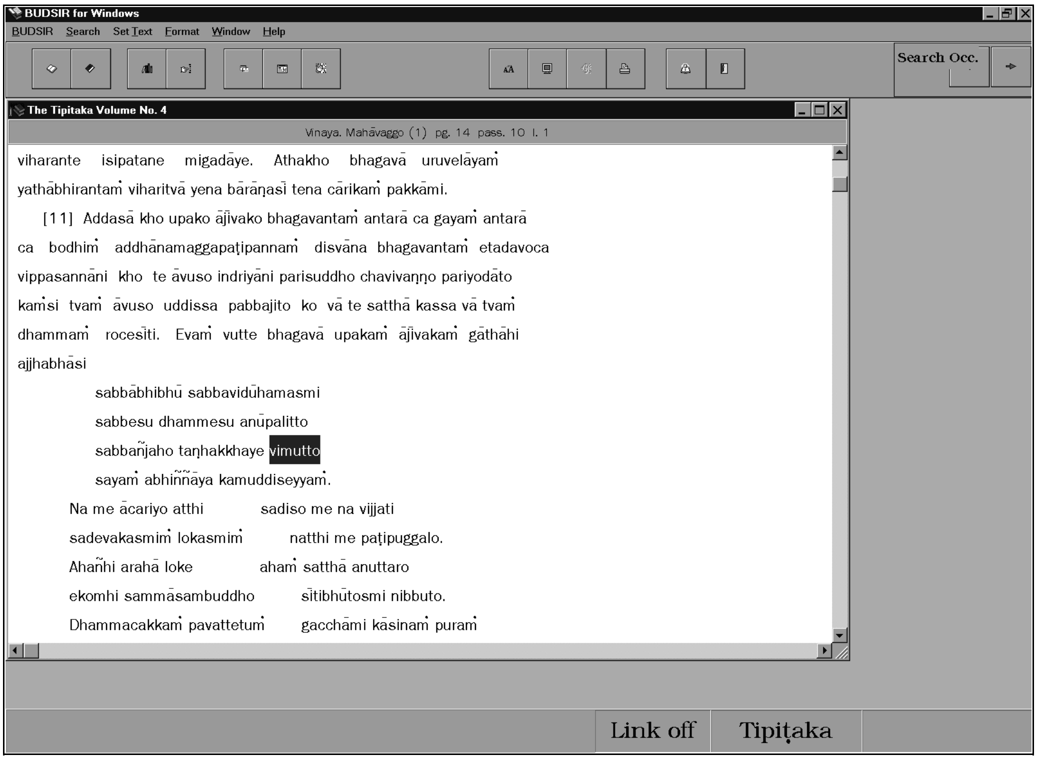
Jost Gippert Taipei, 19.1.1999

Linking methods as a basis for cross-linguistic text retrieval: Problems and solutions

1. Text segmentation principles:
1.1. Internal vs. external principles of segmentation of texts:
1.1.1. Purely linguistic segmentation (sequence of sentences, words within sentences) vs.
1.1.2. content-based segmentation (e.g., books, chapters, paragraphs, strophes, verses) vs.
1.1.3. segmentation based on "surface" representation (pages, lines of a given edition).
1.2. Superiority of content-based segmentation with respect to larger texts:
1.2.1. More easy referencing by not using too large numbers (e.g., sentence no. 25387);
1.2.2. does not depend on a given printed edition the arrangement of which is always more or less "accidental";
1.2.3. is the only reasonable basis for a cross-textual retrieval (see below).

2. Problems of establishing a solid content-based segmentation for Buddhist texts:
2.1. Example 1: The Pāli Vinayapiṭaka
2.1.1. Electronic version (public domain) produced by the "Sri Lanka Buddha Jayanti Tripitaka Series" (version 15.1.97) contains referencing to two printed editions, the BJT edition and the PTS edition, but for the latter, only book numbers and pages are indicated. There is no referencing to the content-based segmentation used traditionally (cp. Box 1: this would be Vin. I, 6, 7-10).
2.1.2. Electronic version produced by Mahidol University Computing Center (Bangkok, Thailand, 1.8.1997: "BUDSIR IV") contains referencing to one printed edition, and for this too, only book numbers and pages are indicated. There is no referencing to the content-based segmentation used traditionally (cp. Fig. 1).



Vinaya. Mahāvaggo (1) pg. 14 pass. 10 l. 1

viharante isipatane migadāye. Athakho bhagavā uruvelāyaṁ
yathābhirantaṁ viharitvā yena bārāṇasī tena cārikaṁ pakkāmi.
[11] Addasā kho upako ājīvako bhagavantaṁ antarā ca gayaṁ antarā
ca bodhiṁ addhānamaggapaṭipannaṁ disvāna bhagavantaṁ etadavoca
vippasannāni kho te āvuso indriyāni parisuddho chavivaṇṇo pariyodāto
kaṁsi tvaṁ āvuso uddissa pabbajito ko vā te satthā kassa vā tvaṁ
dhammaṁ rocesīti. Evaṁ vutte bhagavā upakaṁ ājīvakaṁ gāthāhi
ajjhabhāsi

sabbābhibhū sabbavidūhamasmi
sabbesu dhammesu anūpalitto
sabbañjaho taṇhakkhaye vimutto
sayaṁ abhiññāya kamuddiseyyaṁ.

Na me ācariyo atthi sadiso me na vijjati
sadevakasmiṁ lokasmiṁ natthi me paṭipuggalo.
Ahañhi arahā loke ahaṁ satthā anuttaro
ekomhi sammāsambuddho sītibhūtosmi nibbuto.
Dhammacakkaṁ pavattetuṁ gacchāmi kāsinaṁ puraṁ

Fig. 1: Mahidol version of Vin. I, 6, 7-8 (screen output)

[BJT Page 016.]
4. Addasā kho upako ājivako1- bhagavantaṃ antarā ca gayaṃ antarā ca bodhiṃ aṅnamaggapaṭipannaṃ. Disvāna bhagavantaṃ etadavoca: "vippasannāni kho te āvuso indriyāni. Parisuddho chavivaṇṇo pariyodāno. Kaṃ si tvaṃ āvuso uddissa pabbajito? Ko vā te satthā? Kassa vā tvaṃ dhammaṃ rovesī?"Ti. Evaṃ vutte bhagavā apakaṃ ājivakaṃ gāthāhi ajjhabhāsi: -

"Sabbābhibhu sabbavidu’hamasmi
Sabbesu dhammesu anupalitto,
Sabbañajabho taṇhakkhaye vimutto
Sayaṃ abhiññāya kamuddiseyyaṃ.
Na me ācariyo atthi sadiso me na vijjati,
Sadevakasmiṃ lokasmiṃ natthi me paṭipuggalo.
Ahaṃ hi arahā loke ahaṃ satthā anuttaro,
Eko’mhi sammāsambuddho sītibhutosmi nibbuto.
Dhammacakkaṃ pavattetuṃ gacchami kāsinaṃ paraṃ,
Andhabhūtasmiṃ lokasmiṃ āhañachaṃ2- amatadundubhi"ti.
Yathā kho tvaṃ āvuso paṭijānāsi, arahasi anantajinoti.
"Mā disā ve jinā honti ye pattā āsavakkhayaṃ,
Jinā me pāpakā dhammā tasmā’haṃ upakā jino"ti.

5. Evaṃ vutte upako ājivako ājivako "huveyyapāvuso"ti3- vatvā sīsaṃ okampetvā ummaggaṃ gahetvā pakkāmi.

6. Atha kho bhagavā anupubbena cārikaṃ caramāno yena bārāṇasī isipatanaṃ migadāyo , yena pañcamaggiyā bhikkhu, tenupasaṃkami. Addasaṃsu. Kho pañcavaggiyā bhikkhu bhagavantaṃ durato’va āgacchantaṃ. Disvāna aññamaññaṃ saṇṭhapesuṃ: "ayaṃ āvuso samaṇo gotamo āgacchati bāhuliko [PTS Page 009] paṭhānavibbhanto āvatto bāhullāya. So neva abhivādetabbo. Na paccuṭhātabbo. Tassa pattacīvaraṃ paṭiggahetabbaṃ api ca kho āsanaṃ ṭhapetabbaṃ, sace ākaṅkhissati, nisīdissati"ti.

1. "Xjiviko ma. Nu. Pu;a. Ma vi; 2. "Ahañachiṃ āhañachuṃ ityapi
3. "Huveyyāvuso’ - katthavi

Box **1**: BJT version of Vin. I, 6, 7-10 (raw text)

|b16. [BJT Page 016.]

|c4. |xVin_I_6,_7

|s1 Addasā k^{h}o upako ājivako1- b^{h}agavantaṃ antarā ca gayaṃ antarā ca bod^{h}iṃ aṅnamaggapaṭipannaṃ. Disvāna b^{h}agavantaṃ etadavoca: "vippasannāni k^{h}o te āvuso indriyāni. Parisudd^{h}o c^{h}avivaṇṇo pariyodāno. Kaṃ si tvaṃ āvuso uddissa pabbajito? Ko vā te satt^{h}ā? Kassa vā tvaṃ d^{h}ammaṃ rovesī?"Ti. |xVin_I_6,_8 Evaṃ vutte b^{h}agavā apakaṃ ājivakaṃ gāt^{h}āhi ajj^{h}ab^{h}āsi: -

|s2 "Sabbāb^{h}ib^{h}u sabbavidu’hamasmi

|s3 Sabbesu d^{h}ammesu anupalitto,

|s4 Sabbañajab^{h}o taṇhakk^{h}aye vimutto

|s5 Sayaṃ ab^{h}iññāya kamuddiseyyaṃ.

|s6 Na me ācariyo att^{h}i sadiso me na vijjati,

|s7 Sadevakasmiṃ lokasmiṃ natt^{h}i me paṭipuggalo.

|s8 Ahaṃ hi arahā loke ahaṃ satt^{h}ā anuttaro,

|s9 Eko’mhi sammāsambudd^{h}o sītib^{h}utosmi nibbuto.

|s10 Dhammacakkaṃ pavattetuṃ gacc^{h}ami kāsinaṃ paraṃ,

|s11 And^{h}ab^{h}ūtasmiṃ lokasmiṃ āhañac^{h}aṃ2- amatadundub^{h}i"ti.

|xVin_I_6,_9

|s12 Yat^{h}ā k^{h}o tvaṃ āvuso paṭijānāsi, arahasi anantajinoti.

|s13 "Mā disā ve jinā honti ye pattā āsavakk^{h}ayaṃ,

|s14 Jinā me pāpakā d^{h}ammā tasmā’haṃ upakā jino"ti.

|c5. |s1 Evaṃ vutte upako ājivako ājivako "huveyyapāvuso"ti3- vatvā sīsaṃ okampetvā ummaggaṃ gahetvā pakkāmi.

|xVin_I_6,_10 |c6.

|s1 At^{h}a k^{h}o b^{h}agavā anupubbena cārikaṃ caramāno yena bārāṇasī isipatanaṃ migadāyo, yena pañcamaggiyā b^{h}ikk^{h}u, tenupasaṃkami. Addasaṃsu. Kho pañcavaggiyā b^{h}ikk^{h}u b^{h}agavantaṃ durato’va āgacc^{h}antaṃ. Disvāna aññamaññaṃ saṇṭ^{h}apesuṃ: "ayaṃ āvuso samaṇo gotamo āgacc^{h}ati bāhuliko |p9 [PTS Page 009] paṭ^{h}ānavibb^{h}anto āvatto bāhullāya. So neva ab^{h}ivādetabbo. Na paccuṭ^{h}ātabbo. Tassa pattacīvaraṃ paṭiggahetabbaṃ api ca k^{h}o āsanaṃ ṭ^{h}apetabbaṃ, sace ākaṅk^{h}issati, nisīdissati"ti.

Box **2**: Same, after entering of additional references

2.1.3. For easy cross-referencing, the greatest amount of information possible should be envisaged, at least with respect to the traditionally used PTS edition (cp. Box 2).

2.2. Example 2: The Udānavarga (Collection of Sanskrit strophes of verses, mostly corresponding to strophes of the Pāli Dhammapāda):

2.2.1. In spite of relatively simple structure (complete collection consisting of 33 Vargas with a maximum of 87 strophes), great divergencies exist between several editions as to the numbering of strophes (e.g.: Uv. 29,24 in the edition by F. Bernhard, Udānavarga, Göttingen 1965 corresponds to Uv. 29,34 in the edition by R. Pischel, Die Turfan-Recensionen des Dhammapada, Berlin 1908 [and 29,23 in the translation of the Tibetan version by W.W. Rockhill, London 1892]).

2.2.2. This may be due to the bad state of preservation of the text, verses and strophes missing in manuscripts, or to secondary additions (cf. Bernhard, o.c., 14).

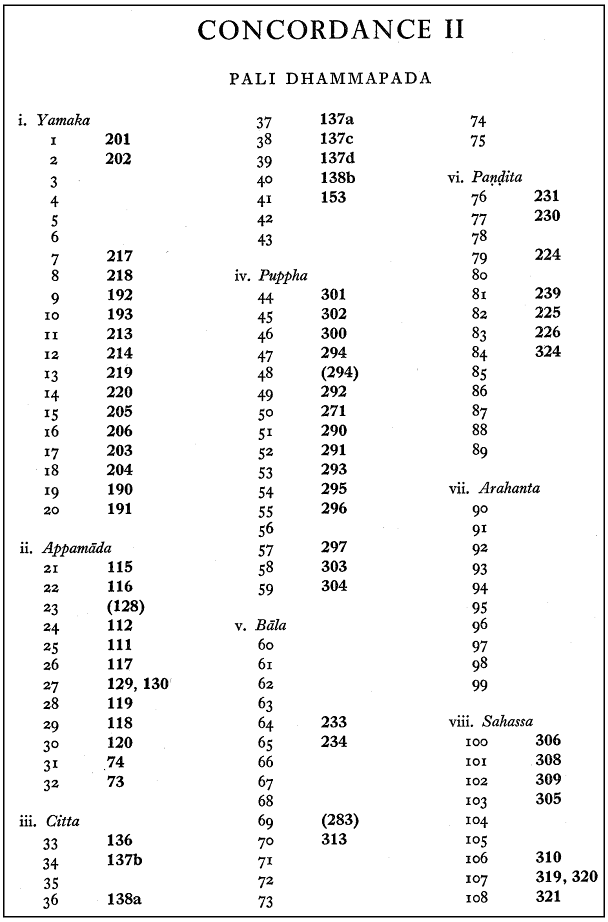
2.2.3. Arrangement and segmentation of the text do not agree at all with the Pāli Dhammapada so that the segmentation of this text cannot be adopted as it is (all the more since for the Pāli Dhammapada itself, two divergent segmentations are used, viz. one counting only strophes (from 1 to 423), and one dividing the text into 26 vargas with a differing amount of strophes; e.g., Uv. 21 [Tathāgatavarga], 1 corresponds to DP 353 ≈ 24 [Taṅhavagga], 20).

2.2.4. For the sake of cross-referencing, a common segmentation should be envisaged.

3. Problems of establishing a system for cross referencing between related texts

3.1. Example 1: The Gāndhārī Dharmapada (Collection of Prakrit strophes of verses, mostly corresponding to strophes of the Pāli Dhammapāda and the Sanskrit Udānavarga; edition by J. Brough, London 1962):

3.1.1. Although most of the strophes contained in the text are exact equivalents of strophes as present in the Pāli Dhammapada and/or the Sanskrit Udānavarga, the arrangement is completely different again (e.g., GDP 1 [Brammaṇa], 1ab corresponds to DP 393ab ≈ 26 [Brāhmaṇavagga], 11ab, Uv. 33 [Brāhmaṇavarga], 8ab (Sanskrit version ed. Bernhard) / 33, 11ab (Tibetan version). Cp. Fig. 2 showing the concordance of DP and GDP as present in Brough's edition.



CONCORDANCE II

PALI DHAMMAPADA

i. *Yamaka*	
1	**201**
2	**202**
3	
4	
5	
6	
7	**217**
8	**218**
9	**192**
10	**193**
11	**213**
12	**214**
13	**219**
14	**220**
15	**205**
16	**206**
17	**203**
18	**204**
19	**190**
20	**191**
ii. *Appamāda*	
21	**115**
22	**116**
23	**(128)**
24	**112**
25	**111**
26	**117**
27	**129, 130**
28	**119**
29	**118**
30	**120**
31	**74**
32	**73**
iii. *Citta*	
33	**136**
34	**137b**
35	
36	**138a**
37	**137a**
38	**137c**
39	**137d**
40	**138b**
41	**153**
42	
43	
iv. *Puppha*	
44	**301**
45	**302**
46	**300**
47	**294**
48	**(294)**
49	**292**
50	**271**
51	**290**
52	**291**
53	**293**
54	**295**
55	**296**
56	
57	**297**
58	**303**
59	**304**
v. *Bāla*	
60	
61	
62	
63	
64	**233**
65	**234**
66	
67	
68	
69	**(283)**
70	**313**
71	
72	
73	
74	
75	
vi. *Paṇḍita*	
76	**231**
77	**230**
78	
79	**224**
80	
81	**239**
82	**225**
83	**226**
84	**324**
85	
86	
87	
88	
89	
vii. *Arahanta*	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
viii. *Sahassa*	
100	**306**
101	**308**
102	**309**
103	**305**
104	
105	
106	**310**
107	**319, 320**
108	**321**

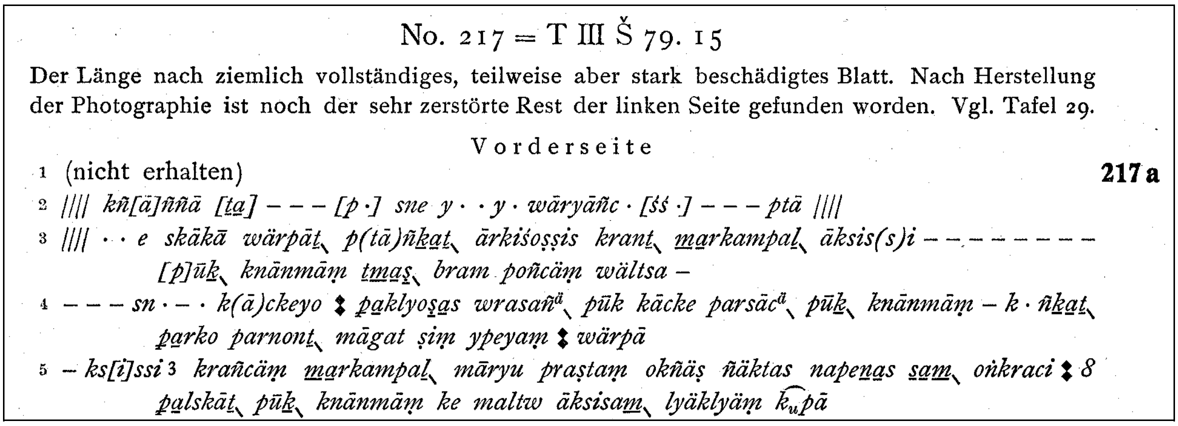
Fig. 2: Concordance of DP and GDP

3.1.2. A thorough content-based segmentation for the Gāndhārī Dharmapada is not easy to establish for the same reasons as with the Udānavarga.

3.1.3. As the text can hardly be treated without permanent comparison of its Pāli and Sanskrit equivalents (it is the only larger Gāndhārī Prakrit text preserved at all), cross-referencing is especially important. Reliable segmentation of all three texts is presupposed.

3.2. Example 2: Tocharian (A) text relating the tale of the conversion of Upaka (Upage) by Buddha (obviously fragment from the Udānālaṃkāra, i.e., an Udānavarga commentary): THT 850 sq. / Toch. A (edition Sieg-Siegling), No. 217 sq.

3.2.1. "Internal" segmentation as used in the printed edition: lines of manuscript pages (e.g., 217a 5) vs. content-based segmentation suggesting itself from verse structure which is indicated in the manuscript by numbers. Problem: The fragmentary status does not enable us to establish higher units (chapter 21, corresponding to the "Tathāgatavarga" of the Udānavarga as indicated in F. Bernhard's edition [p. 278]?)



No. 217 = T III Š 79. 15

Der Länge nach ziemlich vollständiges, teilweise aber stark beschädigtes Blatt. Nach Herstellung der Photographie ist noch der sehr zerstörte Rest der linken Seite gefunden worden. Vgl. Tafel 29.

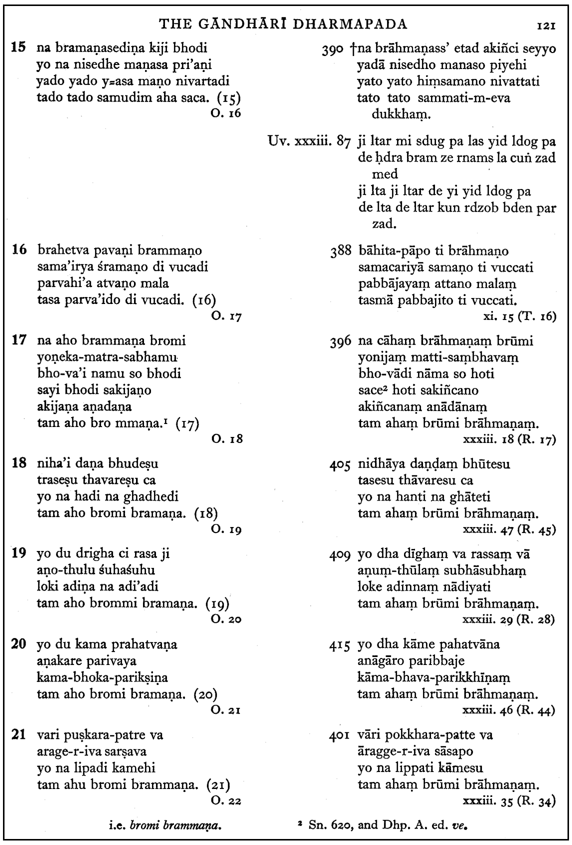
Vorderseite

1 (nicht erhalten) **217 a**
2 *|||| kñ[ä]ññā [t̲a̲] – – – [p ·] sne y · · y · wāryāñc · [śś ·] – – – ptā ||||*
3 *|||| · · e skākā wärpāt̲ˎ p(tā)ñk̲a̲t̲ˎ ārkiśoṣṣis krant̲ˎ m̲a̲rkampal̲ˎ āksis(s)i – – – – – – – – –*
[p]ūk̲ˎ knānmāṃ t̲m̲a̲ṣ̲ˎ bram poñcäṃ wältsa –
4 *– – – sn · – · k(ā)ckeyo ⁑ p̲a̲klyoṣ̲a̲s wrasañäˎ pūk kācke parsācäˎ pūk̲ˎ knānmāṃ – k · ñk̲a̲t̲ˎ*
p̲a̲rko parnont̲ˎ māgat ṣiṃ ypeyaṃ ⁑ wärpā
5 *– ks[i]ssi 3 krañcäṃ m̲a̲rkampal̲ˎ māryu praṣtaṃ okñāṣ ñäktas nape̲n̲a̲s s̲a̲m̲ˎ oṅkraci ⁑ 8*
p̲a̲lskāt̲ˎ pūk̲ˎ knānmāṃ ke maltw āksisa̲m̲ˎ lyäklyäṃ k͡ᵤpā

3.2.2. Manifold necessity of cross-referencing both with poetic texts (Udānavarga, Dhammapada, Gāndhārī Dharmapada) and prose texts (Sanskrit Catuṣpariṣatsūtra, Lalitavistara, Mahāvastu; Pāli Vinayapiṭaka and many more); cp. E. Sieg / W. Siegling, Festschrift M. Winternitz, Leipzig 1933, 167 sqq. or, vice versa, F. Bernhard's edition of the Udānavarga (l.c.) or E. Waldschmidt's edition of the Catuṣpariṣatsūtra (Vol. I, Berlin 1952). E.g., 217b 6 sq. (≈ UA 21, 12) corresponds to Uv. 21,1, DP 353, CPS 10,5, MV III, 326, 5-8, Vin. I, 6,8 and others.

4. Cross-referencing and electronic retrieval

4.1. Task: Simple indication of parallels as in many printed editions (cp. Fig. 4 showing Brough's edition of the GDP with parallels from Uv. and DP indicated and Fig. 5 showing cross references indicated in Bernhard's edition of Uv.) should be overcome by immediate automatic access to parallel texts when treated electronically.



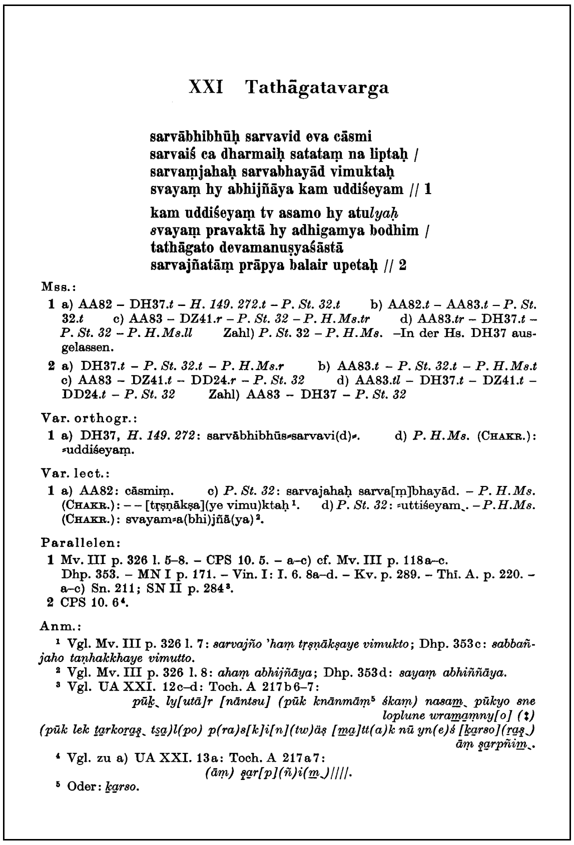
THE GĀNDHĀRĪ DHARMAPADA 121

15 na bramaṇasediṇa kiji bhodi yo na nisedhe maṇasa pri'aṇi yado yado y=asa maṇo nivartadi tado tado samudim aha saca. (15) O. 16	390 †na brāhmaṇass' etad akiñci seyyo yadā nisedho manaso piyehi yato yato hiṃsamano nivattati tato tato sammati-m-eva dukkhaṃ.
	Uv. xxxiii. 87 ji ltar mi sdug pa las yid ldog pa de ḥdra bram ze rnams la cuṅ zad med ji lta ji ltar de yi yid ldog pa de lta de ltar kun rdzob bden par zad.
16 brahetva pavaṇi brammaṇo sama'irya śramaṇo di vucadi parvahi'a atvaṇo mala tasa parva'ido di vucadi. (16) O. 17	388 bāhita-pāpo ti brāhmaṇo samacariyā samaṇo ti vuccati pabbājayaṃ attano malaṃ tasmā pabbajito ti vuccati. xi. 15 (T. 16)
17 na aho brammaṇa bromi yoṇeka-matra-sabhamu bho-va'i namu so bhodi sayi bhodi sakijaṇo akijaṇa aṇadaṇa tam aho bro mmaṇa.[1] (17) O. 18	396 na cāhaṃ brāhmaṇaṃ brūmi yonijaṃ matti-saṃbhavaṃ bho-vādi nāma so hoti sace[2] hoti sakiñcano akiñcanaṃ anādānaṃ tam ahaṃ brūmi brāhmaṇaṃ. xxxiii. 18 (R. 17)
18 niha'i daṇa bhudeṣu traseṣu thavareṣu ca yo na hadi na ghadhedi tam aho bromi bramaṇa. (18) O. 19	405 nidhāya daṇḍaṃ bhūtesu tasesu thāvaresu ca yo na hanti na ghāteti tam ahaṃ brūmi brāhmaṇaṃ. xxxiii. 47 (R. 45)
19 yo du drigha ci rasa ji aṇo-thulu śuhaśuhu loki adiṇa na adi'adi tam aho brommi bramaṇa. (19) O. 20	409 yo dha dīghaṃ va rassaṃ vā aṇuṃ-thūlaṃ subhāsubhaṃ loke adinnaṃ nādiyati tam ahaṃ brūmi brāhmaṇaṃ. xxxiii. 29 (R. 28)
20 yo du kama prahatvaṇa aṇakare parivaya kama-bhoka-parikṣiṇa tam aho bromi bramaṇa. (20) O. 21	415 yo dha kāme pahatvāna anāgāro paribbaje kāma-bhava-parikkhīṇaṃ tam ahaṃ brūmi brāhmaṇaṃ. xxxiii. 46 (R. 44)
21 vari puṣkara-patre va arage-r-iva sarṣava yo na lipadi kamehi tam ahu bromi brammaṇa. (21) O. 22	401 vāri pokkhara-patte va āragge-r-iva sāsapo yo na lippati kāmesu tam ahaṃ brūmi brāhmaṇaṃ. xxxiii. 35 (R. 34)

i.e. *bromi brammaṇa.*

[2] Sn. 620, and Dhp. A. ed. *ve.*

Fig. 4:Indication of cross references in GDP edition



XXI Tathāgatavarga

sarvābhibhūḥ sarvavid eva cāsmi
sarvaiś ca dharmaiḥ satataṃ na liptaḥ /
sarvaṃjahaḥ sarvabhayād vimuktaḥ
svayaṃ hy abhijñāya kam uddiśeyam // 1

kam uddiśeyaṃ tv asamo hy atu*lyaḥ*
***s*vayaṃ pravaktā hy adhigamya bodhim /**
tathāgato devamanuṣyaśāstā
sarvajñatāṃ prāpya balair upetaḥ // 2

Mss.:

1 a) AA82 – DH37.*t* – *H. 149. 272.t* – *P. St. 32.t* b) AA82.*t* – AA83.*t* – *P. St.* 32.*t* c) AA83 – DZ41.*r* – *P. St. 32* – *P. H. Ms.tr* d) AA83.*tr* – DH37.*t* – *P. St. 32* – *P. H. Ms.ll* Zahl) *P. St.* 32 – *P. H. Ms.* –In der Hs. DH37 ausgelassen.

2 a) DH37.*t* – *P. St. 32.t* – *P. H. Ms.r* b) AA83.*t* – *P. St. 32.t* – *P. H. Ms.t* c) AA83 – DZ41.*t* – DD24.*r* – *P. St. 32* d) AA83.*tl* – DH37.*t* – DZ41.*t* – DD24.*t* – *P. St. 32* Zahl) AA83 – DH37 – *P. St. 32*

Var. orthogr.:

1 a) DH37, *H. 149. 272*: sarvābhibhūs=sarvavi(d)=. d) *P. H. Ms.* (Chakr.): =uddiśeyaṃ.

Var. lect.:

1 a) AA82: cāsmiṃ. c) *P. St. 32*: sarvajahaḥ sarva[ṃ]bhayād. – *P. H. Ms.* (Chakr.): – – [tṛṣṇākṣa](ye vimu)ktaḥ[1]. d) *P. St. 32*: =uttiśeyam. – *P. H. Ms.* (Chakr.): svayam=a(bhi)jñā(ya)[2].

Parallelen:

1 Mv. III p. 326 l. 5–8. – CPS 10. 5. – a–c) cf. Mv. III p. 118a–c.
Dhp. 353. – MN I p. 171. – Vin. I: I. 6. 8a–d. – Kv. p. 289. – Thī. A. p. 220. – a–c) Sn. 211; SN II p. 284[3].
2 CPS 10. 6[4].

Anm.:

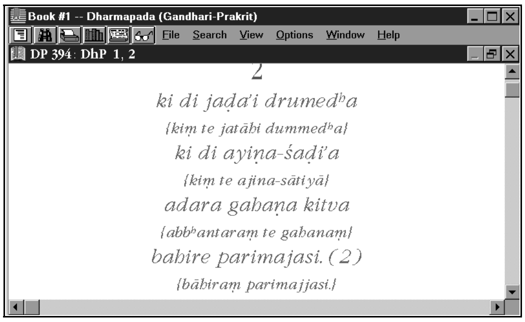
[1] Vgl. Mv. III p. 326 l. 7: *sarvajño 'haṃ tṛṣṇākṣaye vimukto*; Dhp. 353c: *sabbañjaho taṇhakkhaye vimutto.*
[2] Vgl. Mv. III p. 326 l. 8: *ahaṃ abhijñāya*; Dhp. 353d: *sayaṃ abhiññāya.*
[3] Vgl. UA XXI. 12c–d: Toch. A 217b6–7:
pūk ly[utā]r [nāntsu] (pūk knānmāṃ[5] śkaṃ) nasam pūkyo sne loplune wramaṃny[o] (:)
(pūk lek ṯarkoraṣ tsa)l(po) p(ra)s[k]i[n](tw)äṣ [ma]tt(a)k nū yn(e)ś [karso](raṣ) āṃ ṣarpñim.
[4] Vgl. zu a) UA XXI. 13a: Toch. A 217a7:
(āṃ) ṣar[p](ñ)i(m)////.
[5] Oder: *karso.*

Fig. 5: Indication of cross references in Uv. edition

4.2. Simple solution: editing of related text passages side by side within one file (cp. Fig. 6 showing GDP 1, 2 with its equivalent, DP 394, arranged interlinearily)

4.2.1. Shortcoming: Loss of readability

4.2.2. Problem not to be covered easily by retrieval software: Separate treatment of several languages within one text (here: Gāndhārī Prakrit vs. Pāli)



2

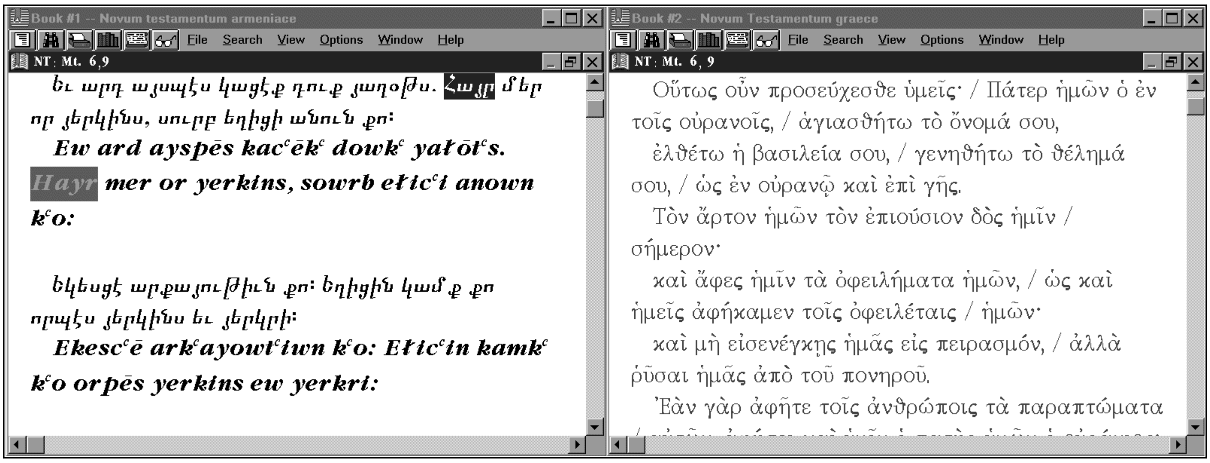
ki di jaḍa'i drumed^ha
{kiṃ te jatābi dummed^ha}
ki di ayiṇa-śaḍi'a
{kiṃ te ajina-sātiyā}
adara gahaṇa kitva
{abbʰantaraṃ te gahanaṃ}
bahire parimajasi. (2)
{bāhiraṃ parimajjasi.}

Fig. 6: GDP 1,2 contrasted with DP 394

4.3. Sophisticated solution: "Synchronizing of texts" (Wordcruncher solution; cf. http://www.wordcruncher.com)

4.3.1. Requirement: Common segmentation of the texts to be synchronized

4.3.1.1. This is easy in, e.g., Bible tradition where the same segmentation of texts has been used traditionally (e.g. Mt. 6,9 [cp. Fig. 7 showing synchronous arrangement of the Armenian and Greek New Testament] or 2.Chr. 13,12) with but a few exceptions (esp. in OT: Jer.)


Book #1 -- Novum testamentum armeniace
File Search View Options Window Help
NT : Mt. 6,9
Book #2 -- Novum Testamentum graece
File Search View Options Window Help
NT : Mt. 6, 9

եւ արդ այսպէս կացէք դուք յաղօթս. Հայր մեր որ յերկինս, սուրբ եղիցի անուն քո։

Ew ard ayspēs kac^{c}ēk^{c} dowk^{c} yałōt^{c}s. Hayr mer or yerkins, sowrb ełic^{c}i anown k^{c}o:

եկեսցէ արքայութիւն քո։ եղիցին կամք քո որպէս յերկինս եւ յերկրի։

Ekesc^{c}ē ark^{c}ayowt^{c}iwn k^{c}o: Ełic^{c}in kamk^{c} k^{c}o orpēs yerkins ew yerkri:

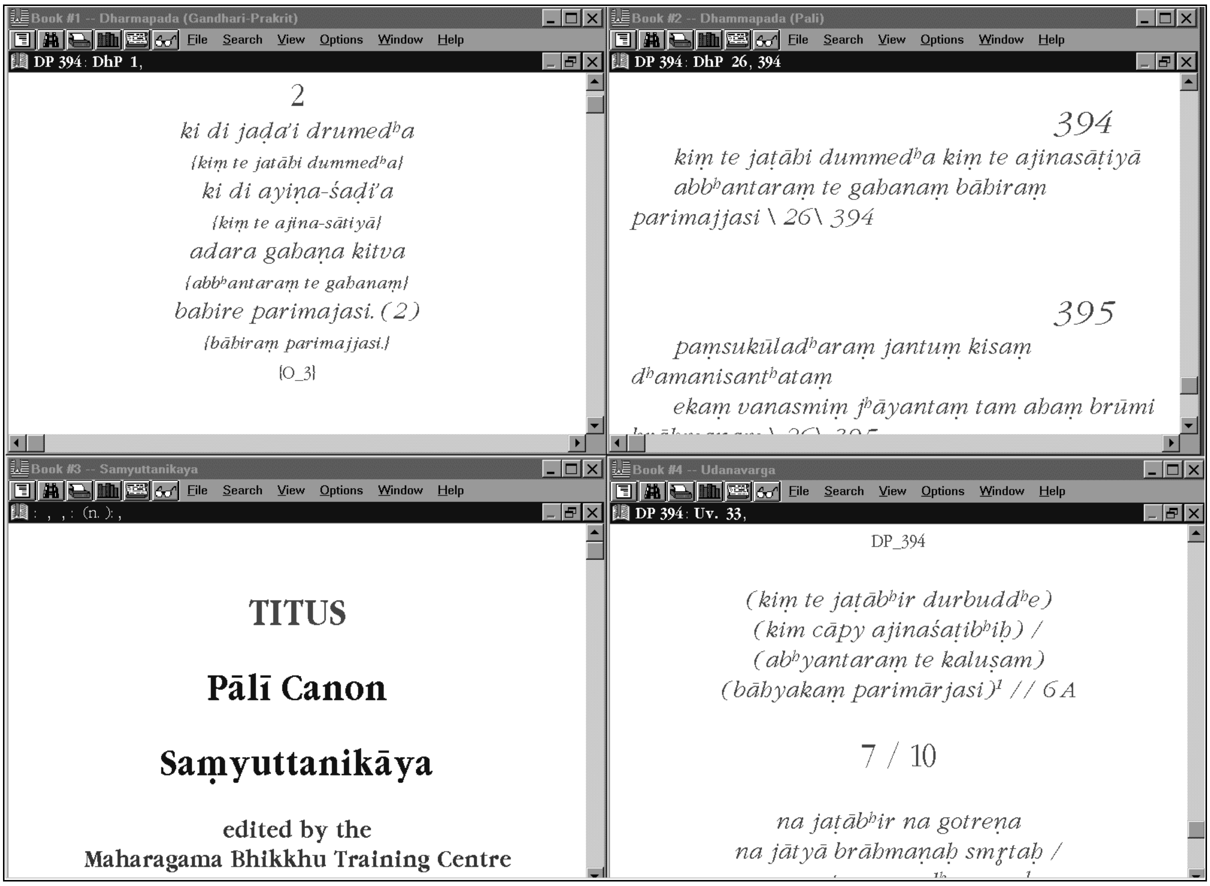
Οὕτως οὖν προσεύχεσθε ὑμεῖς· / Πάτερ ἡμῶν ὁ ἐν τοῖς οὐρανοῖς, / ἁγιασθήτω τὸ ὄνομά σου,
ἐλθέτω ἡ βασιλεία σου, / γενηθήτω τὸ θέλημά σου, / ὡς ἐν οὐρανῷ καὶ ἐπὶ γῆς.
Τὸν ἄρτον ἡμῶν τὸν ἐπιούσιον δὸς ἡμῖν / σήμερον·
καὶ ἄφες ἡμῖν τὰ ὀφειλήματα ἡμῶν, / ὡς καὶ ἡμεῖς ἀφήκαμεν τοῖς ὀφειλέταις / ἡμῶν·
καὶ μὴ εἰσενέγκῃς ἡμᾶς εἰς πειρασμόν, / ἀλλὰ ῥῦσαι ἡμᾶς ἀπὸ τοῦ πονηροῦ.
Ἐὰν γὰρ ἀφῆτε τοῖς ἀνθρώποις τὰ παραπτώματα

Fig. 7: Mt. 6, 9 in Armenian and Greek

4.3.1.2. Synchronizing is not easy where no such common segmentation exists as in the case of the Dhammapāda equivalents, not to mention the prose texts.

4.3.2. Actual solution: Inserting common references as highest order segmentation units in the texts. Cp. Fig. 8 showing GDP 1,2 synchronized with DP 394 and Uv. 33,6; Fig. 9 showing Toch. A 217b 6 [21,12] synchronized [in two arrangements] with DP 353 and Uv. 21,1; Fig. 10 showing GDP 1,6 synchronized with the Pāli prose text Saṃyuttanikāya I, 167; Fig. 11 showing Toch. A 217b 5 [21,12] synchronized [in two arrangements] with CPS 10,2.

4.4. Task for the future: Extending the reference system to further texts of the Pāli Canon as well as to other branches of Buddhist tradition (Chinese, Tibetan, etc.).


Book #1 -- Dharmapada (Gandhari-Prakrit)
File Search View Options Window Help
DP 394: DhP 1,
Book #2 -- Dhammapada (Pali)
File Search View Options Window Help
DP 394: DhP 26, 394
Book #3 -- Samyuttanikaya
File Search View Options Window Help
: , , : (n.): ,
Book #4 -- Udanavarga
File Search View Options Window Help
DP 394: Uv. 33,

2

ki di jaḍa'i drumed^{h}a
{kiṃ te jatābi dummed^{h}a}
ki di ayiṇa-śaḍi'a
{kiṃ te ajina-sātiyā}
adara gahaṇa kitva
{abb^{h}antaraṃ te gahanaṃ}
babire parimajasi. (2)
{bāhiraṃ parimajjasi.}
{O_3}

394

kiṃ te jaṭāhi dummed^{h}a kiṃ te ajinasāṭiyā
abb^{h}antaraṃ te gahanaṃ bāhiraṃ
parimajjasi \ 26\ 394

395

paṃsukūlad^{h}araṃ jantuṃ kisaṃ
d^{h}amanisant^{h}ataṃ
ekaṃ vanasmiṃ j^{h}āyantaṃ tam ahaṃ brūmi

TITUS

Pālī Canon

Saṃyuttanikāya

edited by the
Maharagama Bhikkhu Training Centre

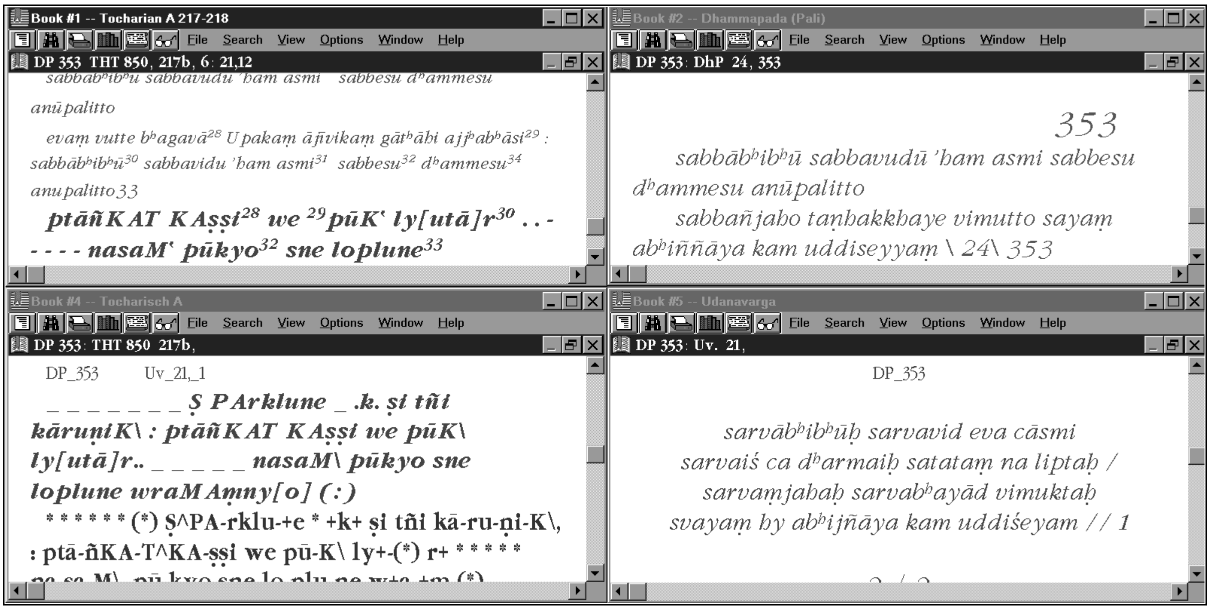
DP_394

(kiṃ te jaṭāb^{h}ir durbudd^{h}e)
(kim cāpy ajinaśaṭib^{h}iḥ) /
(ab^{h}yantaraṃ te kaluṣam)
(bāhyakaṃ parimārjasi)[1] *// 6A*

7 / 10

na jaṭāb^{h}ir na gotreṇa
na jātyā brāhmaṇaḥ smṛtaḥ /

Fig. 8: GDP 1, 2 synchronized with DP and Uv. 33,6


Book #1 -- Tocharian A 217-218
File Search View Options Window Help
DP 353 THT 850, 217b, 6: 21,12
Book #2 -- Dhammapada (Pali)
File Search View Options Window Help
DP 353: DhP 24, 353
Book #4 -- Tocharisch A
File Search View Options Window Help
DP 353: THT 850 217b,
Book #5 -- Udanavarga
File Search View Options Window Help
DP 353: Uv. 21,

sabbab^{h}ib^{h}u sabbavudu 'ham asmi sabbesu d^{h}ammesu
anūpalitto
evaṃ vutte b^{h}agavā[28] *Upakaṃ ājīvikaṃ gāt^{h}āhi ajj^{h}ab^{h}āsi*[29] *:*
sabbāb^{h}ib^{h}ū[30] *sabbavidu 'ham asmi*[31] *sabbesu*[32] *d^{h}ammesu*[34]
anupalitto33
ptāñKAT KAṣṣi[28] ***we*** [29]***pūK' ly[utā]r***[30] ***. . -***
- - - - nasaM' pūkyo[32] ***sne loplune***[33]

353

sabbāb^{h}ib^{h}ū sabbavudū 'ham asmi sabbesu
d^{h}ammesu anūpalitto
sabbañjaho taṇhakkhaye vimutto sayaṃ
ab^{h}iññāya kam uddiseyyaṃ \ 24\ 353

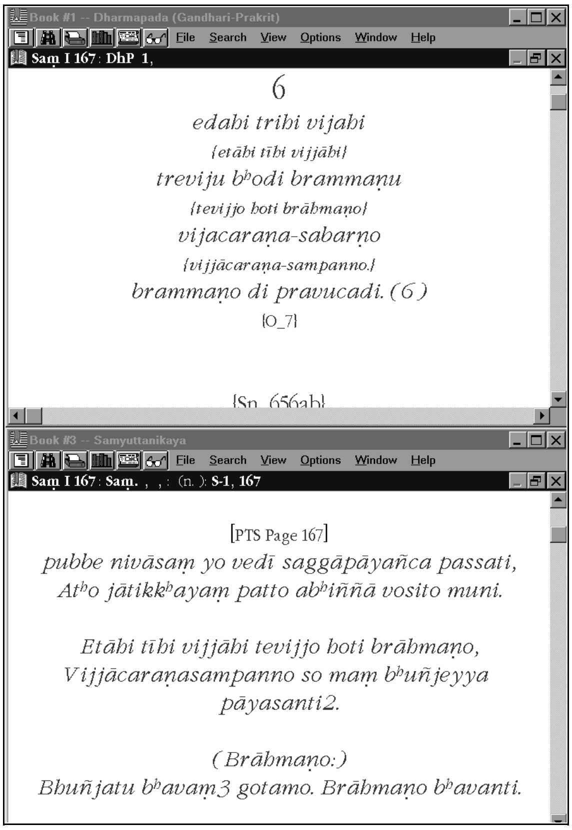
DP_353 Uv_21,_1

_ _ _ _ _ _ _ _ Ṣ PArklune _ .k. ṣi tñi
kāruṇiK\ : ptāñKAT KAṣṣi we pūK
ly[utā]r.. _ _ _ _ _ nasaM\ pūkyo sne
loplune wraM Aṃny[o] (:)
* * * * * * (*) Ṣ^PA-rklu-+e * +k+ ṣi tñi kā-ru-ṇi-K\,
: ptā-ñKA-T^KA-ṣṣi we pū-K\ ly+-(*) r+ * * * * *

DP_353

sarvāb^{h}ib^{h}ūḥ sarvavid eva cāsmi
sarvaiś ca d^{h}armaiḥ satataṃ na liptaḥ /
sarvaṃjahaḥ sarvab^{h}ayād vimuktaḥ
svayaṃ hy ab^{h}ijñāya kam uddiśeyam // 1

Fig. 9: Toch. A 217b 6 [21,12] synchronized with DP 353 and Uv. 21,1


Book #1 -- Dharmapada (Gandhari-Prakrit)
File Search View Options Window Help
Saṃ I 167 : DhP 1,

6

edabi tribi vijabi
{etābi tībi vijjābi}
treviju b^{h}odi brammaṇu
{tevijjo boti brāhmaṇo}
vijacaraṇa-sabarṇo
{vijjācaraṇa-sampanno.}
brammaṇo di pravucadi. (6)
{O_7}

{Sn_656ab}

Book #3 -- Samyuttanikaya
File Search View Options Window Help
Saṃ I 167 : Saṃ. , , : (n.): S-1, 167

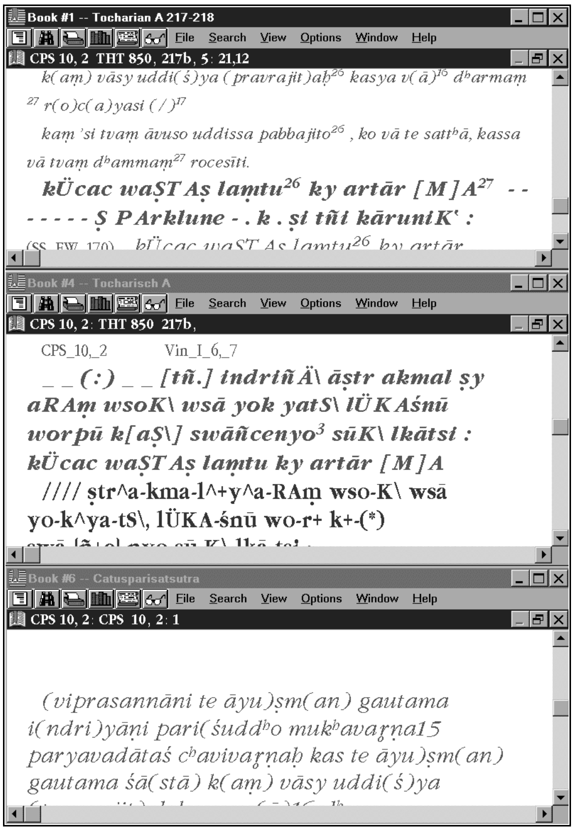
[PTS Page 167]

pubbe nivāsaṃ yo vedī saggāpāyañca passati,
At^{h}o jātikk^{h}ayaṃ patto ab^{h}iññā vosito muni.

Etābi tībi vijjābi tevijjo boti brābmaṇo,
Vijjācaraṇasampanno so maṃ b^{h}uñjeyya
pāyasanti2.

(Brābmaṇo:)
Bhuñjatu b^{h}avaṃ3 gotamo. Brābmaṇo b^{h}avanti.

Fig. 10: GDP 1,6 with Saṃ. I, 167


Book #1 -- Tocharian A 217-218
File Search View Options Window Help
CPS 10, 2 THT 850, 217b, 5 : 21,12

k(aṃ) vāsy uddi(ś)ya (pravrajit)aḥ[26] kasya v(ā)[16] d^{h}armaṃ [27] r(o)c(a)yasi (/)[17]

kaṃ 'si tvaṃ āvuso uddissa pabbajito[26] , ko vā te satt^{h}ā, kassa vā tvaṃ d^{h}ammaṃ[27] rocesīti.

kÜcac waṢT Aṣ laṃtu[26] ky artār [M]A[27] - - - - - - - Ṣ PArklune - . k . ṣi tñi kāruniK' :

(SS_EW_170) *kÜcac waST Aṣ lamtu[26] ky artār*

Book #4 -- Tocharisch A
File Search View Options Window Help
CPS 10, 2 : THT 850 217b,

CPS_10,_2 Vin_I_6,_7

_ _ (:) _ _ [tñ.] indriñÄ\ āṣtr akmal ṣy aRAṃ wsoK\ wsā yok yatS\ lÜKAśnū worpū k[aṢ\] swāñcenyo[3] sūK\ lkātsi : kÜcac waṢT Aṣ laṃtu ky artār [M]A

//// ṣtr^a-kma-l^+y^a-RAṃ wso-K\ wsā yo-k^ya-tS\, lÜKA-śnū wo-r+ k+-(*)

Book #6 -- Catusparisatsutra
File Search View Options Window Help
CPS 10, 2 : CPS 10, 2 : 1

(viprasannāni te āyu)ṣm(an) gautama i(ndri)yāṇi pari(śudd^{h}o muk^{h}avaṛṇa15 paryavadātaś c^{h}avivaṛṇaḥ kas te āyu)ṣm(an) gautama śā(stā) k(aṃ) vāsy uddi(ś)ya

Fig. 11: Toch. A 217b 5 with CPS 10,2