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I. Introduction

Information on entertainment in pre-historic Lithuania is extremely scarce. According to archaeological data the earliest entertainment-relevant artefacts could be miniature pots datable to the Neolithic and Bronze Ages and several toggles of the Early Iron Age. Yet their purpose is disputable, whereas the sources of historic times pay little attention to toys, games and their role in the social life. In our historiography this study is the first attempt to “re-discover” toys and games – the subject neglected by the 13\textsuperscript{th}–17\textsuperscript{th} century historians, yet since childhood playing an important role in education and learning of the humankind.

\textit{Topicality of the study.} In two recent decades archaeological research and application of certain methodology have enabled identification of a broad variety of toys and game-relevant artefacts of the historical period. Yet the accrued corpus of children toys and board and outdoor game inventories has not been analysed systematically. So it is necessary to develop a registry of this valuable material, its catalogue, to define the types and typological system of toys and games, as well as to establish their chronology, social and geographical proliferation, origin and development trends.

Abundant material also raises new questions and challenges, especially considering that no research methodology or terms or typology have been developed yet. So the other aspect revealing importance of this study is its aim to provide future researchers of this issue with a comprehensive database, terms and a flexible typological system.

Written sources concerning toys and games of the 13\textsuperscript{th}-17\textsuperscript{th} century are very scarce in Lithuania, yet their study has revealed some contemporary records and other information giving meaning to the artefacts found. Next to tangible and written legacy, importance of the study is also raised by a complex employment of the available iconography and interpretations implied by that. Ethnographical materials on the toys and games of the recent past has also found its place in the research providing parallels between the most ancient toys
and games and Lithuanian rural traditions and entertainment of the 19th-20th century.

Analysis of game-relevant artefacts provides a new look on how people spent their leisure time during the discussed period and offers unique information on a barely known daily life. Research of tangible toys and game inventories enables us to make one more step towards better understanding of the social past of the humanity, because, as it has already been mentioned, neither written, nor iconographical sources provide such an extensive information. Present topics of interest also increase importance of the study: modern people often wonder about the cultural environment of earlier generations, its social origins and spiritual values influencing its development.

Topics of the dissertation: the 13th-17th century toys and game inventory as a phenomenon of education, socialisation and daily entertainment; cultural and economical links with the neighbouring regions and traces of their cultural influences.

Goal of the study: research of the 13th-17th century toys and game inventory found in Lithuanian; analysis of their typology, development, territorial proliferation, chronological framework and links to the neighbouring and more distant geographical environment. Socio-cultural research covers identification of toys and games with the particular age groups specifying their educational purposes and cultural, economical or political factors which could have influenced popularity of a particular toy or game. It also covers legal treatment and place in the social life.

Objectives of the study:

1) Identification of the corpus of the 13th-17th century Lithuanian toys and game-relevant artefacts;
2) Developing their hierarchic scheme based on the purpose of the finds;
3) Developing a typological system of toys and games on the basis of this scheme;
4) Analysis of the available 13th-17th century sources in regard to toys and games;
5) Using the 19th-20th century Lithuanian ethnographical data as a comparative material revealing continuity of the tradition relevant to archaeologically witnessed toys and games;

6) Introducing the available European 13th-17th century iconography and using it for assessment and interpretation of Lithuanian artefacts;

7) Assessment of the 13th-17th century toys in regard to purposeful development of certain skills of the children;

8) Assessment of the popularity of the games and their place in the 13th-17th century life;

9) Identification of the origin of toys and games and their development in regard to time and place.

Innovativeness, methodology and significance of the study. This dissertation for the first time provides analysis of archaeological artefacts relevant to toys and games appending that with written and iconographical sources. To facilitate research of archaeological finds, their database and a unique typological system have been developed. The study uses analytical, synthetic, typological, systematic and comparative research methods. Research of the finds also involves a roentgen ray analysis, dendro-chronological and chemical analysis and other methods of material tests. The study also brings into scientific turnover a large number of previously unpublished finds and makes them available for a much broader circle of researchers.

The study is also significant due to the fact, that it enables learning the 13th-17th century entertainment most of which have been forgotten long ago and consequently there are no rules and/or Lithuanian names surviving. Accumulated experience of the research of other European countries, archaeological analogues, written and iconographical sources and comprehensive assessment of the archaeological finds provide valuable information on the level of the 13th-17th century Lithuanian entertainment within the European context.
Defended Thesis of the Dissertation:

1. Abundance of toys and game-relevant artefacts found at systematically excavated historical sites shows multiply variety of toys and games in a broad geographical area.
2. Systematic toy typology model has been constructed following adult lifestyles and activities.
3. Systematic analysis of the diversity of children toys indicates that their educational aspects were largely determined by preparation for a full-scale adult life.
4. Diversity of children and adult toys shows popularity of musical entertainment and sports which also imply extreme importance of physical development enhancement.
5. Diversity of adult games shows emphasise on the development of logics and strategic thinking as well as popularity gambling determined by the factor of fortune.
6. Multicultural character of toys and games indicates cultural interchange influencing Lithuanian population through diplomatic, trade or other channels.
7. Diversity of toys and games indicates foreign cultural influences on the Lithuanian urban life.
8. Most of the artefacts found in Lithuania were produced by local craftsmen following prototypes or descriptions given.
9. The earliest archaeologically proven entertainment games date back to late 12th-13th century. Number of entertainment-relevant finds of the 13th-17th century grows alongside with broadening Lithuanian cultural relationships and increasing popularity of games at urban sites and countryside manors. Since the late 16th century we observe a certain decrease of such finds, yet this reflects not a decline of the entertainment culture, but rather scarcity of urban and manor research.
II. Historiography
II.1. Children Toys and Games

Pedagogues, sociologists and psychologists were the first to show interest in children toys and games, so in the mid 19th century this issue came into the focus of these sciences. Historians and archaeologists began to pay specific attention to children primarily under the influence of the studies by S. Freud, J. Piaget and other psychologists and psychoanalysts.

Most of historical studies tackling children discuss their social status, education and daily life. There are only several studies concentrating exclusively on children toys and entertainment.

Archaeological studies on children tended to concentrate on the data acquired during burial research. Scientific interests broadened only in the 20th century bringing into the focus children social status, health and daily life.

So far, Lithuanian historians have been paying little attention to children and children-relevant issues. Archaeologists have not progressed any further. Most of the information on children of different cultures and nationalities is and will continue to be provided by burial monuments, because anthropological materials found therein offer the easiest way to identify children as such. Nevertheless even these materials remain quite unexplored.

Publications of archaeological finds reflecting children entertainment are rather scarce. Some of the toys found in Lithuania have been published in the articles of periodicals and several monographs, yet the provided data are of informational character; no generalising summary is provided. Archaeological data on children toys have been throughoutly analysed only in three articles two of which have been published by the author of this dissertation. A short overview of wooden toys found at the Lower Castle of Vilnius has also been given in the article by I. Kaminskaitė.

Information on ancient children entertainment is also replenished by ethnographical materials. Abundant collections of the 19th-20th century toys have been accrued in the National, Kaunas War,
Open-Air and other museums of Lithuania. They are already enjoying attention of the researchers.

II.2. Board games

A game of chess has been receiving most of attention both among the scientists and in the public. The earliest data on this game, its rules, forms of pieces and individual results are found in the 9th-10th century Arab written sources. In Europe the earliest chess records appear in the 11th century sources, whereas the first comprehensive studies date back to the 13th century. The treatise by King Alfonso of Spain of 1283 can be considered as the first chess tutorial.

Since the late 15th century, as the chess was gaining an increasing popularity in Europe, the number of books on this game has been increasing as well. Treatises by Spanish L. R. de Lucena, Portuguese P. Damiani, Geraman G. Selenus and other books were printed.

In Europe scientific studies on the chess game origin, its proliferation and time of appearance in different countries was initiated by Anglo-Saxon orientalists in the late 17th-18th century. Many of their statements were still hypothetical, nevertheless the authors managed to trace evolution of this game quite precisely – form the Indian Caturanga through the oriental Chatrang to the modern game of chess.

In the Eastern Europe scientific research of the chess game began in the 19th century when К. А. Yanish (К. А. Яниш) published an original article on the Russian chess terminology.

In Lithuania the history of chess came into the focus only in the mid 20th century, when the first chess pieces were found during the archaeological excavations in Trakai. These finds discovered by K. Mekas, A. Tautavičius and О. Kuncienė received an exclusive attention. In 1968 I. Linder (И. Линдер), the famous Russian researcher of the history of chess, printed the first specialized article dedicated to the chess pieces found in Trakai.
Another site revealing the history of chess is the castle complex of Vilnius. Most of the chess-relevant data have been provided by the archaeologists researching the Lower Castle of Vilnius since 1988. Finds of the Lower Castle including four chessboards have been presented both in separate publications and in a general article summarising archaeological data on the chess.

Books and articles have been written on various other board games as well, nevertheless summarising studies are scarce. Comprehensive scientific studies began to appear only in the mid 20th century, when board games were experiencing a kind of renaissance. First of all, we have to mention H. J. R. Murray whose books serve as a tutorial for every researcher and fan of the board games. Studies by R. C. Bell, D. Parlett, A. I. Kulichihin (А. И. Куличихин) and V. M. Golosuev (В. М. Голосуев) and other scholars have also made a valuable input into the board game history research.

In Lithuania still little is written on board games and other entertainment types. D. Burba is the only historian who has discussed legality and popularity of gambling in the 18th century Lithuanian analysing written sources.

Numerous individual board-game-relevant finds discovered in Lithuania during archaeological excavations have been scattered through dozens of books and articles. By present, summarising studies have been written only on the following groups of archaeological artefacts: gambling dice, chess and game boards.

### III. Iconography and Written sources on Children Toys and Games

This dissertation is primarily based on archaeological data; nevertheless other sources available are also important to learn entertainment of the Middle Ages and Early Modern Times. Attempts to collect data directly relevant to Lithuania have demonstrated that such data is extremely scarce. Considering this, scarce Lithuanian data has been supplemented with numerous Western European sources providing valuable information in regard to analogues.
III.1. Children Toys and Games

Approximately till the 12th century medieval fine arts neither distinguished childhood, nor treated it as a separate stage of life. Although baby Jesus appeared on the illustrations quite often, he was portrayed as a little adult. In the 12th-13th century children iconography became more numerous, yet usually it depicted either baby Jesus or angels.

In the 14th century children and their toys started to appear on canvass, woodcarvings and illustrations of books and manuscripts much more regularly. Most probably, this was determined by increasing general understanding that childhood represented a certain phase or stage of human life.

The late 15th – early 16th century Flemish manuscripts developed extremely children images. Alongside with that another style appeared: scenes of children games and other activities were used to decorate manuscript margins.

Attempts to find direct written records on the Lithuanian children entertainment in the 13th-17th century have failed. Nevertheless literature of other European countries provides some information on the period discussed. Most often this information is related to famous persons’ – statesmen’s or churchmen’s – childhood. Sometimes it is just a sentence or even a half-word, yet sometimes it may be an entire treatise.

Some information on the 17th century Vilnius youth entertainment can be found in reminiscences of Vilnius Academy (University) visitors and rector’s decrees.

The four volume long treatise by J. Kitowicz published in the mid 19th century also provides a lot of interesting facts on the late 18th century children and youth entertainment in neighbouring Poland.
III.2. Board Games

In Lithuania written or iconographical sources which could supplement archaeological data on the history of board games or children toys are almost unknown.

Such deficit of sources can be explained by the fact that daily activities and entertainment are almost always left out of records. It is obvious that medieval historians saw their priorities in depicting general national or international problems. Probably this is the reason why most of the sources on the chess – orders to the craftsmen, bills, inventories of manors etc. – are either indirect or accidental.

The earliest source mentioning board games in Lithuania is the Chronicle of Poland by Jan Dlugosz saying that Grand Duke of Lithuania Vytautas (~1350–1430) liked to play chess.

From the mid 14th century sources related to Lithuania provide sporadic records on gambling dice. Written sources of the 16th-17th century give more information on the board games. Usually these are inventories of treasuries, ledgers or books of the custom offices.

Written records, although scarce, imply that at least in Lithuanian upper circles the game of chess was popular at least from the early 15th century and other board games – at least from the mid 16th century. Most of the information provided by the 16th-18th century sources concentrates on widely spread illegal card gambling which raised concerns of various government institutions.

III.3. Legal Regulation of Games

Most probably, legislation regulating board and some outdoor games developed, because these games involved an element of gambling. Both church and government authorities attempted to control gambling by limitations or bans. Chess, dice and card games were regulated most of all.

Throughout the Middle Ages the Roman Catholic Church demonstrated discontent with the chess game increasing popularity, especially when this game began to spread not only among urban
population, but also among churchmen. The earliest record demonstrating discontent with such chess game popularity can be found in Cardinal Damiani’s year 1061 letter to the Pope. On the other hand, in the 13\textsuperscript{th} century Dominical monk J. Cesoli used allegories of chess pieces and rules to illustrate his sermons. So this game was both condemned and phrased.

It is assumed that in the 12\textsuperscript{th}-13\textsuperscript{th} century board games gained extreme popularity, because written sources started mentioning bans and other limitations regularly.

Nevertheless these bans had little effect on the board game popularity. Their unstoppable proliferation must have been one of the reasons, why in the 14\textsuperscript{th} century most of the Western European cities adopted laws permitting the game of chess. Eventually negative attitudes of the Catholic Church changed as well. By the end of the 14\textsuperscript{th} century the bans were officially lifted and moreover – learning the chess game was recognised to be inevitable element of nobility education. Meanwhile dice in Western Europe as an extremely venturesome gambling game remained strictly limited or even banned throughout the Middle Ages and Early Modern Times.

In the beginning of the 2\textsuperscript{nd} millennium A.D. negative attitude to board games was maintained by the Orthodox Church as well. In the 12\textsuperscript{th} century following the Canon Commentaries by monk Zonar the overall council of the Orthodox Church imposed a ban on the game of chess. In the 13\textsuperscript{th} century, when one of the Nomokanon editions was translated into Russian and adapted for the local use, the first law codes of the Russian Orthodox Church began to develop as well. These codes banned playing dice and chess both among the churchmen and the commons. All later codes continued banning of chess and dice similarly as the Byzantine ones.

Nevertheless in Russia of the 16\textsuperscript{th}-17\textsuperscript{th} century the game of chess was very popular and widely spread, despite of the fact that the Orthodox Church, otherwise than the Catholic one, continued to fight it alongside with dice. The Orthodox Church stopped fighting chess openly only in the late 18\textsuperscript{th} – early 19\textsuperscript{th} century.
In Lithuania legal acts regulating board games one way or another remain unknown so far. Individual records imply that in the 13\textsuperscript{th}-17\textsuperscript{th} century there was no strict regulation of dice, card or other gambling games. Most probably only the ban to gamble for money was applied.

IV. Archaeological Data

IV.1. Typology of Archaeological Artefacts

Most of the researchers writing on ancient toys or games describe only individual artefacts or their groups. Attempts to develop a broader typology of the artefacts are rare.

Lithuanian archaeological materials are closest to the typological system developed by A. S. Choroshev (А. С. Хорошев) on the basis of the 10\textsuperscript{th}-15\textsuperscript{th} century children toys found in Novgorod. Using toys and game-relevant artefacts found in Lithuania and other European countries the scheme of Novgorod children toys was extended and adjusted for a wider spectrum of finds.

The database used for the dissertation research includes 344 individual archaeological artefacts or their fragments. According to their typology games were grouped into eight major categories: warfare, household, utility, care, entertainment, music, sports and board games. Categories of warfare, household, utility, care and entertainment toys are applied to children toys. Musical instruments and items of sport games can be attributed both to children and adult entertainment. Board games in the scientific literature are traditionally attributed exclusively to adults. Review of the primary data implies that children toys comprise only 6 % of the finds (22 artefacts), items relevant to adult entertainment make 28 % (98 artefacts), whereas most of the artefacts – 66 % (224 artefacts) – could have served both children and adults.

Cross-comparison of artefacts attributable to different categories revealed that there are three major groups. They cover musical items (20 % of entertainment-relevant artefacts total), sport inventories (46 %) and inventories of board games (28 %). Even
before making a more throughout survey this fact implies that quantitative differences may show either higher popularity of the abovementioned entertainment forms, or better endurance of materials chosen to produce the artefacts and their resistance towards environment impact. The later hypothesis is also proven by the fact that scarce artefacts attributable to other five categories are produced from nondurable materials, mostly from wood. Wooden artefacts make only 8 % of all artefacts discussed, whereas more numerous groups usually include artefacts produced of durable materials, such as bone/horn (68 %), ceramics (10 %), metal (2 %), glass (3 %) etc.

The abovementioned typological categories are further broken into smaller segments: groups, families, classes, types, subtypes and variations. This typological scheme also provides information on the material of the artefacts.

IV.2. Chronology of the Artefacts and Their Geographical Proliferation

In Lithuania ancient toys and game-relevant artefacts are found at different archaeological sites having different dating. Nevertheless their quantitative, qualitative and chronological distribution is very uneven. Considering this, analysing chronological, geographical and typological distribution of the artefacts the data was treated as objectively, as possible.

Chronological framework of the dissertation covers the 13th-17th century. Yet several earlier and some later artefacts approximately dated to the 12th-13th century and to the 17th-18th or even 17th-19th century were also included into the database.

Although dating of some typological items is only approximate, preliminary cross-date comparison of the number of artefacts reveal certain trends. The least number or only 1 % of artefacts date to the 12th-13th century; 5 % of the artefacts date to the 13th-14th century; 17 % date to the 14th-15th century, 28 % to the 15th century; 6 % to the 15th-16th century; 10 % to the 16th century; 15 % to the 16th-17th century; and 5 % to the 17th-18th century. It must be
noted, that 13% of all artefacts are attributed to the periods longer than 200 years, so their dating is considered to be inaccurate. Such percentage-based analysis reveals that most of the artefacts come from the layers dated to the 14th-15th century.

Analysing situations in which individual artefacts were found, primarily it must be noted that as much as 99% of artefacts have been found in dwelling sites, such as castles, cities, settlements etc. Only less than 1% of game-relevant artefacts discovered in Lithuania come from burial inventories. This implies that the artefacts surveyed reflect life of settlements or otherwise urban entertainment.

Discussing geographical proliferation of game-relevant artefacts, it must be noted, that out of all 344 finds discovered in Lithuania 271 of them or 78% have been found in Vilnius. Other sites important for entertainment research include Kernavė (5% of all artefacts), Trakai (4%) and Klaipėda (2%). At other sites only several finds falling into the chronological framework of this dissertation have been discovered. It is obvious that geographical proliferation of the artefacts in the present territory of Lithuania is very uneven. Another important result of the data analysis reveals that 86% of the artefacts discovered in Vilnius and 68% of Lithuanian artefacts total have been found at one archaeological site – the complex of Vilnius Castles. Such situation can be explained both by favourable microclimate environment and the scope of archaeological excavations at this site.

IV.3. Children Toys

For children toys and games undoubtedly are the main means of education and experience gaining. For this reason interest in children toys was primarily shown by pedagogues, sociologists and psychologists. Facilitating children mental and physical development through game methods was surveyed by such scholars as F. Frebel, M. Montessori, K. Gross, H. Spencer etc.

In the scientific literature there is a general opinion that infancy covers the first year of human life or the period from the
moment an individual is born till he/she learns to walk. Childhood lasts up to 11–13 years, and after that adolescence comes. The later covers the period from the start of physical and sexual maturation till the social status of an independent adult is reached approximately at the age of 20. Such assessment of human growth and maturation developed in the second half of the 20th century is practically universal and hardly differs from the medieval understanding of the life stages.

Forms of toys and games and their complicity changes depend on both individual development and general social changes. Similarly as all other items, toys change when new technologies or materials appear, but games, their processes and topics change negligibly.

The fact that for children any item may turn into a toy could considerably extend the list of artefacts considered as toys. Yet when we speak of the Middle Ages, it is much more complicated. Only those items which have their analogues in modern or ethnographical array of toys or which have been identified as such in written or iconographical sources can be undoubtedly considered as toys.

IV.3.1. Archaeological Data on the Children Toys of the 13th-17th Century

The prehistoric period gives little data on children – the smallest members of the society. Most of information on the children of different cultures and nationalities which used to live on the territory of modern Lithuania in the 13th-17th century is provided by burial monuments: the easiest way to identify children is to use anthropological materials found therein. Surveying the remains by means of anthropological methods primarily provides information on the biology of children. In the 13th-17th century and earlier prehistoric periods, there was no custom of putting toys into children graves. So in order to learn daily life of the children of that period and cultural environment in which they grew, played and matured, we have to survey urban archaeological monuments and search for tiny glances of the daily and social life in written sources.

Diligent scrutiny of the archaeological data revealed that there
are about 200 artefacts relevant to the topic. Archaeological finds of children toys have been grouped into seven major categories reflecting basic skills targeted.

IV.3.1.1. Warfare Toys

The first category of children toys represents warfare toys. By now only wooden copies of offensive weapons have been found. Presumably, these were boys’ toys. This family of attack weapons includes a nib of arrow or spear found in Kernavė. This item is 12 cm long and has a diamond-shaped heading; it dates back to the 13th-14th century. Similar items have been found in many better researched medieval sites all over Europe.

Another class of toy offensive weapons covers wooden swords. In Lithuania we have got three fragments of wooden artefacts which can be identified as handles of wooden swords. Two of them have been found at the Lower Castle of Vilnius. They date back to the 13th-14th century; one of them has a polygonal, another – a hexagonal ending. The third wooden sword fragment has been found in the old town of Klaipėda. It is an oak plate which has a carved handle and single-sided blade and date back to the second half of the 17th century.

The third class of warfare toys – wooden court swords – has been distinguished on the basis of a single artefact: an assumed toy court sword handle made of wood. This artefact dating to the second half of the 17th century has been found in the old town of Klaipėda.

Wooden knives can be treated both as warfare and as household toys. Presently only two such knifes have been found in Lithuania, but in neighbouring countries they are rare as well. The one found in Kernavė dates to the 13th-14th century. The knife found at the Lower Castle of Vilnius is of a very regular form; it has a distinctive handle and a blade and dates back to the 16th century.
IV.3.1.2. Household Toys

Another category of toys which can be distinguished on the basis of Lithuanian archaeological artefacts covers household toys. By now, two groups of artefacts can be attributed to that. The first one represents imitations of working tools; it can include the abovementioned wooden knives, which are quite universal, and a toy spade. The later is carved of wood and its form reminds a peel. The spade has been found in Kernavė; it dates to the 13th-14th century. Assumption that this artefact is a spade is based on a rich collection of 19th-20th century toy tools possessed by Lithuanian museums.

The only artefact attributable to the second group of utensils – a wooden key-shape item found in Kernavė – is still disputable. Visually this 15 cm long artefact reminds a key, yet it can be assumed as children toy only hypothetically.

IV.3.1.3. Utility Toys

Category of utility toys includes two groups of transport means: toy water transport and toy land transport means. Presently on the territory of Lithuania only one toy boat carved of pine bark has been found. Discovered in Kernavė it dates back to the second half of the 13th – first half of the 14th century. The boat has a form of a willow leaf, its upper part has a slit in the centre carved along the deck, and its narrowing front ends with a tiny widening.

Toy carriages and their details found at the archaeological sites are attributable to the second group of land transport means. Similarly as other groups, this one includes only a few artefacts. The first rather unique artefact is a toy carriage axle found at the Lower Castle of Vilnius. It is a 10 cm wooden copy of a real front axle dating to the early 15th century. The fragment implies that the toy was a functional copy of a real carriage. Not only its wheels, but the entire front axle could be turned. Previously only two such toy carriage axles have been found in Europe, both of them in Gdansk.
The available data implies that wheels of toy carriages were of two types: the first type had spokes, the other represented simple wooden discs with a hole in the centre. In Lithuania six such disc-shape toy wheels have been found, all of them at the Lower Castle of Vilnius. These wooden disks are quite primitive, their forms are rather irregular. The diameter of disks varies from 4.5 to 15 cm. Presumably, these disks were wheels of toy carriages or baby-walkers.

In summary, we can say that only eight artefacts datable to 13\textsuperscript{th}-16\textsuperscript{th} century can be assumed as remains of toy carriages or their fragments, although their purpose is rather disputable.

\textbf{IV.3.1.4. Care Toys}

Various anthropomorphic or zoomorphic toys have been attributed to the category of care toys. We know that boys used to play with dolls as well, yet dolls are considered to be girls’ toys. For them care toys served as a motherhood rehearsal or helped to develop livestock handling skills. Only two anthropomorphic figurines can be dated to the 15\textsuperscript{th}-17\textsuperscript{th} century. One is a ceramic figurine found at the Lower Castle of Vilnius. It depicts a woman wearing a long robe buttoned in the front. The head of the figurine is has not survived, but a long plait on the back implies that this was a female figurine. For Lithuania this artefacts is unique, but in Europe various ceramic anthropomorphic figurines were very popular.

The second anthropomorphic figurine is unique not only for Lithuania, but also for entire Europe. During archaeological excavations of a burial dating to the 17\textsuperscript{th} century in the former St. John’s Church graveyard in Klaipėda a wax doll was found. Anthropological analysis of human remains has revealed that the child was 2 years ± 8 months old.

Survey of this only 7 cm large doll showed that it had an opening at the top of the head, and that its right leg carried a fragment of a metal spike. Roentgen rays revealed that both the head and the torso had cavities which must have formed during casting process, ant that the left leg broke and was repaired inserting a metal spike. The
fact, that the doll was found in a grave and that it was repaired several times, implies that it was a favourite toy. Yet two anthropomorphic figurines are not enough to make any substantial conclusion.

IV.3.1.5. Entertainment Toys

Along with the abovementioned categories one more category – entertainment toys – can be distinguished. It covers toys which had no particular educative or physical training purpose. Two groups of inertia toys are discussed hereby. In both cases activation of a toy requires physical motion or mechanical force. The first class is the so called whirligigs. Whirligigs with a single fan are rare finds in archaeological sites. On such artefact reminding a whirligig has been found at the Lower Castle of Vilnius. This is a 25 cm long fan with a hole in the centre. It is considered that the fan could turn around a pin inserted it that hole.

A unique two-fan whirligig also found at the Lower Castle of Vilnius undoubtedly was a toy too. It dates back to the 14th century and consists of an almost 28 cm long axle and two perpendicular fans. To promote better planning in the air opposite palms of the fans were flattened the same way as fans of the propeller of a modern airplane.

Another type of items attributable to the class of inert entertainment toys is spinning tops. It is a specific turning toy on a stem. This toy is one of the most archaic. In Southern Europe it was widespread since the 10th-9th century B.C. Unfortunately evidences witnessing proliferation and popularity of such toys in Lithuania are scarce. There is only one find which can be identified as a spinning top. The artefact is wooden, dating back to the 14th century. Found at the Lower Castle of Vilnius it represents a typical conic spinning top.

IV.3.1.6. Music Toys

Artefacts listed in this chapter are treated as toys, because they can be regarded as “instruments” only in the most primitive sense. So
far, archaeological excavations in Lithuania have produced only music toys representing groups of idiophones and aerophones.

IV.3.1.6.1. Idiophones
IV.3.1.6.1.1. Plucked Idiophones

Review of the musical toys will start with the idiophone group and the family of plucked idiophones – the so called Jew’s-harps. This is a prototype of a mouth organ considered to originate from Asia. The oldest Jew’s-harps found in Europe date back to the 1\textsuperscript{st}-3\textsuperscript{rd} century A.D.

In Lithuania, till 2008, seven metal Jew’s-harps were found. Following the Jew’s-harps found in Scandinavia Lithuanian ones can be broken into the types of oval, triangular or round according to the form of their catch.

Two Jew’s-harps should be identified as oval. They date approximately to the 15\textsuperscript{th} century. Compared with other ones these Jew’s-harps are the largest. One of them is unique, because its catch has an incised mark – a six-beam star. This could be a brand-mark of the producer.

Three Jew’s-harps datable to the 15\textsuperscript{th}-16\textsuperscript{th} century are attributable to the triangular type, and two Jew’s-harps datable to the 17\textsuperscript{th} are attributable to the rounded type.

Summarising the available data we can say that forms and sizes of Jew’s-harps found in Lithuania are similar to those found in Western Europe.

IV.3.1.6.2. Aerophones
IV.3.1.6.2.1. Free Aerophones

The most archaic and primitive artefacts – the so called toggles – belong to the family of free aerophones. Usually toggles found at archaeological sites are made of shells or bird leg bone by drilling a hole or two. When the toggle is turned by the rope running through the holes, it produces buzzing or burring.
Chronology of the toggles found in Lithuania is much broader than the period discussed in the dissertation. The earliest toggles found in the region are two artefacts dating to the 1st-3rd century, whereas for the period discussed thirty five bone toggles have been discovered. Usually these toggles are 6–7 cm long pieces of bone with one hole in the centre.

On the basis of the ethnographical data of the 1st half of the 20th century we can say that in medieval Lithuania toggles were children toys.

IV.3.1.6.2.2. Flutes without Whistlers

The second group of aerophones – the family of flutes without whistlers – includes the class of long flutes without embouchure. Presently we have only one artefact attributable to that – a wooden flute fragment dating to the 14th-15th century which has been found at the Lower Castle of Vilnius. The surviving fragment is an about 20 cm long thin-walled tube. One ending of the fragment has a hole which was probably drilled for a rope. In the upper part there are three holes to regulate the sound. Usually bone or wooden flutes are considered to be adult music instruments and are identified as children toys only in specific cases. Nevertheless it is possible that youngsters and teenagers were able to make such flutes by themselves or got them from the adults.

IV.3.1.6.2.3. Flutes with Whistlers

The third group of aerophones – flutes with whistlers – covers children whistles. Archaeological excavations of castles and urban sites produced at least twenty five ceramic whistles falling into geographical and chronological framework of the dissertation.

The oldest ceramic whistles found in Europe date back to the 11th-12th century, and from the 16th-18th century they become abundant. Analysis of the whistles found in Lithuania reveals a very similar distribution of the artefacts within the chronological
framework. The oldest finds date back approximately to the 15th century, whereas most of the artefacts attributable to this group date to the late 16th – early 17th and later centuries. According to their forms whistlers found in Lithuania they are broken into two types: zoomorphic and anthropomorphic + zoomorphic.

Summarising the available data we can say that most of the whistles are found in upper and often disturbed cultural layers and for this reason their dating is inaccurate and disputable. So attempts of some authors to push chronology of these artefacts outside the 15th century are unreasonable. The abovementioned dating of ceramic whistlers to the 16th-17th century or 17th-18th century is proved not only by situations in which they are found usually, but also by their typological continuity witnessed by later archaeological and ethnographical materials.

IV.3.1.7. Sport Toys

IV.3.1.7.1. Sport Games with Inventories

The seventh group of the sport toys includes sport games with inventories. Regarding the artefacts found in Lithuania the group is broken into the families of games training accuracy, agility and coordination. Sport games can be identified as entertainment of both children and adults.

IV.3.1.7.1.1. Accuracy-training Games

The family of games developing accuracy includes three rather numerous subgroups of archaeological artefacts. The first one represent balls used for different games; the second one covers skittles made of processed or natural knucklebones; and the third one represents marbles made of different materials and used to play at least several games.
IV.3.1.7.1.1.1. Balls

Both written and iconographical sources prove that in Europe of the 13\textsuperscript{th}-17\textsuperscript{th} century balls were used to play a variety of games: cricket, skittles, tennis, badminton and a kind of football.

Leather balls were widespread in entire Europe. During archaeological excavations abundant fragments of leather balls dating to the 10\textsuperscript{th}-16\textsuperscript{th} century have been found in Western Russia.

All leather balls found in Lithuania were sewn of three details. Till 2008 twenty four leather balls and their fragments were found. They date to the 14\textsuperscript{th}-16\textsuperscript{th} century. According to the size two types of balls can be distinguished. The first type represents leather fragments of balls which used to have 5.7–7 cm in diameter, the other one covers balls with the diameter of 7.5–9.5 cm.

Summing up these quite abundant data we can say that in 14\textsuperscript{th}-16\textsuperscript{th} century leather balls undoubtedly were used by both children and adults to play a variety of games.

Wooden balls are also attributable to the group of accuracy-developing game inventory. Presently there is only one such artefact found in Lithuania. This ball is of an irregular form and has 7–9 cm in diameter. It dates to the 14\textsuperscript{th}-15\textsuperscript{th} century. Analogues imply that such ball could have been used to play skittles, cricket or other similar outdoor game.

IV.3.1.7.1.1.2. Skittles

Another accuracy-training game known since the Antiquity and popular during the Middle Ages was skittles. In the late Middle Ages and early Modern Times wooden skittles were the most popular. Usually they were overthrown with a wooden or leather ball.

Archaeological artefacts found in Lithuania till present prove existence of only one version of the game: skittles and knockers made of cattle proximal phalanx or knucklebones. Usually these were unprocessed knucklebones of horses, cows, pigs, goats or sheep.

Presently there are at least 47 skittle knucklebones found in
Lithuania. They date to the 14\textsuperscript{th}-17\textsuperscript{th} century. All these knucklebones were filled with lead or drilled through for that purpose. It has been estimated that an average weight of an empty knucklebone is about 21 g, but when filled with lead it weights up to 50 g. These measurements enabled to estimate an average length of the skittle alley. Trials proved that for a 50 g knocker an optimal distance to the target is 5 to 7 m.

Summing up, it has to be admitted that although geographical proliferation of this game is rather narrow, the number of finds is quite representative and their chronology is rather broad.

**IV.3.1.7.1.3. Marbles**

During the period discussed the so called marble game was popular in Lithuania as well. To play the game small balls having 1-2 cm in diameter were used. They were made of different materials. Rules of the game were similar to the modern curling.

Similarly as for many other games the history of marbles started in the Antiquity. This game started spreading in Europe since the 11\textsuperscript{th} century and its popularity reached its peak in the 13\textsuperscript{th}-17\textsuperscript{th} century. The game of marbles was played till the 20\textsuperscript{th} century.

Data on little balls found in Lithuania imply that at least 24 of them could be used to play marbles. Dating of these artefacts implies that in Lithuania the game of marbles was well known since the 14\textsuperscript{th} century. Usually glass or ceramic marbles were used; bone or stone marbles were rather rare.

**IV.3.1.7.1.2. Agility Games**

**IV.3.1.7.1.2.1. The Astragals**

Available archaeological finds enabled us to distinguish one more group of inventory-relevant games – agility-training games. Presently we can talk of only one game of this class – the astragals.

Because of their naturally convenient form astragal bones were used as a dice variation since the Antiquity. During the Middle Ages the game of astragals was popular throughout Europe.
Only two astragal bones found in Lithuania can be identified as game inventories. In the first case, this was an astragal bone of a pig or a cow with a square hole on a plantar side and several shallow engravings on the sides found in the 15th century layer of the Lower Castle of Vilnius.

In the second case, we have an entire set of astragals which was also found at the Lower Castle of Vilnius. 58 cattle astragal bones and their fragments were found in a compact pile. Most probably all these astragals belonged to a single astragal set. It has been established that there were one deer and 57 goat or sheep astragal bones dating to the early 15th century.

Summarising the available artefacts we can say that in Lithuania the game of astragals involved natural cattle astragal bones. Although the data is quite scarce, the available artefacts imply that the game was popular both among children and adults.

IV.3.1.7.1.3. Coordination-training Games

IV.3.1.7.1.3.1. Skates

The group of inventory-involving sport games covers one more entertainment family which can be defined as a family of coordination-training or contest games.

Archaeological artefacts found in Lithuania give us some clue on only one such game inventory – the class of ice skates. There is only one bone skate found in Palanga. It was made of horse bone and dated to the 12th-13th century. If we consider that only about 20 cm long flat part was fastened to a foot, than this skate was meant for an average foot of a 8–9 years old child. On the other hand, the total length of the bone was 24.8 cm which matches with an average foot size of a medieval adult. Archaeological finds of the neighbouring countries gives no definite answer, whether the 12th-13th century skate found in Lithuania was a children toy or a transport mean used by adults. The fact, that medieval skates were fastened very primitively or not fastened at all, implies that their sizes did not need to match with the foot sizes precisely.
IV.4. Adult Games

Archaeologically proven games discussed in this chapter are conventionally referred to as adult games. Presently available archaeological data enable distinguishing the only category of such games – the so called board games.

IV.4.1. Board games

According to archaeological artefacts found in Lithuania the eighth category of games covering board games was broken into three groups. Games of the first group are those won by means of strategy. This group covers three families: the chess, quirkat (alquerque) and checkers. Games of the second group involve not only on strategy, but fortune as well. Out of them only one is archaeologically witnessed in Lithuania: it is the nard game. The third group of board games is based exclusively on fortune and covers the family of gambling dice.

IV.4.1.1. Strategic Games

IV.4.1.1.1. The Game of Chess

Chess is one of the oldest board games. Its appearance and development have received a lot of attention from the researchers of the entertainment of the past. Most of the researchers agree that the earliest prototype of the modern chess was the Caturanga game which appeared in India in the 4th-5th century. The chess game could reach Europe by two different routes: from the south when about the 8th century the Arabs conquered Sicily and Spain; or through the Dnepr-Daugava trade route connecting Scandinavia with Mesopotamia and Persia in the 9th-11th century. Usually it is agreed that the game of chess gained popularity in Europe about the 11th-13th century.

The 11th-13th century Europeans used two types of chess pieces: realistic and oriental style. In the 13th century the so called new abstract style of chess pieces began to form. From the 15th century it spread in whole Europe.
At present there are four presumable chess boards and at least 52 chess pieces and (or) their fragments found in Lithuania. They have been discovered at the archaeological sites dating to the 14th-18th century.

**IV.4.1.1.1.1. Chess boards**

Game boards and chess boards in particular are among the most unique game-relevant artefacts found during archaeological excavations.

Considering that both the earliest written records and the oldest chess pieces found in Lithuania date back to the 14th century we can assume that at that time chess boards existed as well. Nevertheless the oldest chess board fragment found at the Lower Castle of Vilnius dates only to the second half of the 15th century. Hypothetically this high quality ceramic fragment could be a chess board. This assumption can be proved by the fact that several similar ceramic chess boards have been found in Germany.

The remaining three are undoubted game board fragments. They have been found at the site of the Royal Palace at the Lower Castle of Vilnius as well. They were produced of marbled limestone panels. Primarily these panels were used for the interior decoration, but afterwards they were turned into game boards. All three fragments date to the second half of the 17th-18th century.

Summarising scarce data on the chess boards we should stress their unique character. Presumably all four game boards found were used to play the game of chess.

**IV.4.1.1.1.2. Realistic Chess Pieces**

Usually chess pieces found in Europe, according to their forms and style, are divided into the groups of realistic and abstract figurines. The first Indian chess pieces were of realistic style. The king was portrayed a lord sitting on the throne, the bishop – as an elephant, the castle as a boat etc. Chess pieces of such style are found all over Europe.
Yet we have no proof that chess pieces of such style were used in Lithuania. By present only one stone figurine which can be identified as a realistic type chess piece has been found. This artefact discovered in Kaunas dates to the late 14\textsuperscript{th} – early 16\textsuperscript{th} century and portrays a man standing on a pedestal base. Only the lower part of the figurine has survived, so it is hard to tell whether it is a chess piece or not. Thus the data is so scarce, that it is impossible to prove existence of the discussed chess type in Lithuania.

**IV.4.1.1.3. Abstract Chess Pieces**

Widespread abstract chess pieces followed Arab (Oriental) or new-style prototypes. In the East abstract chess pieces developed, because the Islam prohibited portraying living beings both in the form of picture and sculpture. About the 13\textsuperscript{th} century abstract chess pieces of the oriental style inspired development of new abstract style chess pieces in Europe.

**IV.4.1.1.3.1. Oriental Abstract Style Chess Pieces**

Proliferation of the chess game and oriental abstract style chess pieces in Europe of the 8\textsuperscript{th}-9\textsuperscript{th} century was undoubtedly caused by the Arab invasion into Southern Europe. In the neighbouring Baltic countries only about ten 13\textsuperscript{th}-14\textsuperscript{th} century eastern-style chess pieces have been found.

As far as we know in Lithuania till 2008 nine oriental abstract style chess pieces have been found. Most of them – six – represent the men. These pieces dating to the late 14\textsuperscript{th}-16\textsuperscript{th} century are of classical primitive cylindrical form.

Two Oriental abstract style bishops have been found as well. Both chess pieces have a little jut in their upper part which splits into two symbolising elephant tusks. Both bishops have been found in Vilnius and date back to the late 14\textsuperscript{th}-16\textsuperscript{th} century.

One oriental abstract style chess piece found represents a king or a queen. This wooden artefact dates to the late 14\textsuperscript{th} – early 15\textsuperscript{th}
century. The chess piece is a cylinder consisting of three segments. Its stem is decorated with a complicated geometrical, whereas the upper part and the crown – with a vegetal ornament.

This exclusively decorative piece of a chess king or a queen is a unique find not only in Lithuania, but also in the whole Eastern Baltics. Its style is very similar to the Novgorod modification of the oriental abstract style chess. Meanwhile the men and bishops have almost identical analogues among the oriental abstract chess pieces spread both in Western and Eastern Europe.

**IV.4.1.1.1.3.2. New Abstract Style Chess Pieces**

About the 13\textsuperscript{th} century the oriental abstract style of chess pieces gave rise to the new abstract style or conventional style chess pieces. During the 13\textsuperscript{th}-15\textsuperscript{th} century in Europe they existed in parallel with oriental abstract style chess pieces, but from the late 15\textsuperscript{th} – early 16\textsuperscript{th} century new forms turned into mainstream.

One of the basic factors causing the spread of new abstract style chess pieces in Europe could be the fact, that such pieces were produced with turning lathes. Usually pieces of such style consisted of several segments.

Review of the late 14\textsuperscript{th}-18\textsuperscript{th} century chess pieces found in Lithuania has revealed that there is a considerable difference between the forms of the 15\textsuperscript{th}-16\textsuperscript{th} and 17\textsuperscript{th}-18\textsuperscript{th} century artefacts. This enabled dividing the artefacts into two groups which differ both chronologically and in regard to their style.

**IV.4.1.1.3.2.1. New Abstract Style of the late 14\textsuperscript{th}-16\textsuperscript{th} Century**

Presently in Lithuania we have twenty eight new abstract style chess pieces and ten fragments dating the 14\textsuperscript{th}-16\textsuperscript{th} century. The forms of nine pieces of men of the 14\textsuperscript{th}-16\textsuperscript{th} century have two basic versions.
By present, only one new abstract style knight of the 15\textsuperscript{th} century has been found. This artefact discovered at the Lower Castle of Vilnius is cylindrical and has a triangular symbolising a horse head at the top. Meanwhile it is the only such artefact found in entire Eastern Europe.

In the game of chess bishops and knights are of similar value. In Lithuania five bishop pieces dating to the late 14\textsuperscript{th}-16\textsuperscript{th} century have been found. They can be divided into three basic types.

Archaeological excavations in Lithuania have also produces four new abstract style castles made of bone. Similarly as other chess pieces of the new abstract style the castles had typical low cylindrical bases and stems with two juts symbolising wings or sails on the sides.

Both oriental and new abstract style king and queen pieces had little difference between each other, so they will be discussed together. According to the form of the tops these pieces can be divided into two groups – with crowns and without them.

The archaeological excavations have produces ten more artefacts of the late 14\textsuperscript{th}-16\textsuperscript{th} century, which can be identified as chess pieces of new abstract form. This group of finds includes one unidentified chess piece, six presumable chess fragments and three other artefacts which can be identified as chess pieces only hypothetically.

The 14\textsuperscript{th}-16\textsuperscript{th} century chess pieces of the new abstract style are found in Lithuania in abundance. Their forms vary a lot, so only one numerous and stylistically homogeneous group could be distinguished. On its basis the whole set of new abstract style chess pieces of the discussed period has been reconstructed.

IV.4.1.1.3.2.2. New Abstract Style in the 17\textsuperscript{th}-18\textsuperscript{th} Century

Analysis of new abstract style chess pieces revealed that about 16\textsuperscript{th}-17\textsuperscript{th} century their forms underwent a considerable change. This enables distinguishing a separate group of new abstract style pieces presumably datable to the 17\textsuperscript{th}-18\textsuperscript{th} century. In Lithuania only four chess pieces attributable to this group have been found.
Three chess pieces are made of bone and have a distinguishing feature: the ration between their top segment diameter and heights is 1:4 and 1:5. To put it otherwise, these pieces have a form of a high and thin profiled cylinder.

The fourth chess piece found at the Kaunas Castle distinguishes with a large spherical stem.

Comparing with the earlier period the 17th century sources provide more information on the game of chess in Lithuania. Unfortunately random archaeological artefacts of the 17th-18th century fail to reveal variety of the chess piece forms in this period.

IV.4.1.1.2. The Game of Quirkat (Alquerque)

For the first time this game was witnessed in the 10th century by an Arab author. The game was called el-quirka, and when it began to spread after the Arab invasion to Spain it got the name of alquerque.

The game was played in Lithuania as well which is proved by one quirkat board found at the Lower Castle of Vilnius. The artefact dates to the 15th century and represents a piece of a barrel bottom panel. The surviving fragment has engraved a bit irregular quirkat field (kind of a grid). Its dimensions are of 23 x 21 cm.

The pieces may be of different forms and can be used for different games, so the board is the only undisputable proof of the quirkat game existence. The analogues imply that the game could come to Lithuania from Western Europe.

IV.4.1.1.3. The Game of Checkers

Written sources record that the game of checkers played on a chess board appeared in early 12th century. It is considered that the primary name of pieces and the game itself originates out of the traditional Western European name of the chess queen – farsi, later damas. This is because the checkers moved the same way as the chess queen.
It is possible that the game of checkers which gained popularity in Europe in the 12th-13th century was known in Lithuania as well. Such assumption is proved primarily by written sources. Yet there is a problem, because there several games were referred to as checkers. Archaeological artefacts also cannot be attributed to the game of checkers undoubtedly.

Both written sources and archaeological finds imply that the game of checkers was known and played in Lithuania of the discussed period. Yet as the draught game inventory can be used to play several different games, archaeological artefacts found cannot be attributed exclusively to the game of checkers.

IV.4.1.2. Strategy & Fortune Games

The strategy & fortune game group covers those board games winning which requires not only strategy, but also fortune. Usually the factor of fortune in such games is represented by rolling dice. By present only one such game has been archaeologically witnessed in Lithuania. It is the game of nard.

IV.4.1.2.1. The Game of Nard

The game of nard is assumed to originate from a widely spread roman board game called duodemic scripta. Approximately in the 1st century A. D. it transformed into the so called tabula game or the game of nard.

The fact that this game which developed in the 11th-12th century swiftly spread through Europe is witnessed by numerous iconographical and historical sources.

Written sources give little information on the game of nard in Lithuania. Presently the only archaeological artefact proving existence of the game of nards in Lithuania is the game board engraved on a stone tile. Fragment of tile was found in the cellar of the Royal Palace of the Lower Castle of Vilnius. It dates back to the second half of the 17th – early 18th century.
Summing up scarce Lithuanian nard-relevant artefacts we can say, that this game was undoubtedly known in Lithuania. It is possible that presently known written and archaeological sources fail to reveal real popularity of the nard game.

IV.4.1.3. Pieces of Board Games

Most of isolated board game pieces found cannot be attributed to any particular game, so all of them, except of the chess pieces, will be discussed in one chapter.

In Europe the broadest proliferation of various board games and their pieces was reached in late 1st – early 2nd millennium A. D. Conventionally board game pieces found during archaeological excavations are divided into different types according to their form.

IV.4.1.3.1. Flat Cylindrical Pieces

Presently in Lithuania there are at least twenty five flat cylindrical board game pieces dating to the time period discussed in the dissertation. According to their decoration they have been dividend into four main subtypes: undecorated and decorated with geometrical, vegetal and anthropomorphic ornaments. The oldest board game pieces found in Lithuania date to the 12th-13th century, whereas most of them have been found in the cultural layers of the 15th-17th century.

Summarising the data on flat cylindrical board game pieces we have to stress that this is not only the most popular, but also the most proliferated type of board game pieces both in geographical and chronological sense.

IV.4.1.3.2. Pyramid-shaped Pieces

The second type of board game pieces covers pyramid-shaped pieces. Usually they have a form of an irregular pyramid – flattened,
topless, with an irregular basis etc. In Europe very few board game pieces of such type have been found.

Archaeological excavations in Lithuania have produced only three pieces of such type. All of them were made of bone. Chronology of these pieces covers a very broad period from the 15\textsuperscript{th} to the 19\textsuperscript{th} century. It is assumed that pyramid-shaped board game pieces were universal and that they were used to play different board games.

\section*{IV.4.1.3.3. Pieces of Other Forms}

Along with the previously described artefacts, a few other finds can be identified as board game pieces as well. These are three artefacts of a unique form dating to the 12\textsuperscript{th}-13\textsuperscript{th} and 16\textsuperscript{th}-17\textsuperscript{th} centuries and presumably identified as board game pieces. In fact these artefacts could be board game pieces, yet on the other hand they could have served some other unidentified purpose.

\section*{IV.4.1.4. Games of Fortune}

The third group of board games covers games of fortune or gambling games. Their main feature is that winning depends exclusively on the fortune. Because of their attractiveness and intrigue such games of fortune are traditionally referred to as gambling games.

On the basis of archaeological artefacts found in Lithuania only one family of gambling games – the family of dice – can be distinguished. The dice family is regarded as an inventory of gambling games, yet we should not forget, that dice can be used for playing other board games as well.

\section*{IV.4.1.4.1. Gambling Dice}

Origin and development of gambling dice still remains rather undetermined. We know that various things and primitive items – \textit{kauri} seashells, beans, natural cattle ribs etc. – were used as dice. A
broad variety of dice with numbers carved on the sides appeared already in the Antiquity.

Although during the period discussed in this dissertation various forms of dice existed in Europe, at Lithuanian archaeological sites of the 13th-17th century only cubic dice have been found. According to the symbols engraved dice artefacts have been divided into two subtypes: dice with numbers and dice with card symbols.

IV.4.1.4.1.1. Cubic Dice with Numbers

Absolute majority of dice found in Europe during archaeological excavations are made of bone or horn. Usually numbers are allocated in such a way that the sum of digits on the opposite sides of the cube equals to seven. Such order of numbers has been used since the times of the Roman Empire and is maintained presently. Nevertheless there also was the so called alternative system of number allocation: 1 against 2, 3 against 4 and 5 against 6.

Concerning materials used for dice Lithuania is no exception. Out of eight dice pieces found only one was made of amber, whereas other seven were made of bone or horn.

The first and the most numerous subtype represents cubic dice with numbers. They are of two kinds. The exceptional feature of the first kind is that the numbers are allocated in accordance with the abovementioned alternative system. The only dice of such kind has been found in Kernavė. It dates to the 13th century.

Dice having numbers allocated according to the so called system of seven are attributable to the second kind. By now there are six such dice found during archaeological excavations in Lithuania. They date to the 17th – early 18th century.

The abovementioned artefacts imply that in Lithuania dice with numbers were used for games since the 13th century. They could be used for various board games, gambling and even fortune-telling.
IV.4.1.4.1.2. Cubic Dice with Playing Card Symbols

Archaeological materials reveal that in Lithuania along with cubic dice with numbers dice with playing card symbols were used as well. Presently we have only one such artefact found. It has been discovered in a mixed layer of rubble dating to the 16th-20th century. The dice is very large; its dimensions are 3.3 x 3.4 cm. It is made of white quartzite stone. It has playing card symbols engraved on four sides; the remaining two are left blank. It is not clear, for what purpose the dice was used. This could be some card game.

V. Results of the Study and Its Conclusions

1. The database of the dissertation was 344 identified artefacts found in the present territory Lithuania and dating to the 13th-17th century. They represent a broad spectrum of purposes, uses and materials.

   Situations in which toy artefacts were found reveal uneven proliferation in burial monuments, settlements and geographical areas, which is probably caused by an uneven research of medieval and early modern time archaeological monuments. Out of 344 toy and game-relevant artefacts found in Lithuania, 271 or 78% have been found in Vilnius, 5% – in Kernavė, 4% – in Trakai, 2% – in Klaipėda, and 14 other sites have produced only one or two finds. 86% of all Vilnius finds and 68% of all Lithuanian finds have been found at the complex of the Lower Castle of Vilnius. Uneven distribution and number of the findings can be explained by a favourable structure of the cultural layers promoting preservation of organic materials and also the scope of archaeological excavations carried out here.

2. In Europe studies of game-relevant archaeological artefacts has neither tradition, nor system. Usually their research is limited to a consistent description of individual finds or their groups. But this is not enough for a systemic analysis of the discussed finds. A clear typology must be established so that toys could be classified following their training purposes and types of games for which they were used.
This dissertation provides a new classification of game-relevant archaeological artefacts. It has been developed following the principle of deductive hierarchy and partly applying methodology of A. S. Choroshev used to classify medieval children toys found in Novgorod. With regard to toys and game-relevant artefacts found in Europe the new classification can be applied not only for Lithuania, but also for a broader region. This way, new artefacts will find their place in general classification, and individual classes will be extended as well. In the light of theoretical information on the games and their attribution to certain social and age groups, the accrued data was divided into two major interdependent clusters: children toys and games and adult toys and games. Between them there is a third cluster of toys and game-relevant artefacts which could be used by both children and adults. In the classification scheme these clusters are divided into smaller segments. First of all archaeological artefacts were divided into eight major categories reflecting major areas of adult life and identifying skills to be trained: warfare, household, utility, care, entertainment, music, sports and board games. Following the principle of deductive hierarchy these categories were further broken into groups, families, classes, types, subtypes and versions. The classification developed has enabled making order and promoted systemic and coherent analysis of at the first sight chaotic corpus of archaeological finds. Thus in the future we recommend using this classification as a basis for future research of entertainment inventories. A unified typological system is expected to facilitate identification of the finds and unification of their naming.

3. Analysis of the corpus of archaeological finds has enabled division of archaeological toys and game-relevant artefacts into three main clusters following their attribution to individuals of certain age groups: 1) children items; 2) children & adult items; and 3) adult items. Following conventional scientific view that childhood lasts from 1–2 to 11–14 years the cluster of children items covers games, which had a function of entertainment, education or socialisation and promoted development of certain capabilities and skills. Both children portraits provided by the fine arts and variety of toys found at the
archaeological sites show that in the 14\textsuperscript{th}-15\textsuperscript{th} century Europe and Lithuania in particular education of children and their preparation for the adult life was receiving a lot of attention. Abundance of toy artefacts found implies that in the 14\textsuperscript{th}-15\textsuperscript{th} century a mass demand developed. Lithuanian experience witnesses that this demand was met by unprofessional craftsmen, parents or even children who produced the simplest game inventories.

Children toys fall into five main groups reflecting the main areas of adult activities: warfare, household, utilities, care and entertainment. The purpose of these toys is introducing children to major jobs and duties to be performed after they become adults. There 22 artefact of the 13\textsuperscript{th}-17\textsuperscript{th} century attributable to these groups and they make only 6\% of the total number of analysed finds. Such scarcity of toy artefacts may be explained by the type of material used for toy production: the artefacts found were made of nondurable materials, which were broadly available and probably the cheapest ones. From the point of view of complicity children toys varied a lot – from the most primitive one-piece items to complex moving constructions making of which required technical know-how.

4. Educative effect of musical and sport toys is universal, so they could be used by individuals of any age. So artefacts attributable to these categories can be identified as both adult & children toys. They form the largest cluster within the material surveyed. As much as 66\% of the artefacts analysed could serve for entertainment of all – adults, children and youngsters.

It has been establishes that 68\% of toy artefacts found during archaeological excavations can be attributed to two major typological groups of the musical instruments: idiophones (2\% of the artefacts total) and aerophones (18\%). Entertainment can be identified as the primary function; nevertheless some of the artefacts could have been used for traditional ritual purposes as well.

156 artefacts can be identified as sport game inventories. They can be divided into the families of accuracy training (28\% of the artefacts), agility training (17\%) and coordination training (less than 1\%). Proliferation of sport games proves importance of physical
training. Popularity of sport games also could have been caused by their practical side (preparation for hunting and was) and their ardour.

5. The cluster of adult game inventories includes 98 artefacts (28 % of the finds total) identified as board game inventories. The basic purpose of these games was to develop logics and strategic thinking. In the typological scheme board games are divided into three groups: 1) strategic games; 2) games of strategy and fortune; and 3) fortune games. Strategic games cover three games: the chess, quirkat and checkers. Games of strategy and fortune are represented by the game of nard and games of fortune – by gambling dice. Comparing with other types board games are the most widespread both geographically and chronologically. According to their origin and forms board game inventories can be defined as the most different items reflecting cultural influences of different regions.

6. It has been established that during the period discussed in the dissertation variety and chronology of toys and games were almost the same throughout Europe; and that the very nature of toys and games determines their multinational character and transferability from one region to another. Trade expeditions, diplomacy, personal and other relations served as a cultural bridge bringing to Lithuania complicated toys and games invented by the first civilisations such as chess or nards. Games spread widely and rapidly independently from the scope of political and economical relations, yet they were dependent on their intensity.

7. Variety of toys and games and foreign origin of some of them imply that Lithuanian cities were influenced by foreign cultures. It can be tracked from the 13th century alongside with strengthening economical, political and cultural relations and development of urban settlements. Foreign merchants, craftsmen, soldiers and other useful people were that social and cultural media which brought foreign toys and games to Lithuania.

8. Technological specifics, materials and forms of the artefacts imply that they were produced locally although their concepts were foreign. The Lithuanian society adapted them and
developed further adjusting to the local requirements, habits and manufacturing traditions.

9. Chronological framework of the dissertation is limited to the 13th-17th century; nevertheless the study also covers some artefacts dating to the 12th-13th and 17th-18th centuries. Survey of the artefacts has revealed certain development trends experienced by individual items or their typological segments and relations between their number and chronology. Only 1% of the artefacts dates to the 12th-13th century; 5% date to the 13th-14th century, 17% date to the 14th-15th century, 28% to the 15th, 6% to the 15th-16th century, 10% to the 16th century, 15% to the 16th-17th century and only 5% to the 17th-18th century. After making assessment of the chronological proliferation of the artefacts, 13% of the finds were rejected as statistically unreliable because of inaccurate dating. It has been established that excavated cultural layers of the 12th-14th centuries provide more and more toy artefacts. Most of them date to the 14th-15th century. From the late 16th century we witness a certain decline of the number of finds, but this implies scarcity of urban and manor research rather than the decay of entertainment culture. Yet this assumption is hypothetical. In the future an approximate cross-ratio between toy artefacts and all other artefacts found at the archaeological sites and dating to different periods should be evaluated. Presumably cross-ratio coefficient received this way will help to get a more detailed view on the toy and game inventory proliferation in Lithuania.

Translated by Inga Baranauskaitė
SANTRAUKA

Šis darbas mūsų istoriografijoje yra pirmasis mėginimas remiantis archeologijos tyrimais „atrasti“ istorikų užmirštą, tačiau nuo pat vaikystės svarbą XIII–XVII a. žmonių visuomenės lavinimo ir lavinimosi dalį – žaislus bei žaidimus. Per pastaruosius 20 metų sukauptas nemažas istoriniams laikams skirtinų žaislų ir žaidimus liudijančių artefaktų fondas sistemiškai iki šiol buvo netirtas.

Šio darbo siekis, pritaikius visus archeologijos ir jai artimų mokslo šakų tyrimų metodus, sukurti kitiems šios srities tyrinėtojams prieinamesnę ir lanksčią tipologinę sistemą, parengti metodinį ir praktinį pažinimo lauką.

Darbe tyrinėjami Lietuvoje rasti XIII–XVII a. žaislai ir žaidimų inventorius, analizuojami jų tipai ir raidą, teritorinis paplitimas, chronologinės ribos, ryšiai su artima ir tolimesne geografinė aplinka. Socialinis kultūrinis tyrimas apima jų priklausomybę tam tikroms žmonių amžiaus grupėms, edukacinej paskirtį, galimas kultūrinės, ekonomines ar politines priežastis, turėjusias įtakos žaislų ar žaidimų grupių populiarumui, žaidimų legalumui ir jų vietai tuometinėje visuomenėje.

Disertacijos tyrimų duomenų baze tapo 344 atpažinti artefaktai. Jie reprezentuoja platų paskirties, naudojimo ir kurybinių medžiagų spektrą. Darbe taikomi analizės, sintezės, tipologinės, sisteminės ir lyginanamos tyrimo metodai. Dirbinių analizei naudoti rentgeno, dendrologiniai, cheminės analizės ir kitų medžiagų tyrimo būdai. Ši mokslinę apyvartą įtraukta gausybė nepublikuotų radinių. Šie tampa prieinami didesniam tyrinėtojui būriui.

Žaislų radimo aplinkybės išryškino nevienodą jų pasiskirstymą laidijamo paminkluose ir gyvenvietėse bei netolygų geografinių paplitimą, kuris, matyt, sietinas su netolygiais viduramžių ir naujųjų laikų archeologinių paminklų tyrimais. Iš 344 Lietuvoje rastų radinių net 271 (78 proc.) rasti Vilniuje, 5 proc. – Kernavėje, 4 proc. – Trakuose, 2 proc. – Klaipėdoje, o dar keturiolikoje radimviečių tik po kelis arba po vieną dirbinį. 86 proc. visų Vilniaus ir net 68 proc. Lietuvos radinių iš Vilniaus pilii komplekso. Nevienodą dirbinių
gausą ir iš dalies paplitimą galima paaikinti organinių medžiagų išlikimui tinkama kultūrinių sluoksniių sandara ir išsamiais tyrimais Vilniaus Žemutinėje pilyje.

Disertacijoje pateikiama nauja su žaidimais siejamų archeologinių artefaktų klasifikacija. Ją kuriant remtasi deduktyvinės hierarchijos principu iš dalies pritaikius A. S. Choroševos metodą, kuri mokslininkas naudojo viduramžių Novgorodo vaikų žaislų analizei. Atsižvelgus į Europoje randamus žaislus ir žaidimus, naująją klasifikaciją galima taikyti ne tik Lietuvai, bet ir platesniam regionui. Tai įgalina, atsiraus naujiems radiniams, surasti jiems vietą bendrojoje klasifikacijoje, praplėsti ir papildyti jos grandis.

Įvertinus teorines žinias apie žaidimus bei sąsajas su tam tikru visuomenės segmentu skirtingose vystymosi stadijose, suakcentus duomenis buvo galima suskirstyti į dvi pagrindines tarpusavyje glaudžiai susijusias sankaupas: vaikų ir suaugusiųjų žaidimai ir jiems priskyirti žaislai. Tarp jų atsiranda trečioji sankaupa, kuriai priklauso tie žaidimai ir žaislai, kurie gali būti bendri ir vaikams, ir suaugusiesiems. Šios sankaupos klasifikacinėje schema priklausomybės tvarka skaidomos į smulkesnius segmentus. Visų pirma archeologiniai radiniai darbe suskirstytų į aštuonias pagrindines sritis, atspindinčias esmines suaugusiųjų gyvenimo veiklos sritis ir jomis lavinamus įgūdžius: karybos, buities, ūkio, globos, pramogų, muzikos, sporto ir stalo žaidimų. Deduktyvinės hierarchijos principu šios sritys suskaidytos į grupes, šeimas, klasės, tipus, potipius ir variantus. Sukurta klasifikacija suteikia galimybę iš pirmo žvilgsnio chaotiškai atrodančią archeologinių žaislų ir žaidimų visumą analizuoti sisteminai ir nuosekliai.

Išanalizuota tiriamoji dirbinių visuma leidžia archeologinius žaislus ir žaidimus pagal jų priklausomybę tam tikros amžiaus grupės individui suskirstyti į tris sankaupas: 1) vaikų; 2) vaikų ir suaugusiųjų; 3) suaugusiųjų.

Vaikų žaislai patenka į penkias tipologines sritis, kuriose atsipindi atitinkamos suaugusiųjų gyvenimo veiklos: karybos, buities, ūkio, globos ir pramogų. Taikomoji šių sričių žaislų paskirtis yra supažindinti vaikus su pagrindiniais darbais ir prievolėmis,
reikalingomis suaugusiojo gyvenime.


Prekybinės ekspedicijos, diplomatija, asmeniniai ir kitokie ryšiai buvo kultūrinis tiltas, atnešęs į Lietuvą sudėtingus pirmųjų civilizacijų sukurtus žaislų ir žaidimus, pavyzdžiui, šachmatus ir nardus.

Dirbinių technologinės ypatumai, medžiaga, dirbinių formos akcentuoja vietinę gamybą net kai ją idėja atvežtinė. Visuomenė ją prisitaikė ir tobulino veikiana vietinių įpročių, papročių ir gamybos tradicijų.

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Nustatyta, kad archeologinių tyrimų metu rasti 68 muzikos žaislai pagal tradicinį instrumentų skirstymą atitinka dvi tipologines grupes – idiofonus (2 proc. visų radinių) ir aerofonus (18 proc.). Svarbiausia šių žaislų paskirtimi laikytina jų pramoginė funkcija, tačiau dalis artefaktų gali būti išlaikę ir savotišką ritualinę naudojimo tradiciją.

156 artefaktai priskirtini sportiniam žaidimams. Jie skaidomi į taiklumo (28 proc. visų radinių), vikrumo (17 proc.) ir koordinacijos (mažiau nei 1 proc.) šeimas. Sportinių žaidimų paplitimas rodo fizinio lavinimo svarbą. Šių žaidimų populiarumui neabejotinai įtakos turėjo praktinę jų pusę (pasiruošimas medžioklei, karui) ir jų azartiskumas.

patys įvairiausi dirbiniai, atspindintys įvairių kultūrinių regionų įtaką.

6. Nustatyta, kad visoje Europoje žaislų bei žaidimų įvairovė ir jų chronologija disertacijoje nagrinėjama laikotarpiu mažai skiriasi, o pati žaislų ir žaidimų prigimtis dėktoja bendrakultūrų jų charakterį, greitai perimamą iš žaislą ar žaidimą atradusios šalies į kitus regionus. Prekybinės ekspedicijos, diplomatija, asmeniniai ir kitokie ryšiai buvo kultūrinis tiltas, atnešęs į Lietuvą sudėtingų civilizacijų sukurtus žaislus ir žaidimus, pavyzdžiu, šachmatų ir nardus. Žaidimai greitai plito ne priklausomai nuo valstybinių santykių lygmens, tačiau buvo priklausomi nuo tų ryšių stiprumo.

7. Žaislų ir žaidimų įvairovė ir kai kurių iš jų nevietinė kilmė įrodė kitataucių kultūrų įtakas Lietuvos miestuose. Tai pastebima jau nuo XIII a., stiprėjant ekonominiams, politiniams ir kultūriniams santykiams, ėmus vystyti miestams. Kitataucių pirkliai, amatininkai, kariai ir kiti naudingi Lietuvai žmonės buvo ta socialinė ir kultūrinė terpė, per kurį atėjo įvairūs kitų tautų žaislai ir žaidimai.


greičiausiai atspindi ne pramogų kultūros nykimą, bet miestų ir dvarų tyrimų trūkumą. Šis teiginys tėra hipotezė. Ateityje reikėtų pamėginti įvertinti apytikslį žaidimų radinių kiekio santykį su visų kitų grupių radiniais atskiruose objektuose arba atskirais laikotarpiais. Tikėtina, kad tuomet gautas santykio koeficientas padėtų susidaryti tikresnį žaislų ir žaidimų inventoriaus paplitimo Lietuvoje vaizdą.
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TOYS AND GAMES IN LITHUANIA IN THE 13TH – 17TH CENTURIES
ON THE BASIS OF ARCHAEOLOGICAL DATA

Summary of Doctoral Dissertation

ŽAISLAI IR ŽAIDIMAI LIETUVOJE XIII–XVII AMŽIAIS
REMIANTIS ARCHEOLOGIJOS DUOMENIMIS

Daktaro disertacijos santrauka

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