

### **Caturanga as a War Game: Perspectives on the Indian Origin of Chess.**

There have been a number of theories about the origin of chess, tracing it to India, China, 'somewhere in the silk road', Kushan empire and even Babylonia <sup>1</sup>. Most of the chess historians are, however, of the considered opinion that among these, India seems to be the most probable place of the birth of this wonderful game. The general consensus seems to be that chess emerged in the North West of ancient India around 600A.D and reached Persia at the time of King Khsrau Nushirwan (531-578AD).<sup>2</sup> Some historians suggest a slightly later date around the time of King Khsrau II Parwiz(590-628AD). Old texts written in Pahlavic language name the game as '*chatrang*', but with the invasion of Persia by the Arabs, it became '*shatranj*' due to phonetic change, as Arabic language does not have 'ch' and 'g' sounds. Islamic military expansion resulted in the game spreading all over Mediterranean coast of Africa from which it further spread to Europe. In its variegated history of migration, chess also went through several changes in the nature and structure. Michael Mark reviews the changes which have occurred to the game in modern times in comparison with what it was as described in *Chatrang-namak*, around AD 750-850)

Instead of the queen, there was the counsellor or the advisor, which was one of the weakest pieces on board, being able to move only one square diagonally. Instead of bishops, we find elephants, able to move only two squares diagonally, so that each of them could cover only eight squares on the board. Castling was unknown, and instead of castles, at the four corners of the board, we find rukhs, with the same moves as the modern rook. The *Chatrang-namak* offers no description of the rukh, although it describes every other piece. It is uncertain what it represented,---in India, the equivalent piece was the chariot. The horses

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<sup>1</sup> Michael Mark, 'The beginning of Chess,' *Ancient Board games in Perspective*, p144.

<sup>2</sup> G.Fertilo and A .Sanvito, 'Origins of Chess,' *Chess*, September, 1990, Vol.55 No.6p.14

had the same movement as the modern knight, but the pawns or footsoldiers had yet to enjoy the advantage of the initial double leap.<sup>3</sup>

There are, however, some prominent scholars like Joseph Needham who do not believe in this 'Indian, Persian, Islamic theory'. Needham has argued that the Indian chess was descended from a divinatory or board game from China.<sup>4</sup> According to him, several derivations existed in China which preceded chess and the unidentified game mentioned by Pan ku of the first century AD was one of this kind, with its square board symbolizing earth, and the pieces in yellow and black scattered all over the board signifying heavenly bodies. He also refers to another game which he describes as image chess, using images of heaven, the sun, moon and the stars and the earthly elements earth, air, fire, wood and metal.<sup>5</sup> Some time back, in 1997, in his paper presented at Wiesbaden, Ken Whyld also argued that India's claim is somewhat overstated. He maintains that 'three factors have worked to give India's case a bias'. The first factor according to him is 'unfounded claims for the age of Indian chess and the priority of a four handed version', made by Duncan Forbes, which came to be accepted uncritically, despite the corrections attempted by chess historians like Antonius van der Linde. The second factor according to him was the fact that most of the earlier chess historians were Indologists who did not have that much access to Chinese sources. In Whyld's view, the third factor is the uncritical acceptance of the account in Firdousi's *Shahnama* which decisively maintains that chess was introduced to Persia from India. 'The story of Firdousi is that a delegation from 'Hind' brought the game of chess to the court of Khusru, and challenged the Persians to discover how the game was played. After great effort, the riddle was solved. In return,

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<sup>3</sup> The beginning of Chess, p144.

<sup>4</sup> Needham, J., *Science and Civilization in China*, Cambridge, 1962, pp.314-334.

<sup>5</sup> Michael Mark, op.cit, p.154

the Persians showed the game of nard, but the visitors were baffled'<sup>6</sup>According to Whyld, this account does not , even if it were true, conclusively prove India to be the place of origin of chess, but the word 'Hind' used in the account might mean eastern Persia as well. Further, the story is flawed as it assumes that it is possible to deduce rules from the arrays. For his part, Whyld believes that 'there is less certainty about the case for India than is commonly supposed , and we should be open minded until greater evidence is found.'<sup>7</sup> In this connection, Michael Mark rightly points out that the argument of bias does not lead us anywhere and it is on the basis of known facts that one should make judgments, either way. Hence it seems only proper to look into the whole problem afresh and examine whether the hypothesis of Indian origin of chess can withstand closer scrutiny. As a first step, it has to be enquired as to the original nature of Caturanga .

Michael Mark refers to four different approaches to the origination of Chess

1. That it evolved from one or more racing , hunting or war games.
2. That it was created from scratch as a war game representing the forces of the Indian army, possibly inspired by army training exercises using miniature units on a grid
3. That it derived from mathematical exercises using miniature board , and
4. That it derived from divination techniques or rituals, as suggested by Needham and others.<sup>8</sup>

Among these four theories, with regard to the argument that chess evolved from some other game , despite the ingeniousness of the theories of Averbakh, Masiellis, Hollander and Josten, there is unfortunately not an iota of evidence available to support that hypothesis . The same is the problem of a mathematical perspective also, suggested by

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<sup>6</sup> Ken Whyld, 'Old facts for the origin of Chess in China', paper presented in the 4<sup>th</sup> Symposium, 14 August, 1997, Wiesbaden.

<sup>7</sup> Ibid.

<sup>8</sup> Michael Mark, op.cit, p. 150

Camaratta. The theories of Needham and other scholars also remain largely speculative, without concrete evidence.

On the other hand, it is not easy to reject the relationship between caturanga and ancient Indian military structure. Caturanga, consisting of two words *Catur* meaning four and *anga* meaning limb etymologically means four limbed. It is used in this original sense in *Rgveda*, (X.xcii 11), to denote a four limbed human body and in the *Satapatha Brahmana* (XII.iii 2.2.) , in the *Mahabharata* , Ramayana , the *Nitisara* of Kamandaka, and *Atharvaveda parisistas* either in agreement with the word *bala* or used absolutely as a feminine or neutral substantive , in the sense of army composed of four members and army generally.<sup>9</sup> Indeed , the traditional division of Indian army was fourfold, consisting of elephants, cavalry, chariots and infantry.<sup>10</sup> As pointed out by Murray, Caturanga stood for the new game invented at some point of time using the sixty four square board called Astapada used for many other board games.<sup>11</sup> Murray states that “the date when it occurred to some Indians to represent the chaturanga and its evolution s in a game cannot be fixed, though naturally it cannot be earlier than the organization of the army on which it is based”.

Ferlito and Sanvito point out that it is very unlikely today , if an inventor would invent a war game, he should mix ‘obsolete arrangements with the latest technological ones, like crossbows against tanks’, and ‘ball cannons against tanks’<sup>12</sup> As each epoch has its typical armaments, the military symbols of chess are also understood to be linked to a ‘peculiar to a certain period of warfare’. One of the earliest available testimonies about military symbols is the ‘standard of Ur’, a Babylonian piece of about 2500BC, now in British Museum, which realistically portrays the Sumerian army going to war, with chariots drawn by two wild asses (onagers) with two men, one the driver and the other a

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<sup>9</sup> Ibid.

<sup>10</sup> A.L.Basham, *The Wonder that was India*, p.130. See also, C.Panduranga Bhatta, *Origin and Genesis of Chess*, p.21.

<sup>11</sup> *A History of Chess*, p.42.

<sup>12</sup> Op.cit, p.15

warrior who flings light javelins.<sup>13</sup>The second object is an engraved column called 'Stele of Vultures' now in Louvre, which shows infantry arranged in phalanx formation, about 2000 years older than the phalanx conceived by Alexander the Great for his warfare. For the next 18 centuries, the structure of the army was more or less the same, with the onager being replaced by horses around 1700 BC. The mounted troupes were experimented as an addition at the time of the Assyrian King Ashurnasirpal II (839-859BC.) In the period of the Assyrian King Sargon II (721-705 BC), three military parts, consisting of infantry, chariotry, and cavalry were used in an army together for the first time. Elephant was used in war originally by Indians as is attested by VI century Buddhist texts, but it could be from much earlier times. Both Ramayana and Mahabharata, covering a period of about at least 600 years from 300BC to 300 AD refer to the fourfold army. Ferlito and Sanvito also point out that according to Greek historians, the Indian king Porus, who met the army of Alexander in 326BC at Hydaspes, had an army consisting of an infantry consisting of 50000 men, 1000 chariots, 130 elephants, and a cavalry of 3000 horses.<sup>14</sup> The chariots gradually disappeared from Indian army around 700AD.

According to Ferlito and Sanvito,

from a strictly military point of view, the chronology would suggest that the invention of protochess may have taken place between 700B.C and 700 AD. However, if we assume, as probable ground of a protochess game, the vast territory comprising India, Pakistan, Afghanistan and in more general terms, Central Asia, the time limits could be restricted from 400BC -300 AD<sup>15</sup>.

We do not, however know for certain that chess was evolved gradually from a protochess or was an invention of a genius who might have combined the use of a 64 square board and pieces representing the fourfold army for the first time. But it is almost

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<sup>13</sup> Ibid.

<sup>14</sup> Ibid

<sup>15</sup> Ibid.

certain that but for the fourfold structure of Indian army, there could not be a viable source from real life which inspired chess and which make its combative moves intelligible in the first place.

We can, therefore, understand the dynamics of the game from the ancient Indian concept of warfare wherein two armies encountered each other in a face-to face combat. Such a picture is, for example, furnished in the following description of a war between two armies in the epic, *Raghuvamsa*, penned by Kalidasa

It was a battle between two forces of equal strength: the footman encountering the footman, the charioteer against the charioteer, the horse rider facing the horse rider, the man on elephant facing the man on elephant <sup>16</sup>

This face-to-face standoff is reflected in traditional Caturanga more or less in the same manner, at least in the beginnings of the game. This is also hinted at in the celebrated *Harsacarita* passage, one of the earliest references to caturanga in Indian literature, wherein the author Bana maintains that the four-fold army was available [at the time of Harsha] only on the game board.<sup>17</sup> This should also probably rule out any possibility of the so called four-handed chess being the precursor of Caturanga, which, as a replica of a war was essentially to be fought between two armies. There is every possibility that a two handed version, with two kings and their army, being the natural representation of war, was later improvised on board with four kings and their army.

In the representation of the forces on the board, the relative strength of each one seems to have been taken into consideration. Macdonnel(JRAS, 118) and following him, Murray refer to the discussion of the fourfold army given in treatises like Nitisara of Kamandaka as a possible guideline to this. Murray refers to the necessity of discovering 'some

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<sup>16</sup> *Raghuvamsa*, CantoVII,33.

<sup>17</sup> *Astapadanam caturangakalpana* Bana, *Harsacarita*, Kashmir Edn.p.182

means of reproducing the difference in value' of various pieces<sup>18</sup>. Kamandaka gives his assessment of the difference of the values of forces thus:

3 footmen=1 Horseman

5 Horsemen=1 Elephant/Chariot.

It would be clear that the footman was naturally regarded as the weakest force; the horse followed and the chariot and the elephant were superior to them.

What was the type of arrangement of pieces? Let us have a close look at the arrangement in traditional Caturanga of Kerala.

CH	H	E	K	M	E	H	CH
F	F	F	F	F	F	F	F
F	F	F	F	F	F	F	F
CH	H	E	K	M	E	H	CH

CH:Chariot, H:Horse, E:Elephant. K:King, M:Minister,F:Footman

It is interesting to note that this reflects the face to face combat envisaged by Kalidasa in some respects. It seems very probable that in the original version of Caturanga, the board was not chequered with black and white and hence there was bound to be some confusion about the exact position of the King and the minister. Andreas Bock-Raming points out that *Manasollasa*, the earliest available Sanskrit text on the rules of the Caturanga game is silent about the relative position of the King and the minister,

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<sup>18</sup> *A History of Chess*, p.46

viz. whether the king is placed on the left side or the right side of the minister<sup>19</sup>. In Kerala, the King is always placed on the left side of the minister. The rule is “the king should never be placed on the North or the East of the minister”[*vatakila arasu vala*] It seems highly probable that Kerala game is following an ancient tradition of the game in its original form.

Another important point to be noted is that early Indian chess makes use of military terminology in a significant manner on several occasions. Thus, as pointed by Andreas Bock-Raming the Sanskrit term *gomutra*, meaning ‘cows urine’ which originally signified the ‘zig-zag’ arrangement of some part of the army as in Kautilya’s *Arthashastra*<sup>20</sup> is used in texts like the *Manasollasa* to refer to zig zag line of the position of foot soldiers. <sup>21</sup>Arthashastra refers to several vyuhās called Sama, Visama, Hasti, Rathi, Asva, and Patti. Further, in texts like *Manasollasa*, the arrangements of chess pieces is frequently described as *vyuha*, meaning ‘battle array’ again a military term.

Thus the overwhelming evidences point to the inevitable fact that chess was originally intended to be a miniature replica of the fourfold army of ancient India represented more or less realistically on a game board consisting of sixty four squares. This is very clear from the description of Caturanga contained in *Hariharacaturanga*, wherein the author alludes that Caturanga is modeled after warfare.<sup>22</sup> This should probably dispel the notion, once widely held, among others, by scholars like Needham that the origins of Chess can be found in the divinations of ancient China, as we would lose all this orientation of the war when the Indian perspective is lost. Again, the local variations of the game, like the replacement of the Caturanga army with boat, camel etc. can also be determined to be later innovations.

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<sup>19</sup> Indian Chess through the Ages, *Asiatische Studien* XLIX2-! 995, p.310

<sup>20</sup> 10.6.,24-25

<sup>21</sup> Andreas Bock-Raming. ‘Indian Chess through the ages’ *Asiatische Studien Etudes Asiatiques*, XLIX..2.1995, p.312.

<sup>22</sup> *Hariharacaturanga*, VIII 1-3

There are some issues which should be addressed if we subscribe to the hypothesis that traditional army inspired the chess game. Michael Mark refers to the arguments of scholars like Meissenberg and Bidev who have pointed out certain obvious difficulties in the assumption that the chess board with the two rival arrays is an exact replica of the traditional Indian warfare. In real battles, the infantry do not lead the attack, and they are also able to retreat, which are wanting in chess game.<sup>23</sup> Further, elephants in real battles would come to contact with each other, but they could not do so in chess. In short, it is argued that it is not possible to 'explain either the arrangement of the pieces or their movements by reference to realistic warfare.' In reply to this, it should be pointed out that the expectation of a cent percent agreement between any real phenomenon like war movements and a game is unrealistic and the point worth reiterating is that if any real phenomenon has inspired the genesis of chess, it is only the caturanga battle. As Michael Mark puts it,

The essence of this theory [that chess originated from the concept of war] is that the game developed from battlefield manoeuvres with miniature pieces on a grid. In the course of this process, there would have been experimentation and adaptation to refine the initial ideas. The resulting game with fixed rules need not be a close imitation of the battlefield. A game in which the parties move by term in limited fixed steps is already removed from a real battle, and the object would have been to produce as good a war game as possible, even if this meant moving even further from the real battlefield.<sup>24</sup>

Panduranga Bhatta refers to the argument of V.R.R Dikshitar that the principles of chess supplied ideas for the progressive development of the modes and constituents of the army<sup>25</sup> and rightly suggests that it should be *vice versa*. It is inconceivable that a

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<sup>23</sup> Michael Mark, op.cit., p.152

<sup>24</sup> Ibid.

<sup>25</sup> C.Panduranga Bhatta, opp.cit, p.19.see also V.R.Ramachandr aDikshitar, *War in Ancient India*, Reprinted 1987, Delhi, p.156.

game with fourfold army is created first, to influence warfare later. But it is plausible that the game could be used to evolve strategies of war, very much like the graphic representations in military exercises. But it is the material conditions which are of decisive of the evolution of war strategies, as the gradual disappearance of chariot in Indian warfare would suggest. It should also be remembered that Indian chess was always responsive to regional variations of the armed forces, as the inclusion of camel and boat in some versions of the game seem to indicate. In short, when all is said and done, it seems quite certain that chess, as a war game, owed its existence to India and its concept of fourfold army.

Was Chess a war game at the time of peace? There is an intriguing story of a Kerala King of medieval times, an incurable chess addict, who was defeated by his enemy. While being overrun by his enemy, he was spotted as playing chess with a close associate. Whatever may be the veracity of this story, it is plausible that Caturanga, the war on board was conceived as a less violent alternate to actual field battle. It is against this backdrop that we should have a close look at The *Harsacarita* of Bana Bhatta which is taken by chess historians as containing the first unequivocal reference to Caturanga.<sup>26</sup> Bana Bhatta was the court poet of Emperor Harsavardhana, who ruled an empire in the Northern India from Kanyakubja, the modern Kanouj in the period of A.D.605-648. No doubt, a slightly early prose romance, the *Vasavadatta* of Subandhu, belonging to the beginning of the seventh century, contains an allusion to a game which could be arguably Caturanga, but the passage does not make any explicit reference to Caturanga or its pieces by name.<sup>27</sup> In these circumstances, the references contained in *Harsacarita* to the game assume tremendous significance, since it is Bana who, for the

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<sup>26</sup> It was Macdonnel (*Athenaeum*, July 27, 1897) who brought the passage to the attention of the chess historians for the first time.

<sup>27</sup> The passage, as per the translation of Murray, is as follows: 'The time of the rain played its game with frogs for chessmen (*nayadyutair*), which, yellow and green in colour, as if mottled with lac, leapt up on the black field (or garden-bed) squares (*kosthika*)'. Here the term *nayadyutair* is taken to mean chessmen by Thomas on the basis of the commentator's explanation as referring to Caturanga., but this seems to be too indefinite. See, H.J.R. Murray. *A History of Chess*, p.52.

first time in Chess history, makes an explicit reference to Caturanga. It would be interesting to examine if the passage in question gives us any information about the nature and evolution of the game which seems to be a recent invention at the life-time of the poet .

The passage, in which the covert allusion to Caturanga occurs, is in the second *Ucchvasa* (chapter) of *Harsacarita* and is as follows:

*asminsca rajani .... astapadanam caturangakalpana*

The passage refers to the musings of Bana, the poet and the biographer of Harsavardhana when he meets the king for the first time. This passage has been translated by Cowell and Thomas thus:

Under this monarch, only the chessboards teach the position of the four members<sup>28</sup>

However, a more accurate translation would be like this:

When this king (reigns), the rendering of Caturanga occurs (only) in the case of the *astapada*

Here the passage requires some explanation on the basis of the context. Bana comes face to face with the king whom he describes as unique in certain regards. A novel feature of the king, in Bana's view is that *Caturanga*, the traditional Indian army occurs only on *Astapada*, the 64 square board. Probably, the poet must have meant that army ceased to exist in the battlefield since no battle had to be fought as Harsavardhana, under the influence of Buddhism had become a pacifist in the latter phase of his career. The immediate preceding passage, *vrttanam padacchedah* (the cutting of feet exists (only) in the case of metres) also strengthens this interpretation. This expression has a prosodic and a corporal significance. It means that "metrical verses alone came to be cut into feet", thereby implying that the corporal punishment of cutting the feet of people came to be discontinued-a reform brought to judiciary by Harsavardhana, probably under the influence of Buddhism. It can be seen that the general theme in these passages is the abhorrence of violence in the lifestyle of the people brought about by Harsavardhana, himself coming under the influence of Buddhism .

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<sup>28</sup> *The Harsacarita* of Bana, Tr. By E.B Cowell and F.W .Thomas, P.65.

The passage, on closer scrutiny would also suggest that it was under the reign of Harsavardhana that a fusion took place between *Astapada* board and the Caturanga pieces. Caturanga, the fourfold Indian army was reduced to game pieces and the *Astapada* board, which was hitherto used in other board games, came to be used as the board for the newly invented game of Caturanga. Interestingly enough, Bana Bhatta does use the word *Astapada* in the sense of a board in some other passages of *Harsacarita* as well as *Kadambari* also, his other prose work. Let us have a closer look at these passages:

The passage in the beginning of *Harsacarita* is as follows

*krtakalasannidhnam                      iva                      andhakaritalalatapattastapadam  
antahpuramandanapatrabhangamakarikam bhrukutim abadhnan<sup>29</sup>.....*

This passage, translated by Cowell and Thomas runs as follows:

Gathering a frown that darkened the Chess board of his forehead, like the presence of the god of death.....<sup>30</sup>

A more literal translation of Thomas is quoted by Murray:

Contracting a frown which, as if the presence of Kala had been obtained, darkened the *ashtapada* of his forehead, and was the crocodile ornament which bedecks the wives of Yama.

This interesting passage refers to the forehead of the sage Durvasas, who is celebrated in Indian mythology as a short-tempered person who flings into a passion at the slightest provocation. Here his furrowed forehead is likened to the chequered board of *Astapada*. This is indeed a very beautiful simile. But the translation of *Astapada* in this passage as 'chess board', done by Cowell and Thomas is perhaps misleading, as *astapada* in Indian tradition originally signified only a 64 square board with which a number of board games could be played. If Caturanga was a contemporary invention, Bana could have used the term *Astapada* in the conventional sense of a chequered game board. It was later that the board came to be used in Caturanga. To quote Murray,

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<sup>29</sup>*The Harsacarita of Banabhatta, Ed.by P.V.Kane, Motilal Banarsidass, Delhi, 1973, p.3.*

<sup>30</sup> Cowell and Thomas, op.cit, p.6

Of more importance for our present purpose is a group of terms which are restricted to boards of definite shape and arrangement. There are two words of this kind: *ashtapada*, meaning a square board of 64 squares, 8 rows of 8 squares, and *dasapada*, meaning a similar board of 10 squares, 10 rows of 10 squares. These boards were employed for a more complicated form of game in which the use of the dice was combined with game upon a board (Luders, op.cit, 65). Both terms appear to have been used also for the games played upon these boards.<sup>31</sup>

Hence it is safe to conclude that this passage does not make any pointed reference to Chessboard as such, but to *Astapada*, the 64 square board which came to be used in Caturanga also.

Bana refers to *astapada* in the following passage found in his *Kadambari* also:

*Astapadaparcayacaturabhih*<sup>32</sup>

Here the reference is to the maidens in the royal court of Kadambari, the heroine of the prose romance. Bana mentions that they were adept in board games, but no specific reference is contained about chess in this passage. We cannot deduce the specific board game played by the maidens. If Bana wanted to convey the sense that they were adept in the Caturanga game, he could have mentioned that here. But the probability lies in the fact that Caturanga was one of the few board games which could be played with *Astapada* board. It would be safe to assume that *astapada* board and Caturanga were totally unrelated concepts before the invention of the Indian chess. They must have been mutually related gradually, definitely from the time of Harsavardhana onwards, and possibly some times before.

In the light of all this, another expression, immediately preceding the Caturanga passage of the *Harsacarita* also deserves our close scrutiny. The expression in question is *pustakarmanam parthivavigraha* and it occurs in the main sentence beginning with *asminsca rajani*.<sup>33</sup>

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<sup>31</sup> *A History of Chess*, p.33.

<sup>32</sup> *Kadambari*, p.196.

<sup>33</sup> I am thankful to Manfred Eder, who has invited my attention to this important passage. Eder informs me that it is Renate Syed who has referred to this passage as an evidence to her contention that chess originated in Kanouj slightly before Harsavardhana became its ruler.

This passage is translated by Cowell and Thomas as follows:

Under this monarch are found..... the figures of sculptures and not the vulgar disputes with kings<sup>34</sup>

Unfortunately, the interpretation does not appear to be clear. Kane in his notes to *Harsacarita* rightly points out that there are two senses for the term *parthivavighraha*. *Parthiva* means either 'king' or 'made from earth'(*prthivi*). *Vighraha* also has two senses, viz. 'idol'/'statuette' and 'war'. The compound *pustakarmanam*, which is in the genitive case, also deserves a close look. *Pusta* is according to Monier Williams, 'working in clay, modeling' and *pustakarman* 'plastering, painting'<sup>35</sup>. Kane renders *pustakarmanam* as 'manufacture of dolls'. But it seems that the word means 'the statuette artifacts made of clay'. Accordingly, keeping in view Bana's fondness for wordplay, the passage may be translated as follows:

When this king reigns, the fight among kings is confined to the terracotta statuettes.

This passage invites a number of unanswered questions.

1. Why were earthen (*parthiva*) statuettes of kings made at all?
2. Why were they supposed to fight?

We have to surmise that

1. Statuettes of kings made of clay were profuse during Harsavardhana's time.
2. They were involved in fights.
3. There was practically no fight of kings except in the case of statuettes.

The only assumption warranted by all these surmises is that during the reign of Harsavardhana, there was the practice of the toys of kings fighting with each other and this becomes intelligible when we relate it to the invention of Caturanga game.

To gather our scattered threads, we can conclude that during Bana's lifetime, Caturanga or the Indian chess was a relatively new game. It seems to have originated out of the fusion of two different traditions. One is the old board game tradition which used *astapada* square board and the other is the symbolic representation of the fourfold Indian army. Bana seems to have marveled at this invention; he also credits the

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<sup>34</sup> Op.cit .p83.

<sup>35</sup> *Sanskrit English Dictionary*. P640.

emperor, his patron as the agent under whom the game came to be popular. It is also possible that he admired the king for inventing or preserving a war game at the time of peace.