Distribution of mancala board games: a methodological inquiry / Alexander J. de Voogt

Mancala boards games show an extensive range of distribution from West Africa to the Caribbean and parts of South America, from Northern to Southern Africa, from South East Asia, to South Asia and the Middle East. The many variations in this range and the worldwide distribution of mancala has prompted researchers to raise the question of how the development and distribution of mancala games took place. It is common to see the distribution not as a plain dissemination. In the distribution one encounters another significant phenomenon: development. The concept of development brings up other concepts such as stages of development and most eminently, the question of origin. This latter question is central in the following argument.

Townshend (1977, 1986) and others agreed with the concept of origin for mancala games and focussed in particular on the question whether mancala originated in Africa or in Asia. In 1995 and more extensively in 1998, Vernon Eagle rightfully observed that answering such a question of origin necessitates an extensive inventory based on a proper methodology underlying the classification. For this purpose he proposed the methodology of phylogenetic classification for the field of mancala games research.

The theories for explaining distribution and development through a phylogenetic classification date back to Darwin, in particular to his seminal work *Origin of Species*. The analytical method itself was further developed and refined by Hennig (1950). The purpose of this method was to classify biological material. Yet, the question is whether such an approach is adequate for mancala research.

First, I will outline the theories developed by Darwin and later improvements by researchers in biogeography. For this purpose it is not necessary to contrast theories of biogeography. The assumptions of these theories and the questions they intend to answer are of main importance and, in the course of time, remained largely the same.

After this outline, the principles underlying these theories are questioned for their use in mancala research. A new perspective is proposed which tries to answer questions which are different from the question of origin and which concentrates not on variation but on stability of mancala rules. It is argued that this stability is more promising for our future understanding of mancala board games.

Darwin and Phylogenetic Classification

The connection of distribution and development is not a new concept. Charles Darwin studied the distribution of animal species. During his travels he observed that certain variations of species could be explained if he assumed a historical development of species. According to Darwin, this historical development had a direction les Darwin studied the distribution of animal species. The way in which animal species developed was summarised by Darwin as the "survival of the fittest". This implies that species become "fitter" over time in competition with other species. When making a classification of

species, it is possible to construct a historical classification. In such a classification all animals progress when they develop into different variations in the hierarchy. Such a classification is now known as a phylogenetic classification.

Darwin linked the development of animal variations to their distribution. The development of animal variations pointed towards a geographical origin. At this origin the animal variations were the most varied since evolution had been taken place the longest. Away from this origin this variation would significantly diminish. When observing the distribution of variations, it was also possible to observe historical development: this was the core of Darwin's theory.

The connection between distribution and development is not unproblematic. First, Darwin's suggestion of a possible origin had to be corrected when the theories of plate tectonics became known. The field of biogeography questioned and developed other important elements of the theories of Darwin. For instance, Nelson (1974) and Croizat *et al.* (1974) dismissed the progression rule as formulated by Hennig (1950) and his predecessors. This rule said that in isolation species deviate more strongly than those that remain within the old range (Myers & Giller 1988:360). Alternative theories such as "panbiogeography" (Croizat 1958) received increasing attention also. But in the end, all researchers upheld the element of progress and centre(s) of origin in their analyses. It is concluded that they differ where distribution and historical development are linked.

Counter-intuitive Premises of a Phylogenetic Classification

Eagle (1998) argues that the similarities between mancala games throughout the world warrants an approach which assumes a common origin. There are other intuitive arguments which do not make such an assumption obvious. Before presenting two of those arguments, it is important to note that even if the premises of a model of explanation or theory are not entirely factual or correct, it does not make the model or theory invalid. Apart from intuitive objections, there are objections of content that will be pointed out in the next paragraphs.

First, undoubtedly, there is nothing genetic about board games. There are no genes or mental parameters that only change with a new generation of people as in linguistics or in biology. There is nothing that keeps mancala rules from changing except human behavior. It is not the game itself that embodies this process.

Second, a phylogenetic classification suggests that there is progress or at least a direction of change. In animals this direction is known as "survival of the fittest" of which the humans are one of the latest results. In linguistics, the progress principle is not clear, although the principles of classification are still untouched. If there is a choice between phylogenetic classifications the one with the fewest "devolutions" is preferred. In other words, changing back and forth is not considered as a plausible or even possible course of development. In board games there is little to suggest that "devolution" is less plausible or less likely to occur. There appears not even a sign of progress: mancala games do not become more intellectual challenging (Bao), more complex (Katra in Fianarantsoa),

Fig. 1: Mancala game: Ohvalhu. Location: Laamu Gan, Maldives

more flexible (Ohvalhu in Maldives) or more widespread (Wari) in society without at the same time becoming less intellectually challenging (Katra in Tanala), less complex (Katra in Tanala), less flexible (Bao) and confined to one area (Katra tsotra in Merina region) somewhere else.

Despite the commonalities of mancala games throughout the world, the absence of a genetic or progressive element in the development of mancala makes a phylogenetic classification a less obvious approach.

Unanswered Questions

The historical reconstruction of the development of mancala board games by Eagle (1998) is based entirely on the methods of phylogenetic classification. The limited archaeological finds and the descriptions in the historical literature hardly play a role of significance. The reconstruction needs to be based on contemporary material. It is therefore necessary to critically assess the limitations of phylogenetic classification in the absence of direct historical evidence.

The direction in which mancala games are developing has never been made explicit in the case of mancala research. It is important to note that without an assumption of evolution, i.e. progress or direction in the developmental stages, it is not possible to reconstruct historical developments with any degree of certainty. If game A lacks a rule which game B possesses, then A is either an earlier version of B from which B developed. Or B is the earlier version and A developed into a simpler game. The assumption of

progress or direction allows a preferred choice. For instance, games will become more complex over time. In this case, both options are still open but the development into a more complex game has the benefit of the doubt. Without such an assumption there is no preferred choice without other historical evidence.

The evolutionary theories of progress and the methodology of phylogenetic classification to which it is connected, is problematic in another way. The approach could be characterised as a tunnel-approach since certain phenomena or objects are considered to be genetic beings that develop independently of their context, culture and world of influencing factors. As a result, interaction of board games with their context and the influence of this context on its development cannot be answered by these theories.

Next to this objection, the methodology ignores the question why variation does or does not occur. If there is progress why is this progress absent in some cases and rampant in others. In certain instances things seem to change more dramatically in isolation while in other instances they appear more stable in isolation. This question remains unanswered in the disciplines using the above mentioned classification methodology.

The method of phylogenetic classification is geared towards discovering the origin of a certain class of things. The question of origin is dominant in the minds of those who use these methods. I hold that the explanation of the spread of board games does not necessitate an origin in the Darwinian sense but only a geographical origin that cannot be derived from the games themselves but from historic migration patterns only. Even in that case, the geographical search for origin is limited and cannot continue with any amount of accuracy to an earlier version of the game. Changes in board games are not automatic when they travel or when they spread around the world. Sometimes games change sometimes they remain stable. The rules of the most widespread games do not hint at the possible rules of the "original" game.

In conclusion, the method of phylogenetic classification presents four problems. The method assumes a direction of development that can neither be supported by direct historical evidence nor by the contradictory directions in recent developments. Secondly, interaction of board games with their context and the influence of this context on its development cannot be made clear. Thirdly, the question why variation does or does not occur remains unanswered. Finally, the development of the game and the geographical spread are not necessarily correlated. The geographical spread could be explained without a theory of origin.

Towards a New Approach

The analysis of human migratory movements which coincide with the spread of a limited number of mancala board games may provide us with a clearer understanding of the geographical spread than the current inventory of variations supposedly pointing to an origin. The interaction of board games and their context, whether cultural or cross-cultural, will have the possibility to answer questions regarding the stability of rules as will be illustrated below.

Mancala games are known to vary extensively from one place to another. The increa-

sing lists of variations are witness to this phenomenon. At the same time, there are cases in which mancala games remained the same during their extensive travels around the world. Not only did they not vary when separated from each other, but this stability of rules remained in place for hundreds of years. Mancala studies (Murray 1952; Deledicq & Popova 1977; de Voogt 1997) clearly indicate that this was the case with Wari, since Wari is almost identical in Ghana, Ivory Coast and Nigeria on the one hand and Barbados and Antigua on the other hand. In addition it is also played in Capo Verdes and South America. An ocean and hundreds of years of separation characterise the distribution of this game. Similarly, Madagascar, Comores, Zanzibar and Kenya play the same set of complex Bao rules (Townshend 1986; de Voogt 1995) without any recent exchange of players.

These two examples could be explained by the fact that both Wari and Bao have been played in an organized way. The organisations of players could, as a rule, refrain the games from changing while variations would be played by people outside the championship scene such as children and women.

This explanation does not hold for Conka as it is played in Indonesia, Phillippines (known as Sunka) and as far away as the Maldives (known as Ohvalhu). Their loss of contact, in the case of the Maldives, dates as far back as the 13th century. The game has, however, hardly changed. There are no organised players and the games are predominantly played in-house by women and children. Similarly, the game Owela is played in Namibia by Yei, Nama, Ovambo and Kavanga people without any change in rules. These groups of people speak languages from different language families and only have in common that they live in the same country. Although some exchange of players is possible there are no organisations of players and the game is played outside in close-knit communities.

Taking all these examples together there is no organisational structure that they have in common. A second option would be that they have rules or playing structures in common. The mancala researcher would immediately observe that the rules are opposites on the mancala spectrum of variations and do not connect these games in any way.

Changing by Group

The games described above travelled long distances without changing. If two people play a game, they can change a rule in the game at any time. If they both agree on such a change there is no obstacle in their way to change the game. The change may complicate or simplify the game and is entirely up to the two players.

If twenty houses with each two people play the same game, then the same scenario applies. Two people may make a change at any time. In this case, the remaining eighteen people do not necessarily change their game as well or if they do the game does not necessarily change in the same way. If the entire group would change the game in the same way and in a similar time period, then the group would need some kind of organisation. This organisation may be a club or may consist of regular exchanges between players to communicate new rules. Such an organisation is absent in the case of Congka

and Owela. It is present for Bao players and Wari players but not in every country in which their game is played.

If we assume that the above scenario of change applies universally, how do we explain that games do not change over long distances?

According to the above assumption, this stability of rules can only be explained if large groups of players moved from one place to another. It cannot be explained if the game was taught to individual players elsewhere, nor can it be explained if the occasional game travelled with a tradesman and became introduced in another area by an occassional introduction. In these last cases, the game would be able to change into many different variations. Then only where contact between players would be frequent could the game become stable and could one variation start to dominate.

The above line of reasoning can be applied to mancala games. It is now argued that mancala games that travelled the world and remained stable, were as a rule brought to other areas by way of large groups of players moving into that area that played the same game when they moved. Or mancala games travelled by way of frequent contact between players. With further study of trade routes and migratory patterns, I claim that this reasoning explains where and when mancala games differ and why there are many variations present on the Maldives but at the same time the dominant variation can be found on the Philippines as well.

In sum, games remain the same in a homogenous players group but may differ on the individual level. If the game spreads to other regions and remained the same, it is necessary to conclude that the introduction involved large groups of players. Therefore, the spread of single variations of mancala follows migratory and important trade routes. Even if intensive contact between players is lost, the game will not develop in a certain direction in every players group at the same time. Instead, the game develops different variations on an "individual level".

The above approach does not assume a common origin. The interaction of players, games and context are taken into consideration and present a first explanation of why games remain the same or differ from one area to another. The geographical spread of mancala is considered to be separate from the development of the game. The geography is explained by human migration patterns while changes in the game are considered to be a social process.

Practical Consequences for Fieldwork Research

If identical mancala games are the result of human migration then the track of these mancala games across the world gives a clear indication of migratory patterns of people. In this way it contributes to historical evidence on the human diaspora.

Considering the inherent instability of mancala games if played by few people, it is not surprising to find differences in mancala games from one family, town or region to another. When we study mancala we should first look at where identical rules can be found in two unconnected places. This is then the beginning of a track which could indicate a movement of people and games. As the examples show, the stability of man-

cala rules may add up to hundreds of years, long after many other cultural aspects of people may have been lost.

The works by Murray (1952), Deledicq and Popova (1977) and others present an inventory of mancala games. However, the descriptions are ascribed to a region and not to the individual player. It is found that games even if they are highly organised as in Barbados and Zanzibar, vary from village to village (Speightstown versus Bridgetown in Barbados), from club to club and even from person to person (Kijumbe versus Mkiwa in Zanzibar). It is reasonable to state that the games described in Murray c.s. are games played by an individual or at the most a small group of people. It is only when we define the reference game and pinpoint a large number of cases of identical games in a region that we can speak of a dominant version in a region with local individual variations. At that point the data are sufficient to draw conclusions about possible migratory movements or local developments.

Conclusion

The method of phylogenetic classification cannot answer questions which are characteristic of the distribution of mancala games. These questions appear better answered if the playing group is defined which determines the stability of the game. The movement of players, as opposed to movement of boards and rules, is central to the distribution of mancala.

I conclude that future mancala research should not concentrate on individual variations but on shared variations. Also, if variations are recorded at all, the players group should be defined by pinpointing the house, family, or individual which played the rules.

The thoughts put forward in this article are still of a preliminary nature and I would urge the board games researcher to enter a debate on the methodological approach that should be taken in future mancala studies or board games studies in general.

Note

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Appendix
Mancala games in Madagascar

Variations are known as Katra Paika, Katra Tsotra, Katra Kroba or Katra Be. The game is usually referred to as Katra or Katro. It should be noted that not all variations found in Madagascar are listed here.

A. Katra

Players group: 8 persons

Name of players: Hiango, Candice, Talia, Jocelyne, Lova, Minontsoa, Fabrice, Jean-Marc

Age(s) of players (Gender): 10 (F), 8 (F), 6 (F), 12 (F), 15 (F), 5 (F), 9 (M), 12 (M)

Location: Mahajanga (Sakalava people)

Date: 20-8-1998

Name of game: Katra

Configuration of holes: 4 x 4 and 4 x 6

Two counters in each hole is most common, but the these players also played three counters in each hole. Each player owns two rows. A move consists of picking up all the counters in one hole and spreading them one by one in consecutive holes. If the last counters falls into an

Fig. 2: Mancala game: Katra. Location: Mahajanga, Madagascar

empty hole the move ends, but if it falls into an occupied hole you continue.
If this occupied hole is on the back row, the player continues and picks up all the counters of this hole until the last counter falls into an empty hole. If this occupied hole is on the front row and the opposite hole has counters, then these counters in the opposite hole are added to the hole on own's row and the players picks up all these counters and continues the move. If the hole on the front row is empty one cannot capture unless the complete front row is empty in which case one is allowed the capture the opposite hole on the back row.
Players are free to choose a clockwise or anti-clockwise direction at the beginning of every move. Singletons are played and it is not obligatory to choose a move that captures. The game ends if all the counters of the opponents are captured.

A2. Katra (Tsotra)
Players group: 1 person, used to be part of total group of 6-12
Name of the player: Rasolofo Rakotosolofoignace
Age of player (Gender): 60 (M) (not played for at least 10 years)
Location: Antsirabe (Merina people) part of former group located in Antananarivo and Fianarantsoa as well
Date: 12-8-1998
Name of the game: Katra (Tsotra)
Rules and configuration are identical to those describe above.

B. Katro
Players group: 4 persons, part of total group of ca. 20
Name of players: Helène Ravaoarisoa, Symphrose Rakalaba, Jules Ranaivozandry, Laurent Rakotosona
Age(s) of players (Gender): 45 (F), 45 (F), 46 (M), ? (M)
Location: Ianjanina, Fianarantsoa (Betsileo people)

Date: 13-8-1998
Name of the game: Katro
Configuration of holes: 4 x 4, 4 x 6, 6 x 3, 6 x 6

The 4x4 and 4x6 games are identical to those described above although it was said that players were obliged to start their moves from the back row if possible. The 6 x 3 and 6 x6 games also have the same rules with the following additions:

Two counters in each and each player occupies three rows. The players are obliged to start the move from the back row, unless it is empty in which case the inner or if this row is also empty the front row is allowed. The moves proceed in a boustrophedon way, meaning from the back into the inner and into the front row. Once they pass the front row the move returns to the back row crossing but not entering the inner row.

The front row of the opponent can be captured unless it is completely empty in which case the inner row can be captured. If the inner row is empty too then the back row can be captured.

If there is only one counter on one side of the board then it is allowed to capture by stepping from the inner to the front row (and previous to that: from the back to the inner row) without going boustrophedon. The counter that reaches the front row this way adds the captured counters and proceeds with the move as usual.

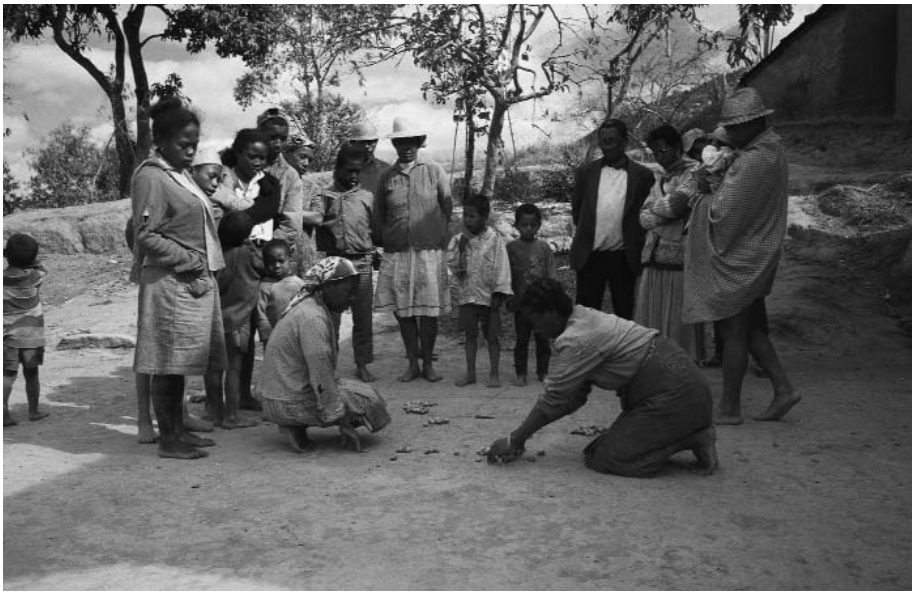

Fig. 3: Mancala game: Katra. Location: Ianjanina, Fianarantsoa, Madagascar

C. Katra (Paika)
Players group: 1 person, part of total group of 4
Name of player: Victorine Rasoanandrasan
Age of the player (Gender): 32 (F)
Location: Ambatolahiambotafotenina near Ifanadiana (Tanala people)

Date: 16-8-1998
Name of the game: Katra (Paika)
Configuration of holes: 4 x 6

This informant only played this game with her mother and her own children. Her father was not living with them and she never played this game with anyone else. She appeared unfamiliar with any of the rules described above.

Two counters in each and each player occupies two rows. She insisted of taking one counter from the front row and entering it into the hole where she took it from to start the first move of the game. Sowing is identical but captures are not added to one's own hole but entered from the side from left to right or from right to left in case of the starting move in all other cases these counters are sown from the direction you came from (as in Bao). This way of spreading the captured counters into the front row is well known in Katra-be (and Bao). Singletons are only played if there are no other possibilities left.

The game is lost if the front row of the player is empty.

D. Katra Be

Players group: 1 person, part of a total group of 50
Name of the player: Paul Edouard Rakotosafy
Age of player (Gender): 75 (M)
Location: Marovato Abattoir, Mahajanga (Sakalava people)
Name of the game: Katra Be
Configuration of holes: 4 x 8

Rules are complex but identical to those found on Zanzibar. For a full description see de Voogt (1995). Takasia of the house is possible.

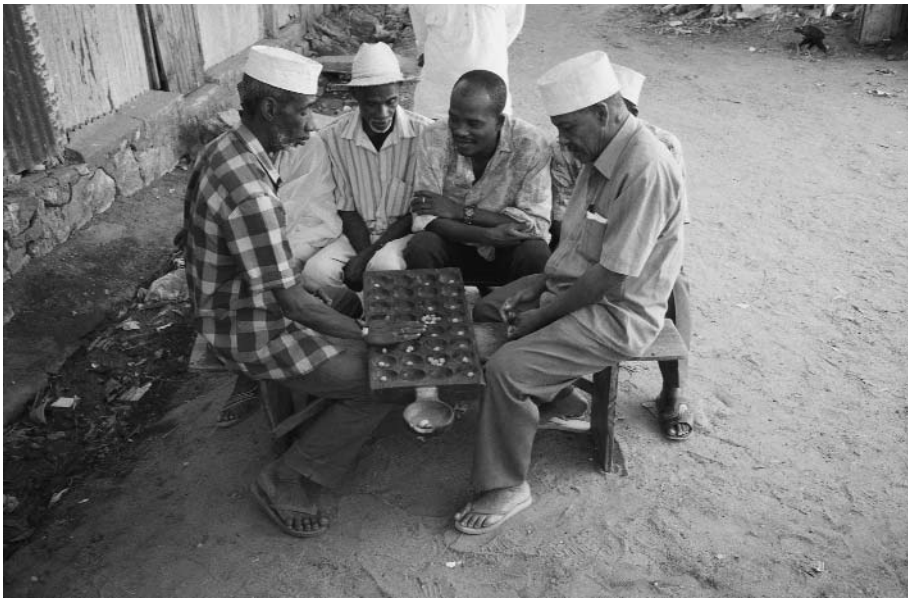

Fig. 4: Mancala game: Katra Be. Location: Marovato Abattoir, Mahajanga, Madagascar