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# The role of the dice in board games history

*Alex de Voogt, Nathan Epstein & Rachel Sherman-Presser*

**Abstract:** *When looking at variations in games, the board and the playing pieces provide evidence, but so do the number of dice that are part of play. It is shown that the number of dice being used not only affects the game but that the definition of the values for each throw have significant and game-altering implications. All variations under scrutiny in this study do not appear as radically different games physically or perceptually. It illustrates a situation in which significant changes in strategy and playing length due to changes in randomizing instruments did not necessitate changes in the overall board or the number of playing pieces. In other words, players in history may have experimented with randomizing devices and may have used varying sets of them without any visible repercussion on the remainder of the board game implements.*

*In the history of board games it is shown that games may have varying board sizes and number of playing pieces while at the same time different games may be played on the same board, even using the same playing implements (Finkel, 2004, p. 54) Schädler (1998). Such variation that is found with board games complicates our understanding of their development in history. The attestation of a game board is not sufficient to rule out a set of different games being played on that same board, while variations of board design do not necessarily point at different playing communities (Finkel, 2004, p. 54). In order to understand the historical development of board games it is necessary to document what set of rules, boards and playing instruments were present at a particular point in time. Changes in observable variations can then be traced over time and across geographical regions to map the historical development and distribution of board games de Voogt, A.J., A.-E. Dunn-Vaturi & J.W. Eerkens (2013), (Murray, 1952, p. 133). This is an ongoing effort in archaeology but even descriptions of contemporary board games allow us to understand what variations are common within a players' community.*

*In the following study, we analyze a set of games, which have minor variations in board size and number of playing pieces as well as known variations*

*of randomizing implements, in this case cowries and cubic dice. The role of randomizing devices in the history and distribution of board games is not yet informed by a better understanding on how such implements affect a game. For this we looked at both the implications for strategy and playing time, the latter expressed as the average number of moves necessary to complete (part of) a game.*

*While the results of this study do not seem to facilitate conclusions when different types and numbers of dice are attested, they do confirm that players are not bound by these implements and that dice variation should be considered common rather than an unusual phenomenon that requires historical explanation.*

## Game selection

We have used five games: (American) Parcheesi, (British) Ludo and three versions of (Indian) Pachisi and used the descriptions provided by Parlett (1999). All five games fall under the class of race-games, "in which teams of equal size race one another along a given track, and the first player to complete the course with his team wins" (Murray, 1952, p. 4). Each variation has a different set of randomizing implements. The size of the board is slightly different for the American, British and Indian variation. The three Indian games have the same board and number of playing pieces. It was not our intention to be complete and other board sizes and randomizers may be prevalent but not part of our analysis.

## Dice probability distributions

The expected value and variance of spaces moved per turn are derived as follows: Given a rolling schedule (if the term schedule is ambiguous, we refer to the example on (Parlett, 1999, p. 44)), let $R$ be the set of rolls which allow for another turn. Additionally, for any roll, let $p(i)$ be the probability of rolling a value $i$, and $m(i)$ be the number of moves associated with a roll of value $i$. Then, the expected number of moves in a given turn is given by

$$
\begin{aligned}
E(M) &= \sum_{i \in R^c} p(i)m(i) + \sum_{j \in R} p(j)\left(m(j) + E(M)\right) \\
&= \frac{\sum_{k \in R \cup R^c} p(k)m(k)}{1 - \sum_{j \in R} p(j)}
\end{aligned}
$$

We note that

$$E(M^2) \ = \ \sum_{i \in R^c} p(i)m(i)^2 + \sum_{j \in R} p(j)\left(m(j) + E(M)\right)^2$$

and that the variance of $M$ is given by $E(M^2) - E(M)^2$.

It should be noted that the restriction on repeat doubles is neglected in this analysis to ensure computational tractability. Because such scenarios are highly uncommon, the effect on qualitative results is not of great significance.

## Pachisi

For 5, 6 and 7 cowries the expected movement per turn is ca. 3.5, 4.28 and 12.06, and with variance 22.11, 25.84 and 215.57, respectively.

Three different movement schedules ultimately suggest game play that differs widely according to the number of cowrie shells used (Finkel, 2004, p. 53). While the probability distribution of different movement lengths does not change drastically between five and six cowries, the distribution for seven cowries has a higher expected value and — more significantly — a substantially higher variance.

How does this distribution affect game play? The higher variance of the seven cowrie distribution implies that there is higher risk in each turn. Alternatively stated, the outcome of each individual turn is less predictable. This makes short term tactical considerations of each individual turn more complex and characteristically different (in the higher variance case, players can expect comparatively more extreme turns — very high or very low total number of spaces — than turns closer to the average movement).

The size of the board (80 spaces to traverse from beginning to end) affects the longer term predictability of movements. If we assume that a turn is dedicated to moving a single piece, then the expected number of turns required to move a piece from beginning to end would be (approximately) 22.86, 18.69, or 6.63 for 5, 6, or 7 cowrie shells respectively. Because the variance of spaces each turn is higher, it is to be expected that the variance of the cycle completion time is higher with 7 cowries. We thus conclude that the number of moves to complete a cycle is less predictable in the case of seven cowries (though typically faster than with five or six cowries).

## Parcheesi

Parcheesi is played with two cubic dice but has a board with fewer spaces that the one mentioned above. The expected movement per turn is 8.4 spaces and the board is 68 spaces. If we assume that a turn is dedicated to moving a single piece, we may conclude that, on average, it will take 8.1 turns to advance a piece from start to finish. This would make Parcheesi quicker than the 5 and 6 cowrie shell versions of Pachisi, but slower than the 7 cowrie version.

For a single dice throw, the roll roughly obeys a discrete distribution that roughly approximates the normal distribution. This greatly influences short term tactical decisions. For a particular throw, a player may appropriately make tactical considerations assuming that the throw is likely to be near the mean (7) and not near the extreme values (2 and 12).

## Ludo

Ludo has a smaller board than Parcheesi and only uses one cubic die. The expected movement per turn in Ludo is 4.2 spaces. The expected movement per throw is 3.5 spaces. Given a board length of 51 spaces, the expected number of turns required to complete a cycle for a piece is 12.14 turns. Thus, the game will generally move more slowly than Parcheesi or the 7-cowrie Pachisi but faster than the 5-cowrie and 6-cowrie Pachisi.

The use of a single die impacts tactical considerations greatly. Unlike with multiple dice, the distribution of a single throw is not an approximation of a normal distribution. A single die has a discretized uniform distribution; it is not appropriate to make tactical decisions on the basis that values closer to the mean are more likely, i.e., all values, one through six, are equally likely.

The following graphs plot the probability distribution function for a single throw for a particular dice system. The horizontal axis gives the number of spaces moved and the vertical axis gives the probability of that outcome.

1. 5-Cowries: Pachisi

   The throw description was taken from Parlett (1999). A set of five cowries gives six possibilities and in Pachisi they are given the value one through five with a special throw that gives 25.
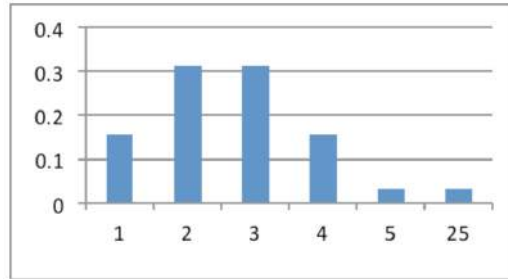
2. 6-Cowries: Pachisi

Six cowries provide seven possibilities that have the values two through six with two special throws that make 10 and 25.
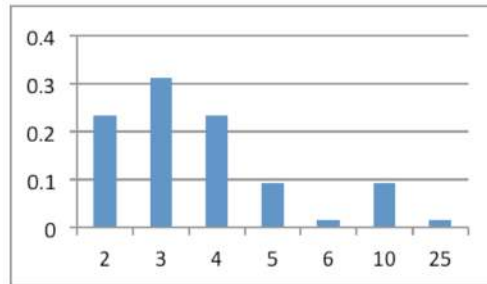


3. 7-Cowries: Pachisi

Seven cowries have eight possibilities and in the rules of Pachisi described by Parlett, the values range from 2 to 30.
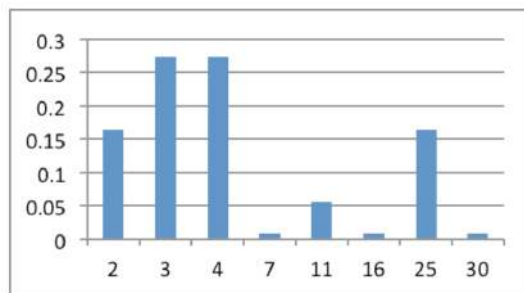


4. 2-Cubic Dice: Parcheesi

American Parcheesi is played with two cubic dice with the numbers one through six on each die. It makes 7 the most likely throw and both 2 and 12 the least likely throws during a game.

5. 1-Cubic Die: Ludo

The originally British game of Ludo has only one die. The probability of each throw is identical and does not assist in strategizing during the game.
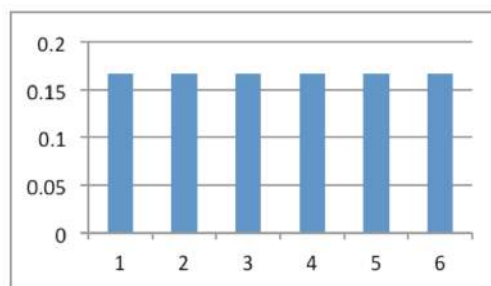


## Conclusion

Each of the variations had different randomizing implements. The differences between the variations are not obvious. A change from one to two cubic dice has many implications but a change from two to three cubic dice would be much less significant in terms of strategic possibilities, for instance. Th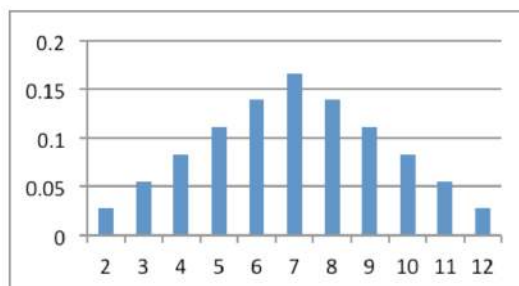is also proved to be the case with the number of cowries used in Indian Pachisi. The value that is awarded to each throw is particularly influential and causes the significant difference between 5 and 6 cowries on the one hand and 7 cowries on the other.

It is concluded that variation of randomizing implements is significant for strategy and game length but has not had a visible influence on the game board and/or gaming pieces. In other words, this variation may exist independently and thus adds another layer to our understanding of board game variation over time.

Alex de Voogt
American Museum of Natural History, New York, USA
adevoogt@amnh.org

Nathan Epstein
American Museum of Natural History, New York, USA
ne2210@columbia.edu

Rachel Sherman-Presser
American Museum of Natural History, New York, USA
rsherman-presser@amnh.org

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# The origin of morris and draughts by etymology

*Arie van der Stoep*
Independant researcher on board games*

## Abstract

The origin of a word gives us information on the world behind that word. Germanic people for instance knew how to make cheese and invented a word for their product. The Romans brought an unknown method of cheese preparation. We know it because the Germans borrowed the Roman word caseus, cf. Eng. cheese, which is only plausible if they borrowed the method too. For this reason the introduction of the etymological approach can yield useful information on board games.

For example on the reality behind the medieval Spanish word alquerque, that was supposed to be from Arabic origin. Linguistic research shows this was wrong: the word alquerque is from Roman provenance. We should seek, consequently, the origin of the game alquerque in a civilization under Roman influence.

## Introduction

In this article, I demonstrate how a quest for the etymology, i.e. the origin, of a board game name enables us to pronounce upon the origin of the board game itself. The name in question is alquerque. Alquerque is the name for three board games that in 1284 were described for Alfonso, king of Castile and Len (Spain). Alquerque de tres, played with 2x3 pieces and the board of plate 1, is three men's morris. Our tic-tac-toe or whatever the name may be is a variant of this three men's morris. Alquerque de nueve, played with 2x9 pieces on the board of plate 2, is what we call nine men's morris. Alquerque de doze was played with 2x12 pieces on the board of plate 3. The nature of this board game is controversial. Our etymological search leads us to some civilizations in the Roman sphere of influence in the early Middle Ages. The Middle Ages are the period from c. 500 AD to c. 1500 AD.

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*especially chess and draughts, from a for the board game world new point of view, namely linguistics

**Figure 1**



**Figure 2**

**Figure 3**

# Origin Rome or India?

Albeit obvious that the etymon must be a word with the sense 'stone, gaming piece', the first etymological proposal, by Murray (1913), went into another direction. For this reason it is questionable. There is an excuse: in 1913 the art of etymology was scarcely out of the egg. Alquerque, said Murray, is a word used by the Moors who invaded Spain, but the etymology of this word is unclear.

In 1973, the Italian linguist Alberto Zamboni lifted the study of alquerque to a scientific level. The etymon is the Latin word calculus = 'stone, gaming piece', he concluded. Which means that the three games originate from a region in a Roman sphere of influence.

Another study of the etymon of alquerque at a scientific level was carried out by the American Sonja Musser Golladay in 2007 within the scope of her doctoral investigation into the Alfonso ms. Like Zamboni (whose work she did not know), she sought an etymon with the sense 'stone, gaming piece', but unlike Zamboni she took alquerque as a Moorish word, that could originate from India (Golladay, 2007, pp. 613–4). If she is right, the alquerque games could be of Indian origin.

## Origin Rome (1)

When Musser worked hard on her impressive book of 1441 pages, the author of this article worked as hard as she did to transfer the results

of his linguistic study to the board game field. This needs explanation.

Building on a study of the vocabulary of board games started in 1975, I wrote in 1986 the first paragraph of a doctoral inquiry into the etymology of the French game name jeu de dames = 'draughts'. The work took me eleven years, for it appeared that without an overview of the entire board game terminology in a number of languages a well-founded etymology was impossible. Eventually, it was published in 1997 van der Stoep (1997).

This book was a purely etymological hunt. A hunt, however, with consequences for our perspective on for instance the three alquerque games. To bring these consequences into the limelight, the etymological study had to be transformed into a study on board games. The result was published in 2005, enlarged edition van der Stoep (2007). In this publication, the etymology of alquerque has exhaustively been treated (van der Stoep, 2007, pp. 121–36; pp. 172–6). The study confirms Zamboni's etymology of alquerque: the most plausible etymon is the Latin word calculus.[12]

## A comparatative study

The approach in this study was comparative linguistic. In such kind of a study, the researcher compares phenomena in a language with phenomena in one or more other languages.

Well then. The Alfonso was written in the Spanish language. Spanish is a Romanic language, like French and Italian. These three languages are the continuation of Latin dialects. We seek the names for the three board games of figuress 1–3 in medieval France and Italy. So we compare the linguistic situation in Spain with the linguistic situation in two sister languages.

In both French and Italian, we find equivalents of the three games under the name of Fr. merelles and It. marella. A late Italian reference:

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[1]For Musser's thesis this etymology came too late, so that she could not comment it.

[2]It was not too late for Ulrich Schädler (Switzerland) and Ricardo Calvo (Spain) in their German translation of the Alfonso, incorporating van der Stoep (2007) in their Auswahlbiografie (selected biography) (Schädler and Calvo, 2009, p. 333). However, the comprehensive study in van der Stoep (2007) is lacking at the page where the duo pursued the etymology of alquerque, whereas Zamboni's conspicuous contribution is only mentioned in a footnote (Schädler and Calvo, 2009, p. 301). By starting with the sentence "Der Name alquerque wird von arabisch qirq, qirqa met dem vorangestellten arabischen Artikel al abgleitet" (The common etymology of the name alquerque is the Arabic word qirq, qirqua), the two authors suggest that Murray's proposal from hundred years ago has still relevance, and this whereas the expert Zamboni dismissed it as a myth. Schädler & Calvo's book promises to become a standard work, and just for this reason it seems necessary to complete page 301 by this summary.

> Marredda di novi (...), marella, o morella, in Roma filo, of filetto (...) (It. novi = 'nine')
>
> Marredda di dudici (...), in Roma si dice a Dama (It. dudici = twelve)
>
> (Pasqualino, 1789, III)

Because Spanish is as said like French and Italian the continuation of a Latin dialect, we may pose the question whether we find in Spain this game name too. Yes, we do: the Spanish form is marro. And had it the same senses 'morris' and 'draughts'? Certainly: it meant 'morris' (Brunet and Bellet, 1890, p. 204) and 'draughts'. In the late 16th c., we find the word marro in the title of a Spanish draughts book:

Libro del juego de las damas, por otro nombre el marro (...) (The book of the game of damas, with another name marro)

(Valls (1597))

We find in the three Romanic languages three different forms:

It. maredda/marella, Fr. merelles, Sp. marro. These differences mean that these game names derive from one older Latin name. The etymon of this game name is the word marrus, meaning 'stone, gaming piece' (van der Stoep, 2007, p. 174).

## Results for our knowledge of morris and draughts

The language reveals us hitherto two new insights into the past of morris and draughts.

One: In Italy the present-day name for draughts is dama, in France dames. The language tells us that the older name for draughts in Italy was marella/marredda, in France merelles. From this we may conclude that in Italy as well as in France draughts was played in the Middle Ages. In Spain we see a comparable situation: the present-day for draughts is damas, an older name was marro. A sound conclusion is, that also Spanish people played draughts in the Middle Ages.

Two: The transformation of Italian, French, and Spanish from Latin dialect to language is considered to have taken place about 800 AD. Probably, these dialects had a game name meaning three men's morris, nine men's morris and draughts. This allows us to conclude that these three games were played in regions in the Roman sphere of influence before 800 AD.

## Spain: two words for morris and draughts

The situation in Spain was complex: medieval Spanish had not only the indigenous game name marro, meaning morris and draughts, but a second name, imported by the Moors, we may assume, for morris

and for and a game where the pieces move and take like in draughts, namely alquerque. Since (Murray, 1952, p. 65) this game is considered as a game without promotion. I shall substantiate now that alquerque was a second Latin name for morris and draughts.

Let's regard the way we people use words. The language user strives for the ideal situation of one word with one sense.[3] In the past, the speaker of a Latin dialect violated this rule by choosing one name for two different board games, namely draughts and morris. Such a choice is extremely unusual, because it goes against the principle of word creation. Therefore it is allowed to exclude the possibility that an Arab speaking person committed the same sin by creating one word for the same two board games.

So that a reasonable conclusion should be: the game name alquerque comes from a Latin word. A Latin word with the sense of 'stone, gaming piece'. It was Alberto Zamboni who suggested Lat. calculus as the etymon of alquerque.

We follow his reasoning. We remove the article al and try to find a Latin equivalent of querque. Without result. In European languages, however, we find a change of the two consonants l and r. When we go for instance to the Iberian seaside we enjoy the sun on the Spanish playa, but on the Portuguese praia. So we retry our search with the word quelque. And then we come across the Latin word calcul(us) = 'stone, gaming piece'.

### Origin Rome (2)

We make a plausible reconstruction of the word evolution.

Before c. 800 AD, the time when some Latin dialects were promoted to a language, in a dialect in the Roman sphere of influence a game name meaning morris and draughts was formed based on the Latin word marrus. The name and its meanings were adopted in another Latin dialect, but the speakers of this dialect chose a synonym based on the Latin word calculus.

Evidently, an Arab tribe borrowed the Latin game name with the word calcul. In the Alfonso ms. we find this game name as (al)querque.

Did this Arab tribe borrow the games morris and draughts too? Impossible to answer this question.

## Conclusion

What is the profit of this linguistic quest for our knowledge of board games?

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[3]The great number of words in the European languages with more than one sense is the result of another process of language creation.

One: The game alquerque de doze in the Alfonso ms. is draughts.

Two: Morris and draughts were played in medieval Italy, France and Spain from c. 800AD onwards.

Three: Morris and draughts were played in these regions before 800 AD. On the basis of records of the name alquerque in Arab sources, we may establish that draughts and morris were played there before the 7th c. AD. There are no earlier traces in the language, earlier references could have been lost (van der Stoep, 2007, pp. 172–6).

For draughts this claim is new. Also for nine men's morris? Origin, age and diffusion of nine men's morris are uncertain (Schädler and Calvo, 2009, p. 297). Three men's morris is an ancient game, was already played in Rome about 0 AD.

Arie van der Stoep
Burgemeester Vlaklaan 30
4927 AB Hooge Zwaluwe - The Netherlands
a.stoep@kpnplanet.nl

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# Strange Games: some Iron Age examples of a four-player board game?

*Eddie Duggan*

**Abstract:** *A late Iron Age cremation grave, dated to the second half of the first century BC, excavated from a site in Welwyn Garden City, Hertfordshire, contains an apparently unique set of glass gaming pieces. The gaming pieces are visually striking because of their distinctive appearance: the twenty-four opaque or semi-translucent colored glass domes (six white pieces, six yellow, six red and six green), each with adorned with decorative spiral motifs, seem to comprise a complete set of game pieces for what may be an unknown four-player game. They were found in a rich burial containing five Dressel 1B wine amphorae and an Italian silver cup, along with other grave goods.*

*Some account of the pieces is given by Donald Harden in Stead's archaeological report (Stead, 1967), along with a scientific analysis by Tony Werner and Mavis Bimson, based on spectrographic and X-ray examination.*

*While Harden's account of the glass pieces emphasizes their unique significance for the double-spiral motif, and Werner and Bimson's analysis suggests the yellow pieces show the earliest example of the use of lead and tin as an opacifying agent, the pieces are also thought to represent a unique example of a game for four players, described by Stead as "similar to a game played in India on a board with cruciform marking. This game was [. . .] patented with the name 'ludo'" (Stead, 1967, p. 19).*

*Footnotes in Stead suggest that other examples of what could also be glass gaming pieces for a four player game — or at least incomplete sets of glass gaming pieces that can be organized into four groups by design or color — have also been found in a number of Italian locations, including sites in the Po Valley.*

*This paper presents several examples of Iron Age Italian gaming pieces, and offers some comparison to the Welwyn Garden City pieces in order to draw attention to what may be examples of a hitherto overlooked four-player game.*

**Keywords:** Arnoaldi, Benacci, Board game, Bologna, British Museum, Celtic, Ceretolo, Etruscan, Iron Age, Montefortino, Museo Archeologico

Nazionale delle Marche, Museo Civico Archeologico di Bologna, Welwyn Garden City.

A late Iron Age cremation grave, dated to the second half of the first century BC, is widely known for the visually striking and apparently unique set of glass gaming pieces it contains. The game pieces are included in a rich burial containing five Dressel 1B wine amphorae and an Italian silver cup along with other grave goods, including some thirty-five items of pottery. According to the curator's note accompanying the British Museum Online Collection, this Welwyn Garden City grave is the "richest Iron Age burial to be found in Britain". A reconstruction of the tomb is on permanent display in Room 50 of the British Museum.



Figure 1: Reconstruction of the Welwyn Garden City late Iron Age burial. British Museum Room 50, Case 28. 1967.02-02. AN784753 Photograph ©Trustees of the British Museum.

The imported goods and the wine amphorae are indicators of elite status, signifying sophistication and wealth. Simon Ó Faoláin and Antone Minard discuss the importance of wine to Celtic culture in western Europe, describing the wine trade in Britain and Gaul in the late C1st BC as operating on an industrial scale (Ó Faoláin and Minard in (Koch, 2005, p. 1808)).

The Greek historian Diodorus Siculus (flourished Sicily, C1st BC) expressed incredulity at the high price Celts were willing to pay to satiate their desire for the luxurious liquid which they drank "unmixed and [. . . ] without moderation". According to Diodorus, Italian merchants trading with Celts in the first century BC were apparently able to exchange one amphora of wine (about 39 litres) for the "incredible price" of one slave (see Book V, Chapter 26, §3 of Siculus (1939)).

Heléne Whittaker discusses Iron Age games in terms of Thorstein Veblen's notion of "conspicuous leisure", a concept that describes the processes by which members of a social elite distinguish themselves by engaging in non-productive activity. While Whittaker concentrates primarily on Scandinavian examples, the Welwyn Garden City game pieces are cited as an illustration of the association of leisure with status (Whittaker, 2006, pp. 103–104).

The Welwyn Garden City gaming pieces (1967.02-02.42—65), are visually striking because of their distinctive appearance: the twenty-four opaque or semi-translucent colored glass domes (six white pieces, six yellow, six red and six green), each adorned with decorative spiral motifs, seem to comprise a complete set of pieces of what is thought to be an otherwise unknown four-player game.



Figure 2: Gaming-pieces from the Welwyn Garden City burial. British Museum 1967.02-02.58, AN1210989 Photograph ©Trustees of the British Museum.

Some account of the glass gaming pieces is given by Donald Harden in Ian Stead's archaeological report (Stead, 1967, p. 15), along with a scientific analysis by Tony Werner and Mavis Bimson, based on spectrographic and X-ray examination.

Harden describes the game pieces as being "of the greatest interest and rarity", noting "not only is there is no comparable set extant; there is not even a single gaming piece of the same form and decoration which can be cited as a parallel, whether contemporary or not" (Stead, 1967, p. 15). Harden goes on to suggest "the places where we could most reasonably expect to find parallels to these pieces are eastern and southern Gaul, the Alpine region and the upper Rhineland, and the Po valley, and it is likely that in time parallels to them in one or more of those areas will turn up" (Stead, 1967, p. 16).

Figure 3: Glass gaming-pieces. British Museum 1967.02-02.54, AN00788394
Photograph ©Trustees of the British Museum.

While Harden's account of the glass pieces emphasizes their unique significance for the double-spiral motif, and Werner and Bimson's analysis suggests the yellow pieces show the earliest example of the use of lead and tin as an opacifying agent, the pieces are also thought to represent a unique example of a game for four players, described by Stead as "similar to a game played in India on a board with cruciform marking. This game was [. . . ] patented with the name 'ludo' " (Stead, 1967, p. 19).

While Stead concludes his discussion of the Welwyn Garden City pieces with the observation that they "do not readily correspond to any known classical board game (Stead 1967, p. 19), he also notes, intriguingly, that similar glass game pieces have been excavated from two tombs at Montefortino and also from two tombs near Bologna. Stead remarks that the Montefortino and Bologna pieces, "could be interpreted as part-sets from a complete 24 [and] could be divided into four groups distinguished by color or design, and no such group had more than six pieces" (Stead, 1967, p. 19). However, Stead also observes that none of the Italian pieces, described by Eduardo Brizio in his archaeological reports of 1887 and 1899, "resemble those from Welwyn Garden City in detail" (Stead, 1967, p. 19).

Brizio's brief descriptions and accompanying illustrations of the pieces from the Montefortino Tombs shed little more light. For example, of Tomb 23, Brizio writes:

> [C]onsiderable in this woman's tomb are three bone dice, with twenty variegated buttons in glass paste, which were used to score points in the game of dice.
>
> *Ma notevoli in questa tomba femminile sono tre dadi di osso, con una ventina di bottoni variegati di pasta vitrea, che usavansi per segnare i punti nel giuoco dei dadi.* (Brizio, 1899, p. 682).

Figure 4: Montefortino Tomb 23. Game pieces: items 10 and 11 (centre right). Brizio (1899) Table 5a. http://digi.ub.uni-heidelberg.de/diglit/monant1899/0441.

Brizio's comment on the game pieces and dice in Tomb 35 is even more brief:

> Two cubic bone dice and twelve hemispherical bullets of glass paste, in various colors.

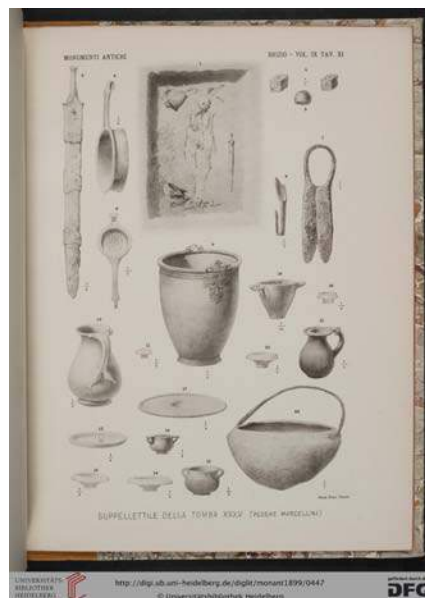> *Due dadi cubici di osso e dodici pallottole emisferiche di pasta vitrea, di vario colore.* (Brizio, 1899, p. 699).



Figure 5: Montefortino Tomb 35. Game pieces: items 4 and 5 (top right). Brizio (1899) Table 11a. http://digi.ub.uni-heidelberg.de/diglit/monant1899/0447.

## Montefortino

The Montefortino necropolis is located in Arcevia, in the present day province of Ancona on the Adriatic coast of Italy. The area was settled in the C5th or C4th BC by a Gallic tribe called the Senones. The site is significant because the so-called "Montefortino" type helmet, with distinctive jockey-cap shape and detachable cheek-plates, was first discovered here. The cemetery, in use from the C4th to C3rd BC, also yielded the so-called "Montefortino hoard" of late C4th — early C3rd BC silver plate from the tomb of a Gallic warrior, which is now housed in New York's Metropolitan Museum of Art (Oliver and Luckner, 1997, pp. 64–65). The Montefortino cemetery is also important, as Daniele Vitali writes, for "numerous items which demonstrated the process of the assimilation of Greek and Italian influences in the material culture of the Senones who had settled on the eastern slopes of the Central Apennines", see Vitali in (Koch, 2005, p. 1308).

### Montefortino Tomb 23

Brizio's account of Montefortino Tomb 23 describes a female inhumation burial. This particular grave is dated to the late C3rd — early C2nd BC: the Etruscan mirror and gold earrings are datable to the first quarter of C2nd BC (Museo Archeologico Nazionale delle Marche). The supine body was aligned north-south in a rectangular grave (3.6m x 2m x 1.8m deep). According to Brizio, three iron nails with large flat circular heads in the area around the skull indicate burial in a wooden crate or casket.

The contents of this rich grave, catalogued as twenty-two items, include a gold twisted-wire torque, a pair of gold snake-head bracelets, a pair of gold disc earrings with inverted pyramid pendants, a gold ring incised with a Minerva decoration, along with a bronze Etruscan mirror engraved with an image of the goddess Lasa and a bone tube for hairpins, together with accessories for the symposium: a bell Krater (a large, wide-mouthed vessel used for mixing wine with water), a small black glaze amphora or wine container, a black glaze Skyphos (two-handled wine-cup), a bronze situla (bucket) and a bronze olpe (used to serve wine from the Krater).

Figure 6: Montefortino Tomb 23. Museum Display. Room 22. Museo Archeologico Nazionale delle Marche. Photograph by the author (with permission).

Figure 7: Montefortino Tomb 23. Display. Room 22. Museo Archeologico Nazionale delle Marche. Photograph by the author (with permission).

The jewellery adorned the body. Brizio notes that, while the ring was on the right hand, the torque was around the neck and the earrings hung "from the earlobe using a hook that, when discovered, still adhered to the upper disk and which later was lost *L'orecchino doveva pendere dal lobo auricolare mediante un gancetto che, all'atto della scoperta, ancora aderiva al disco superiore, e che in seguito andò perduto.*" (Brizio, 1899, p. 682).

The amphora, other vessels and tableware were placed near the head while the mirror, gaming pieces, hairpin tube, spits and firedogs were near the feet. The gaming pieces consist of twenty glass counters and three cubic bone dice. The game pieces themselves have an interesting appearance:



Figure 8: Montefortino Tomb 23. Twenty glass gaming pieces and three bone dice. Museo Archeologico Nazionale delle Marche. Room 22. Photograph by the author (with permission).

The twenty pieces in Montefortino Tomb 23 are of differing colors and patterns. It is possible to identify four different types:

- black glass with an orange/deep-yellow swirl pattern

- grey glass with a white swirl pattern

- plain un-patterned glass (in black, grey and white)

- grey glass with a concentric ring pattern

Twelve of the pieces are decorated with a swirl pattern. Of these, six appear to be black pieces with an orange/deep-yellow swirl while six appear to be grey with a white swirl. Four pieces (one black, one grey and two white pieces) appear to be plain, while a ring pattern is evident on the other four pieces.

Manuela Dilliberto and Thierry Lejars offer a different description of the pieces:

> Twenty glass tokens of tomb XXIII of the Montefortino necropolis are associated with three cubic bone dice. The tokens are of different colors (one black, two white and seventeen blue). The blues are united (four) or spiral decoration (seven whitish and six yellowish). *Les vingt jetons en verre de la tombe XXIII de la nécropole de Montefortino sont associés à trois dés cubiques en os. Les jetons sont de couleurs différentes (un noir, deux blancs et dix-sept bleus). Les bleus sont unis (quatre) ou à décor spiralé (sept de couleur blanchâtre et six de couleur jaunâtre).* (Dilliberto and Lejars, 2011, p. 444)

It is not clear why Diliberto and Lejars describe the single plain dark piece as "black" while the remaining dark pieces and grey pieces are all described as "blue". However, it should be noted that while Diliberto and Lejars include photographs of many of the game pieces in their survey, the pieces from Montefortino Tomb 23 are represented by a drawing of one spiral-patterned piece (Dilliberto and Lejars, 2011, fig. 4).

Diliberto and Lejars note the spiral pattern in these pieces is in the form of a single thread rather than two threads, as is the case with the Fillotrano pieces (also housed in the Ancona museum), and some of the other spiral-patterned pieces they have gathered.

The ring pattern appears to differ from the swirl decoration. The ring pattern may differ from the spiral due to the manufacturing process, or to the opacifying agent used to make the pattern, or perhaps due to some other form of erosion.

## Montefortino Tomb 35

Brizio's description and inventory of Montefortino Tomb 35 records a male inhumation burial with fragments of a wooden casket and several brass studs. It may be that the game pieces, described by Brizio as:

> Two cubic bone dice and twelve hemispherical bullets of glass paste, in various colors, used to keep score in the game of dice *Erano altresì due dadi cubici di osso e dodici pallottole emisferiche di pasta vitrea, di vario colore, usate per segnare i punti nel giuoco dei dadi* (Brizio, 1899, p. 699)

were placed on top of the casket as Brizio notes that the game pieces, along with iron scissors, were between the fragments of wood. The accompanying illustration suggests the game pieces were at or near the feet of the body.



Figure 9: Montefortino Tomb 35. Brizio (1899) Table 11a (detail)
http://digi.ub.uni-heidelberg.de/diglit/monant1899/0447.

The contents of Montefortino Tomb 35 are on display at Museo Archeologico Statale di Arcevia, which is in a somewhat remote rural location difficult to reach via public transport. Regrettably, due to limitations of time, language and budget, it hasn't been possible to visit Arcevia museum to inspect these pieces.

## Bologna

Stead refers to two tombs in the Bologna area that Brizio identified as containing gaming pieces that could be seen as incomplete sets of 24 pieces:

> There are sets of glass gaming pieces, or part sets, from four
> Celtic graves in Cisalpine Gaul. These graves, two from Monte-
> fortino and two near Bologna, had from 12 to 22 gaming pieces

which could be interpreted as part sets from a complete 24 —
for each could be divided into four groups distinguished by color
or design, and no such group had more than six pieces. But
the Bologna and Montefortino gaming pieces do not resemble
those from Welwyn Garden City in detail — they are smaller
and lower, and those which are decorated have a single spiral or
streaking (Stead, 1967, pp. 18–19).

Stead identifies the tombs "near Bologna" in a footnote: Benacci tomb
953 (3 dice and 22 pieces) and Ceretolo (17 pieces), each supported by a
reference to Brizio (1887). Stead's footnote also makes a broad reference to
"other Italian gaming pieces", including several examples in the collection
of Bologna Civic Museum of Archaeology, and two examples each in the
Archaeological Museum, Florence (from Populonia and Todi), and the Villa
Guilia Museum, Rome (from Todi and Palestrina). We will concentrate here
only on the pieces from Bologna.

**Benacci Tomb 953**

Benacci Tomb 953 is dated to the early C3rd BC. This rich male inhumation
burial was found to contain remains adorned with a gold crown of laurels
and an iron bracelet. Symposium apparatus, including five bronze kyathoi
(dipping cups), a bronze oinochoe (wine jug) and an iron candelabra, is
placed to the left of the body, near the head. Martial items, including iron
sword, iron javelins and a bronze helmet are near the feet, along with a
bronze strigil. The gaming pieces and dice are placed in the space between
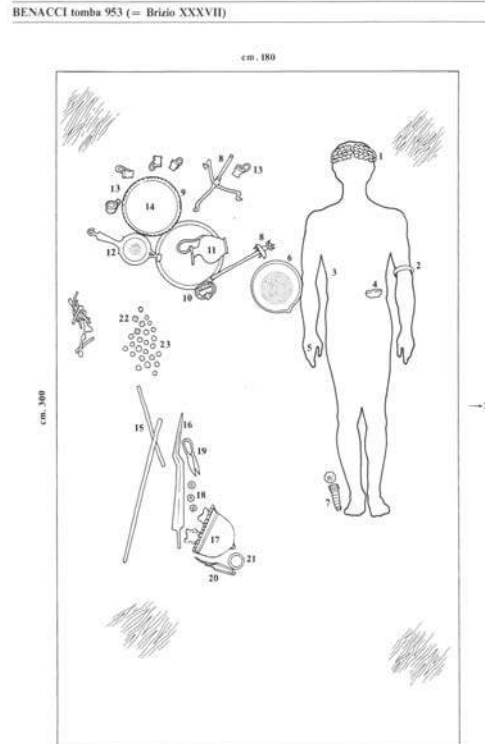the two sets of equipment.

Figure 10: Benacci Tomb 953. Sketch based on Brizio (1899) "Tomba XXXVII".
Source: (Vitali, 1992, p. 285).

According to Brizio, the gaming pieces consist of:

Three ivory dice, unfortunately very worn; 22 glass paste hemispheres to score points in the game of dice, in different colors: 6 are white in color clear, 6 off-white, 5 red in color and five dark tint.

*Tre dadi di avorio disgraziatamente molto logori; n. 22 semisferette di pasta vitrea per segnare I punti nel giuoco dei dadi, e di colori diversi: 6 sono di color bianco chiaro; 6 di color bianco sporco; 5 di color rosso e cinque di tinta scura.* (Brizio, 1887, pp. 475–476).

Figure 11: Benacci Tomb 953. Twenty-one limestone game pieces. Museo Civico Archeologico di Bologna. Room 11 Case 4. Photograph by the author (with permission).

The contents of Benacci Tomb 953 are on display in Bologna Civic Museum of Archaeology (Room 11, Case 4). However, only twenty-one game pieces are present: it appears that one has been lost since Brizio made his inventory. It's also difficult to group the pieces in exactly the same way as Brizio, not only because one piece is missing, but because the remaining pieces do not easily fall into sets of white, off-white, red and "dark tint". While Brizio describes the pieces as glass paste, "pasta vitrea" (Brizio 1887, p. 475), they are in fact made of limestone.

It's worth noting Daniele Vitali neglects to correct Brizio's misidentification of the Benacci warrior's gaming pieces. Vitali's study of the excavation records allows him to identify several discrepancies between Zannoni and Brizio, along with a number of other errors and omissions. For example, Vitali shows that Zannoni re-positioned the bronze helmet for the photographs (Vitali, 1992, p. 289) and he also notes Brizio's egregious assertion that the cylindrical bone tube (seen beside the right foot of the skeleton in Vitali's sketch) was positioned over the shank of the sword (Vitali, 1992, p. 289); cf (Brizio, 1887, pp. 474–475). Vitali himself refers to the gaming pieces as colored limestone, "calcare colorato" (Vitali, 1992, p. 290), while Zannoni used the term "pietruzze":

Towards the feet three dice, and hemisphere of colored stones. *Verso i piedi tre dadi, e semisferette di pietruzze a colori*, see Zannoni in (Vitali, 1992, p.286).

## Ceretolo

The Ceretolo tomb has been the focus of some considerable controversy. In 1877, the unearthing of objects during agricultural work in Ceretolo, a suburb to the west of Bologna, led to the discovery of a tomb containing a skeleton with a sword, spear, and other items, including a bronze oinochoe with a figural handle of a bacchanalian youth. The artefacts from Ceretolo, also known as The Ceretolo Warrior's Tomb, are now part of the Celtic collection on display in Room XI of the Museo Civico Archeologico di Bologna.



Figure 12: Ceretolo Museum Display. Room 11, Case 8. Museo Civico Archeologico di Bologna. Photograph by the author (with permission).

At the time of the discovery, the landowner was apparently unaware of the necessity to report the find, and it was some months before Giovanni Gozzadini excavated the site. Controversy arose from a number of concerns:

some items had been misplaced and the location of some finds was inaccurately reported, as well as other apparent irregularities. Also, Gozzadini suggested the material was Etruscan while Zanonni disagreed, identifying the fibulae as Gallic. While Daniele Vitali dissects the controversy (Vitali, 1992, pp. 380–390), it has no material effect on the game pieces attributed to the Ceretolo tomb, other than the fact that while eighteen pieces were originally recorded, one has subsequently been lost (however, some other archaeological confusion at another Bologna necropolis will be of greater interest later).

The Ceretolo grave is dated to the second quarter of C3rd BC. The rich male inhumation burial includes a bronze oinochoe with figural handle, depicting a naked youth in a bacchanalian revel. The vessel is "probably from a southern Etruscan workshop", see Minarini in (Morigi Govi, 2009, p. 109). Other grave goods include an iron sword and iron scabbard, an iron chain for suspending the scabbard, and the umbo from an iron shield, along with other items, including the remaining seventeen dull-colored limestone game pieces. Laura Minarini describes the grave goods as "among the richest and most complex found in the Boii territory", see Minarini in (Morigi Govi, 2009, p. 109).

Brizio's report cites Gozzadini's note: "on the chest eighteen hemispheres of a limestone arranged in series" (Brizio, 1887, p. 495). Brizio adds the footnote: "The hemispheres now number seventeen, one perhaps has been lost." *Le semisfere sono ora in numero di 17, una forse è andata perduta* (Brizio, 1887, p. 495).

Brizio also notes the pieces could not have been a necklace as they were un-pierced, reasoning from that, and from the colors: "four red, four white, six dark grey veined and three yellow, it becomes very probable that they were employed for the game of dice although the latter was not found." *4 di color rosso, 4 di color bianco, 6 di color bigio scuro venato, e 3 di color giallo diventa molto probabile che fossero adoperate per il giuoco del dadi, quantunque questi ultimi non siansi trovati.* (Brizio, 1887, p. 495).

Figure 13: Bronze oinochoe with figural handle. Museo Civico Archeologico di
Bologna. Room 11, Case 8. Photograph by the author (with permission).



Figure 14: Seventeen limestone game pieces. Museo Civico Archeologico di
Bologna.Room 11, Case 8. Photograph by the author (with permission).

Vitali discusses the omissions and uncertainties of Gozzadini and, following Zannoni, suggests that fragments of umbo in the pelvic region indicate a shield was placed over the body and the game pieces were probably set upon the shield (Vitali, 1992, p. 382). [cf Santa Paolina di Filottrano, Tomb 2, on display in the National Museum of the Marche, Ancona, where gaming pieces and dice also appear to have been placed on the body.]

## The Arnoaldi Necropolis

The Arnoaldi site is one of several properties to the west of Bologna extensively excavated in the late C19th during what is described by Cristina Marchesi as "Bologna's enthusiastic archaeological season, which went from 1869, the year the Certosa necropolis was discovered, to the early 1900s", see Marchesi in (Morigi Govi, 2009, p. 82). Various ancient burial sites in Bologna are named according to the owner of the property at the time of excavation — Arnoaldi, Benacci, De Luca, etc. While the naming convention may give the impression of several distinct sites, the contiguous group form the vast necropolis of the Etruscan city of Felsina. Graves are hierarchically arranged either side of an ancient road, leading to the Tyrrhenean coast, which enters Felsina from the west.

The Museo Civico Archeologico di Bologna has a large room (Room X) showing material from the Felsina phase excavated during the "enthusiastic season", with stone monuments (stelae) and glass-and-wood display cases preserving the inaugural state of the museum's museological past.



Figure 15: Museum Gallery. Museo Civico Archeologico di Bologna. Room 10: The Felsinean Period.Photograph by the author (with permission).

Figure 16: Museum Gallery. Museo Civico Archeologico di Bologna. Room 10:
The Felsinean Period. Photograph by the author (with permission).

While material from the Arnoaldi necropolis is displayed in Room X, along with grave goods from De Luca, La Certosa and other Felsinean sites, some of the more interesting items are not on display at all.

Stead had noted several instances where game pieces could be organised into "four groups distinguished by color or design" (Stead, 1967, p.19). While an examination of most of the examples cited has confirmed this to be more or less the case, no other "complete set" has, thus far, been seen. Although Ulrich Schädler notes the notion of a "complete set" of game pieces may be a contemporary idea, the prevalence of "incomplete" sets might also be understood if we consider Schädler's suggestion that some game pieces may be ritually discarded as part of the funerary rite "to remove the game from secular use" in a way similar to the ritual deformation of weapons or the breakage of ceramics (Schädler, 2007, p. 368).

While researching the collection at Museo Civico Archeologico di Bologna, the author was introduced to Roberto Macellari's study of the Arnoaldi necropolis Macellari (2002). Macellari identifies and corrects some errors in the Arnoaldi assemblages: several examples (Tombs 80, 128 and 132) are of particular interest in relation to game pieces.

## Arnoaldi 80

Macellari discusses the content of Tomb 80, discovered in March 1879, and identifies some of the contradictions and confusion concerning the grave goods. For example, Macellari notes that Brizio states the cremated remains

were placed directly on the bottom of the pit, not in a cinerary urn; a detail apparently omitted from Gozzadini's original excavation note (Macellari, 2002, v.1, p. 165). Macellari agrees with the C19th archaeologists that the amphora and olpe are correctly assigned, but there is some confusion regarding a couple of kylixes: Brizio would assign two to this grave, while Gozzadini's report notes only one. Some of the dispersed contents were later acquired by the Museo Civico di Bologna and assembled as Arnoaldi 80 following Brizio's directions, including what Macellari calls "doubtlessly spurious" ("senza dubbio spurii") items, namely the St Valentin kantharos from Tomb 60 and the owl skyphos from Tomb 58 (Macellari, 2002, v.1, p. 165). Macellari asserts the six silver buckles are erroneous, and cannot be the five bronze fibulae in Gozzadini's note, and suggests the buckles belong in Tomb 73 (Macellari, 2002, v.1, p. 165).

Certosa-type fibulae in the tomb are dated late C6th — first half C5th BC (Macellari, 2002, v.1 p. 168 *passim*). Macellari would also assign four bronze studs, three bone dice and twenty-one glass game pieces to Tomb 80 (which Brizio placed in Tomb 78). The game pieces fall clearly into four groups: six white, five blue-green, five yellow and five blue. Despite assigning three dice to this tomb, Macellari describes the dice as "not tracked" ("non rintracciati") which seems to be a euphemism for "lost" (Macellari, 2002, v.1, p. 169).



Figure 17: Arnoaldi Tomb 80. 21 game pieces. Museo Civico Archeologico di Bologna. In storage. Photograph: Laura Minarini.

## Arnoaldi 132

This tomb contains eighteen glass game pieces and three parallelepiped dice. Macellari includes the original archaeological note, in which Gozzadini records picking up from the floor of the tomb, three dice, six turquoise button pebbles, the same in white and the same again in turquoise with white dots, along with a wheel of bone, four iron hooks, tableware and fragments (Macellari, 2002, v.1, p. 316).

Each of the three parallelepiped dice is marked in the same distinctive manner: both end faces are marked with a dot within three concentric circles. Three of the remaining four faces show four, six and three, all marked with a dot within two concentric circles. The final face is unmarked.



Figure 18: Arnoaldi Tomb 132. 18 game pieces and three parallelepiped dice. Museo Civico Archeologico di Bologna. In storage. Photograph: Laura Minarini.

## Arnoaldi 128

Vitali discusses some confusion over the contents of tombs excavated on the Arnoaldi property in 1885. For example, Tomb 128 contains both typically masculine items (weapons) and typically feminine items (distaff; ointment jar), despite being originally catalogued as a single burial. Vitali suggests a number of possible scenarios, including a bisoma or double tomb, with either simultaneous burials or sequential deposition; or two separate burials subject to ancient tampering and "rimescolate" or "shuffling" (Vitali, 1992, pp. 115–116).

Despite the confusion, the tomb is dated to second half C5th BC.

Macellari (2002) has reconstructed the Arnoaldi graves, correcting some omissions and re-assembling grave goods which were mis-assigned in the 1880s. In what is now identified as Arnoaldi 128 (originally Arnoaldi 1885/4), Macellari places 24 glass gaming counters, comprised of six pieces in four different colors: 6 x grey, 6 x black, 6 x white and 6 x patterned pieces. There are also two parallelepiped dice.



Figure 19: Arnoaldi Tomb 128. 24 game pieces and two parallelepiped dice.Museo Civico Archeologico di Bologna. In storage. Photograph: Laura Minarini.

This set of game pieces, like the pieces excavated from the Welwyn Garden City grave, may comprise a complete set of gaming pieces for a four-player game. However, unlike the Welwyn Garden City grave, which is prominently displayed in the British Museum, this exciting antecedent remains hidden in storage in the Museo Civico Archeologico di Bologna.

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Eddie Duggan
School of Arts & Humanities
University Campus Suffolk
Waterfront Building
Neptune Quay
Ipswich
Suffolk
IP4 1QJ
e.duggan@ucs.ac.uk
https://ucs.academia.edu/eddieduggan

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# Russian four-handed chess: myths and misconceptions

*Georgi Markov*

National Museum of Natural History, Sofia

**Abstract:** *The only comprehensive and reliable descriptions of four-handed fortress chess were published in 1850 and 1862 by the Russian master A. D. Petrov, who had first-hand experience with the game. An earlier source omits numerous details regarding the rules; later sources digesting Petrov's description contain misconceptions and outright mistakes. The article attempts to refute the errors accumulated in the literature and accentuate the few minor points in the rules left uncovered by Petrov. An adaptation of the four-handed game for two players is provided.*

**Keywords:** Four-handed chess; chess history; chess variants

## Introduction

In 1850, *Schachzeitung* published a comprehensive description of four-handed fortress chess by the Russian master Alexander Petrov, translated in German by Carl Jaenisch (Petroff (1850)). Twelve years later, a nearly identical text in Russian appeared in *Shakhmatny Listok* (Petrov (1862)). Fortress chess had been mentioned in literature before: in his *O shakhmatnoi igre*, the first Russian chess manual, Butrimov (1821) provided a brief account of the game and a sketch of the board but did not go into detail.

Fortress chess was apparently known at least as early as the beginning of the 19th century but its origins are shrouded in mystery. In the late 18th century, Coxe (1784) reported that "Russians have also another method of playing at chess, namely, with four persons at the same time, two against two; and for this purpose the board is longer than usual, contains more men, and is provided with a greater number of squares": this might or might not relate to the game described by Butrimov and Petrov. The editorial following Petrov's 1862 text (pp. 185–187) which quotes his letter to the journal says that, according to Petrov's grandfather, this chess variant used to be played by Catherine the Great (1729–1796).

The two articles by Petrov are the only detailed descriptions by an author having a first-hand experience with the game. Later sources, while ultimately based on Petrov's evidence, have added inaccuracies and outright mistakes. Below, I will attempt to provide a synopsis of what is actually known about four-handed fortress chess, draw attention to the few details concerning the rules that remain unknown, and refute some of the misconceptions that have accumulated in the century and a half following Petrov's publications.

## Rules

Game played on a board with 192 squares: a 128-squares four-handed chess board as used in some German variants (with four 2x8 rows on each side of a normal chess board) enhanced with four 4x4 fortresses in the corners (Figure 1). All kings are on the right; each player has an extra rook, bishop and knight, positioned randomly (*contra* Machatscheck (1987)) in their fortress. Partners sit opposite each other, move clockwise. Pieces move and capture as in FIDE chess, with one detail to be kept in mind: since the fortress walls are impenetrable for all pieces, the knight's move needs a precise definition. From the description by (Petroff, 1850, p. 379), it is obvious that the knight's move was understood as one square orthogonally and one diagonally *in any order*; i.e. not L-shaped but also not necessarily orthogonally first as in xiangqi or janggi, *contra* (Pritchard, 2007, p. 324). [Incidentally, this is exactly the way that the knight's move is described in some Russian literature of that period: the 1843 *Pravila shakhmatnoi igry* by "V. D.", a loose translation of Krupski's *Strategika szachowa* (Anonymous-V.D. (1843)), or the 1869 Russian translation of Neumann's *Leifaden für Anfänger im Schachspiel* (Anonymous (1869))]. Needless to say, the precise definition of the knight's move is only relevant when negotiating the fortress wall.

The wall was represented by a simple line in Petroff (1850) and Petrov (1862), who mentioned that it should be made "a finger high". Glyazer (1962) and Machatscheck (1987) provide a more elaborate structure but this seems to be an invention — probably Glyazer's, or his illustrator's (cf. the fanciful depictions of xiangqi and shogi boards for example). According to (Machatscheck, 1987, p. 64), a board is kept at the Russian Chess Museum in Moscow; my repeated attempts to contact the museum and obtain information on the actual look of the board have been fruitless.

The aim of the game is to checkmate both opponents. A mated player's pieces are removed from the board. [Petrov is explicit on that point, comparing fortress chess to the "German game" (without fortresses) where mated pieces are left immobile on the board and the player passes turns until the mate is lifted — which Petrov found "illogical" and "completely against the spirit of chess". Later sources, however, provide a clear example of Chinese whispers: in a brief entry on fortress chess, Glyazer (1962), speaking of four-handed chess variants in general, mentioned the different treatment of mated pieces in the Russian and "western European" games; Machatscheck (1987), clearly relying on but misunderstanding Glyazer's text, spoke of two different ways of playing fortress chess: "Russian", with mated pieces removed, and "west European", with pieces remaining on the board. The latter, though, seems to have never existed].

It seems obvious that if the remaining solitary opponent was stalemated the game was a draw. What is not clear is what happened if a player was stalemated with his partner still in play. There are two theoretical possibilities — either the stalemated player passed turns, similar to west European four-player variants, or the game was immediately declared a draw. There is no way to know with certainty which was the case but I feel that the second option — an immediate draw — would be more consistent with the spirit and logic of Russian fortress chess.

Yet another detail which is not entirely clear concerns pawn promotion. Petrov says that a pawn is promoted to any piece when reaching the home rank of either the opponents or the ally. What he doesn't explicitly mention is what would happen to a pawn that has entered a fortress by capturing (a situation that, admittedly, must have occurred rarely in actual play, if at all). Perhaps in that case one should take Petrov's description literally and forbid promotion on any square apart from c5-c12, o5-o12, e3-m3, or e14-m14. Indeed, this would leave a pawn reaching the last rank in a fortress immobile and useless — but so would a move by e.g. White e11xd12.

Speaking of pawns, Petrov clearly said that allied pawns meeting on the same file blocked each other's way (see also Pritchard (2007)) so Machatscheck (1987) is obviously wrong in his assertion that allied pawns (and pieces!) could leap over each other.
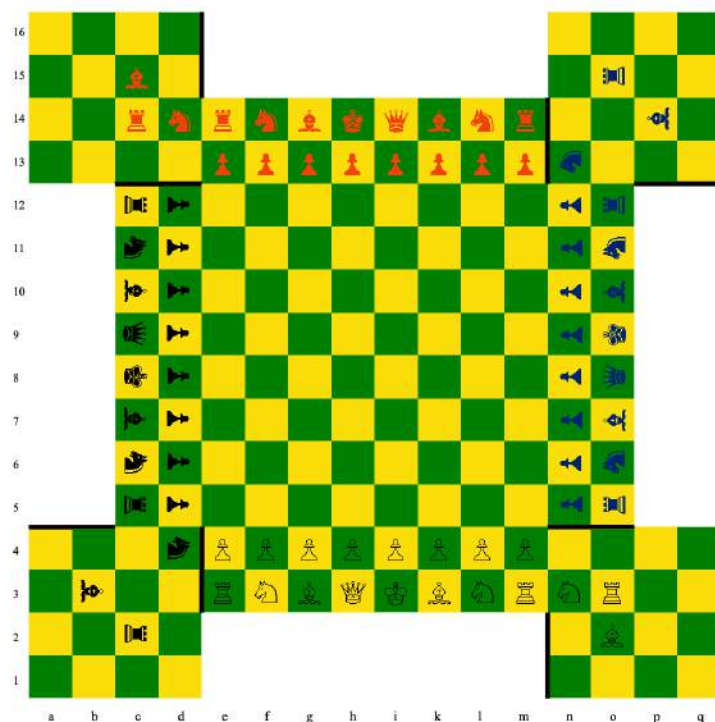
**Figure 1:** Four-handed fortress chess, initial position with pieces in the fortresses placed at random. Modified after Butrimov (1821), Petroff (1850) and Petrov (1862). Note that diagonals touching fortress walls or board angles (e.g. n2-m3, n4-m5, or m4-n5) are forbidden.

## Play

Petrov briefly discussed the actual play, suggesting a few useful opening moves. From his description, it is evident that — in his time at least — the queen in fortress chess had the usual FIDE move, even though Coxe (1784) reported earlier that Russians played (two-handed) chess with the queen having "in addition to the other moves, that of the knight". This custom was apparently losing ground in the following decades, with the first Russian chess manuals promoting the modern moves: (Butrimov, 1821, p. 26), wrote that "some, in addition to these moves, allow it to move as a knight as well" but advised against it, his entire book being written with the FIDE-like queen move in mind, and (Petrov, 1824, p. 35) was rather categorical: "the queen moves in all ways except as a knight".

In his 1850 *Schachzeitung* article, Petrov had observed that by the end of the game, a solitary knight or bishop could mate the opponents' bare kings, adding that "such cases are very entertaining". (Verney, 1885, p.74) apparently failed to realize that this is only possible with the two allied kings operating together, and re-interpreted Petrov's original comment as "If at the end of the game a King is left with only a Bishop and a Knight, even if he has no Pawns, he could checkmate his adversaries' Kings if they had no Pieces left". (Understandably, the "very entertaining" comment was left out).

(Pritchard, 2007, pp. 324–325) says that "sometimes Fortress Chess was played with the Ks on the left of the Qs, a harder game since it increased the difficulty of removing the king from danger". More precisely, in a footnote, (Petroff, 1850, p. 378) advised against playing this way: in his opinion, castling long decreased chances of moving the king into the fortress and gave white too much of advantage.

## Game popularity

It was by readers' requests that *Shakhmatny Listok* published the rules of fortress chess, so the game must hardly have been a well-known pastime. Indeed, Petrov's letter to the journal states that four-handed fortress chess was not particularly popular, with only a few players in St. Petersburg (I. Butrimov being among the five listed). It's impossible to know if the 18th century four-handed game mentioned by Coxe was the same as the one described by Butrimov and later Petrov; thus, we can only guess if the limited knowledge of fortress chess in Petrov's time was because this was a game once more common but becoming obsolete, or because it was never particularly widespread anyway.

Machatscheck (1987), followed by Pritchard (2007) claimed that Russian fortress chess spread in the west, and that in 1855 there was a London club especially devoted to the game. This is certainly a mistake, Machatscheck once more misreading Glyazer (1962). What (Glyazer, 1962, p. 32) says is that four-handed chess (in general, not the fortress variant) was spread in "many countries of Europe, Asia and America" (which might be an overstatement), adding that in 1885 (note the correct date) there was a club in London dedicated to four-handed chess. This obviously refers to the London Four-handed Chess Club presided by G. H. Verney which had its first meeting in 1885, playing after Verney's rules initially and later after those modified by M. E. Hughes-Hughes.

## Summary and conclusions

Two mid-19th century articles by A. Petrov are the only reliable descriptions of four-handed fortress chess, providing a thorough explanation of the rules and leaving out only a few fine points which probably occurred only rarely in actual play. Butrimov's 1821 brief account is valuable as an independent source predating Petrov's publication in *Schachzeitung* by nearly thirty years (one might recall that Lange (1856) seemed to believe that Petrov was describing a newly invented variant) but the information therein is insufficient to actually play the game. Later sources, while ultimately based on Petrov, omit — or invent — various details, creating some confusion about the rules of a rather enjoyable game.

## Appendix 1

Four-handed chess variants, or at least those played in Europe, have been met with anything from keen enthusiasm to open scorn. Petrov's descriptions of fortress chess raised mostly mild interest, several mentionings in later literature and then oblivion — in my opinion, undeserved. I tend to agree with Petrov that this variant, with its simple rules and logic closer to the traditional two-handed game, is indeed more playable than the rest. Also, I find the idea of fortresses and extra pieces rather charming, and too good to be confined to a four-handed game only. Below, I suggest a version of fortress chess modified for two players (designed in 2011). The resulting game is both "new" (in terms of theory studies) and quite familiar, with no new pieces, moves or rules to memorize. Indeed, as in the original four-handed game, one should keep in mind the definition of the knight's move as not L-shaped:

### Two-handed fortress chess

Two-handed fortress chess is played on a board with 96 squares (8x8 plus two fortresses of 4x4 each: Figure 2). Each player has the usual 16 pieces of orthochess, plus an additional rook, bishop and knight placed at will inside the fortress. Pieces can enter and leave the fortress only through its gate: moving horizontally along the third and fourth (or ninth and tenth) ranks, or diagonally along the l1-b10 (b3-l12) or h3-i4 (i9-h10) diagonals. This necessitates defining the knight's move: as in four-handed Russian fortress chess, it consists of one diagonal and one orthogonal step *in any order*: a knight on i3 can move to g4 (via h3 or h4) and to h5 (via h4: diagonal step

is first), and from i4 to g3 (via h3 or h4) or g5 (via h4: orthogonal step is first) but not to h6 (because of the fortress wall, the diagonal step to h5 is impossible, and the knight's move is not L-shaped). Pawns are promoted on the opponent's home rank (rows 3 and 10) outside the fortresses, or on the farthest rank inside the fortress, row 1 or 12.
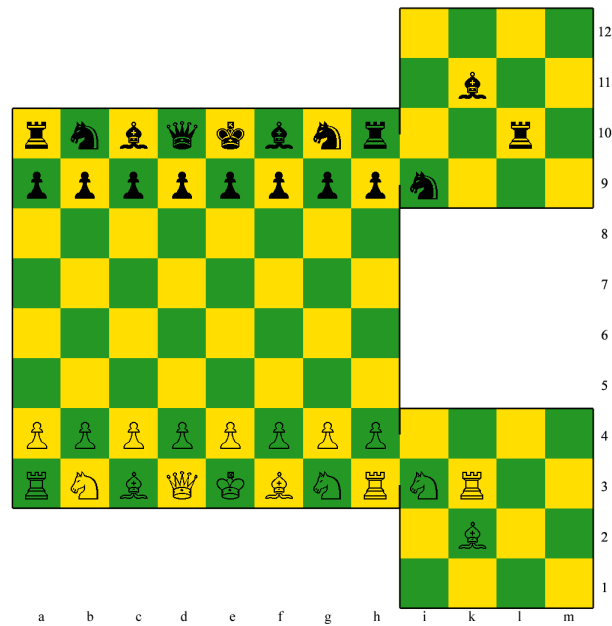


**Figure 2:** Two-handed fortress chess.

# Appendix 2

Moving the fortresses towards the middle results in an almost identical game on a more compact 12x8 board (designed in 2012):

## Two-handed fortress chess II

In this variant, the position of the fortresses is changed to fit a 12x8 board (Figure 3). Same rules apply, including the knight's move, pieces enter and leave the fortresses by moving horizontally along the first, second, seventh and eighth ranks, or diagonally along the h1-l4, i1-b8, b1-i8, or h8-l5 diagonals. Pawns are promoted on the opponent's home rank (rows 1 and 8) outside as well as inside the fortress.

Both two-handed variants can be played without the extra pieces, resulting in games that are slightly different tactically.
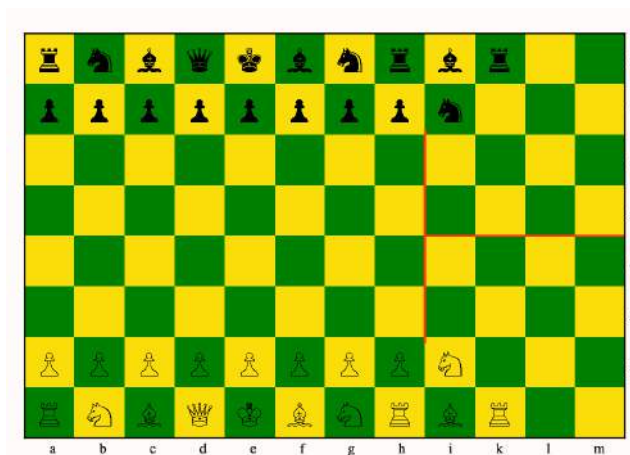


**Figure 3:** Two-handed fortress chess II.

# Acknowledgements

Dr. Georgi N. Markov
National Museum of Natural History — BAS
1 Tzar Osvoboditel Blvd., 1000 Sofia
Bulgaria
markov@nmnhs.com

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## ARTICLES

# The Life and Times of Hare & Tortoise

*David Parlett*
Independent games inventor and researcher

As Hare & Tortoise continues to flourish after more than 40 years on the market perhaps it would now be acceptable for its author to indulge in some introspective retrospection. It can claim to occupy a significant position in modern boardgame history, partly as one of the earliest no-dice race games, and partly as the first ever recipient of the German Games Critics' *Spiel des Jahres* award. Readers may remember Tom Werneck at a previous Colloquium (Paris, 2010) outlining the history of this award and the effect it had on expanding the German games industry.
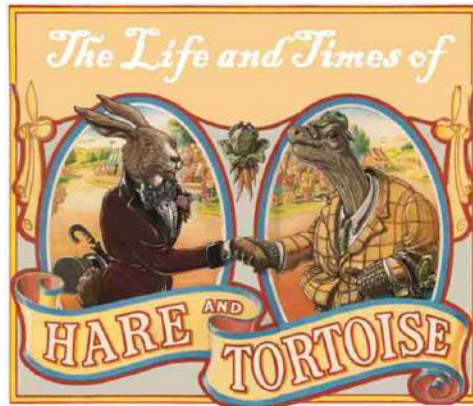


Figure 1: Title based on Gibsons 1987 box design

Forty years ago, said Werneck, German players regarded Britain as the gamers' paradise, and in some respects the initiator, or at least the forerunner, of the German industry which began to eclipse it in the 1980s. One outcome of this expansion has been the tendency of British and American games commentators to designate a whole class of games as "German-style" or "Euro"-games, of which Hare & Tortoise is now widely considered one of the earliest[1].

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[1]See Woods, Stewart: Eurogames: the Design, Culture and Play of Modern European Boardgames (McFarland 2012).

I have been invited to explain how the game arose, why it has appeared in so many guises, how I nearly lost the rights to it, and why it was nearly withdrawn from the German market as soon as it appeared.

Everyone knows that race games are as old as the hills. Until the 20th century movement was always governed by dice or other randomisers and were therefore essentially games either wholly or largely of chance. But in Hare & Tortoise the key to success lies in the skilful use of resources — specifically, in carrot economics. At start of play each player receives cards representing 65 carrots and places a runner at the start of a track counting 65 spaces to home. At each turn you can move as far as you like, provided you can pay for it. The cost of moving increases in triangular proportion, so you can either hare forwards at great speed and run out of carrots early, or plod slowly spending one at a time but then risk losing position perhaps irretrievably. How you get carrots back in order to continue the race depends on which square you choose to move to. In addition, the further forward you are in the race, the fewer you get back.



Figure 2: Race games are as old as the hills

Non-dice race games first appeared (as far as I know) with *Bantu* (1955) followed in 1962 by *Formula One*. I was unaware of these and had no conscious intention of inventing a diceless race game when in 1969, inspired partly by the first moon landing and partly by the acquisition of some sheets of attractive dark-blue stout card, I developed a game called *Space Race*. Earth was at the bottom of the board, moon at the top, and the object was to get your spacecraft from Earth to Moon and back. You started with 60 units of fuel and, as this wasn't enough to do the trip, you placed three re-fuelling stations anywhere on the board.

Figure 3: Movement is governed by carrot economics, player interaction is based on changing relative positions in the race

The cost of moving was triangular, and changing your orientation by 60 degrees also counted as a move, so it cost six just to turn round completely. This still seems like a good storyline to me and I can't remember why I abandoned the game, though it's a well-known fact that once the moon was landed on people lost all interest in the real space race.



Figure 4: Non-dice race games: Bantu, Formula 1

In 1972 I joined the games-testing panel of the newly-founded Games & Puzzles magazine, and soon felt moved to produce something novel to throw to the lions. I remembered liking the mechanism of Space Race, but thought that using a two-dimensional grid made for difficulties. So I decided to junk the theme and try the mechanics out on a linear track.
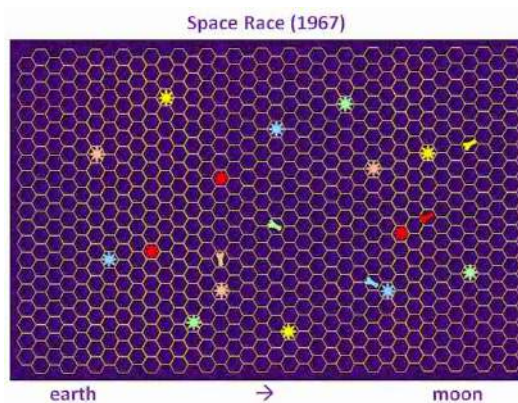
Figure 5: Space Race (unpublished, 1967)

I drew an 8x8 grid of 64 squares in a boustrophedon (zigzag) layout, with Start at one end and Home at the other, and then wondered what to put on the squares. Obviously they had to be different ways of getting fuel back when you ran out. The first would be equivalent to the fuel dumps that already existed in *Space Race*. I marked these in with a random symbol. Then it seemed a nice idea to vary the amount of fuel you could acquire in inverse proportion to your position in the race, so the further ahead you were, the less you received. Accordingly, I next randomly marked some squares with numerals 1, 2, 3, 4 on which fuel could be gained in appropriate amounts. Then I thought of other ways, such as gaining fuel by missing a turn, or by travelling backwards, or even by some random event like rolling a die. Three more symbols were needed for these, and I duly marked them in to produce a board that looked like Figure 6.

Having drafted my board, I tried a test run by playing the part of four players with different characters. The first would spend fuel profligately, racing ahead fast but running out of fuel soonest. The second would spend it sparingly, conserving energy but initially lagging behind. The third would play strategically, considering each position on its merits, and the fourth would play completely at random, or at least follow a mix of behaviours. Two or three run-throughs were enough to suggest, to my delight, that the analytical player tended to win, and there suddenly came to mind the thought "This is rather like Aesop's fable of the hare and the tortoise".

From there on the game virtually invented itself. Your fuel would be carrots, and the non-numerical squares would naturally be carrots, lettuces, hares, and tortoises. You would gain carrots by pausing on a carrot square,

Figure 6: Testing the basic pre-thematic idea

or by travelling backwards to a tortoise square, or by landing on a lettuce and converting it into carrots. And the hazard squares would of course be hares, which are traditionally mad, or at least unpredictable. It was the ideal example of the mechanics of a game inspiring the theme or storyline rather than vice-versa.

Everything from here to publication happened with leporine rapidity (hare-like speed). I tested and modified the game with real players in autumn 1973, then took it to the *Games & Puzzles* test panel, who sent me out of the room and rated it 6/6. Graeme Levin, the magazine's founder and publisher, undertook to act as my agent (for 50% of the proceeds) and offered it to Philmar Games. When they turned it down he next went to a new company called Intellect Games, all of whose products we had admired, and they accepted it. We signed the contract just before Christmas 1973, and by next June it was on the market in this original design by Shirtsleeve Studios (Figure 7), which in some ways still remains my favourite.

For the next few years it came high on the list of most popular boardgames as voted on by *Games & Puzzles* readers. The Intellect Games people went to all the Toy Fairs then current and signed a sub-licensing agreement with Otto Maier Verlag (Ravensburger Games). So far so good, but now the rot very nearly set in. Intellect Games went into receivership and in 1978 sold out to an industrial materials company called Turner Research Ltd. Unlike Intellect, Turner had no experience of games but probably just wanted to get on the bandwagon, perhaps inspired by the success enjoyed by Invicta

Figure 7: From abstract to thematic prototype



Figure 8: Intellect Games (1972-1977)

Plastics with *Mastermind*. Graeme and I promptly went into litigation to try to retrieve our rights to the game, especially as it was now wanted by Waddingtons House of Games, in those days the leading British games publisher.

Meanwhile, in 1979 Ravensburger published their first edition under the title *Hase und Igel*, or *Hare & Hedgehog*. Hedgehogs replaced tortoises because the equivalent German fable, collected by the brothers Grimm, has a different storyline.

Figure 9: First edition (Intellect Games, 1974)



Figure 10: Ravensburger's Game of the Year (1979)

Whereas Aesop's motto is "Slow but steady wins the race", the Grimm version is "*Schlau und langsam gewinnt*" — "Slowly but slyly wins the race" — since the hedgehog wins by cheating. But even the Ravensburger edition was jinxed, being very nearly withdrawn before publication. It transpired that the company reps had difficulty in understanding the game sufficiently well to promote it to retailers, perhaps partly because it looks so much like a children's game but actually is too sophisticated for most children under ten. According to Werneck, the message went out "This game is poison — forget about selling it and push our other games instead".

Had nobody thought to question this command, *Hase und Igel* might have died stillborn. What saved it was the establishment in 1979 of the *Spiel des Jahres* — the Game of the Year Award. This award, the first and still the most prestigious of its kind, is made annually by a jury of games critics who test, review and critique newly-published games. Founded by a group of journalists led by Tom Werneck and Bernward Thole, their aim was to provoke the games industry into competing with one another to produce the best games possible. Also, of course, their perceptive and analytical reviews encouraged potential purchasers themselves to become more critically demanding, thus establishing a *perpetuum mobile* of sophisticated supply and demand.

Amongst the 20 or more games they considered were also *Twixt* (Alex Randolph), *Acquire* (Sid Sackson), *Alaska* (Eric Solomon), and *Shogun* (Teruo Matsumoto). Although *Hase und Igel* eventually prevailed, it was by no means a foregone conclusion. Possibly it succeeded because it came near the top of everybody's list while its rivals ranked highest with some critics and lowest with others. Whatever the intricacies, they declared *Hase und Igel* Game of the Year 1979. For maximum prestige and publicity they wanted the ceremony to take place in a major city and the award to be presented by a member of parliament. For this they secured Antje Huber, then Minister for Family Affairs, who agreed to make the presentation provided it was held in her constituency. Her constituency happened to be Essen — and that's why the exhibition centre at Essen remains to this day the venue for the biggest annual toy fair in the world.

Needless to say, the management at Ravensburger were taken aback by the critics' acclaim for the game they had thought was poison and should be hidden away somewhere like some lunatic old relative. Fortunately, one of their reps read Werneck's review of it in Germany's most prestigious newspaper, in which he also announced the probable establishment of an award. Surprised to find the game so highly rated, he decided to test it more thoroughly with his family, which in those days was not something reps would normally do as a matter of course. To his surprise, they enjoyed it, and he encouraged his colleagues to give it a similar run with their own families and friends. Now Ravensburger were in a bind. They had decided to remove H&T from their product range because the representatives' inactivity was producing poor orders, and yet here their reps were, now busily selling the game. After much dithering Ravensburger decided to accept the award, despite its novelty and uncertainty as to whether it would impact on sales or reputation.

Meanwhile, back home, Graeme and I were still engaged in a legal tussle with Turner Research to retrieve the licensing rights. This was now becoming urgent, as Ravensburger were paying royalties into a holding account until they knew whom to send them to. Eventually, in 1980, we reached an agreement by which Turner released their claim in return for a payment of 500. This enabled us to go ahead with licensing the British edition to Waddingtons, who, to my chagrin, produced a rather disappointing version. Presumably the sub-Disney artwork was supposed to look more child-friendly, but its overall cheapness was emphasised by the use of a floppy cardboard box and a component reduction that reduced the maximum number of players from six to four.

For the next few years my half of the royalties for all editions was more

Figure 11: Bundesfamilienministerin Antje Huber, Erwin Glonnegger (Ravensburger), and author. [So here's Antje Huber presenting the award to Erwin Glonnegger, then responsible for Ravensburger's entire range of games, with me standing around in the role of innocent bystander.]



Figure 12: Waddingtons Disneyesque design (1980)

than enough to live on. Both Ravensburger and Waddingtons extensively sublicensed their versions to other countries, producing a wide range of variations in a dozen or so languages. Variations included also promotional versions, such as Waddington's strategy game for Britvic, and an Austrian one, Voltinger und Wattinger, presumably produced by Ravensburger. More interestingly, a number of pirated editions appeared in other countries, mostly but not entirely behind the Iron Curtain. More touching were the home-made versions, mostly from the then GDR. The German Games Museum at Chemnitz recently mounted a special exhibition of home-made games, including several versions of *Hase und Igel*. My favourite is *Energie*, by Wolfgang Grokopf. Ingeniously, he constructed the race track from playing-cards.

Waddingtons ceased production of *Hare & Tortoise* in the mid-eighties,

Figure 13: A variety of languages



Figure 14: Promotional versions (Britvic; Voltinger und Wattinger)

and in 1987 Gibsons Games, a long-established British family firm, asked if they could license it. By this time I was no longer in touch with Graeme Levin, so I said "yes" independently and took the opportunity to ask them to junk the Waddington design and return to Shirtsleeve Studio for new artwork. For this edition I introduced a change to the sequence of some squares in the race-track, which has remained in all subsequent editions, and made substantial changes to both the method and the outcome of "jugging the hare" — that is, the randomly prescribed outcomes of landing on a hazardous hare square.

Gibsons ceased production in the 1990s, and in 1999, to my surprise and disappointment, so did Ravensburger after a solid run of 20 years. Thus for a brief period at the turn of the century no new copies were being printed. Fortunately, however, two or three other German companies expressed interest in taking it on, and I eventually licensed it to Abacus Spiele, chiefly because they were offering the largest advance on royalties, of which I was then in dire need.

Figure 15: Home-made in the GDR by Wolfgang Grokopf ("Energie")
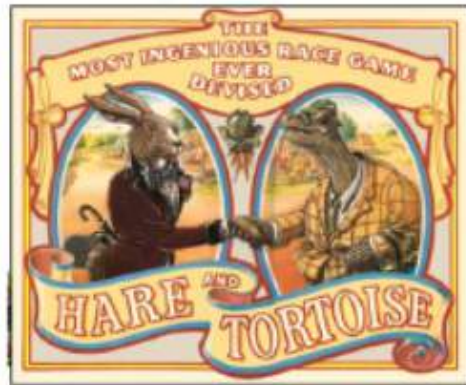


Figure 16

To avoid any dispute over artwork copyrights Abacus departed completely from Ruritanian romance and instead turned the two protagonists into very urban-looking racing car drivers. I wasn't happy with their design, mainly because of the hare on the box-lid, whose menacing grin looks less like that of a racing driver than of a used-car salesman. Abacus sub-licensed to Rio Grande Games in America, so at least there was now an English-language edition to fill the Gibson gap.

But then in 2007, in a complete about-face, Ravensburger decided they would really like to have it back after all. After an arrangement with Abacus, Ravensburger re-entered the race with a design based on that of their 1979 original. More surprisingly, Gibsons also had a change of heart and asked again to publish a British version in 2010. As Shirtsleeve Studios no longer existed, I asked Gibsons to commission a design from Simon Chadwick, a Southampton-based cartoonist who had drawn some attractive hare and tortoise characters for my website. The result was so startlingly different from anything that had gone before that many players took against it. Perhaps the box is rather too stark, but the board looks beautiful as a piece

Figure 17: Abacus and Rio Grande edition (2000-2008)

of artwork to hang on the wall, if marginally less functional as a playing tool. Michael Gibson explained that he wanted to depart completely from the perception of *Hare & Tortoise* as a children's game and introduce a note of sobriety more in keeping with the strategic seriousness. He didn't even allow Chadwick to complete his intended colourful artwork of British landmarks decorating the periphery of the race-track — they remain the simple outline sketches that he made for his first rough draft.



Figure 18: Gibsons' radical design departure (2010 – current)

In 2013 arrived a pleasing email from Devir Iberia, a relatively new Spanish games company who also publish such classics as *Carcassonne*, *Dominion* and *Settlers of Catan*, saying that they would like to produce an edition with rules in three languages — Spanish, Portuguese and Catalan — for sale in all the relevant-speaking regions including South America. This duly appeared in November 2014, using the motor-racing artwork originated by Abacus.

In 2015 yet another unexpected email appeared in my inbox. This was

from Benoît Forget, the CEO (or equivalent) of Purple Brain Creations (Paris), with a radical proposal for abstracting the mechanism of *Hare & Tortoise* and attaching it to an entirely different theme based on a classic novel. We are, at time of writing, revising a contract which, if implemented, should see the resultant new game appearing in September 2016.

So much for the cardboard game — now what about the keyboard? From the calculations required for successful play you might think *Hare & Tortoise* eminently suitable for translation into a computerised format. As early as 1980 it was enthusiastically reviewed in the British journal *Computer News*, and in 1984 Ravensburger started making moves in an electronic direction, but soon came to a halt. Perhaps surprisingly, only in France can you play it online against live opponents — for details, see Ludagora.net. A few years ago an American programmer did express interest in developing a *Hare & Tortoise* app for the iPhone, but by the time I had retrieved the electronic rights from Ravensburger he had lost interest. The possibility of a keyboard version has now become live again, but at the moment it's too early to make any announcement.

I find it fun to look back on the highly variegated story of my best-known game and the many different transformations it has been through. As it has now lasted more than 40 years, I can only hope that *Hare & Tortoise* will continue to run and run.

david@parlettgames.uk

# Games of America in the Nineteenth Century

*Bruce Whitehill*
Author of the books
*American Games and Their Makers, 1822–1992*
*Americanopoly: America as Seen Through Its Games*

**Abstract:** *Though commercially manufactured American-made games have been found in the United States from as early as 1822, the games "industry" can be said to have started around the mid 1840s, when hand-printed games were turned out in greater quantity by at least one publishing company, W. & S.B. Ives. By the 1860s, thanks in part to now-forgotten publishers like John McLoughlin and E.G. Selchow and, in particular, to a lithographer whose name is still used today, Milton Bradley, game production continued to grow. The mechanized printing process resulted in the mass production of games. And in the 1880s, the man credited with promoting games for adults and families, not just children, George Parker, helped develop games into a major American pastime. Games were now "manufactured by. . . " instead of being "published by. . . ". There are other names associated with the beginnings of the American games industry, such as Rufus Bliss, who produced what collectors categorize as exceptional games in his unique line of toys. And games still played today made their debut: AUTHORS, TIDDLEY WINKS and PARCHEESI (PACHISI), among others. Increased trade saw American games travel to Europe, while Americans had been playing European — especially British — games for decades. In one curious switch, HALMA, which was invented by an American, went on to become a European favorite, while CHINESE CHECKERS, named and popularized in the U.S., actually began in Germany as STERN-HALMA (Star Halma). This article serves to introduce readers to some of the men, the companies, and the products that made up the American games industry in the 19th century, and to provide a sense of the times and culture in which these pastimes were created.*

It is not known exactly when the commercial manufacture of games began in the United States. Two games discovered from 1822 are the earliest American games known — no games or relevant records have been found prior to then. These first two games, published by New York booksellers F. & R. Lockwood, had themes of travel through Europe and through the United States. Why Lockwood didn't produce any other games (that we know of), and why there is a period of 21 years during which few, if any, games have been uncovered remains a mystery. In 1843, W. & S.B. Ives, a long-established Massachusetts publishing company, began printing and selling both board games and card games in enough quantity to reach a large audience.

At this time in America's development, the population of the U.S. surpassed 17 million, slightly less than that of Great Britain. The economy was still recovering from the financial panic of 1837. But America's railroads were growing quickly, linking Eastern U.S. cities. Steamer travel was increasing between New York and England; and *The New York Herald* became the first American newspaper to employ a European correspondent. The system of Morse code was promising to make the world a touch more connected. Wood pulp paper was invented, leading to cheaper paper for publishers. And John Freemont crossed the Rocky Mountains into California, foreshadowing a mass movement to the western United States.

In terms of amusement, the game of nine pins ("bowling" minus one) reached its height of popularity; Phineas Barnum, later of Barnum and Bailey circus fame, was exhibiting strange oddities and freaks of nature; the first bicycle was constructed; America's first boat race was held, baseball came into being and the sport of skiing was "invented". And the polka peaked in popularity.

## The early years — W. & S.B. Ives and the forgotten companies

W. & S.B. Ives responded to a growing need for Americans to find additional tools to help teach children the modes and morality of the period, and to provide amusement for the family without resorting to anything that smacked of gambling, like playing cards. Card games had cards designed with images and often text to clearly set them apart from the numbers and pictured royalty of four-suit playing cards. This was a period of moral fervor, a time when "children's rights" were being legalized, and the beginning of the Kindergarten movement in Europe that would soon sweep the United

States. In 1843, Ives published what was long considered to be the first American board game, until research uncovered the existence of the Lockwood games. Ives' game, **The Mansion of Happiness** (Figure 1), was a game of luck in which players moved their pieces toward the center of the board, much like in the **Game of Goose** (from which this game may have derived), in an attempt to reach the "Mansion of Happiness" (i.e., heaven). Landing on spaces of virtue propelled you further, while those of vice sent you back toward the beginning. According to the rules, 'Whoever possesses Piety, Honesty, Temperance, Gratitude, Prudence, Truth, Chastity, Sincerity, Humility, Industry, Charity, Humanity, or Generosity is entitled to advance. . . toward the Mansion of Happiness. . . Whoever possesses Audacity, Cruelty, Immodesty, or Ingratitude, must return to his former situation. . . and not even think of Happiness, much less partake of it." A player who landed on the space marked "Passion" had to go back to "The Water", since, it was explained, "Whoever gets in a Passion must be taken to the Water and have a ducking (sic) to cool him". Landing on "Idleness" sent the player back to "Poverty"; players on the "Road to Folly" had to return to "Prudence"; and the Sabbath Breaker was "taken to the Whipping Post and whipt". In this watershed game — which must have been popular, considering the number of copies that are still around today — children and their parents embarked on a voyage of discovery, instruction, and amusement that was the beginning of games becoming part of American family life.



Figure 1: Mansion of Hapiness Board.

Much of America's non-native population had come over from England, so it is not surprising that Ives produced games that often were copies of English items. **The Mansion of Happiness** was based on a game of the

same name made by a London firm in 1800. **Reward of Virtue**, another American version of a British game, was touted as being "A new moral and Entertaining Game By the Author of the Mansion of Happiness". **Dr. Busby**, considered the first truly American card game, was nonetheless similar to, or maybe even taken from, the European game of **Happy Families** (Figure 2). But other Ives games were original, uniquely American. **The National Game of the American Eagle** was not only patriotic, but political in nature, and **The Game of Pope or Pagan**, or **the Siege of the Stronghold of Satan by the Christian Army** gives an indication of the moral and religious sentiment of the times (both games were published in 1844). Incidentally, like **Pope or Pagan**, many of the early games had long, double titles — a practice presumably taken from the book publishing business.
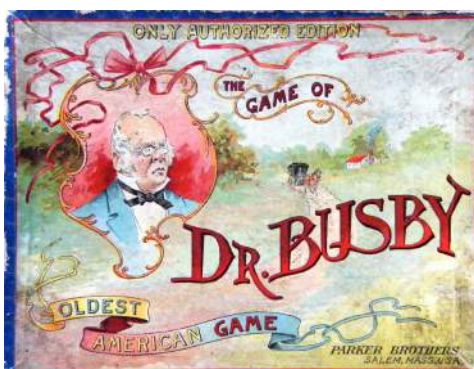


Figure 2: Dr. Busby, touted as the "Oldest American Game" (it isn't, by a long shot), 1890s, Parker Brothers

It is interesting to note that in an industry that from its infancy and through the present has been dominated by men, America's first renowned game author was a woman: Anne Abbot invented not only **Dr. Busby**, but other games for Ives, including the first truly American sports game, the **Game of the Races**; she is also assumed to be the "lady" in the 1845 game of "**Characteristics: An Original Game by a Lady**", and in Wm. Crosby's **The Strife of Genius**, (invented) "by a lady".

Within one year of the serialization of *Uncle Tom's Cabin* in *The National Era*, an abolitionist weekly, Ives released the **Uncle Tom's Cabin** card game, complete with images of characters and objects from the book that was published that same year, 1851. The game had no other connection to the literary work. Nonetheless, the game might have even helped

popularize the book, which was written during a time of increasing conflict between the slave-owning states in the south and the anti-slavery factions in the northeast. (**Uncle Tom's Cabin** was played like the modern American game of **Go Fish**, a game generally unknown in Europe. According to historian Thierry Depaulis, the closest equivalent would be the Italian game of **Cuccù** [from the early 18th century] and a German offshoot called **Hexenspiel** or **Vogelspiel**.)

Overall, Ives published more than two dozen games early on. Because of its rapid development of a growing line of games and its seemingly successful distribution, the company is credited with being the first major manufacturer of games in the United States. The Ives partnership broke up in 1853, but family members continued producing games for four decades.

Shortly after Ives started publishing games, other small companies followed suit, many of them located in book publishing districts in New York City. The names of most of the companies are obscure today, but the titles of their games tell us something about the time in which they were produced. Some of the games were seeped in English historical literature: **Nick Bottom's Game of Shakspere** (sic) (Nick Bottom is a character in Shakespeare's *A Midsummer Night's Dream*; Shakespeare used him for comic relief, periodically transposing his head into a donkey's head); and **The Pickwick Cards** (*The Pickwick Papers* was published by Charles Dickens in book form in 1837, after first appearing in serial form). **The Game of Kings** — very British and highly political — provided a brief history of English monarchs, with a satirical poem written on each card. For example, the card for William II reads:

> *Sir Walter's arrow, from the string*
>
> *Sped at a deer, but killed a king;*
>
> *For the poor realm 'twas wisely struck-*
>
> *Better the tyrant than the buck.*

Early titles with American themes included **The New World Game of American History**; **The National Game of the Star Spangled Banner** (the 'Star Spangled Banner" was written as a poem in 1814 and was not made the American national anthem until 1931); **Biographical Amusements**, "A New and Entertaining Game on the Biography of Distinguished Men of America"; **Multiplication Merrily Matched**; and **The Oracle of Fortune**. Historical themes, then, were popular, as were humorous renditions of educational subjects and fortune telling. Playing cards were used

in England for fortune telling in the middle of the 18th century and earlier in France; Tarot, Divination or Oracle cards probably led to fortune telling games gaining favor in America.

Most of the early games were card games, since it was much easier to print small cards than larger paper sheets, which then had to be folded or pasted onto cardboard. Board games were not put into boxes, but were sold with a separate parts box or a small pouch containing the game pieces attached to the back of the gameboard. Board games came with small playing pieces, like pawns or small round markers (about 8mm-high), and, instead of dice, used "teetotums" to govern the movement on the board. Teetotums were small spinning tops that, when they stopped spinning, landed in such a way to indicate how many spaces the player could move. Dice were considered implements of gambling and "tools of the devil" and were therefore avoided.

## The middle of the century

This moral sensitivity continued throughout the 1840s and '50s. But then so did the improvements in the welfare of children, and the increased industrialization that led to more leisure time and a movement from farmland to cities; children were allowed more time for play, once the schooling and the chores were done. The war with Mexico ended, resulting in a treaty that would give the U.S. much land that was to be developed as the American West. The discovery of gold in California in 1848 secured this migration westward as the country's first gold rush began, the newsmaker to end that decade. In 1850, the population was listed as 23 million (including over 3 million slaves), compared to 34 million in Germany and less than 21 million in Great Britain. Through the 1850s there were continuing advances in rail and steamship travel and progress in the new form of communication, the telegraph.

Other companies emerged during the 1850s. Their games also reflected the events and attitudes that were shaping the developing America. The **Railroad Game** capitalized on the growth of the country's rail lines. **The Conquest of Nations** spoke to the war and turmoil that covered much of the globe during that period. Many titles, including **Trip to Paris**, **Peter Coddle's Trip to New York**, **Travels and Sojourns of Ichabod Solo Esquire Among the Pee-Wee Indians**, and **The Five Navigators, or, a Voyage of Discovery**, mirrored the increasing interest in travel and learning about distant cultures. **Presidential Quartets** and **The Little**

**Corporal**, a title given to Napoleon, were two of the many games embracing history. The **Game of Goose** made its debut into the American market in 1851 with an exact copy of a game sold in England three years earlier — except that the image was reversed — and was based on the **Royal Game of Goose** invented in Italy in the 16th century. The **Game of Goose** was another morality game, where landing on the good spaces — in this case, those with a goose — allowed you to move forward, while landing on a bad space either sent you back to start or kept you on the space until you were rescued. Like many games of the period, the **Game of Goose** was pure luck; there was no strategy involved — or maybe one could say you had no control over your own destiny.

## McLoughlin brothers — the company that set the standard

The accomplishments of Ives and these other smaller companies of the 1850s were overshadowed by the work of a single publishing company, McLoughlin Brothers. In the early part of the decade, John McLoughlin Jr. took over the book publishing business of his father, who had emigrated from Scotland in 1819 and established a company known for its exceptional print illustrations. When his father, John McLoughlin Sr., and his father's partner, printer and engraver Robert H. Elton, retired, they turned over their company, Elton & Co., to the younger McLoughlin, who had learned printing and wood engraving while working for the firm. (Figure 3) John Jr. added card games to the line, including **Yankee Pedlar or What D'ye Buy** [sic], in or soon after 1850, and **Conundrums** in 1853. (Figure 4) **Yankee Pedlar** was, literally, a commercial game — that is, one that illustrated many common products that could be found in shops during that time. Conundrums, presumably based on the popular parlor game of the same name, consisted of elaborate riddles, the answer to which were often puns. McLoughlin's games were not packaged like other company's card games in "card packs" (thin cardboard boxes that opened at one end like a cigarette pack, or at both ends so that an inner cardboard tray holding the cards could slide out) — they were put in sturdy, small boxes, with attractive lithographed sheets pasted on them. Other games included **Where's Johnny, Peter Puzzlewig's Comic Round Game of Alliterations**, and **The Amusing Game of Conundrums**, also by "Peter Puzzlewig", presumably an invented character. McLoughlin, then, was clearly stepping away from the games of instruction and morality and introducing true games

of amusement. All the games were hand-colored, and John McLoughlin is credited with being the first to use an assembly line process to achieve this — a number of color-artists worked on one game, each artist being responsible for adding only one color to the image.
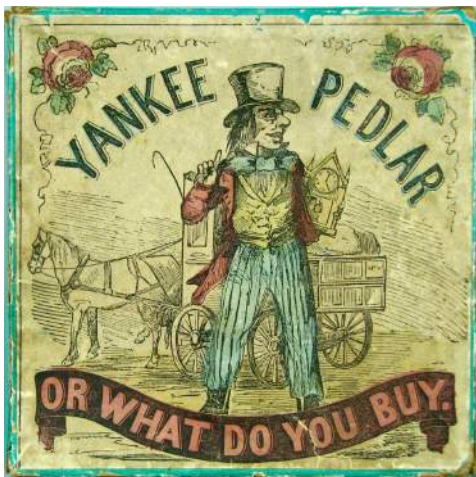


Figure 3: Yankee Pedlar or What Do You Buy, ca. 1850, John McLoughlin; instructions title it as "Yankee Pedlar Or What D'ye Buy" Photo courtesy of The Strong, Rochester, NY
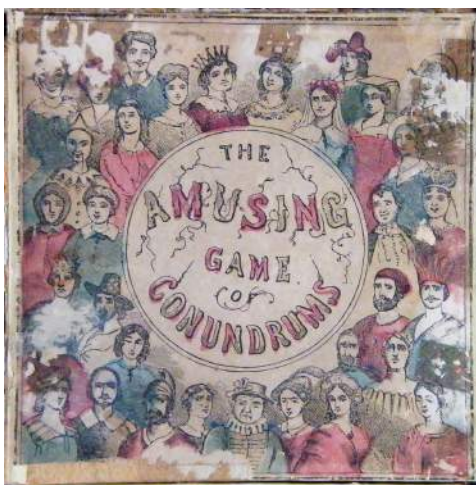


Figure 4: The Amusing Game of Conundrums, 1853, John McLoughlin

In 1855, John McLoughlin brought his brother Edmond into the business to create McLoughlin Brothers, though that name did not appear in the city directories until 1858. McLoughlin Bros. became the premiere name in early American games. They introduced board games with lavish illustrations and wonderful coloring into the line. And they were prolific, producing an astonishing assortment of games over the next sixty years.

John McLoughlin, Jr., according to Laura Wasowicz of the American Antiquarian Society, "continually experimented with color illustration — progressing from hand stenciling, to the mechanical relief process of zinc etching, to the planographic process of chromolithography". In 1871, the company opened a color-printing factory in Brooklyn, employing as many as 75 artists for their book, game and lithograph work.

## Milton Bradley — making the game business an industry

As the McLoughlin brothers were getting started venturing into games, another lithographer, Milton Bradley, the man that would turn America's game business into an industry, opened his enterprise in Springfield, Massachusetts. It was 1860. During the past decade, over 1,338,000 people emigrated to the U.S. from England and, especially, Ireland. Tensions continued to rise between the North and the South over the issues of slavery. Anti-slavery candidate Abraham Lincoln was elected the 16th president of the United States, prompting the state of South Carolina to secede from the union in protest. An interesting sidelight is that Milton Bradley printed many copies of Lincoln — a beardless Lincoln — only to find that the new president had grown a beard; most of the prints were discarded. Today, they are very rare and quite valuable.

Milton Bradley was a draughtsman who started printing games as a sideline to his lithography business. He allegedly made improvements to the printing process that allowed for games to be mass-produced for the first time. The hand-coloring of games became a thing of the past as Bradley used — or possibly even developed — new ways of printing multiple copies of the same game in a short time. His first game was **The Checkered Game of Life**, a morality game similar to Ives' **Mansion of Happiness**. (Figure 5) Bradley's board was a simple checkerboard (hence the title), and the players attempted to be the first to reach Happy Old Age, beginning at Infancy. Landing on a space indicating a positive trait took players closer to their goal: "Bravery" sent you to "Honor", "Ambition" brought you to

"Fame", and "Perseverance" took you to "Success". Some of the moves were very telling for the period: a "Government Contract" shot you to "Wealth", and "Influence" took you to a "Fat Office". Of course, "Crime" would send you to "Prison", and other spaces noting ill deeds would move you back as well. A teetotum governed whether a player could move one or two spaces, and in what direction: "up or down", "right or left", or "diagonally in either direction".
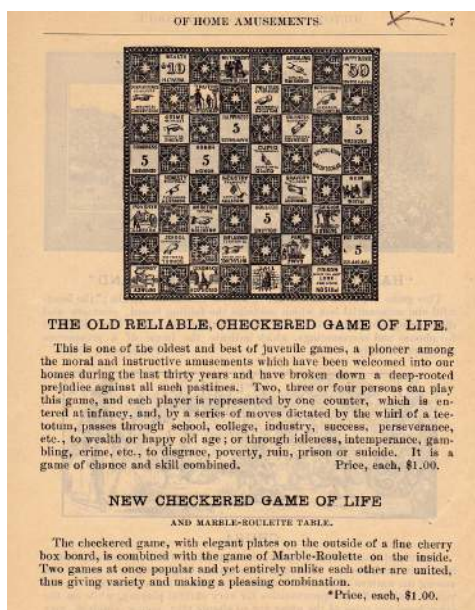


Figure 5: Checkered Game of Life illustration and description from 1895 catalog

Many of Milton Bradley's games had covers with images of the extended family in the living room or parlor. They sometimes showed six people on the box lid, covering three generations (and both sexes), suggesting the game was fun for all ages, even if the younger ones would just be looking on. Bradley was extremely interested in education and, as his company grew, sold a wide range of school supplies and optical toys in addition to educational games. He was very active in the new "kindergarten" movement that began in Germany and eventually swept through the U.S. He produced many games aimed primarily at children, often depicting animals and sometimes based on popular folk stories. Like McLoughlin Bros., Milton Bradley was prolific, though the company produced mostly smaller and less ornate, less colorful games than its older competitor. By 1876, if not earlier, Bradley

was gluing lithographed sheets to cardboard and producing colorful folded gameboards exactly the same size (18.5 in / 47 cm square) as the standard used in the U.S. today. In 1876 he was awarded the Medal of Excellence at the Centennial Exposition, the first award ever made "for ethical teaching of children through play".

Bradley was in business only a year when the American Civil War began in 1861, setting brother against brother in battles between the Union armies of the Northeast and the Confederate armies of the South. It is interesting to note that at this time, almost all the game companies were in the industrialized north, particularly New York and Massachusetts; few, if any, were operating in the South. Of the industrial establishments listed in the U.S., nearly 86% were located in Union states. Over 90% of the money invested in real and personal property devoted to business in America was concentrated in the North, and the combined investments of Pennsylvania, New York, and Massachusetts were larger than in the entire South.

After the war began, Milton Bradley decided to produce small versions of **The Checkered Game of Life** that were designed to fit into a soldier's pocket or knapsack. Because of this, one could consider him the designer of America's first "travel" games. In 1866 he patented the first American croquet game. He sold his own paper cutter and introduced the zoetrope (an optical toy) to America.

## The growth of America and the promulgation of America's smaller game companies

The 1860s saw the completion of America's transcontinental railroad and a "War Between the States". Lincoln won re-election, then was assassinated a short time later; the Confederacy lost the war, and slaves won their freedom. "In God We Trust" was first imprinted onto U.S. currency, the Ku Klux Klan was founded, and the Pony Express began mail service between Missouri and California. The first sleeper (train) cars made tracks; and the first American train robbery took place. The U.S. spent $7,200,000 to buy Alaska, and John D. Rockefeller started Standard Oil Co. Baseball turned professional, intercollegiate (American) football began, and roller-skating wheeled its way into the hearts of Americans.

The 1860s were also a prominent time in world literature. Dickens, Longfellow, Browning, Wilkie Collins (originator of the crime novel), Ibsen, Dostoevsky, Tolstoy, and Americans Mary Mapes Dodge, Louisa May Alcott, Walt Whitman, and Mark Twain (Samuel Clemens) were all ac-

tive. (Incidentally, Twain's *The Innocents Abroad* was parodied in the title of Parker Brothers' 1888 game, **the Amusing Game of Innocence Abroad**). Many of these literary giants were featured in various games of **Authors**, the first one having been developed by A.A. Smith and published with his partner in 1861 under their company name, Whipple & Smith.

A.A. Smith was also responsible for bringing the game of **Squails** into the U.S. in 1865, though Milton Bradley seems to have appropriated the honor with his 1867 introduction of the game. **Squails** was first produced in England by John Jaques in 1857, and is a table game that involves counters or disks being propelled toward some post or goal by finger-snapping or pushing. As such, the game represents one of the earliest American examples of what came to be known as a dexterity or "skill & action" game.

## Selchow & Righter — the forgotten giant — and Parcheesi

In 1865, Albert Swift published **Bezique**, a two-player card game that originated in France as **Bésigue** before 1840 (Figure 6). It was introduced to Britain around 1860, was extremely popular, and then became highly fashionable in America in the early 20th century. **Bezique** evolved in the U.S. into the two-handed game of pairs called pinochle ("pee´-nahkl"). Albert Swift, another nearly-forgotten name in American game history, played an important role, not because of **Bezique** or because his New York toy business was taken over by E.G. Selchow in 1867, but because as part of the deal, or in addition to it, Selchow obtained the rights from Swift to **Parcheesi, the Game of India. Parcheesi** went on to become the longest-selling game in America, and one of the most popular. In **Parcheesi**, players control different pieces that they can move at different times, the object being to get each piece once around the gameboard and into a home base; moves are governed by a throw of the dice. These game mechanisms share some similarities with backgammon, a world favorite that dates back to the 1st century (Figure 7).

**Parcheesi** was trademarked in 1874, giving it one of the oldest trademarks for an American game. Also in 1874, Selchow released **Vignette Authors** (Figure 8). After E.G. Selchow took in John Righter as a partner, the company name was changed to Selchow & Righter in 1880. The company's first great success was perhaps **Pigs in Clover**, a dexterity game (now categorized as a mechanical puzzle) by Charles Crandall, the famous inventor and maker of building blocks. **Pigs in Clover** became a fad,
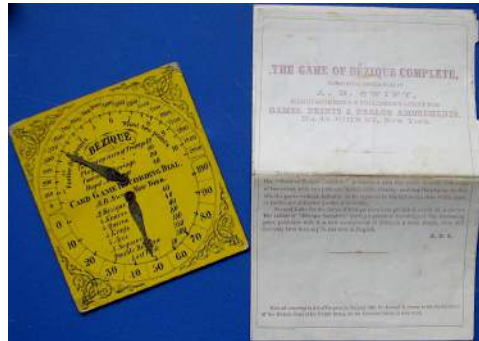
Figure 6: Bezique, 1865, counter and instructions

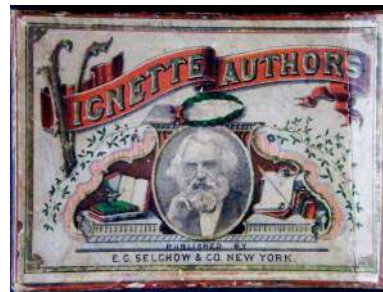

Figure 7: Parcheesi detail, 1870,
E.G. Selchow



Figure 8: Vignette Authors, 1874,
E.G. Selchow

probably the most popular dexterity game in the U.S. in the 19th century. Selchow & Righter were "jobbers" — that is, they sold other company's games rather than manufacture their own — a practice that continued for another 47 years. Listed in Selchow & Righter's 1887 catalog were nearly 150 games and puzzles from Milton Bradley, 45 McLoughlin games, **Authors** and **Bezique**, four versions of **Parcheesi**, and an assortment of articles from artificial ivy to a toy mouse.

## Intelligence is bliss; the 1870s & '80s

In or soon after 1871, the R. Bliss Manufacturing Co. began to add games to its newly successful line of paper litho-on-wood toys, many of which were "skill & action" games in which a ball or marble was rolled or shot at a target. Rufus Bliss started a company in 1832 that manufactured wood screws and clamps for piano and cabinet makers; one of his inventions was a machine

that cut wood screws rapidly, allowing for a process later utilized to make the "turned men" or shaped wooden playing pieces used in games. Bliss retired in 1863, years before the company produced its first toy. He died in 1879, long before his company ceased production at the beginnng of WWI. Bliss was famous for target games, parlor ring toss, floor and table croquet, and **Fish Pond**. The gorgeous board games for which the company was later famous were made after the founder's death, mostly during the 1890s (Figure 9).



Figure 9: Minnehaha, 1891, R. Bliss

In spite of "The long depression of the 1870s" (as described nearly a century later by James Shea in his book about the Milton Bradley Co.), throughout the 1870s and 1880s, numerous smaller game companies began to appear, selling everything from educational to whimsical games, from the patriotic to political parody, or specializing in a particular area, such as with the music games of Theodore Presser Co. These decades in America saw the first tennis tournament, the first public telephones, and the first fruits and meats sold in cans. The American Federation of Labor was formed. New York street lights were powered by electricity. The U.S. had almost 89,000 miles of railroad in operation compared to a combined 67,000 throughout Britain, Germany, France and Russia. There was a huge increase in the number of immigrants entering the United States, and New York reached a

population of over one million, the same as Berlin. The Chinese Exclusion Act barred almost all Chinese immigration for 10 years, following a large influx of Chinese who were escaping problems in China and/or were searching for gold or working on the railroads of the American West. The Oklahoma land rush helped propel the surge westward.

The first skyscraper — 10 stories high — began the elevation of the American landscape. The Brooklyn Bridge became an architectural wonder, and The Statue of Liberty, a gift of France, made its way to New York. Buffalo Bill Cody organized his "Wild West Show", while Nellie Bly (a.k.a. Elizabeth Cochrane) beat the imaginary 'round-the-world-in-80-days feat of Jules Verne's Phileas Fogg. Golf was introduced to the nation. All of these happenings were significant enough to lead to numerous game box illustrations and to games themselves commemorating or capitalizing on the events.

## George Parker and the brothers he made famous

In 1883, another Massachusetts games enthusiast, George S. Parker, went into business selling games of his own invention, and aiming at an adult market. He was still in high school when he invented his earliest games, his first being the game of **Banking**. He invented **Baker's Dozen, Great Battlefields, Ivanhoe, The Dickens Game, When My Ship Comes in**, and **Chivalry**, which he described as his favorite game, all before he was 21 (Figures 10, 11 and 12). In that same period he also published **Famous Men**, invented by one of his high school instructors. **Billy Bumps Visit to Boston** and **Johnny's Historical Game** were two other early entries. Parker was a game player interested in strategy games, and, as his **Banking** might suggest, a good businessman as well. In a few years he was selling — in addition to his own games — games by Horsman, Bliss, and W. & S.B. Ives, whose entire line he gained the rights to in 1887.

In 1888 George's brother Charles joined the firm, creating Parker Brothers, and the company became to family and adult games what Milton Bradley was to children's and family games. (*A detailed history of Parker Brothers is told in* The Game Makers — The Story of Parker Brothers, *a 2004 book from Harvard Business School Press by games historian and former Parker Bros. Vice President Philip E. Orbanes.*)

Figure 10: Great Battlefields, 1886, first edition, Geo. S. Parker



Figure 11: Great Battlefields, 1886–7, color edition, Geo. S. Parker



Figure 12: Ivanhoe, 1886, Geo. S. Parker

## Tiddley Winks, Halma, Reversi, and the inspiration of Horatio Alger

In the 1880s, the game with the greatest variety of spellings (Figure 13), **Tiddley Winks, Tiddely Winks, Tiddly Winks** or **Tiddledy Winks**, reached America from England, where it had been played since 1860, if not much earlier. The first use of the name "tiddlywink" was as a game played with dominoes; the name of "Tiddlywinks" as a game in which one flat game piece was used to flick other game pieces into a pot wasn't trademarked until 1889 in England. (Now in the public domain, **tiddly winks** has popped up all over, and over 70 patents have been issued for a profusion of variations).

In 1885, Harvard professor George H. Monks invented **Halma** (Figure 14). He was inspired by the British game, **Hoppity**, which his brother Robert told him about after a trip to England. **Halma** is the oldest American game still played today — albeit not in America! It is a race game in

Figure 13: Tiddledy Winks Tennis, 1890, E.I. Horsman



Figure 14: American Game of Halma, possibly manufactured in England

which players' pieces move one space or jump over other pieces (the player's own or an opponent's), but the jumped pieces are not removed. (It is seen as the forerunner of **Chinese Checkers** in the U.S., though **Chinese Checkers** was actually taken from the German **Stern-Halma**.)

**Halma** was published by E.I. Horsman (spelled without an "e"), beginning a ten-year run of games before the company went on to become famous for dolls. Horsman, incidentally, fought Milton Bradley's claim that Bradley had the rights to **Halma** from the inventor, but Bradley eventually backed down, stating: "...Owing to the fact that certain parties claim to possess exclusive rights to the use of the word 'Halma,' ...(and) in order to avoid any controversy, we now designate that game by the new name of 'Eckha'." **Eckha** didn't last (Figure 15).



Figure 15: Eckha, $\geqslant$ 1885, Milton Bradley Co.

In 1886, McLoughlin Brothers released **District Messenger Boy, or Merit Rewarded**, based on the theme running through the novels of Horatio Alger that began in 1867 and earned great recognition in America.

Figure 16: Errand Boy gameboard, 1891, McLoughlin Bros.

The stories recounted the "rags to riches" idea in which an impoverished youth through hard work and good deeds rises to at least the security of the middle class. In McLoughlin's game and many others like it (including Parker Bros.' **Office Boy** game in 1889 and McLoughlin's 1891 **Errand Boy**), the first player to reach the center or last space becomes head of the company and wins the game (Figure 16).

In 1888, McLoughlin published what may be its only game to have become a classic: **Reversi**. The American **Reversi** was based either on an 1870 British game called **Annexation** (later called **Annex, the Game of Reverses**) that employed a cross-shaped board, or on the British game of **Reversi**, invented in 1880 and patented in 1888, that used the checkerboard as in the game of today. (**Reversi** fell out of favor in the U.S. after the 1950s, and returned in the 1970s as the "new" game of **Othello**, which has been highly successful ever since then (Figure 15).)

Figure 17: Annexation or Reversi parts box, 1870s–1880, T.W. Mollett; instructions in English and Dutch.

## The end of the century

McLoughlin Bros. and Parker Bros. both reached their peak in the 1880s and 1890s in terms of creating many large, gorgeous games that used wood for the box frame and incorporated bone dice, metal tokens and figural wooden playing pieces turned on a lathe. Many Parker games featured a patented sliding drawer in which the implements were kept. These were superb games that reflected popular culture. In 1894, Parker reproduced **The Mansion of Happiness**, erroneously calling it "the first board game ever published in America".

Bliss reached its heyday in the 1890s as well, having made its first folding board game probably in 1889 or shortly before then. Bliss also had superb lithography, with games often as beautifully constructed and illustrated as McLoughlin games. Bliss' game titles were frequently incorporated into the box design — a design that consisted of separate images linked by graphic elements (Figure 18).

Milton Bradley, too, showed continued success in the 1890s in spite of the Panic of 1893 — an economic downturn the same year as the Chicago World's Fair, an exhibition that served as a platform for larger companies to display their games. Many businesses, including railroads and banks, failed, especially in the West, though the larger game companies did not seem to be unduly affected. This may have been due to the low cost of games and the high value of amusement during times of financial hardship.

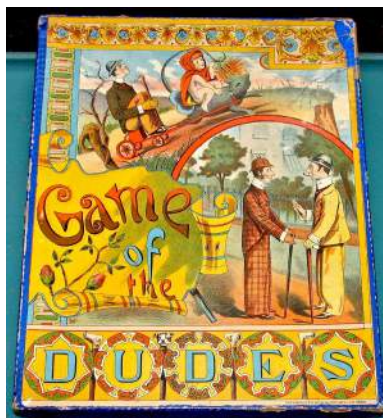Games continued to portray and reflect the events of the period, includ-

Figure 18: Game of the Dudes, 1890, R. Bliss Mfg. Co.



Figure 19: Geschäft, Chaffee & Selchow ad, 11.1897, McClures



Figure 20: Geschäft, Or the Game of Business, 1897, Chaffee & Selchow; collection of Debby & Marty Krim

ing a new gold rush in the Klondike (that helped develop Alaska) and the new fashion of velocipedes (bikes with large front wheels). The growth in department stores continued in the larger cities (Figures 19, 20, 21). The Spanish-American War in 1898 led to the first series of games (mostly from Chaffee & Selchow company) based on a war.

By 1900, European immigration was high and the culture of America was changing. The society continued turning from agriculture to industry, evenings at home were becoming brighter as gaslights became electric, and

Figure 21: Department Store, 1898, Parker Bros.; numerous playing pieces
are products of the times

the morality of earlier decades was shifting, allowing for more leisure and
play. Games were becoming so popular they were even printed in Sunday
newspapers as full-page color supplements, made possible by advances in
the printing process (Figure 22). Dozens of U.S. companies were supplying
the American family with games designed to inform and amuse.



Figure 22: Bicycle Game — Art Supplement to "Rochester Democrat &
Chronicle" newspaper

# Epilog

At McLoughlin Bros., the firm began to struggle after John McLoughlin, Jr. died in 1905, and in 1920 the company sold out to Milton Bradley. The McLoughlin name continued in book publishing but disappeared from games. In spite of the high level of artistic design and workmanship, no McLoughlin game besides **Reversi** ever became a "classic".

By 1904, the Milton Bradley Company had offices in three major eastern cities as well as in the Midwest (Kansas), the South (Atlanta), and the West (San Francisco). Milton Bradley the man died in 1911, leaving the company in the hands of a new generation. Many of Milton Bradley's early games were dexterity games, like **tiddlywinks** or **ring toss** games. Besides the numerous popular and timeless Bradley games still played in the U.S., the company's classic board games known over the world include **Battleship**, **Candy Land**, **Chutes and Ladders**, **Connect Four**, **The Game of India**, **The Game of Life**, **Mousetrap**, **Operation**, **Twister**, and **Yahtzee**. In Europe, Milton Bradley is known simply as "MB".

Selchow & Righter was a prolific manufacturer of games during the 20th century but never gained the popular recognition that Bradley and Parker enjoyed. In 1927 the firm went from selling other company's games to producing its own, and in 1948 finally scored big with **Scrabble**. The game was so successful that Selchow & Righter narrowed its focus to concentrate on **Scrabble** variants and other word games. In 1986, two years after the company acquired the rights to **Trivial Pursuit**, company owner Richard Selchow, descendant of founder E.G. Selchow, shocked the industry by selling the 119-yr-old company to Coleco — a company that went bankrupt soon after and was bought by Hasbro. Selchow & Righter was the oldest family-owned game company in America; their name has since disappeared from the marketplace.

George S. Parker held the reins at Parker Brothers until his death in 1952. Parker introduced Americans to **Ping Pong** in 1902 and the classic card games of **Rook**, **Pit**, and **Flinch** that same decade. The company produced such a high quality line of wood jigsaw puzzles that it devoted its entire production facility only to jigsaw puzzles in 1909. Parker brought **Mah-Jongg** into the U.S. in 1923, though it may not have been the first company to do so. To save the company from depleted revenues after the Great Depression, Parker bought **Monopoly** from a person who misrepresented the game as his own (**Monopoly** was actually a folk game taken from **The Landlord's Game** invented in 1904 by Elizabeth Magie). In 1968, General Mills, a huge food company, bought Parker Bros.; the com-

pany continued to change hands, eventually winding up owned by Hasbro in 1991; Hasbro continued to use the Parker name for a couple of decades, but now "Parker Brothers", like "Milton Bradley", has disappeared into history. The products of the two giants, Parker and Bradley, made up the majority of what Americans played during most of the 20th century. Parker's classic games (many of which originated in England and were part of an exchange deal with the Waddingtons company) include **Boggle**, **Careers**, **Clue**, **Flinch**, **Masterpiece**, **Mille Bornes**, **Monopoly**, **Ouija**, **Payday**, **Pente**, **Pit**, **Risk**, **Rook**, and **Sorry!**.

Hasbro incorporated as Hassenfeld Brothers in 1926 and went on to become the second largest toy company in the world (behind Mattel — a company that has been in and out of games for decades). Hassenfeld sold its first game in 1954, and in 1968 changed its name to Hasbro. Over the years, Hasbro bought out or obtained the product lines of Ideal, Lakeside, Coleco, Playskool, Tonka, Avalon Hill, Wizards of the Coast, Selchow & Righter, Milton Bradley, and Parker Brothers, and today it dominates the game industry worldwide.

Bruce Whitehill
Alte Poststr. 18
D-29693 Eickeloh
Germany
games@thebiggamehunter.com

Board Games Studies was first published in 1998, an initiative inspired by the colloquia on board games held at Leiden University, the Netherlands, in 1995 and 1997. Five institutions affiliated themselves with the journal: the Institut für Spielforschung und Spielpädagogik in Salzburg, the International Institute for Asian Studies in Leiden, the Russian Chess Museum in Moscow, the British Museum in London, and the Department of Computer Science at the University of Maastricht. The journal, which was published by CNWS Publications in Leiden on a yearly basis, was partially funded through the assistance of patrons and boasted a modern layout, trilingual summaries and color plates. The broad ambition of this journal required a continuous commitment from the editors, who reviewed contributions in German, French and English, provided translations of summaries for each article and, in several cases, collaborated extensively with authors to develop manuscripts that were to the academic standards of the publication. The journal had a trial run of three years, after which the format, content and review process was evaluated. The authors of the articles integrated wide-ranging literature necessary for a comprehensive understanding of particular games. Contributions from different disciplines — including psychology, computer science, philology, classical archaeology and history — allowed for a better historical and systematic understanding of board games to emerge. Starting in 2000, a section with a translation of primary sources was added. Book reviews and research notes further complemented the multi-facetted contents. Its first ambition, to serve as a platform for the publication of board games research, was met quickly, while gradually the journal gained prominence among researchers by publishing seminal historical overviews. The colloquia continued from 1995 onwards, moving from a biennial to a yearly schedule. The host institution was expanded beyond Leiden to universities and museums throughout Europe as well as Jerusalem, Philadelphia and, in 2013, the Azores. The colloquia continue to gather an enthusiastic group of scholars, players and collectors. Despite the institutional affiliations and a group of patrons, the production of the journal became financially and logistically problematic with CNWS no longer able to serve as a publisher. Reluctantly, the paper version of the journal was discontinued after volume 7 was published in 2004. The possibility of an online version of the journal had been explored with the online publication of the first issues, a decision that greatly assisted the dissemination of knowledge accumulated in those early volumes. The next step, an online journal that operates again as a platform for recent board games research, was not far away but required the skills and enthusiasm of previous and new editors to materialize. In these last fifteen years, the study of board games has gained momentum and this journal will not only showcase new results but, most of all, will encourage and publicize the work of the dedicated researchers in this field.

<div style="text-align: right;">Alex de Voogt</div>

# To the authors

Board Game Studies is an academic journal for historical and systematic research on board games. Its object is to provide a forum for board games research from all academic disciplines in order to further our understanding of the development and distribution of board games within an interdisciplinary academic context. Articles are accepted in English, French, and German and will be refereed by at least two editors under the final responsibility of the Editorial Board. Please send your contributions in any editable format (Word, LaTeX, rtf, . . . )  with a matching PDF file. Please send all the illustrations in separate files.

Send all mail to the managing editor:

Jorge Nuno Silva
História e Filosofia da Ciência
Faculdade de Ciências
Campo Grande, C4
1749-016 Lisboa
PORTUGAL

# Contacts

Associação Ludus
Board Game Studies Journal
R. da Escola Politécnica, 56
1250-102 Lisboa
PORTUGAL

email: bgsj@ludus-opuscula.org
URL: bgsj.ludus-opuscula.org

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