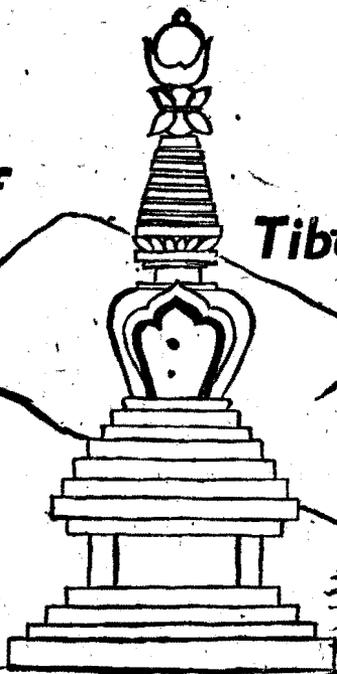


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—The Bulletin of Tibetology seeks to serve the specialist as well as the general reader with an interest in this field of study. The motif portraying the Stupa on the mountains suggests the dimensions of the field—

EDITORS

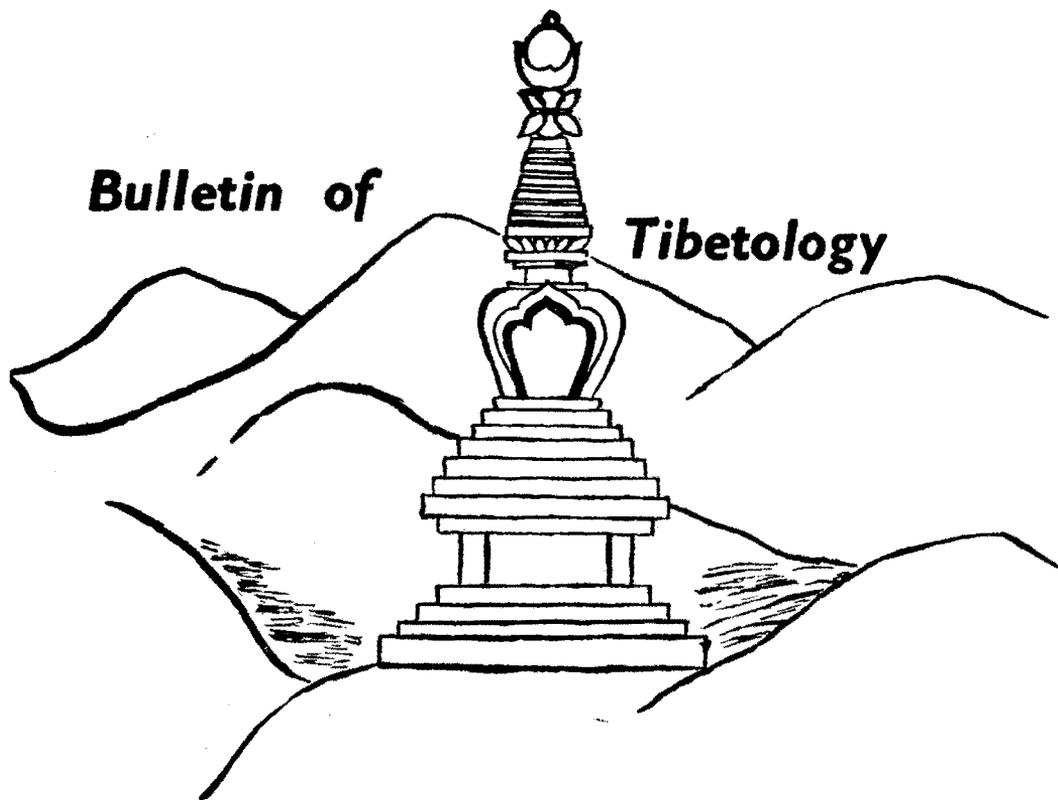
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FURTHER FRAGMENTS FROM TUN HUANG

—HUGH E. RICHARDSON

In vol.II no. 3 of this Bulletin I examined a fragment which has been omitted from the end of the Annals section of *Documents de Touen Houang relatifs a l'Histoire du Tibet*, Bacot, Thomas and Toussaint, 1946 (THD). The passages to which I now draw attention come from the beginning of the short section on Ancient Principalities etc. (pp.80-82) and from the end of the Chronicle (p 122). These fragments provoke more questions than they answer; but the historical and semi-historical documents from Tun Huang are of such rare value that every available sentence deserves to be studied.

The editors of THD state that the 5 lines which they omit from the beginning of the Principalities section are much damaged and are separated from the main body of the text by a considerable interval. The late Mlle Lalou has transliterated 3 of the lines in no. 1286 of her *Inventaire des manuscrits tibetains de Touen Houang* (LINV) and has quoted them at p-161 of an article in *Journal Asiatique* 1959 (JA). As I have no photographic or other copy of the mss I can refer at present to those 3 lines only. The Tibetan text as given by Mlle Lalou is as follows; the attempted translation is mine.

(1) //gna gnyen mtha' bzhi'i rabs la//lde'i gang bar na//lde za'i gang rag ma/skyi la mda' na/ skyi za'i 'd (2) //dags kyi bshen mkhar na/dags za'i gyim pang ma'//mchims yul gyi dngul khur na/mchims . . . (3) . . . sha tshang ma' // gnyen ni mtha' bzhi // chab ni

“As for the lineage of those who of old were associates on the four borders : in the midst of the snows of the lDe, the lDe lady Gang rag ma; in the valley of sKyi, the sKyi lady 'D. . . . ; in bShen mkhar of Dags, the Dags lady Gyim pang ma' ; in dNgul khur of the mChims country, the mChims lady Sha tshang ma' . As for the associates on the four borders, their dominion.”

The several different versions of the lists of principalities bordering on the territory of the Tibetan kings have been analysed by Mlle Lalou among her many memorable contributions to the study of the Tun Huang documents (JA 1965); I am concerned here only with some of the problems which this small fragment adds to an already complicated subject.

In some of the lists the princes, their capitals, consorts, and ministers are variously named. This fragment, which perhaps has no direct connection with the remainder of the *ms* reproduced at pp 80-82 of THD, mentions only the consorts and their residences. The form *za'i*, rather than *za*, may strictly mean "in the capacity of consort" but I have translated it simply as though it were *za*.

lDe is one of the dynastic names of the kings of Tibet whose seat was in the Yar-lung valley. The lady Gang-rag-ma does not figure in any of Mlle Lalou's lists but a lDe-za Gag-kar is named in LINV 1039 and a lord of Ga-gar ltangs in Yar-lung is named in LINV 1285 which Mlle Lalou has edited in JA 1959.

The lady of sKyi, whose name is effaced here, appears in other lists simply as sKyi blag gi btsun mo — the queen of the master of sKyi. The mChims lady, Sha-tshang-ma is named in LINV 1039 but the place dNgul khur (Load of Silver), which recalls dNgul-mkhar in Zhang-zhung, is not mentioned elsewhere.

Dags has been left for special mention. bShen-mkhar appears to be a place name; but in other lists the capital of Dags is called Shing-nad, Shing-nag, or Gru-bzhi. The name of the lady, here given as Gyim-pang, appears in other lists as Khung-phangs. The reading Gyim turns ones thoughts to two documents in *An Ancient Folk Literature From N.E. Tibet* by F.W. Thomas (AFL pp 16-19, 40-41) in which there are lengthy but obscure stories about a Gyim-po family. Where they lived is not clear but since names in the documents are given both in "the language of sPu-rgyal Tibet" and in "the language of Nam-pa" the Gyim-po must have had close connection with those two regions. Nam, which Thomas placed to the S.E. of the Kokonor region, has also been identified with the Nan Chao kingdom (R.A. Stein. Deux Notules, JA 1963, note. p. 335). That is a long way from Dags-po; but the ruler may well have been supposed to have taken his consort from some other country. Gyim-po is also mentioned in a fragmentary inscription on the remains of a stone pillar from a site near Zhwa'i Lhakhang which was the territory of the Myang clan (JRAS April 1953 pp. 10-11). There it is associated with ancestral tribal names connected with Eastern Tibet—Cho phyi; mDa ' ; Tse : and Phyug-po (See AFL. 6,30, 40; and R.A. Stein, *Les Tribus Anciennes des Marches Sino-Tibetaines*, Paris 1959, pp 5,12,16,57).

Although the lists of principalities contain at least one name—viz. Lig Snya-shur—which it appears possible to place approximately in the early seventh century, other names go back to the legendary past and there is no way of fixing the lists in any particular period. That applies to the lady Gyim-pang in the fragment; but the syllable Gyim appears also in the names of persons who can be assigned to a historical setting.

For example, sPug Gyim-tang rmang-bu was a vassal of Nag-seng of Tshes-pong, one of the nobles who combined to establish the grand-father and father of Srong-brtsan sGam-po in power. sPug Gyim-tang killed his wife for fear that she might betray the conspiracy in which he was engaged (THD 104, 105 and 136). Those events can be put c 580 A.D. Later, one sPug Gyim-rtzan rma-chung is recorded in the Tun Huang Annals as being sent in 653 to take charge of the administration of Zhang-zhung (THD. pp 13, 31). He is presumably the same as sPug Gyim-rtsang rmang-cung who went to help the sister of the Tibetan king who had been married to Lig myi rhya, ruler of Zhang-zhung, and was badly treated by him. The visit ended in the subjugation of Zhang-zhung (THD. pp 115-117, and 155-158). Although the rulers' names do not agree exactly, that event is probably to be placed c 645 about which time as the Annals record "Lig snya shur was destroyed and all Zhang-zhung subjected" (THD pp 13 and 29). A later subjugation of Zhang-zhung in 677/678 (THD p 15) will not fit because the affair took place during the life time of Srong-brtsan sGam-po. If that is so, sPug Gyim-rtzan's experience in the affair of the princess may have been rewarded later by the appointment as governor. The name sPug, which has an un-Tibetan ring appears in the lists of principalities as that of a minister of sKyī (whose ruler's name was rmang-po). The capital of sKyī is given as lJang, a name associated with Nan Chao (Nam). sPug also appears in the name of a monk apparently of non-Tibetan origin in the time of Khri lDe-gtsug-brtsan (LINV 996). The name may derive from some branch — perhaps an eastern one — of the widespread complex of peoples known as Zhang-zhung, whose western extension was in the kingdom of Lig snya shur in the neighbourhood of Lake Manasarowar. There would be nothing unusual in the use of such a person for dealing with others of similar racial origin. Another example can be seen in the activities of the cunning minister Spung sad Zu-tse who took part in the subjection of some Zhang-zhung peoples to Srong-brtsan sGam-po's father (TLTD II 54 and THD 139). The description of him as Khyung-po identifies him as belonging to a Zhang-zhung tribe; and the syllable sPung appears in other Zhang-zhung names e.g. Ra-sang-rje spung-rhye ryung (THD 34) - and cf. sNya-shur spu-ngas rye rkyug (THD 33). Spung-sad Zu-tse was responsible for the fall of the great great Minister Zhang-snang of Myang, whom he supplanted c. 632 A.D. Associated with him in that coup was a man named Pa-tshab Gyim-po who was a vassal of Myang. The reason for Pa-tshab's hostility to his overlord can be seen in the events leading to the establishment of the Yar-lung dynasty. The father of Myang Zhang-snang, a minister of a local prince probably in the upper valley of the Lhasa river, found himself on the losing side in warface with the prince of Ngas-po and was subjected to the overlordship of one of the ministers of his conqueror. The minister, Mnyan Ji-zung, was married to a lady of Pa-tshab who proceeded to humiliate the new vassal. Myang, therefore, organised a

conspiracy against his new masters and in favour of the ruler of Yar-lung, The venture was successful. The prince of Ngas-po was signally defeated; and Mnyan and his lady were made subjects of their one-time vassal Myang. A Pa-tshab was, therefore, ready for revenge when an opportunity presented itself to help in the destruction of Myang Zhang-nang. (See Bulletin II. 1 and II. 3).

Mention of a person with the possibly eastern name of Gyim-po, who was also a member of the Pa-tshab clan brings us to the second fragment which is printed at the end of the Tun Huang Chronicle (THD p 122), but has not been translated there owing to its damaged condition. It is a typical example of the Chronicle style, a historical incident being illustrated by songs which are packed with allusion and aphorisms in language very similar to much of AFL. The transcription which follows has been revised slightly on the basis of a photostat of the *ms* which is fairly clear for the first half; for the rest I have generally accepted the version in THD although some of its readings are dubious. I have inserted in *italics* a few conjectural readings for which there seems adequate basis; and I have attempted a translation of those parts of the fragment which can be put into a historical setting or which are long enough to provide some meaning.

(1) *mgar mang po rje stag rtsan dang pa tshab rgyal to re rgya la bros pa'i*
tshe// pa tshab rgyal to res klu blangs pa' (2).....na las//
sman sha ni la 'da's kyang/ sha bkra' ni slad lus/na ning (3)
gres bu ni spad bzangs nas/ ma srin ni sdug gis bskyel/ tsong ka ni che su (4)
..... /rje'i ni skal pog pa rgya rje ni bsam lang zhiq
/pur myi ni skal pa ru rgya.. (5).....chag pa// mgar mang po rje
stag rtsan kyi mchis brang//cog ro za khyo dang ldan chig rgya la (6).....
mchid blangs pa'//nyen kar ni stag rtse nas/ lcags kyi ni khyim. zhiq rgya ni
na lo dra nas (7).....dud brda btang/ meg le ni glang
mar nas/ gser gyi ni sha la 'drongs// ...ogs so ni (8) 'da's
so ni hab chen gong/ 'drims so ni so go rtsa/brkyang so ni/ /yang dang steng
(9).....ning snga/ jo pho ni stag rtsan dang/ rgya rje ni bsam lang
gnyis/ bstcd.....ni do re (10)..... ni sang lta na//
'brong bu ni rkos brag te/ na rtsi ni bgor....la.... ..(11) sgrol //

“When mGar Mang-po-rje sTag-rtsan and Pa-tshab rGyal-to-re fled to China Pa-tshab sang this song ”
 Even if medicine has been put on the flesh, leprosy remains ever after. When they are old, even if their menfolk are wise, mother and daughter are pursued by sorrow. In great Tsong-ka.....
 The one whose lot it is to be ruler is Emperor of China. As for the man of Tibet*, in his lot, China.....is broken.” The wife

* *pur myi* = *spur-my* ? referring to sPu-rgyal Bod.

of mGar Mang-po-rje sTag-rtsan, the lady of Cog-ro.....to China, spoke like this : "From Nyen-kar sTag-rtse, a dwelling of iron (or" in lCags ?). In China itself ... from the net. sent smoke signals (or " sent signs of submission ?).. From Meg-le glang-mar. (about one and half lines omitted). The lord sTag-rtsan and the Chinese Emperor bSam-lang, these two. Praised....." (the remainder is too obscure to attempt)

In spite of the damaged nature of the passage it can be seen to refer to the fall of the mGar family in 698/699 after some 50 years as effective rulers of Tibet. The Chief Minister at the time was mGar Khri-bring bTsan-brod, son of Srong-brtsan sGam-po's great minister, sTong-rtsan yul-zung. In the Tibetan Annals Khri-'bring alone is named as involved in the disaster to his family (THD 39) but from the T'ang Annals it is learnt that when his troops would not fight against the Tibetan king Khri-'bring committed suicide together with many of his entourage. Other members of the family fled to China, among them a brother of Khri-'bring named Tsanpo, and Mangpuchich, the son of his elder brother. This can hardly be anyone but the mGar-po-rje sTag-rtsan of the fragment. In *Deux Notules*, referred to above, Professor Stein in a note, which deserves to be developed into an essay, quotes the T'ang Annals as recording the great honours given to a son of Khri-'bring, named Louen Kong-jen, who submitted to China in 699 bringing with him 7000 tents of the 'A-zha. This too must be the Mang-po-rje of the fragment. The influence of Khri-'bring in the 'A-zha country is seen in many entries in THD and there is mention of other members of the mGar in that region including one mGar Mang-nyen; but the family, or clan, was too extensive to attempt to identify him with Mang-po-rje.

The name of the Chinese Emperor bSam-lang appears also in line 26 of the East face of the Lhasa Treaty Inscription (rgya rje sam lang. . . .) where it certainly refers to the Emperor Hsuan Tsung (713-756) though how the name came to be applied to him is not clear. Nor is it clear why that name is mentioned in connection with the flight of mGar Mang-po-rje which took place 14 years before his accession, during the reign of the usurping Empress Wu. Although her activities are known to the author of the Blue Annals, they have made no impression on contemporary Tibetan records; or it may be that by the time when the song came to be recorded, the memory of the Emperor who had sent the Chinese princess Mun-sheng as bride to Khri lDe-gtsug-brtsan had effaced most others.

The association of the Pa-tshab clan with the mGar is seen in (THD p 37) which records joint operations in 690 by mGar 'Bring-rtsan rtsang-ston and Pa-tshab rGyal-stan thom-po. A common interest

may have existed for some time. Pa-sthab, as has been seen, were associated with a minister of Ngas-po who was hostile to Myang. The lists of principalities show that mGar were also ministers of Ngas-po and although there is no evidence that mGar took an active part in opposing Myang and his protege the ruler of Yar-lung, they were not among his supporters. Later, although there is nothing to suggest that mGar joined with Pa-tshab and Zu-tse in the plot against Myang-sang, they were waiting in the wings and as soon as the alien Zu-tse, who seems to have had no clan to support him, was removed from the scene, mGar sTong-rtsan was ready to take up a position similar to that formerly enjoyed by the Myang.

Returning to Mang-po-rje sTag-rtsan : it emerges from the fragment that his wife was from Cog-ro. That clan first appears in Tibetan history as sharing in the fall of Myang Zhang-snang, and therefore on the other side from Pa-tshab. It is not named in the lists of principalities nor among the legendary ministers of early Tibet and may, therefore, have been of very remote or of humble origin. On the fall of the mGar a lady of Cog-ro became the wife or mistress of the Tibetan king 'Dus-srong. Although allusions to that union in the Chronicle are obscure, it appears to have been distasteful to one Khe-rgad mdo-smang who, after the death of 'Dus-srong, took part unseccessfully in what must have been strife about the succession (THD 165-167, and 40). Later histories state that a Cog-ro minister escorted the body of 'Dus-srong back to central Tibet from the east. Thereafter, the clan appears as active in 'A-zha country and perhaps as being allied in marriage to the ruler of the 'A zha (TLTD. II 8-10). It continued to take a prominent part in Tibetan affairs down to the death of Ral-pa-can who married a lady of that clan and among whose murderers was one Cog-ro lha-lhod. The original home of the clan is uncertain but their association with the 'A-zha and the description of the lady of Cog-ro as 'Da', Cog-ro za suggests an eastern home, perhaps connected with the Tshwa'i-'dam marshes. It is unfortunate that the fragment lacks the one word which would have shown whether the lady of CorG Cog-ro did (as one might expect) or did not accompany her on his flight to China. As she and the lady associated with 'Dus-srong at about the same time are both described simply as Cog-ro za it is possible that they are one and the same and that the wife of mGar sTag-rtsan was either captured by the king or joined him willingly. The tone of Khe-rgad's song — calling her a "widow" and apparently abusive of her — suggests the latter. At all events, the fragment makes it appear that re-examination of the connected songs in THD might be fruitful. The translators have missed the point that Khri gDa's (THD p 921) is the name of a noble of the 'Bro clan who was associated with the Cog-ro at the 'A-zha court about the years 706 to 710 in connection with the arrival of the Chinese princess as bride to the Tibetan king. One further speculation about the Cog-ro lady of the fragment suggested

by the name of the Chinese king who reigned from 713 to 756. The two songs may relate to two different occasions and it might be that the lady of Cog-ro became the wife of mGar Mang-po-rje after the death of 'Dus-srong; but this seems to be an improbable strain on the construction.

The allusion to Nyen-kar raises another crop of speculations. A place of that name was almost continuously the residence of the Tibetan king 'Dus-srong from the first year of his life in 677 until his sixteenth year (693) during which time the power of the mGar was supreme. Nyen-kar had been the residence of an earlier king, Mang-srong, in several years of his minority when mGar sTong-rtsan yul-zung was in power. In the case of 'Dus-srong, hints of a movement against the authority of the mGar, which culminated in their overthrow in 698, can be seen almost as soon as the king ceased to reside at Nyen-kar. Although the home of the mGar appears from the Chronicle (THD 163-165) to have been Bya pu and it was in Bya-tshal of sGregs that 'Dus-srong took possession of the property of Khri-i 'bring after his fall, the power of the family at its peak must have extended over much of Tibet, and Nyen-kar may have been a mGar strong hold in which the young King lived under their care. There were probably several places of that name but the Chronicle shows that Nyen-kar rnying-pa was in Ngas-po and it was of that principality that mGar were originally ministers.

Of other names mentioned in the song of Cog-ro za, if *lcags* does not mean "iron" it could refer to the fortress of lCag-rtse on the Szechwan border. Meg-le is mentioned several times in LINV in a context — the copying of religious books—which seems to place it on the eastern borders.

The overthrow of the mGar in 698/699 virtually eliminated them from Tibet. From Chinese records the slaughter of the clan and its associates seems to have been extensive. Others, as has been seen, took refuge in China where they became honoured and valuable officials. Professor Stein in his note referred to above identifies members of the exiled mGar family in China of the borderlands in 793 and as late as 929; but in the records of the Tibetan kingdom the name does not figure again except for one appearance of a mGar-brTan kong as a minor official (*bka'i yi-ge-pa*) in LINV np. 1959. There are no more mGar ministers in the Annals, nor among the witnesses to the *bka'-tshigs* of Khri lDe-srong-brtsan or to the Lhasa treaty of 822. Later histories, it is true, sometimes mention mGar in connection with the consecration of bSam-yas but this is not convincing without any contemporary support. *sBa-bzhed* does not mention the name at all, while the reference in *rGyal-po bka'-thang* (f. 36) is cursory; and no mGar figures in the description of the military organization of Tibet in the *bLon-po bka'-thang*.

From the XIth century onwards religious personages with the name mGar, or more usually 'Gar, are not infrequent. Noble families also claimed descent from that clan, in particular the Tshal-pa, the rLangs-from which the Phag-mo-gru dynasty originated - and the princess of sDe-dge. Those genealogies, which are full of obvious legend, do not refer to Ngas-po but assign to the mGar a divine or heroic origin usually of indeterminate location but in the case of the sDe-dge legend apparently in the region of Tachienlu.

It is often assumed that mGar and 'Gar are simply alternative spellings. If so, the form 'Gar, which is more frequent in later works, may have been adopted to avoid confusion with the despised caste of blacksmiths (*mgar-ba*); but might not mGar indicate that the clan did have a remote ancestral connection with that craft? Professor Stein tends to dismiss this because the claim is not made by Tibetan writers, who love that sort of etymology. Nevertheless, the possibility may be allowed to remain open. In the earliest documents the name is invariably written mGar. The occurrence of 'Gar' in the Annals of Khotan, quoted by Professor Stein with reference to TLTD, is not from a Tun Huang *ms* but from a late xylograph and the recent edition by Mr Emmerick shows that two out of four of the available xylograph versions read mGar. Although the early Tibetans certainly had the services of skilled metal workers, there is no suggestion that smiths were then regarded either with the aversion which became their lot later in Tibet or with the awe that in some other countries surrounded the worker in metal. Nor, for that matter, is there any hint of special treatment of those other occupations which later appear as outcaste in Tibet — butchers, potters, cutters-up of dead bodies. But the existence of a superior attitude towards smiths in Central Asia is seen in the special reputation of the Turks as blacksmiths and their subjection in that capacity to their Juan Juan overlords (Chavannes, *Documents sur les Tou-kiue Occidentaux* p 222) And it may be noted, for what it is worth, that when the ruler of Ngas-po who was the the overlord of the mGar, was defeated his son fled to the Turks.

Even though the mGar family ceased to count for anything in the affairs of the early kingdom the well merited fame of their former greatness and achievements has never been forgotten. mGar sTong Yul-zung is still the favourite hero of story drama it is remarkable how much space and what favourable treatment are given to the mGar in the Tun Huang Chronicle which is principally a eulogy of the Tibetan kings whose authority the mGar overrode for a period. Two rather dubious members of the family are introduced into the lists of early ministers (THD 130); sTong-rtzan yul-zung is suitably honoured (pp 159-160) but it is Khri-'bring btsan-brod who gets the most praise. It is true that the chastisement of the disloyal minister is mentioned (p 149) and 'Dus-srong's long song of triumph after he had overthrown

Khri-bring is given full value; but the voice of the critic Khe-rgad is also heard even if indirectly (pp 161-167) and one long section (pp 167-169) is devoted to the skill and courage of Khri-bring in debate and in war. The Tibetans of that day appear to have enjoyed, without partisan feelings, the achievements of any great man. In later histories there is no mention of the fall of the mGar; only the good is remembered.

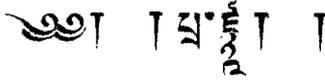
In comparison with the great men of mGar, Pa-tshab were of small stature; and in spite of the connection of one of them with the mGar, they survived in Tibet as junior ministers connected with the external administration and with military duties (*Tombs of the Tibetan Kings*. Tucci, Rome 1950. p. 55). The name Pa-tshab occurs also in later religious histories and in recent times it has been held that the clan was connected with Pa-snam between Gyantse and Shigatse. That would not necessarily hold good for ancient times; and Professor Thomas identifies them with the Pang-tshab clan which he locates in East Tibet. Whatever their origin they do not figure as ministers in the early lists of principalities nor are they named in that later Almanac de Gotha of Tibet, the *bKa' thang sde-linga*. Whether the combination of the names Pa-tshab and Gyim-po, mentioned above, points to an eastern origin or not, the early legend and the Tun Huang Annals indicate clearly the extent to which the peoples and affairs of the eastern and north-eastern borders bulked in the story of the Tibetan kingdom. The persistence with which folk-memory preserved that traditions is shown by the determination with which any family that later attained to greatness traced its origin and ancestry to that direction.

SOME PUBLICATIONS
FROM
NAMGYAL INSTITUTE OF TIBETOLOGY



PRAJNA or the famous Sanskrit-Tibetan Thesaurus-cum-Grammar was compiled by Tenzing Gyaltzen, a Khampa scholar educated in Nyingma and Sakya schools of Derge, in 1771 A.C. Though this book was preserved in xylograph few copies of the block-prints are found outside Tibet. The lexicon portions are now presented in modern format with Tibetan words in Tibetan script and Sanskrit words in Sanskrit script with an elaborate foreword by Professor Nalinaksha Dutt.

October 1961.



The entire xylograph (637 pp: 21 inches x 4 inches) containing both lexicon and grammar parts is now presented by offset (photo-mehanic); most clear reproduction of any Tibetan xylograph ever made anywhere. A table of typographical errors etc., found in the original (xylograph), compiled by late lamented Gegan Palden Gyaltzen (Mentsikhang : Lhasa and Enchay : Gangtok) makes the present publication an improvement upon the original.

November 1962.

TIBETAN TECHNOLOGY AND THE WEST

—MICHAEL ARIS

It is now recognised among historians of science and technology that China was pre-eminent in influencing the course of medieval European technology and the Scientific Revolution of the seventeenth and eighteenth centuries. The Jesuit eulogy for Chinese science and technology (which formed the main vehicle for the transmission of Chinese scientific ideas) was blind, however to technological originality in Asian countries outside the scope of their missionary activities. It may be for this reason that till quite recently the history of technology in estimating Asia had emphasised the role played by China to the exclusion of nearly all other countries in the Far East. While one cannot overestimate the importance and magnitude of the Chinese influence, it may be of interest to readers of this *Bulletin* to learn that instances of possible Tibetan influence on the course of European technology have come to the notice of modern scholarship.

According to Lynn White (1), Tibet with its “technology of prayers” (by which he means the various devices employed in the clockwise rotation of *mantra*) was an important source for European technology. The method by which the simple yet fundamental mechanical techniques associated with the use of the Tibetan prayer wheel (མ་ཤོ་ཚེས་འཁོར་) were transmitted to Europe, it is claimed, can be found in the slave trade which built up a population of thousands of so-called ‘Tartar’ slaves in every major Italian city and which reached its climax in the middle of the fifteenth century. The fact that there existed effective canonical prohibitions against dealing in Christian slaves and that Muslim slaves were both surly and prone to escape meant that slaves from the Shamanist and Buddhist areas of Central Asia were the chief supply for the Italian market. These the Genoese merchants secured in great numbers from slave traders wholesaling in the Black Sea ports. The majority of these slaves, we can be sure, came “. . . from the regions bordering Tibet and China on the north.” (2) Thus while they were not Tibetans themselves, they did come from an area within the sphere of Tibetan cultural influence and for that reason White holds that we need not be surprised to find basic Tibetan devices appearing in Italy at this time and being transformed to practical use in their new context. On the basis of his researches and those of Joseph Needham we can now list five of these devices as follows:

I THE VERTICAL AXLE WIND PRAYER WHEEL

Lynn White suggests that the invention of the vertical axle windmill in Europe was discovered as a result of one of the direct transmissions of the slaves and that its origin can be found in the Tibetan prayer cylinders rotating on a vertical axle and powered by an anemometer —like wind turbine. The earliest appearance of this in Tibet is unlikely to have preceded the introduction of the *mani* formula itself as a formal 'support' for religious devotion and meditation by Jowo Atisha (Pandit Dipankara Srijnana) who arrived in Tibet in 1042 A.D. It is not inconceivable, however, that the Central Asian peoples were using wind-driven gadgets of religious significance in pre-Buddhist times. In Europe the first appearance of the vertical axle windmill can be found in a sketch by the Italian engineer Mariano Jacopo Taccola, datable 1438-1450. White suggests that Taccola's device was of direct Tibetan inspection because of the slaves mentioned earlier; also because he claims that various Tibetan art motifs are detectable in European gothic art; (3) and finally also because of the two following technological borrowings from Tibet (II and III below). All these, he says, point towards some particular connection between Tibet and Italy at that time and which would make possible the Tibetan origin of Taccola's device.

Needham inclines to put forward a different thesis of diffusion. He sees the proper origin of the European vertical axle windmill in the Arabic writings of the ninth and tenth centuries but he suggests that the Tibetan wind turbines could have influenced Persian windmills because, as he puts it "...by then the greeting to the jewel in the lotus might have had time to work its benevolent technological effects for suffering humanity." He therefore recognises that "a Mongol Tibetan Shamanist and Buddhist ancestry must be regarded as at least as probable as the more conventional Graeco-Arabic one." (4)

II THE BALL-AND-CHAIN GOVERNOR

The essential mechanical innovation in the ordinary Tibetan hand prayer-wheel is the small ball-and-chain governor attached to its periphery to maintain rotation. White says that the development in Europe of the compound crank and connecting rod in the 1420's made Western technicians much concerned with helping mechanical crank motion over the "dead spot". (5) This led to the exploration of possible forms of governor and by 1482-1501 the ball-and-chain governor on exactly the Tibetan model is found in the sketch book of an Italian engineer.

III HOT-AIR TURBINES

Hot-air turbines were found in Tibet used for turning prayer cylinders in the draught over the fire in the tents of nomads. They are still found today in the Tibetan Buddhist areas of the Himayalan countries where they are used in temples and shrine rooms to turn paper cylinders

inscribed with *mantra* by the action of heated air rising from a butter lamp. By the late fifteenth century Italian technicians were putting such small turbines into chimney flues and gearing them to turn spits and, as White indicates, it was "...an elegant automation, since the hotter the fire the faster the roast spins." (6) In 1629, Branca shows us a small roling mill powered by the heat rising from a forge. Such experiments failed to produce a major source of power, but they had a significant by-product in accidental technology; the screw propellor of ships and thus eventually the aeroplane propellor were apparently inspired by the metal hot-air turbines in chimneys rather than by the wooden, and often spoon-bladed water turbines.

The appearance in Italy almost simultaneously of three items so closely related to the methods of rotating the Tibetan prayer cylinder (the vertical axle windmill, the ball-and-chain governor and the hot-air turbine) does seem to make the case for independent Italian invention more improbable.

IV THE STEAM-JET FIRE-BLOWER

Related to the idea of the use of heat rising is that of using a jet of steam. It has long been recognised that the pre-natal form of the steam engine's boiler is the *sufflator* of the Middle Ages, a simple device consisting of a vessel containing water that when heated emits a jet of steam.(7) Branca's early experiments in the utilisation of steam force were consciously derived from *sufflators* of this kind. Yet it is most remarkable that the Tibetan steam-jet fire-blower could well provide the derivation of the classical and medieval *sufflator*. The Tibetan model still takes the form of a bottle-shaped conical copper kettle surmounted by a bird's head, the beak of which, sometimes quite elongated, points downwards and has a pinhole at the end. The steam emitted is thus directed onto the flame and the hot air carried with it blows the fire up, as I have observed in experiments with my own model. At a high altitude this is particularly useful. Needham suggests (8) that Alexander the Great's soldiers may have brought it back to Greece in time to influence the acolopile of Heron which in turn developed into the medieval *sufflator*. Apart from this possible channel, there were the 'Tartar' slaves in Italy whose steam jets may at least have modified the *sufflator*. This could be likely because the first European *sufflators* (9) to be made in the shape of birds are datable at 1579 which would have allowed sufficient time for the bird-shape of the Tibetan steam-jet fire-blower to have been copied.

V THE GIMBAL SUSPENSION OF THE TIBETAN GLOBE LAMP

The last device which might have come from Tibet to Europe is the system of gimbals inside the Tibetan globe lamp. This is a seemingly simple combination of rings whereby an oil lamp may be kept in hori-

zontal equilibrium no matter in what direction the globe is swung. Of the two models which I have seen, both have a suspension of four rings and five pivot-axes with an oil container in the centre. They were intended for hanging in a relatively exposed temple hall or porch. In Europe this technique is associated with one of its most widespread Renaissance applications, the mounting of the mariner's compass so that it is independent of the motion of the ship, and is known as the Cardan suspension. The gimbal suspension was in fact known in Europe by the ninth century applied to such things as portable hand-stores. Needham is in favour of the diffusion of the Sino-Tibetan system of gimbals through the Arabs to medieval Europe, but is unwilling to commit himself too strongly on the subject. (10)

If the credibility for the transmission of these Tibetan devices is not doubted, then its significance in the history of technology cannot be overestimated. As has been seen they carried with them important stimuli to the development of European technology. However, it is clear that for the moment, due to the lack of further documentation and evidence, the researches of Needham and White cannot be considered as above the level of brilliant speculation, however we may be tempted otherwise. If nothing else they go to show that technologically medieval Tibet compares favourably with medieval Europe. In this connection we should remember that iron-chain suspension bridges were widely used throughout Tibet at an early date, long before Europe constructed hers, to give but a single example. The life of Thariston Gyalpo, the great Tibetan *mahasiddha* and iron bridge builder is itself a demonstration of how in Tibet, as in ancient Greece and Egypt, technology (བརྗེ་རིག་པ་) was inseparable from religion. (11)

Finally, it is worth mentioning that the study of certain aspects of Tibetan Buddhism (such as the texts and commentaries on the (དབུ་གྱི་འཕྲིན་ལོ་)) could reveal a lot concerning actual scientific theorizing in Tibet, notably in the fields of medicine (12) and astronomy. Needham, who is possibly the greatest living exponent of oriental science, has said that "... Tantrism represents one of the fields of research in which interesting discoveries concerning the early history of science in Asia are most likely to be made."

NOTES

1. *Tibet, India and Malaya as Sources of Western Medieval Technology*, American Historical Review, Vol LXV (1960), p. 515 et seq., by Lynn White, Jr.
2. *Del traffico e delle condizioni degli shiavi in Venezia nei tempi di mezzo*, Miscellanea di storia Italiana, Vol I (1862), p. 470 by Lazari.

3. On this see *Le Moyen Age Fantastique: Antiquites et exotismes dans l'art gothique*, (Paris, 1955) pp. 247-48 by Jurgis Baltousaitis.
 4. *Science and Civilisation in China*, Vol. IV, pt. 2, p. 567, by Joseph Needham.
 5. Lynn White, *op.cit.*, p. 520.
 6. *op.cit.*, p. 519.
 7. *Medieval Technology and Social Change*, (O.U.P 1962) pp.91 and 92, by Lynn White, Jr.
 8. Needham, *op.cit.*, p. 228.
 9. See *Inventioni* (Parma, 1579) by G.B. Isaachi.
 10. Needham, *op.cit.*, pp.231 and 236.
 11. For a reference to the literature on the iron bridge builder (རྩུགས་མཐོང་ལོ་གསུམ་ལོ་ (1385-1464) see *The Life of Bu ston Rin po che*, Serie Orientale. Roma, Vol. XXXLV, (Rome, 1966), pp.48 and 49, note 2, edited and translated by D.S. Ruegg.
 12. Apart from the following work and a few other German studies on Tibetan medicinal herbs practically no work has been done in this field; *Die Tibetische Medizinphilosophie; der mensch als mikro-kosmos*, (Zurich, 1953) by P.Cyril von Korvin—Krasinsky, O.S.B.
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AN
ART BOOK
FROM
NAMGYAL INSTITUTE OF TIBETOLOGY

། ། ལྷན་ལྷན་མཚོ་གཞིས། །

RGYAN-DRUG MCHOG-GNYIS (Six Ornaments and Two Excellents) reproduces ancient scrolls (1670 A.C.) depicting Buddha, Nagarjuna, Aryadeva, Asanga, Vasubandhu, Dinnaga, Dharmakirti, Gunaprabha, and Sakyaprabha; reproductions are as per originals today after 300 years of display and worship with no attempt at restoration or retouching. The exposition in English presents the iconographical niceties and the theme of the paintings, namely, the Mahayana philosophy; the treatment is designed to meet also the needs of the general reader with an interest in Trans-Himalayan art or Mahayana. A glossary in Sanskrit-Tibetan, a key to place names and a note on source material are appended. Illustrated with five colour plates and thirteen monochromes.

April 1962.

Notes & Topics

OBITUARY: PRINCESS PEMA CHOKI

PRINCESS PEMA CHOKI passed away in Calcutta on the 12th of January 1969; the remains were brought to Gangtok on the 14th of January and cremated in the Royal Crematorium on the 17th of January according to Mahayana rites.

The second daughter of the late Chogyal Tashi Namgyal, the Princess was born on the 25th of December 1925, and educated at St. Joseph's Convent, Kalimpong. She was married in April 1950 to Sey Kushoe Rinchen Tsenden Namgyal Yapshi-Yuthok, of the dynasty in which the tenth Dalai Lama was born. Of this marriage two sons and a daughter were born. In 1967 the Princess was remarried to Mr Prithvi Raj Iyer who comes of an eminent South Indian family.

In her studies at school the Princess attained highest grades in the convent she attended, and in Bengal she came seventh in the all state Cambridge Examinations.

The Princess, despite her inclination and talent for higher studies, decided after finishing school, to become a teacher in the Gangtok Girls' School. Her students remember her with much affection and respect. Aside from her perceptive and sparkling teaching, the students remember their teacher-Princess for her kindness and thoughtfulness. One student remembers how the girls used to imitate the Princess trying to copy her elaborate and beautiful hairstyles until the Princess realizing their difficulties begun to wear her hair very simply, relieving the girls of the hard work of imitating her !

Princess Pema Choki was exquisitely beautiful; her beauty reminding many of fragile jade and exotic brocade. Aside from being beautiful she was a woman of strong wit and intellect. While working in Sikkim, and later after her marriage into Yuthok house when she became a resident of Lhasa, the Princess pursued her scholarship in Tibetan secular and religious literature.

When in 1955-56 the Crown Prince of Sikkim (now the Chogyal) programmed a project for Tibetology, his sister was an enthusiastic collaborator. She was a founder member of the Namgyal Institute of Tibetology and was until her death an active member of its General Council. For several years she served also as a Member of its Executive

Board. Her services to the Institute were shown particularly in the procurement of icons, xylographs and rare manuscripts. The image of Jamyang (Manjughosha) which dominates the ground floor of the Institute is a gift from the Princess and Yuthok Sey.

In the summer of 1959 the Princess made a tour of Buddhist shrines and centres of Mahayana study in Japan, and the Institute's contacts with Japanese scholars date therefrom. In the autumn of 1960 she accompanied the president of the Institute to the Moscow session of the International Oriental Congress and made extensive contacts with scholarly groups in Moscow and Leningrad.

For the last two years the Princess was in poor health but her interest in the Institute and other scholarly institutions did not abate.

A week before her death the Princess sent to us a letter inquiring whether some scholars in Sikkim would be interested in joining the Historical Society in Calcutta. Enclosed were some forms that she requested to be distributed among people who might be responsive. This letter was written not only during a period of grave illness but also in a period of deep bereavement because of the recent death of Yapshi-Yuthok Sey Kushoe. This is only one example of the enduring spirit and gallant intellectual concern of the late Princess. The Namgyal Institute of Tibetology and Sikkim mourn an irreparable loss.

HOPE NAMGYAL

SYNOPSIS OF TARANATHA'S HISTORY

Synopsis of chapters I - XIII was published in Vol. V, No.3.
Diacritical marks are not used; a standard transcription is followed.

MRT

CHAPTER XIV

Events of the time of Brahmana Rahula

King Chandrapala was the ruler of Aparantaka. He gave offerings to the Chaityas and the Sangha. A friend of the king, Indradhruva wrote the *Aindra-vyakarana*.

During the reign of Chandrapala, Acharya Brahmana Rahulabhadra came to Nalanda. He took ordination from Venerable Krishna and studied the Sravakapitaka. Some state that he was ordained by Rahulaprabha and that Krishna was his teacher. He learnt the Sutras and the Tantras of Mahayana and preached the Madhyamika doctrines. There were at that time eight Madhyamika teachers, viz., Bhadantas Rahulagarbha, Ghanasa and others. The Tantras were divided into three sections, *Kriya* (rites and rituals), *Charya* (practices) and *Yoga* (meditation). The Tantric texts were Guhyasamaja, Buddhasamayayoga and Mayajala.

Bhadanta Srilabha of Kashmir was a Hinayaist and propagated the Sautrantika doctrines. At this time appeared in Saketa Bhikshu Mahavirya and in Varanasi Vaibhashika Mahabhadanta Buddhadeva. There were four other Bhandanta Dharmatrata, Ghoshaka, Vasumitra and Buddhadeva. This Dharmatrata should not be confused with the author of *Udanavarga*, Dharmatrata; similarly this Vasumitra with two other Vasumitras, one being the author of the *Sastra-prakarana* and the other of the *Samayabhedoparachanachakra*. [Translated into English by J. Masuda in *Asia Major I*] In the eastern countries Odivisa and Bengal appeared Mantrayana along with many Vidyadharas. One of them was Sri Saraha or Mahabrahmana Rahula Brahmachari. At that time were composed the Mahayana Sutras except the Satasahasrika Prajnparamita.

CHAPTER XV

Events of the time of Nagarjuna

Nagarjuna was a disciple of Rahulabhadra. He preached extensively the Madhyamika school of thought. He rendered a great service to

the Sravakas by turning out many Sravaka bhikshus for transgressing the disciplinary rules. At that time appeared Bhadantas Nanda, Paramasena, Samyaksatya, who preached *Alaya-vijnana*, i.e, the Yogachara school of thought. Asanga and his brother Vasubandu were counted as later Yogacharins.

About this time King Munja of Odivisa with a large following obtained Kayasiddhi. In the west, Malava, king Bhojadeva also obtained Kaya-siddhi, and the Aryas acquired the Dharanis. Temples were erected in Patavesa (Pukam), Odivisa, Bengal, Radha, Magadha and Nalanda.

Nagarjuna in his later life went to the south. He composed the *Panchavidya-samgraha* to establish that matter had no existence as held by the Sarvastivadins.

In the south in the country of Dravida there were two Brahmanas Madhu and Supramadhu, who possessed incalculable wealth. They vied with Nagarjuna with the three Vedas and the eighteen sciences. The Brahmins questioned why Nagarjuna, who was so learned in the Vedas should become a Sakya Sramana. But when they heard the praise of Buddha, they became faithful to Mahayana Buddhism. Both of them maintained 250 monks. The first had the *Satasahasrika* copied and gave the copies to the monks while the second supplied them with all the requisites. According to another tradition, Nagarjuna resided in Sriparvata and obtained the first Bodhisattva stage.

A friend of Nagarjuna was Vararuchi, who was the purohita of King Udayana. A young wife of the king knew Sanskrit grammar and said to him while swimming in water "modakam ma sincha" (do not splash me with water). The king gave her a cake boiled in sesame oil as he understood it in the language of the south. Realising his ignorance of Sanskrit grammar, he began to learn Sanskrit from Vararuchi.

Vararuchi was a devoted follower of Buddha. He became acquainted with Nagarjuna when he was the Pandita of Nalanda. He hailed from the country of Radha, east of Magadha. He recited the Avalokitesvara mantra for 12 years.

Kalidasa lived about this time. He came to the south to King Udayana, who wanted to learn Sanskrit from him. He invited Nagarajasena, who had mastered Panini. The king wanted to study Indrakarana from Sanmukhakumara, who uttered "Siddho varna-samamnaya" (Kalapa I) and at once he comprehended the meaning of all words.

Kalidasa's biography is as follows:-

Kalidasa was a cow-boy. He cut the branch of a tree at the end of which he was sitting. Vararuchi, in order to deceive the daughter of King Udayana the princess Vasanti, who rejected him, brought the cow-boy, dressed him as a Brahmin Pandit and asked him to utter "Om Svasti". Instead of uttering this, he uttered "Usatara". Vararuchi explained it as a benediction thus:

Umaya sahita Rudrah, Sankarsahito Vishnu
tamkara Sulapanis cha rakshantu Sivah sarvada

Vasanti was pleased and was married to him. She then found out that Kalidasa was a cow-boy. Kalidasa prayed to the goddess Kali, and suddenly he became very intelligent and expert in dialectics, grammar and poetry and so he was named Kalidasa. Vasanti found that her husband had become very learned. Kalidasa wrote *Meghaduta*, *Raghuvamsa*, *Kumarasambhava*, and many other Kavyas.

At this time lived in the country of Li, Arhat Sanghabhadra in Tukhara, the Vaibhashika teacher Vamana in Kashmir and the Sautrantika teacher Kumaralabha in the west.

At this time the Turushka faith appeared on the other side of Turfan. The Acharya was known as Mam-thar and the Anarya doctrine was known as "Ardho" (Vartu/Vardu).

CHAPTER XVI

Appearance of the first adversary teacher

The Chandra dynasty was ruling in the Aparanta kingdom. The kings of this dynasty worshipped the Three Ratnas. Not long after Nemachandra's reign, Pushyamitra, the purohita of the king revolted. When he obtained the sovereignty, an old relation of the usurper came to Nalanda when the gong of the monastery was sounding *phattaya* and on his enquiry on the meaning of the sound, he was told that it meant splitting of the skull of the heretical teacher. On hearing this from his relative, Pushyamitra asked his heretical ministers to burn the monasteries of Madhyadesha up to Jalandhara. He killed the bhikshus as well, many of whom fled to other countries. The usurper died after five years. Buddha also prophesied that his *dharma* would last 500 years and then it would decline for the next 500 years. The Teaching later developed at the instance of Arya Nagarjuna, who worked in the southern countries for the salvation of beings. He made his centre at Sripurvata (i.e., Amaravati - Nagarjunikonda).

CHAPTER XVII

Events of the time of Acharya Aryadeva and other Acharyas

At that time lived King Salachandra's son Chandragupta, who was a powerful king and performed both *kusala* and *akusala* deeds. He did not take refuge in the Three Ratnas. At that time appeared Aryadeva, a disciple of Nagarjuna, the then head of the monastery of Nalanda. Aryadeva was well-known to the Tibetans. He was born in a miraculous way in the pleasure-garden of the king of Simhaladvipa. Chandrakirti, the commentator of Nagarjuna's *Madhyamika-karika* states that Aryadeva hailed from Simhaladvipa. He was ordained by Hemadeva. After studying the Tripitaka, he came to Jambudvipa to see the Buddhist temples and Chaityas. Aryadeva met Nagarjuna at Sriparvata but this Nagarjuna propagated the Tantric doctrines [There were two Nagarjunas: the earlier one was the propounder of the Madhyamika school of philosophy and the later was an alchemist, a Tantric master.]

CHAPTER XVIII

The events of the time of Archarya Matricheta and others

Chandragupta's son Bindusara was ruling at the time. He was born in Gauda. Brahmana Chanakya conjured up the angry Yamantaka, by which he could kill kings and ministers. At that time Matricheta was residing in a Vihara of Pataliputra. Bindusara's nephew King Srichandra erected a temple of Avalokitesvara and maintained 2,000 bhikshus, who were all Mahayanists. When Rahulabhadra was in charge of the Nalanda monastery he erected there 14 Gandhakutis and 14 centres of learning the Dharma. Acharya Matricheta is identical with Durdharsakala. He became a great logician and a disputant. He composed the *Satapanchasatika*, eulogizing Buddha. [It has been edited and published] King Kanishka invited him, but he being old could not go to meet him. Rahulabhadra though of Sudra caste had an appearance like the lord of men. He became Aryadeva's disciple.

CHAPTER XIX

Appearance of the enemies of the Dharma as also its reinstatement

In the east was ruling Dharmachandra, son of Srichandra. Both the father and son revered Buddha's doctrines. Their minister was also a Buddha-worshipper. He visualized Avalokitesvara and obtained several medicines from the Nagas. By these medicines all diseases disappeared from the Aparanta country. At that time lived in Kashmir a Turushka king. In Multan and Lahore ruled Khunimamapta (alias Bandhero),

who was both in concord and discord with king Dharmachandra. The Persian king sent to the ruler of Madhyadesa horses and jewels and the latter reciprocated the same by presenting elephants and silk-cloths. The Turushka army conquered Magadha and destroyed all viharas including Nalanda. Dharmachandra sent monks to China and received gold and other valuables in return.

Later Buddhapaksha reconstructed Nalanda monastery and other temples. Matricheta became the spiritual preceptor of the king.

CHAPTER XX

Appearance of enemies for third time and reinstatement of Buddhism

In the south, in the country of Krishnaraja lived the bhikshus Malikabuddhi and Muditabhadra, who preached the Prajnaparamita doctrine of Sunyata or *Anutpattikadharmakshanti* (i.e., non-origination and non-decay of worldly objects and beings). The former set up an image of Prajnaparamitadevi and worshipped it for 20 years and the latter founded 21 viharas and 1000 Chaityas. The former was killed by a Turushka bandit. Muditabhadra restored the Chaityas and surrounded them by small ones and converted Brahmans householders to Buddhism. He was taken by Bodhisattva Samantabhadra to the country of Li. He worked there many years upto the end his life. A heretical teacher by incantations and magical formulas burnt Nalanda and many other viharas and temples. All the manuscripts were burnt. At this time a stream of water from Ratnodadhi extinguished the fire, and the manuscripts, being flooded by water, did not burn. The books saved were Mahayanic texts. Faithful householders restored the viharas and temples and the manuscripts saved were of Avatamasaka-sutras, Mahasamaya, Tathagatagarbha, Lan-kavatara and Ratnakuta.

CHAPTER XXI

Events of the time of Karmachandra

At the time of Buddhapaksha, a vihara called Ratnagiri was built on the top of a mountain near the sea in Odivisa. In that vihara both Hinayana and Mahayana texts were deposited. The vihara was built by a minister of the king. The texts were presented by Brahmana Sanku and the other requisites by Brahmana Brihaspati while maintenance of the vihara and the monks was provided by the queen. In order to subdue the Nagas, Brahmana Brihaspati built many Buddhist temples in Katak Odivisa and provided food for the monks.

At the time of King Buddhapaksha and after him King Dharmachandra, lived Acharyas Nandipriya, Asvaghosa, younger Rahulamitra,

pupil of Rahulabhadra and his pupil Nagamitra. All of them propagated Mahayana teachings. Nandipriya was the author of the eulogy of 150 slokas of Buddha, available only in Tibet. He wrote also a commentary on the same. He lived, as it appears from the commentary, after Dignaga.

CHAPTER XXII

Events of the time of Arya Asanga and his brother

When Karmachandra was in power, Gambhirapaksha, the son of Buddhapaksha ruled over Panchala for 40 years.

In Kashmir lived a Turushka's son called Mahasammata, who had visualized the face of Krodhamrita. He united Kashmir, Tukhara and Ghazni. He worshipped the Triratna and erected a Chaitya, containing the Buddha's tooth-relic, at Ghazni. He invited several monks and nuns, male and female lay-devotees for worshipping the Chaitya. At that time Bhikshu Jivakara and many others tried to comprehend the inner meaning of the Prajna-paramita.

After the death of king Gambhirapaksha, his son Vrikshachandra succeeded him, but he was not a powerful ruler and so Jaleraha, king of Odivisa wielded power over all the eastern countries.

Arya Asanga

At this time lived Acharya Asanga, Vasubandhu, Buddhadasa, Samghadasa, Nagamitra and his disciple Sangharakshita. Soon after them appeared many Mahayana followers, practising *Anuttara-yogatantra*, which spread widely, and many attained Vidyadhara stage. Guhyamati and other preached the Mantrayana, maintaining secrecy. The secret mantras were handed down from teacher to disciples, i.e. from Sri Saraha to Tantric Nagarjuna. They wrote commentaries on the *Anuttara-yoga-sastra*. During the reign of King Devapala and his son, *kriya* and *charya* tantras became popular. At that time lived Acharyas Paramasva, Lui-pa and Charpavipa in the region around Varanasi.

The biography of Asanga and his brother is as follows:-

At the time of King Buddhapaksha was born Prakasasila, whose son was Asanga, who became very proficient in the art of writing, calculation, grammar, dialectics, etc. He mastered the Tripitaka and the Prajnaramita sastras. At a later date Asanga composed the *Mayajalatantra* and *Maitreya-sadhana*. Bodhisattva Maitreya, being pleased with him, took him to Tushita heaven, where he imparted to him the *Yogacharyabumisastra* in five sections. He built a vihara within a forest in Magadha and composed there *Abhidharmasamuchchaya*, *Mahayana-samgraha*, *Abhismayalankara* etc.

King Gambhirapaksha's son invited several monks to Ushmapura vihara and maintained them. Asanga taught here the Tripitaka of the Sravakas and about 500 Mahayana sutras. Asanga, as a Bodhisattva, cut-off some flesh from the calf of his leg, to feed the worms, which were sucking the blood of a diseased dog in order that both the worms and the dog might not die. Maitreya appeared before him at that time, radiating light on all sides. Though Mahayana Buddhism flourished, there were some persecutions. The King asked Asanga a few questions relating to the true meaning of *Sunyata*. In his later life, he lived in Nalanda. Finally his life ended in Rajagriha.

Vasubandhu

Vasubandhu, younger brother of Asanga, became a bhikshu and studied the Sravaka including the Abhidharma. He became acquainted with the doctrines of the eighteen schools. He went to Kashmir and became a disciple of Samghabhadra. He obtained vast erudition by studying the *Vibhashas*. He studied also the difference in the Sutra and Vinaya of the different schools. At the same time he studied the work of the heretical teachers and all kinds of dialectics. He came back to Magadha recited the Sravara-pitaka. After studying the *Yogacharyabhumi-sastra*, he felt sad that Asanga, inspite of of 12 years of practice of *samadhi*, could not attain perfection. Asanga felt that Vasubandhu's conversion to Mahayanism was near, and so he asked a bhikshu to study the *Akshayamati-nirdesa-sutra* and another bhikshu to learn the *Dasabhumika-sutra* and advised them to recite the two Sutras before Vasubandhu. Listening to these texts, Vasubandhu realised the fundamentals of Mahayana. He regretted that he had committed a great sin by reviling Mahayanism and wanted to cut off his tongue. At that time, the two bhikshus dissuaded him from doing so, saying that your brother Asanga had the power to give you atonement for the sin and therefore you should go to the the Acharya and ask him for atonement. Asanga asked him to study the Mahayana texts and write commentaries on the same and thereby make amends for the sin and he recited to him the *Ushnisha-vijaya-vidya*. When Vasubandhu understood all the texts and the Dharanis, he practised *samadhi*, according to the direction in the texts. Vasubandhu studied the Pitakas of the Sravakas as well as the Ratnakuta-sutras, Avatamsaka-sutras, Astasahasrika and Satasahasrika Prajnaparamita and other Mahayana treatises. He wrote commentaries on the *Pachavimsati-sahasrika Prajnaparamita*, *Akshayamatinirdesa*, *Ratnanusmriti*, *Panchamudrasutra*, *Pratityasamutpada*, two *Vibhanga*s and other Hinayana and Mahayana texts. He composed the eight *Prakarana* sections. He established several centres of learning in the south. Vasubandhu at last went to Nepal, composed the Abhidharmakosa and sent it to Sanghabhadra for his opinion.

CHAPTER XXIII

Events of the time of Acharya Dignaga and others

After the death of King Gambhirapakasha in the west in Maru land Sri Harsha came into power and ruled over all the western countries. This happened during the life-time of Vasubandhu. In course of time the king developed faith in Buddhism and made Acharya Gunaprabha his spiritual preceptor. Acharya Gunaprabha came of a Brahmana family, mastered the Vedas and other Brahmanic sastras. He learnt from Vasubandhu the Sravaka-pitaka and gained knowledge of many Mahayana sutras. He became a master of the Vinaya Pitaka. While he was in Mathura he himself expiated for any monk failing to observe the disciplinary rules. At this time, the Chandras were ruling in the eastern countries. They believed both in Jainism and Buddhism. Sthiramati and Dignaga were preaching the *dharma* for the salvation of the beings in the east. Sthiramati was born in Dandakaranya, obtained the blessings of the goddess Tara. He studied both Hinayana and Mahayana Abhidharma and the Ratnakuta sutras, on which he wrote a commentary. He wrote also commentaries on *Madhyamak-mula* and *Abhidharmakoshabhasha*. He defeated the heretical teachers in dialectics. Buddhadasa, a disciple of Asanga with Gunaprabha was preaching the religion in the west while Bhadanta Samghadasa assisted by Buddhadasa propagated the religion in Kashmir, and Buddhapalita in the south. Samghadasa came of a Brahmin family of the south. He became a disciple of Vasubandhu and a follower of the Sarvastivada school. He established 24 centres of learning for Vinaya and Abhidharma studies in Bodh-Gaya. He was invited by Mahasammata, the Turushka king, to Kashmir. He built there the Ratnaguptavihara and the Kumbhakundavihara, and propagated the teaching of Buddha much more than Asanga and his brother. He wrote a commentary on the *Yogacharyabhumi*.

At this time appeared Bhavya and Vinitasena. At the advice of Lui-pa, the king of Odivisa, Jalasimha, gave up the rulership. The Tantric Siddharcharya Darika became the king of Odivisa and Tengi his minister. A contemporary of Bhavya was Triratnadasa.

Acharya Triratnadasa learnt the Abhidharma from Vasubandhu and later from Dignaga.

Acharya Dignaga was born in a Brahmin family in the south at Simhavaktra near Kanchi. He joined the Vatsiputriya school. He mastered the Sravaka-Pitaka as well as the Mahayana texts and Dharanis. He resided at Bhorasaila in Odivisa. In the *Pramanasamuchchaya* of Dharmakirti appear the words "Bowling before him, who is logic personified and who wishes welfare for all beings, fragments of his different works are

collected here''. Dignaga converted to Buddhism Bhadrपालita, minister of the king of Odivisa.

Acharya Buddhपालita born in the south at Hamsakrida. He became very learned. He learnt the teachings of Nagarjuna from Sangharakshita. He visualised Manjusri. In the south at Dantapura he wrote commentaries of many sastras of Nagarjuna and Aryadeva.

Acharya Bhavya was born in a Kshatriya family of the south. He studied the Tripitaka but he preferred to study Mahayana texts and *Nagarjunopadesa* with Acharya Sangharakshita. He, however, criticised the commentary written on *Nagarjunopadesa*. Both of these Acharya considered Yogachara as a separate system. Buddhपालita was the earlier and Bhavya a later disciple of Nagarjuna. Chandrakirti was a disciple of Aryadeva.

Acharya Vimuktasena was a nephew of Buddhपालita. He joined the Kurukulla school, but he turned later to Mahayana, came to Vasubandhu and studied with him the *Prajnaparamita*. Then he became the disciple of Sangharakshita. He went to Varanasi and procured a copy of the *Panchavimsatisahasrika Prajnaparamita* in eight sections, which was in harmony with *Abisamayalankarakarika*.

CHAPTER XXIV

Events of the time of King Sila (= Sri Harsha)

There lived Sri Harsha (also called Siladitya), who became a great and famous king, collected the monks of the four quarters and maintained them with excellent food. He had a palace in the Lata city. In the east, lived a very powerful king of the Licchavi race called Simha. At this time was born Acharya Chandragomin and also lived Bhavya and Vimuktasena in their old age with their disciples Varasena and Ravigupta, Kamalabuddhi, disciple of Buddhपालita, and Chandramani, disciple of Acharya Gunaprabha. In the south, appeared Acharya Jayadeva and Chandrakirti. It was the beginning of the life of Acharya Dharmapala and Santideva, Tantric Siddhacharya Virupa and Arya Visakhadeva. In the translation of Pushpamala is mentioned by the translator Prajnakirti that this work was composed by Arya Visakhadeva, disciple of Samghadasa. Jayadeva, a great master of sastras lived at Nalanda.

Venerable Chandrakirti was born in the south and obtained proficiency in all the Pitakas. He studied the works and teachings of Nagarjuna with Kamalabuddhi, disciple of Bhavya and Buddhपालita. He wrote commentaries on the *Madhyamakamula* and *Madhyakavatara*. He preferred

the views of Buddhapalita and propagated the same. He refuted many heretical teachers in Konkan and converted several persons.

Acharya Chandragomin was born in the east, Varendra,. He proved the theory of rebirth. Then with some traders he went to Simhadvipa. He came across Nagasesha's commentary on Panini. With the help of the commentary, he composed the *Chandravyakarana*.

Chandragomin followed the school of Asanga and became an idealist. But Chandrakirti followed the commentary of Buddhapalita for the works of Nagarjuna. Chandragomin wrote many sastras on architecture, grammar, dialectics, medicine, metre, lexicography, art of poetry, astronomy etc. He studied the *Dasabhumikasutra*, *Chandrapradipa* (i.e. Samadhiraja sutra), *Gaudalankara*, *Lankavatara* and *Prajnaparamitra*. He composed the abstract of contents of these books. He composed also *Pradipamalasatra* teaching the functions of a Bodhisattva. His works *Samvara-vimsaka* and *Kayatravavatara* were taught to all Mahayana students. He went from Jambudvipa to Potala in a boat.

CHAPTER XXV

Events of the time of King Chala, Panchamasimha and others

After the death of King Bharsha and King Simhachandra, lived in the west at Matrikota King Chala who was very powerful and was in alliance with King Sila. All of them including Sila died. In the east lived King Panchamasimha, son of King Bharsha. He ruled over the northern countries up to Tibet and in the south up to Trilinga, in the west up to Varanasi and in the east up to the ocean. Simhachandra's son Balachandra was ousted from Bengal, and so he went to Tirhut. At that time lived in Magadha Acharyas Vinitasena and Gunamati, specialising in Abhidharma, and Acharyas Dharmapala, Isvarasena, and in Kashmir Acharya Sarvajnamitra.

In Magadha ruled King Prasanna, son of King Bharsha, whose kingdom was small and was later expanded. In the south in the lands near Vin-dhya mountain ruled King Pushpa.

King Chala erected a monastery and provided all requisites to the monks. Panchamasimha honoured both the heretical as well as the orthodox teachers. King Prasanna honoured Chandrakirti, Chandragomin and other teachers of Nalanda. Vinitadeva set up an image of Ajitanatha and visualised his face.

Acharya Gunamati wrote a commentary on the *Abhidharma-kosa*. He followed Sthiramati in his commentary of the *Madhyamika-sastra*, refuting Bhavya.

Acharya Dharmapala was born in the south, he became a Pandita of Nalanda.

Acharya Santideva was born in Saurashtra. He visualised Manjusri. He is the author of *Sikshasanuchchaya*, *Sutrasamuchchaya*, and *Bodhicharyavatara*.

CHAPTER XXVI

Events of the time of Acharya Dharmakirti

After the death of King Chala, his brother Chaladhruva ruled over many western countries. His son Vishnuraja also reigned for many years. In the west in the district of Hala, lived 500 Brahmins as hermits. The king destroyed the huts of the hermits and for this sin he was swallowed up by a river. At that time Praditya ruled over Madhyadesa and over most of the countries in the east.

In the north in the town of Haridvara King Mahasakyabala ruled over all the countries in the north up to Kashmir. He supported the religion of Buddha. King Praditya honoured Acharya Dharmakirti; King Mahasakyabala honoured the Abhidharma scholar Vasumitra. King Vimalachandra honoured Panditas Amarasimha and Ratnakirti, and Srigupta, master of the Madhyamika teaching. Though Buddhism was spreading but not as much as it spread during the time of Asanga and his brother and Dignaga because the heretics were on the increase in the south.

At the time of Panchamasimha appeared two heretical acharyas, Dattatreya and Sankaracharya. They received *mantras* from Mahadeva. In Bengal the bhikshus felt difficult to defeat Sankaracharya in disputation, so they invited either Dharmapala or Chandragomin or Chandrakirti. At that time appeared in the south Brahmana Kumarila and Kanada, Dharmapala's disciple Devasarma tried to refute Chandrakirti and wrote a commentary called *Sitabhyudaya* on the Madhyamika doctrine. He was, however, defeated by Sankaracharya.

King Salivahana was converted to Buddhism. He erected many viharas and Chaityas.

At the time of this king, lived the Tantric acharya Goraksha. Ratnakirti is known through a commentary written by him on the *Madhyamakavatara*. Vasumitra also composed a commentary on the *Abhidharma-kosa* and is the expounder of many important sectarian doctrines summarised by him in the *Samaya-bhedoparachana-chakra*. Before the time of Vasubandhu, the eighteen schools continued to exist intact. Some disappeared on account of the erstwhile enemies of the religion. There were three sub-sects of the Mahasanghikas, viz., the Purvasailas,

Aparaasailas and the Haimavatas; two sub-sects of the Sarvastivadins, viz., Kasyapiya and Vibhajyavadins; of the Sthaviras Mahaviharavasins; of the Sammitiyas the Avantakas; other schools also spread widely. Sravaka doctrines decreased after 500 years. There are, however, still many followers of the Sravaka system. It is not a fact that the Sravaka system disappeared after the appearance of Mahayana.

Venerable Dharmakirti was born in the south at Trimalaya, in a Brahmin family. In his childhood he was of very sharp intellect, he was skilful in the art of sculpture, in Vedas and Vedangas, in medical science, grammar and in all non-Buddhist doctrines. When about 16 or 18 yearsold, he became well-versed in the philosophical works of the non-Buddhists. At one time, when he had become famous, he came across the *Buddha-pravachanas*. He then realised that these were much superior to their own *sastras*, and so he became an Upasaka. He came to Madhyadesa and was ordained as a bhikshu by Acharya Dharmapala and acquired knowledge of the Pitakas and studied many dealectical treatises but his mind was not satisfied. He then studied *Pramanasamuchchaya* with Isvarasena, disciple of Dignaga. He then received consecration from a Vajracharya and devoted himself to the mantras and invoked Adhideva. Heruka himself appeared before him and enquired about his intention. He said that he might attain victory in all directions. Heruka replied "Ha Ha Hum" and disappeared then and there. He then composed the *Stava-dandaka* (in Tanjur *Srivajra-daka-stava-dandaka*, also in Abhidhanot-tara).

He wanted to learn the secret doctrine of the non-Buddhist system, and so he put on the dress of a household-servant, came to the south and went to Kumarila. As his service pleased Kumarila and his wife and on their inquiry what he desired, he said that he would like to learn the system taught by him to his disciples. His wish was fulfilled by Kumarila, and he was liberally rewarded by his master and his wife for his faithful and indefatigable service.

The followers of the system of Kanada met together and contested with Dharmakirti; the contest lasted for three months. They were all defeated by Dharmakirti and converted to Buddha's teaching. On hearing this news, Kumarila became very angry and told the king that if he won in the contest, then Dharmakirti must be put to death but Dharmakirti said that he did not want that the defeated opponent should be killed but he should become a follower of Buddha's dharma. Dharmakirti won in the contest and defeated also the Nirgrantha Rahuvratin, the Mimamsaka teacher Bhringaraguhya, Brahmana Kumarananda, the Brahmanical champion Kanadaroru and the rest who lived near the Vin-dhya mountain. He then went to a forest and resided in the hermitage of Risi Matanga near Magadha. Dharmakirti went to the palace of King Pushpa and said:

“In wisdom a Dignaga, in purity of language a Chandragomin, in merits a Sura, in disputation who else could be except the humble self, the victor of all disputants” (Sura = Aryasura, author of the *Jatakamala*).

The King Puspa asked “I wonder, are you the Dharmakirti ?” He said that it is the name by which people call me. He erected many *viharas* for the residence of Dharmakirti. He composed also a *Pramanasastra* in seven chapters and he wrote at the entrance hall of the palace the words “When Dharmakirti’s sun of eloquence will go down, the faithful will go to sleep or die, the unbelievers will rise immediately”. For a long time he spread the doctrine and there were about 50 *viharas* and 10,000 monks. When he visited Gujarat he converted many Brahmins and other sectarians to Buddhism and erected the temple of Gotapuri. In this land there were many non-Buddhists.

Dharmakirti’s dialectics was propagated in Kashmir, Varanasi and also in the south. Towards the end of his life Dharmakirti built a *vihara* in Kalinga. This acharya was a contemporary of King Srongbtsan-sgam-po.

Dharmakirti’s disciple Devendrabudhi composed the commentaries of Dharmakirti’s works. His disciple was also Prabhavabodhi. Some say that Jamari was the direct disciple of Acharya Dharmakirti and that Jamari was the author of *Pramana-varttika-alankara*.

The number of teachers regarded as jewels of the Buddhist scholarship is six, of whom three were Nagarjuna, Asanga and Dignaga and three were commentators Aryadeva, Vasubandhu and Dharmakirti. Sankarananda appeared at a much later date, hence he could not be a direct disciple of Dharmakirti.

At that time there were five Siddhacharyas, namely, Kambala, Indrabhuti, Kururaja, Padmavajra and Lalitavajra. Kutaraja was an old Yogacharin, practised Ganachakra and other mysteries in the cemetery and attained *Mahamudrasiddhi* on the basis of the *Chandraguhya-bindu-tantra*. He taught to his disciples the Buddhist Tantras and Yogatantras.

Acharya Lalitavajra was a pandit of Nalanda. He brought the Yamari-tantra from the *dharmaganja* of Udyana. He composed the *Krsna-yamari-tantra*, *Trisamvara*, *Saptakalpika* and *Kalpakramas* and propagated them in Jambudvipa. The heretical prince Naravarman in the west became a believer in Buddhism, and built a temple of Manjusri. There are many stories about the contest of Kambala, Lalitavajra and Indrabhuti with others. Kambala procured the *Hevajratantrasara* and composed the *Nairatmyasadhana*.

At this time lived in the south Kamalagomin, who had attained *Avaliokitesvara-siddhi*.

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