhā* - no. There is a very faint chance that *samāsa* machine may handle this properly. Maybe survey of existing corpus will have to be done. That may help to get examples, but can never be exhaustive.

1.3.1.2. *upasarjanībhūta* e.g. *paramasakhā* - no.

1.3.1.3. *lākṣaṇika* e.g. *atisakhiḥ* (*sakhīmatikrāntaḥ*) - yes. These seem to be very typical grammatical words. They / their pattern can be enumerated later on.

1.3.2. The word entered ends with '*dvi*'

1.3.2.1. It is *sañjñā* or is *upasarjanībhūta* - no

1.3.2.2. It is neither *sañjñā* nor *upasarjanībhūta* - no

1.4. The word entered ends with '*ī*'.

(Note – section 1.4 can be handled better after *dhātu*, *nadī* and *ṅī sañjñā* are taught completely)

1.4.1. Not *nadī*, *adhātu* e.g. *vātapramī* – partially yes.

But still the difficulty would be, both *vātapramī* words will look alike. So, it is difficult to segregate without human intervention.

1.4.2. *nadī*, *adhātu*

1.4.2.1. *ṅyanta* e.g. *bahuśreyasī* - yes.

1.4.2.2. *aṅyanta* e.g. *atilakṣmīḥ* - yes. (feminine words with an *īkāra* without '*ṅī*' *pratyaya*s are very less. Most probably, we can enumerate them from *uṇādisūtra*s.)

1.4.3. Not *nadī*, *dhātu* e.g. *praḍī*, *kvibanta vātapramī*

1.4.3.1. Ends with *nī dhātu* e.g. *unnīḥ grāmaṇīḥ* etc - yes. We will have to combine upasargas with *nī dhātu*.

1.4.3.2. *sakhā* (*sakhāyamicchati*) - no

1.4.3.3. *sakhīḥ, sukhīḥ, sutīḥ, lūnīḥ, kṣāmīḥ, prastīmīḥ* etc - yes. We think these cases can be enumerated.

1.4.4. *nadī*, *dhātu*

1.4.4.1. *ṅyanta* e.g. *kumārī* - yes.

1.4.4.2. *aṅyanta* e.g. *prakṛṣṭā dhīryasya saḥ pradhīḥ* - yes

1.4.5. Not *nadī*, *dhātu* (*asaṃyogapūrvaka ivarṇaḥ | anekāc aṅgam | gatikārakapūrvakaḥ*) or *sudhī* word - yes. When machine learns *gati* and *kāraka* properly.

1.4.5.1. *nīḥ* - yes

1.4.5.2. *aṅyanta* e.g. *yavakrīḥ, suśrīḥ* etc - yes.

1.4.6. *nadī*, *dhātu* (*asaṃyogapūrvaka ivarṇaḥ* / *ekāc aṅgam* /

gatikāraketarapūrvakaḥ) e.g. *śuddhadhīḥ, paramadhīḥ* etc.

1.5. The word ends with '*ū*'.

1.5.1. Not *nadī*, *adhātu* e.g. *hūhū* - yes. We can enumerate *ūkārānta*

*adhātu prātipadika*s. We think they are quite rare.

1.5.2. *nadī*, *adhātu* e.g. *aticamūḥ*- yes.

1.5.3. *dhātu* (*asaṃyogapūrvaka uvarṇaḥ, anekāc aṅgam*,

gatikārakapūrvakaḥ) e.g. *khalapūḥ* - yes. When *gati*, *kāraka*, *dhātu* are

known.

1.5.4. *dhātu* (*saṃyogapūrvaka uvarnaḥ, ekāc aṅgam*,

gatikāraketarapūrvakaḥ e.g. *kaṭaprūḥ, lūḥ* etc- yes. when *gati*, *kāraka*,

dhātu are known.

1.6. The word ends with '*catur*'

1.6.1. *pratyaya* is "*ām*" and the input word is not "*catur*" (i.e. *samāsa*)

1.6.1.1. *upasarjanībhūta* - no

1.6.1.2. *prādhānya* - no

1.7. The word is "*idam*" / "*idakam*"

1.7.1. *anvādeśa* - yes. When we start analysing sentences instead of

words.

1.7.2. Not *anvādeśa* - yes.

1.8. The word ends with *"pañcan", "saptan", "ṣṭan", "navan", 'daṣan"*

and is not equal to them.

1.8.1. *nakārānta* word is *upasarjanībhūta* ? - no

1.8.2. Not *upasarjanībhūta* - no

1.9. The word ends with 'j'

1.9.1. Ends with *kvin pratyaya*? - no.

1.9.1.1. ends with '*yuj*'

1.9.1.1.1. *dhātu* is *yuji* - no

1.9.1.1.2. *dhātu* is *yuji!r* - no

1.9.2. Doesn't end with *kvin pratyaya* - no.

1.9.3. Ends with "bhrāj"

1.9.3.1. It is *phaṇādi dhātu* - no

1.9.3.2. Not a *phaṇādi dhātu* - no

1.10. The word ends with *ṭyadādi* words

"dvi","tyad","tad","etad","idam","adas","eka","idakam"

1.10.1. *ṭyadādi*s are used as *sañjñā* or *upasarjanībhūta*? - no

1.10.2. *ṭyadādi*s are used neither as *sañjñā* nor *upasarjanībhūta*. - no

1.10.2.1. The word ends with "*etad*", "*idam*"

1.10.2.1.1. *anvādeśa* - yes. When we treat sentences.

1.10.2.1.2. Not *anvādeśa* - yes

1.11. The word ends with "*smad*", "*yuṣmad*" and are not equal to "*asmad*", "*yuṣmad*"

1.11.1. *asmad* / *yuṣmad* are *ekatvavācī* - no

1.11.2. *asmad* / *yuṣmad* are *dvitvavācī* - no

1.11.3. *asmad* / *yuṣmad* are *bahutvavācī* - no

1.12. The word is '*asmad*' / '*yuṣmad*' and *pratyaya* is from *am'*, '*auṭ*', '*śas*', '*ṅe*', '*bhyām*', '*bhyas*', '*ṅas*', '*os*', '*ām*'

1.12.1. *asmad* / *yuṣmad* is not used after a *pada* - yes. When we analyse sentences instead of words.

1.12.2. *asmad* / *yuṣmad* is used in starting of a *pāda* - yes. When we analyse sentences instead of words.

1.12.3. *asmad* / *yuṣmad* is having *sākṣAt yoga* with *ca, vā, hā, aha* or *eva*. - Yes. When we analyse sentences instead of words.

1.12.4. *asmad* / *yuṣmad* is having *yoga* with *acākṣuśa jñānārtha dhātu*s - yes. Enlist *jñānārtha dhātu*s. It is possible when we analyse sentences.

1.12.5. None of the above - not applicable.

1.12.5.1. There is *anvādeśa* - yes.

1.12.5.1.1. *asmad* / *yuṣmad* are after *vidyamānapūrva prathamānta* words

1.12.5.1.1.1. *asmad* / *yuṣmad* are after *āmantrita*. - yes. When we explain what āmantrita is.

1.12.5.1.1.1.1. *samānādhikaraṇa viśeṣaṇa* follows *viśeṣya* - yes. When we analyse sentences.

1.12.5.1.1.1.1.1. *bahuvacanam* - yes. With help of *tiṅanta*s, we can analyse *vacana*.

1.12.5.1.1.1.1.2. not *bahuvacanam* - yes.

1.12.5.1.1.1.2. *samānādhikaraṇa viśeṣaṇa* doesn't follow *viśeṣya*. - yes

1.12.5.1.1.2. *asmad* / *yuṣmad* are not after *āmantrita*.

1.12.5.1.2. *asmad* / *yuṣmad* are after *vidyamānapūrva prathamānta* words.

1.12.5.2. There is no *anvādeśa*.

1.13. The word ends with *"añc", "āñc", "anc" or "ānc"*.

1.13.1. The word is *kvinpratyayānta* - yes. Check rules which specify *kvin* after *añcu* verb.

1.13.1.1. Used in sense of *pūjā* - no

1.13.1.2. Not used in sense of *pūjā* - no

1.13.2. Not *kvinpratyayānta* - no

1.14. The first word ends with "*bhavat*"

1.14.1. *bhāterḍavatu* - no

1.14.2. *bhūdhātoḥ śatṛptratyayaḥ*? - no

1.15. The word ends with "*takṣ*", "*rakṣ*"

1.15.1. *ṇyanta* - yes. When machine understands the difference between *ṇyanta* and non *ṇyanta*.

1.15.2. *aṇyanta* - yes.

1.16. The first word ends with '*m*'

1.16.1. *dhātu* – partially yes. When *dhātu*s are learnt

1.16.2. *adhātu* - yes

1.17. The word ends with '*at*'

1.17.1. *atvanta* - yes. when machine learns *pratyaya*s

1.17.2. Not *atvanta* - yes

1.17.2.1. *abhyasta* - yes. when machine learns the process to create *abhyasta*s.

1.17.2.2. Not *abhyasta* - yes

1.18. The word ends with 'ṣaṣ' and not equal to 'ṣaṣ'

1.18.1. *prādhānya* - no

1.18.2. *upasarjanībhūta* - no

2. Feminine

2.1. The word ends with '*ā*'

2.1.1. Not *ābanta* e.g. *gopā* - yes. After *strīprakaraṇa* is taught.

2.1.2. *ābanta* e.g. *ramā* - yes

2.1.2.1. Ends with "
sarvā","viśvā","ubhā","ubhayā","atarā","atamā","anyā","anyatarā","itarā","tvā","nemā","simā","pūrvā","parā","avarā","dakṣiṇā","uttarā","aparā","adharā","svā","antarā","ekā","dvā"

2.1.2.1.1. *sarvādi*s are used as *sañjñā*? - no

2.1.2.1.2. Are *sarvādi*s *upasarjanībhūta* - no.

2.1.2.1.3. Are *sarvādi*s used in *tṛtīyā tatpuruṣa samāsa*?- yes. When *samāsa* machine gets incorporated.

2.1.2.1.4. Are *sarvādi*s used in *dvandva samāsa*? - yes. *samāsa* machine.

2.1.2.1.5. Are *sarvādi*s used in *bahivrīhi samāsa*? - yes. *samāsa* machine.

2.1.2.1.5.1. It is a *diksamāsa* - no

2.1.2.1.5.2. It is not a *diksamāsa* - no

2.1.2.1.6. None of the above - not applicable.

2.1.2.1.6.1. The word ends with any of the following.
"pūrvā,"parā","avarā","dakśiṛā","uttarā","aparā","aḍarā"

2.1.2.1.6.1.1. It is used as *sañjñā* or not used in sense of *vyavasthā* - no

2.1.2.1.6.1.2. It is not *sañjñā* and used in sense of *vyavasthā* - no

2.1.2.1.6.2. The word ends with "*svā*"

2.1.2.1.6.2.1. It is used in sense of *jñāti* or *dhana* - no

2.1.2.1.6.2.2. Not used in sense of *jñāti* or *dhana* - no

2.1.2.1.6.3. The word ends with "*antarā*"

2.1.2.1.6.3.1. Used in sense of *bahiryoga* or *upasaṃvyāna* - no

2.1.2.1.6.3.1.1. The next word is *'pur'* ? - yes. When we start analysing sentences instead of words.

2.1.2.1.6.3.1.2. The next word is not *'pur'* - same as above

2.1.2.1.6.3.2. Not used in sense of *bahiryoga* or *upasaṃvyāna* - no

2.1.2.1.6.4. The word ends with "*atarā*", "*atamā*" and is not equal to "*anyatamā*"

2.1.2.1.6.4.1. Is it derived from *ḍatara / ḍatama pratyaya*? - yes. When *pratyaya* machine is mature.

2.1.2.1.6.4.2. Not derived from *ḍatara / ḍatama* patyaya - same as above.

2.1.2.1.6.5. The word ends with "*samā*"

2.1.2.1.6.5.1. Used as synonym of *sarva* - no

2.1.2.1.6.5.2. Used as synonym of *tulya* - no

2.2. The word ends with 'i'

2.2.1. Ends with '*tri*' and is not equal to '*tri*'

2.2.1.1. *tri* word is used in *strīliṅga* - no

2.2.1.2. *tri* word is not used in *strīliṅga* - no. It depends on user's wish

2.3. The word ends with '*ī*'

2.3.1. *ṅyanta*, *nadī* - yes

2.3.2. *aṅyanta*, *nadī* - yes

2.3.3. *ṅyanta*, *iyaṅsthānika* - yes. Better coding for *iyaṅ*, *uvaṅ* etc are needed. Current coding is more like a patch. That coding will need *dhātu*, kvip, *kvin* etc. So this is pending right now. Right now, we are working with user input.

2.3.4. *aṅyanta*, *iyaṅsthānika* - yes

2.3.5. *pradhī*

2.3.5.1. *pradhyāyatīti pradhīḥ* - no

2.3.5.1.1. *vṛttikārādīnāṃ mate lakṣmīvadrūpam* - not applicable

2.3.5.1.2. *kaiyaṭamate tu puṃvadrūpam* - not applicable

2.3.5.2. *prakṛṣṭā dhīḥ* - no

2.3.6. *sudhī*

2.3.6.1. *suṣṭhu dhīḥ yasyāḥ sā, suṣṭhu dhyāyatīti* - no

2.3.6.1.1. *vṛttikāramate śrīvat* - not applicable

2.3.6.1.2. *matāntare puṃvat* - not applicable

2.3.6.2. *suṣṭhu dhīḥ* - no

2.3.7. *grāmaṇīḥ* - not applicable

2.4. Ends with '*ū*'

2.4.1. *nadī* - yes

2.4.2. *uvaṅsthānika* - yes

2.4.3. not *nadī* - yes

2.4.4. punarbhū, dṛnbhū - not applicable

2.4.4.1. *pratyaya* is "*ām*"

2.4.4.1.1. *samāsa*

2.4.4.1.1.1. *uttarapada* is *ekāc* and *pūrvapada* has *repha* or *ṣakāra* - yes. After *samāsa* machine is mature.

2.4.4.1.1.2. *uttarapada* is not *ekāc* or *pūrvapada* doesn't have *repha* or *ṣakāra* - yes

2.4.4.1.2. Not *samāsa* - yes

2.4.5. *varṣābhūḥ* - not applicable

2.4.6. *svayambhūḥ* - not applicable

2.5. The word is *idam*

2.5.1. *anvādeśa* - yes. When we start handling sentences.

2.5.2. Not *anvādeśa* - yes

2.6. The word is *diś*

2.6.1. *kvinpratyayānta* - no

2.6.2. *kvippratyayānta* - no

3. Neuter

3.1. Ends with "i", "ī", "u", "ū", "ṛ", "ṝ", "ḷ", or "ḹ"

3.1.1. Is it *bhāṣitapuṃska* ? – Partly yes. We will have to verify from dictionary database for gender, whether it is *bhāṣitapuṃska* or not. But *samāsa*s will create problem then.

3.1.2. Not *bhāṣitapuṃska* – Partly yes.

3.2. The word is equal to "*idam*","*etad*"

3.2.1. *anvādeśa* - yes

3.2.2. Not *anvādeśa* - yes

3.3. The word ends with "*at*","*āt*"

3.3.1. *śatṛpratyayānta* word follows *abhyāsa* - yes

3.3.2. *śatṛpratyayānta* word doesn't follow *abhyāsa* - yes

3.3.2.1. member of *śatṛpratyaya* follows *avarṇānta aṅga*.

3.3.2.1.1. member of *śatṛpratyaya* follows avarṇa of *śap* / *śyan pratyaya* - yes. When *śap* /*śyan* is taught.

3.3.2.1.2. no - yes

3.3.2.2. no - yes