

The Change in Board Game  
Design as a Result of the  
Industrial Revolution

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AS A RESULT OF THE INDUSTRIAL REVOLUTION

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## INTRODUCTION

When I first considered the subject of board games I was interested in their design. I soon became aware of the need to understand the rationale or need for board games so as to better examine their design and to gain a more comprehensive understanding of their significance. During and after the period of the industrial revolution a new interest and rapid production in board games occurred which had not been seen previously. This period raises and, to some extent, answers many questions about board games. Also, a review of the history of the origins and development of certain prominent games of the era provide a framework for understanding.

In the first chapter, I shall be concerned with ancient games. This chapter will give a brief history of ancient games, and review them in three main areas: firstly, their structure and materials; secondly, their function and significance, and the influences on them; and lastly, the spread of games, variations as a result of cultural influences.

Chapter Two shall examine the psychology of board games, both ancient and modern, and answer questions of their importance in society and to the individual. The main consideration of this chapter is the function of board games, and so, their significance. With this historical and psychological foundation on which modern board games are based, I shall analyse board games and their development since the industrial revolution.

The third chapter will give a development of the format of game design in two areas; the use of spirals, and the use of geometry. An example of format progression will be given with the game, *Royal Game of Goose* dating from 1724-1978, which has four variations of the one game.

Chapter Four shall take three specific Race games (*Ludo*, *Snakes & Ladders* and *Monopoly* ) and shall examine their development in areas of print technology, colour, the use of illustration, format and typography. Variations of each game will be included to give a clear representation of board game development.

In conclusion, the previous chapters will be reviewed with the objective to answering all issues raised . This final broad outlook on board game design will discuss possible developments for future games, not only in their design but also in the needs they satisfy. Will board games have a greater or lesser importance to the individual in future?



## CHAPTER ONE: A HISTORY OF BOARD GAMES.

Ancient board games have been found in many parts of the world except Australia and New Guinea. The majority of games originated from ancient Egypt, India and China, although the most influential of these were from India. Early Indian games were directly used and developed in the western culture.

There are four different categories of board games; race games, war games, games of position and *Mancala* games. Their method of play requires different levels of skill and so vary in complexity. The function of such games remains as it was in Ancient times, 'a diversion or pastime', 'a contest played according to rules and decided by skill or luck', is very much open to speculation. This shall be looked at and explained in greater detail as the function of board games are very much more complex than first imagined.

Race games are the simplest to understand and require the least amount of intelligence. The aim of a race game is to be the first person to reach the 'home base'. The Hindu game of *Pachisi* is one of the most successful board games to evolve and was adapted for international play in the nineteenth century. It is a game known today as *Ludo* and is the most adaptable of race games to the present time. As race games are the most dominant in play, it is in this area of board game design that I shall be most concerned, but also its significance for the individual. To set a foundation on which to regard modern board games it is necessary to look at each level of games, so as to see and appreciate the influences involved in game design. Within the basic method of play, the simplicity of the race game and its psychology marks the beginning of game classification.

By far more stimulating and complicated in the progression in skill, war games use more complex moves and rules. The mental scope of the player is limited only by the rules of the game, the skill involved and the action implemented. The degree to which the individual uses his mental ability uncovers many facets of the human character. The analysis of personality through play will be discussed later. Games of position are the third level of game intelligence. These games are played by simple rules but require much skill and concentration to win the desired position on the board. These are games such as *Tic-Tac-Toe* and *Nine Men's Morris*.

*Mancala* games are of the highest intelligence group, in general, board games originating from China. *Mancala* games incorporate a large group of games in



which there are three classes; boards with two rows of holes, three rows and four rows. Eastern games of this type did not have much impact in Europe and remain for the most part played in China. These high intelligence games developed through the more complex civilization in China at the time and can be compared in part to the 3-D Rubic Puzzles invented in the western world in the last ten years. This may suggest a slower progression of western civilization in intelligence patterns.

The *Chess* group which include numerous early variations which led up to *Chess* as we know today came from India. *Chess* being a war game, requires a certain amount of intelligence and less of luck or chance. Certain editions of the early *Chess* group are complex, with some boards containing four different armies. *Chess* also found its way to China where it was adapted to that culture. Here the pieces contain Chinese symbols to denote the different pieces. *Chess* then spread throughout the Orient. In India the pieces took their form from the animals of the environment.

*Chess* moved to Egypt around 1400 BC with the game of *Alquerque* which developed into *Draughts*. *Alquerque* was introduced into Greece from the first to the fourth century and then spread through Europe. The main spread of games in Europe can be accounted for by the movements of the Roman Empire and Christianity. Each country that played *Chess* adapted it to the style of that country.

More information on ancient board games can be found from other objects dating from the same period. Wallpaintings and tombs have images and objects of board games and they show much of how games were played and by whom. The spreading of ancient games coincided with the spreading of religion (Christianity, Islam, Buddhism) and with countries at war, notably the Vikings and the Romans.

*Chess* was not the only game from India. Early examples of *Ludo* and *Snakes & Ladders* came to Europe also. They were introduced at a later date and this time by traders and explorers from Europe. This increased the movement and development of board games throughout the world in a reduced time. These games were altered to western civilization and have been more radically developed, in the process losing some of their original significance. Although once westernized, there is little cultural variation within the western society. *Chess*, on the other hand, was influenced greatly by various cultures. *Ludo* and *Snakes & Ladders* shall be examined in greater detail in the following chapters. Since the industrial revolution they do progress swiftly in the subjects used to illustrate them.

Board games reached Ireland through England, mainly through the influence of the Viking, Saxon, and Roman invasion of England, thus dictated what was to follow in Ireland. The earliest board game in Ireland is from the Viking era. Board games up to the 18th century were *Chess*, *Backgammon*, and *Draughts*, etc. It was not until the industrial revolution that board games developed into printed objects. The development of printing had a great affect on board game design, the rapid change of print technology was reflected in the development of board games.



Ancient games were made of a variety of materials such as wood, stones, bones, ceramic, cloth and shells. The inclusion of cards and additional pieces into the modern game has changed the materials used. Card, paper, plastics and metals have brought new possibilities into game design. It has changed the life span for games with coated surfaces. The playing surface of ancient games was as simple as hallows in a rock or lines scratched out of the ground. The area on which the game took place was rectangular, though round areas were common also. It is just in the last two or more centuries that the circle has been placed within a rectangle. The rectangular surface was divided into squares and differed in colour, as with the chess board. Earlier divisions of this type were usually a flat surface with checkered grooves. Many of today's games have kept this geometric style while others have modified it to simplify the movement procedure and complicate the rules of play (*Monopoly*).



## CHAPTER TWO: PSYCHOLOGY: PERSONALITY THROUGH PLAY

"Play is a process of experiencing exploration, investigation, and manipulation and it leads eventually to thinking involving the integration of previous and current experiences or epistemic behavior."  
(Why People Play, J. M. Ellis)

Decision making in games is very important as it encourages the player to become more independent and self assertive. The player is motivated by a number of human needs which he can examine, however subconsciously, in board game play. Games are a practice area for people to make decisions and experience the results of them. He can act out real life decisions in order to be more accepted by society.

Epistemic behavior is the behavior relating to knowledge or the degree to which the individual has accepted such behavior. The structure of board games tend to encourage the player in a positive manner like a reward system for certain achievements. So it can be said to encourage achievement drives in the individual.

"Serious behavior, work, can satisfy two kinds of needs or drives, those associated with drive reduction and those concerned with stimulation, whereas the surplus playful behavior is motivated  
(Why People Play, J. M. Ellis)

When playing a board game you should abide by the rules and according to your decisions achieve success or failure.

Games have a lot of traits comparable with the real world. The rules of the game are the rules of society or the expected social behavior patterns. To be accepted and live within society you are expected to have normal behavior patterns. In board games the individual is expected to play within the confines (rules) of the game, if you decide to break the rules of the game you can see the ensuing results of your action. Your decisions achieve success or failure and because of this it is necessary to take advantage of your mental ability. So games are far more complex and vital than just methods of entertainment. Games develop personalities to conform to the social structure in which we live. Success within society receives approval from our peers which is an important reassurance for the individual.



It relieves fears and complexes about our personality and reinforces our role in society. Games give us a sense of control or power within any given situation, it calms fears of helplessness. Games are therefore very important for the individual in society and can alter social behavior. With this in mind games become far more complex and vital than just methods of entertainment.

At the time of the industrial revolution the board game was of considerable significance and value. Not only did it educate people in literacy but it shaped society by the moral and behavioral values that it presented to the individual. The *Mansion of Happiness* (fig.1) was first published in 1843 but it was not until the 1890s that games of guidance became popular. *Cash and Office Boy* educated the young in ethics and knowledge such as geography with *Across the Continent* (1899). Both these types of race games were important as they educated society on two levels: knowledge of the physical world, and education of moral behavior. This provided the foundation of social decorum and standards by which the community has accepted and lived. These values (moral instruction) altered the thought patterns of the individual to a greater awareness of society, this also occurred with the effects of the industrial revolution, where by the whole structure of society changed and increased dramatically within a few years.

With the change in community life the need to communicate with others became more important. Board games, as a method of entertainment, were one means by which the individual could interact with others. These needs have an immense impact on behavior patterns. In a sense the freedom of board games play, that is the unrealistic environment it creates, allows for behavior patterns to be expanded. The restrictions (rules) that a game places on the individual brings reality into play to a certain extent. Board games give us a medium to involve new concepts of integration which inevitably are retained and utilized in real life situations. Society has learnt to use our motivations and fears to control the individual. An example of this is the attitude to crime and punishment society inflicts. Society uses man's fear of isolation and limiting of communication as a method to control behavior patterns.

The effect of board games on society could be debated but I feel there is a definite relationship between social behavior and approval with the introduction of actual board games from 1800 to the present day. It was the values of this period that laid the foundations for society as we know it today. The social changes then were made to improve life which is still applicable now. So society has changed little in its attitude to improve conditions governed by humans.

The question of "what is personality" is vital for the understanding of the importance of board games. I believe personality is a person's response in different situations, these actions being the result of a combination of previous experience and the individual's ability to make and stand by decisions which both he and society can expect. Personality is unique to each person, as the needs and responses vary within society. Personality is affected by the manner in which the individual perceives information in his environment, how he relates information to past experiences, and the decision he makes as a result.





FIG. 1. The Mansion of Happiness  
America, 1843.



There have been many theories concerned with the individual and social behavior which vary in complexity and viewpoint.

All these issues which will be briefly discussed, have raised good issues and arguments which make them all relevant to understanding the individual in society. Behaviorism studies the interaction of stimulus-response and thus behavior in society with a look to predictions on further behavior patterns. The Gestalt theory focuses on a logical or rational approach to decision making before taking action. This forethought of actions and results is used directly in game play especially in higher intelligence games like *Chess* for example. The individual assesses each option open to him and from past experiences and skill makes a decision.

The premeditated action is not used as much in race games where luck plays a greater role. In more complex race games like *Monopoly* there is more to consider as the movement around the board is of secondary importance. The property stock of the game is the area in which the individual rationalizes decisions. This rationalization can be broken down into three stages: the analysis of position and desired result; second, the consideration of possible moves, and finally, the decision and implementation of action. This pattern of thought in relation to game play is straight forward and programmes our minds to deal with real life in the same manner.

Therefore the subject matter of board games and the manner in which they are portrayed are vital to giving a well balanced and clear medium for play. With low skill or race games like *Ludo*, luck plays a more dominant role so the stimulation to the mind is not as intense. This may lead to the impression that race games are less for social education but rather enjoyment. To a certain extent this is true but it still involves decision making, however basic, and as with more complex race games (*Monopoly*) it certainly is not the case. The Need Theory answers part of the question of the necessity of board games. Within society certain traits or responses can categorize a mass of people into groups or movements.

The social position taken by an individual is dictated by his needs/requirements to communicate and be approved of on a level of his own understanding. Portraying himself in the best possible light gives him a higher attraction and acceptability from his peers.

#### ARE GAMES NECESSARY AND, IF SO, WHY?

Entertainment appears to be one of the functions of game play. This is true but on a deeper level board games act as a method of escaping from reality. The relief of social pressure takes the form of self analysis in play. The player can distance himself from the real life situation and so enables him to interpret and clarify in an imaginative surrounding. This situation analysis in game play can be a conscious decision, conscious in determining cause and effect, and subconscious in relating it to our own environment. Although the actual game has little affect on reality, the situation within the game play has. The player brings his play experience into the real world, so that board games become an important influence in social behavior principles.



One theory that suggests play is a pastime rather than an educational experience is the Surplus Energy Theory which could be an explanation for ancient game play. The line of thought,

"Play is the result of surplus energy that is no longer needed

for basic survival" (Play Behavior, J. Levy),

taken by some psychologists suggests a purely physical need to play. The Surplus Energy Theory may be seen as an obvious connection and reasoning for the education of game play from ancient to the present time. It raises issues of survival, instinct and the genetic behavior.

Is instinct part of our genetic character being transmitted or evolving from ancient man? Do we still possess basic survival traits and is game play a way in which to satisfy this survival need? Was game play a method of evolving or adapting these needs to the modern society? Is play behavior related to genetics? Is there a conscious development of genetic material for future generations? Are our instincts a part of a progression of what determines future genetic structures? Does game play affect this genetic material?

These are just some questions which need much more investigation but are interesting to note for a deeper understanding of the role of board games in a broader sense. A development of this theory is the Recreation Theory which is not just to use up extra energy by stimulation by the interaction of the work-play relationship. The Surplus Energy Theory is not consistent to play studies where people use more than their surplus energy. Recreation advances this by suggesting the stimulation of energy is the function of play.

"Play is the result of the individual's need to overcome a deficit of energy", (Play Behavior, J. Levy)

Recreation rebalances the individual after work.

The relaxation theory, which is also referred to as the recreation theory... and the restoration theory...stands in marked contrast to the surplus energy theory. This theory implies the intense involvement in preoccupation with any activity demands a period of respite during which the person relaxes or recreates himself. Monotonous conditions provide a point of intersection for the surplus energy and relaxation theories. The difference is that the for the surplus energy theory, monotony induces boredom: but for the relaxation theory it can induce fatigue..... In addition the relaxation theory seems to have two distinct aspects, relaxation after one is fatigued (restoration-relaxation), and relaxation after one has been involved in activity that is not necessarily fatiguing but has left little time for escape (diversionary- relaxation)," (Play Behavior, J. Levy)

Both types of relaxation have become an integrated part of the individual's daily life. Diversion from pressures is one way to cope with these stresses were the individual has relief to examine and rationalize his behavior. Game play provides a diversion from reality, this can be taken for the play of all board games though the majority if not all board designs take their subjects from the real world. As items of entertainment board games are definitely a diversion. With an educational function board games are not necessarily a method of diversion.



Relaxation does not physically stimulate like the surplus energy theory, but instead relaxes the body and stimulates the mind. Freud broke the mind thought patterns into three distinct areas. "Id" takes the needs of primitive actions or genetics into account while at the other extreme "super-ego" is thought patterns dealing with moral decisions (conscience). The balance of these two forces is controlled by "ego" which rationalizes both elements. Id could be partially explained by the surplus energy theory; if this is the case, id could be satisfied by game play where basic needs are met. Super-ego, being the individual's conscience is definitely used in game play where the player is continually using his moral and social knowledge to advance in the game. This being the case, ego is then tested constantly to investigate new balances in game play.

Since board game play is to mentally stimulate the individual, all three aspects of thought forces must be applied for the advance of behavior traits and recognition. These forces are then used to stimulate the individual in game play in a mental sense. Relaxation is a very necessary function of game play as it continues to educate the mind in its understanding of self and society. Board games can be viewed as fantasy objects for more understanding which can be re-enacted in real world social situations. This could be a function of play in general but with physical activity in board game play extremely minimal there shows definite mental needs met by board games.

The Surplus Energy theory is of value as society and the work environment changes. With the introduction of machinery into the work environment and its increasing efficiency, the role of the individual has changed. With an improved life style and more free leisure time it is easy to see how this theory evolved. Society and its social structure is rapidly changing so game play may therefore help individuals adapt at the same rate. This is dependent on the changes in games and how they adapt to social demands. It can only be surmised as to the influences that went before in ancient times when the first board games were developed.

"There is a growing body of knowledge that supports the viewpoint that man is indeed an active organism who is motivated to interact with his environment, even after all his basic survival needs have been satisfied."

(Play Behavior, J. Levy)

#### DOES THE DESIGN MEET THE FUNCTIONS OF BOARD GAMES ?

In the early 1800s the design relied on colour as a means of attracting attention. The function of these games appears to be more of an educational value for social behavior. The designers of this era used subjects which were popular to sustain the appeal of games, (*Mickey Mouse Ludo*). The sharp linear style of some formats shows a rational and very logical approach to game play, while a more circular format suggests unity and wholeness to play. If and when illustrations were included on the board the style of illustration could change the individual's approach and opinion to the game. The degree to which the design meets the function of board games cannot be measured; there are so many varying functions to a game. The designer attempts to incorporate as much freedom as possible within the confines of the rules.



This allows the game to be multi-functional and so increasing its market. Each time the player uses the board his needs may have altered thus changing the function. Game satisfaction is a way of knowing to what degree the design is operational.

#### ARE WE CONTROLLED BY GAMES AND THEIR DESIGN ?

The influence of the design on the player is great. It effects one's approach to the game by the use of colour, line, format and image style. Image style may be dictated by the subject or theme of the game as with *Mickey Mouse Ludo* and the *Bonzo Chase*. The colour combination may also be dictated by the theme. Colour could also be the preference of the artist. Colours are carefully selected to evoke specific moods or reactions of the individual by the artist. All the elements of the composition and their use are handled in a way to guide the viewer's vision. The style of the image is a personal questions of aesthetics but the individual is controlled by his experience and reaction to these different elements like colour, style and line. Typical colour reactions are played on, the use of cold and warm colours, bold or subtle colours and using them for different emphasis. The use of line is important with an interaction of hard and soft forms.

Early board games used strong hard lines to reinforce the geometry of the design, and as the game design developed the use of line was explored more. The application of line in later designs became more apparent with the inclusion and play on soft flowing line. This variation of line was used as another area for the individual to re-balance his opinions, another area of mental activity. Straight geometric lines give a definite structure which is strict, while curves suggest more freedom. This is most apparent in illustrations where the use of line determines the effect on the individual.

The player is controlled by a more direct device, the format and rules limit his activity. The rules are sometimes integrated into the design as directional arrows, etc. (*Broadway*). The options given to the player are restrained and manipulated by the designer. We are controlled by the design but in such a way as to give us different choices . We are controlled and guided to make certain decisions within the game. The designer has then the ability to direct us to make decisions by mental reasoning through the design of the game. It appears that board games are less for entertainment, though entertainment may be the conscious explanation for play, but rather an elaborate means of subconscious reasoning.

The limitations of the game, whether of rules or design, may be necessary to allow objective thought patterns and reasoning for the player. This can be seen with Monopoly where the rules direct the alternatives and so the decisions of the player. The player may be manipulated by the game but at the same time he may also have control over play as with higher intelligence games. Race games by nature greatly restrict the individual. As these games become more complicated they do, however, allow freedom and give the player more control over the game. With higher skill games the player is automatically given greater control. The mental ability of the individual plays an important role in the extent to which the game controls the person.



## ARE BOARD GAMES A REFLECTION OF SOCIETY?

With the renewed interest in board games and games of moral guidance around the time of the industrial revolution there appears a need for social change. Board games were a means to rectify this lack of morality and bring higher behavior standards into the community. The illustrations of board games depict interests and influences on society and represents the history of a rapidly changing society. With new or improved communication and transportation board games were educational to some extent, with interest in games of geography, etc. The different themes and subjects of the board games show the areas in which the individual wanted to better himself. They represent areas in which children were encouraged.



### CHAPTER THREE: THE FORMAT OF BOARD GAMES

#### EVOLVING THE SPIRAL:

The first known use of the spiral was with *The Snake game* (fig. 2), dating from Ancient Egypt (3000-2000 BC). This used a curved snake with the head in the centre of the spiral. The markings on the animal dictated the spaces and these markings were simplified and became rectangular as they are today. Spirals have always been predominant in many cultures, a perfect example is the Celts. Spirals in Celtic art were decorative rather than functional.

The surface for *The Mansion of Happiness* (fig. 3) is rectangular in shape with the 'space moves' spiralling inwards to the centre of the board. This spiralling effect has been popular throughout the development of the 'modern' board game. It is possible that the use of the spiral originated from spiritual traditions. Spiralling in recent times has developed into a more cartoon approach with a more designed use of the board, showing a greater and sometimes a more expressive use of space. With this knowledge we can look to the more recent board games notably from the middle of the nineteenth century onwards.

Since the industrial revolution very little has changed in board game play, the only major difference being in package design and materials, both of which were strongly influenced by it. This shall be discussed later but for the present it is not necessary when speaking of modern game structure.

All modern games are based upon ancient games, the influence of which varies. Some games such as *Snakes & Ladders* or *Ludo* can be visually altered and this alteration has no significance on the game itself. These new or altered designs bring renewed interest into these old games. The first modern games of this kind were published in America during the late 19th century. Moral guidance and education were the main functions of early games and later this developed into entertainment as the education system improved.

A clearer use of space can be noticed in some renditions of *Snakes & Ladders* which will be studied in greater detail. With the spiral effect we can see a growing awareness to games design which extends to every aspect of game visuals. As the interaction between type and image became important; scale, size, and colour were considered at the same level. Each individual area was recognized for its own sake and exploited to extend the game's appeal.



FIG. 2. The Snake Game  
Egypt, c. 3000 BC.

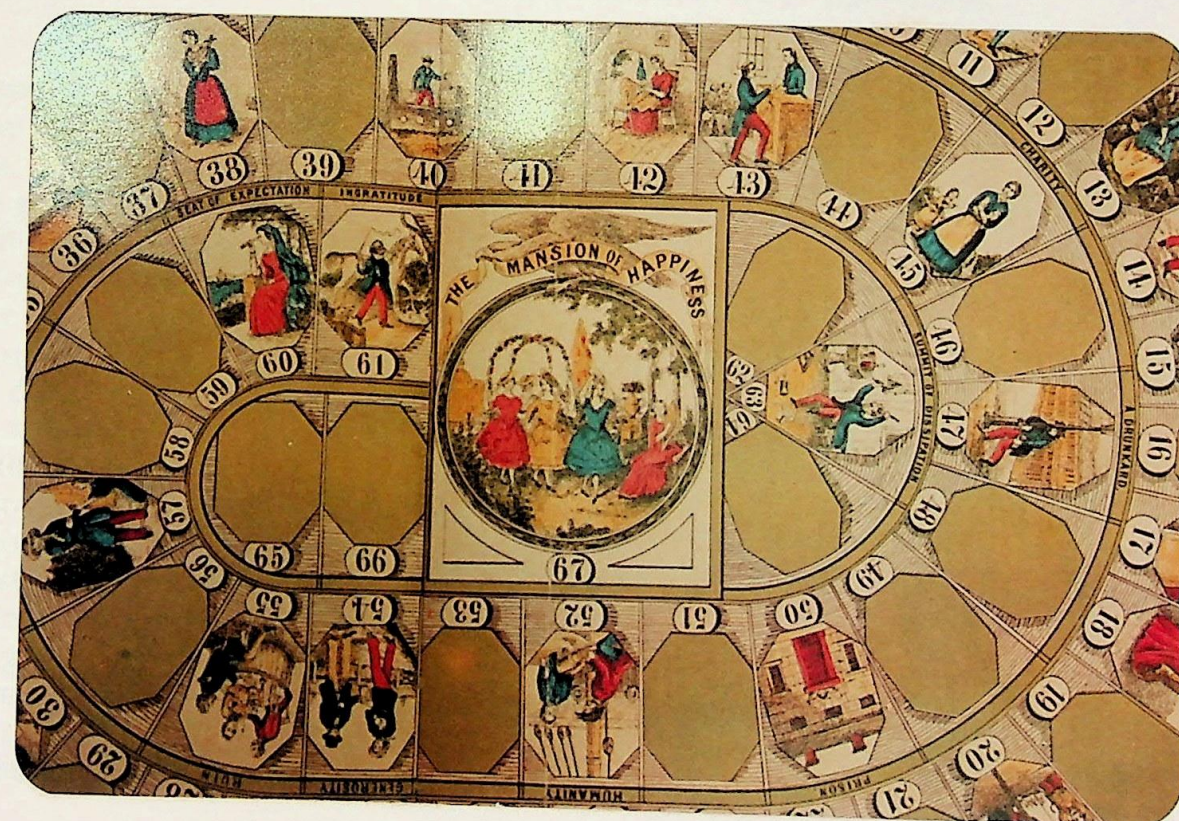


FIG .3. The Mansion of Happiness  
(detail).



*The Royal Game of Goose* (1724-25) has been a popular game from the 1700s and even as early as the 1600s (fig. 4). The earliest form of this game was to reach England in 1597 and used a spiral format. *The Royal Game of Goose* has a spiral format with very strong architectural influences. Each space is represented by an archway which circles inwards to the centre. The beginning space is a romanesque arch and gives a 3-D effect of entering a passage way. All the other spaces have the same arch with the space number over it. The arches are modified to incorporate the curving at each corner of the board. Twenty of the spaces contain images within the arch and these vary from mainly goose illustrations to a well and dice.

The illustrations are very basic/simplified and do not have much visual significance. They are, however, important for the game play as they can advance or hinder the player. The game is printed on paper and of one colour, sepia. Other illustrations on the board show a realistic approach to the human form. In the lower right corner the figures show a good example of proportion, perspective and scale. The use of shading to indicate space and texture is worth noting. This is an engraving which when complete could have been hand tinted or painted. The spiral format has not always been used in this game; in later editions the spiral has been completely forgotten. In figure 5, *the Royal Game of Goose* the shape of the goose is used to incorporate the format of play. Circles are placed within the goose form and numbered for play. Twenty of the sixty-three circles in the goose contain illustrations as before, images of geese, a well, a maze, dice and a skeleton. The illustrations of this board are directly influenced by the 1724-25 game. The birds portray the same position and action. The maze has lost its symmetry, the well and other buildings are not as simplified and show more detail.

The illustrations of 1831 (fig. 6) are also in colour, that is they have been tinted, brown, green, blue and yellow. With the lines of the engraving as a guide they also give details of texture and shape which are emphasized by the use of line. The background for the game is unusual in that it is not related to the play of the game but is purely decorative. It is not decorative like previous game designs as it sets the goose form in a scene. The foreground having three eggs with flowers and grass directing your vision to the goose. In the centre ground a lake with trees, birds and a building guide to the background which contains a castle surrounded by trees. None of this is important to the game but shows a change in the design of games and attempting to bring them into reality more by containing more realistic decoration and environments. This more realistic approach was further modified to become the *Game of Goosey Gander* in 1890 (fig. 7). The spaces of this design curve around the board having a definite direction. The spaces with illustrations have been replaced with eggs. The background illustrations have become very romantic with rich sunsets and environments. There are several circular inserts of various goose scenes. In three of the circles the goose has been humanized by the use of clothes and props as in the tea scene. Here full colour printing is used with halftone, crosshatching and the build up of colour. The colour tends to be very dull and muddy with only the sun scenes adding relief to the design.

The last edition of this game is from Spain in 1978 (fig. 8) and shows a return to the spiral, but the impact of the design has totally altered.



FIG. 4. Royal Gmac of Goose  
England, 1724-25.

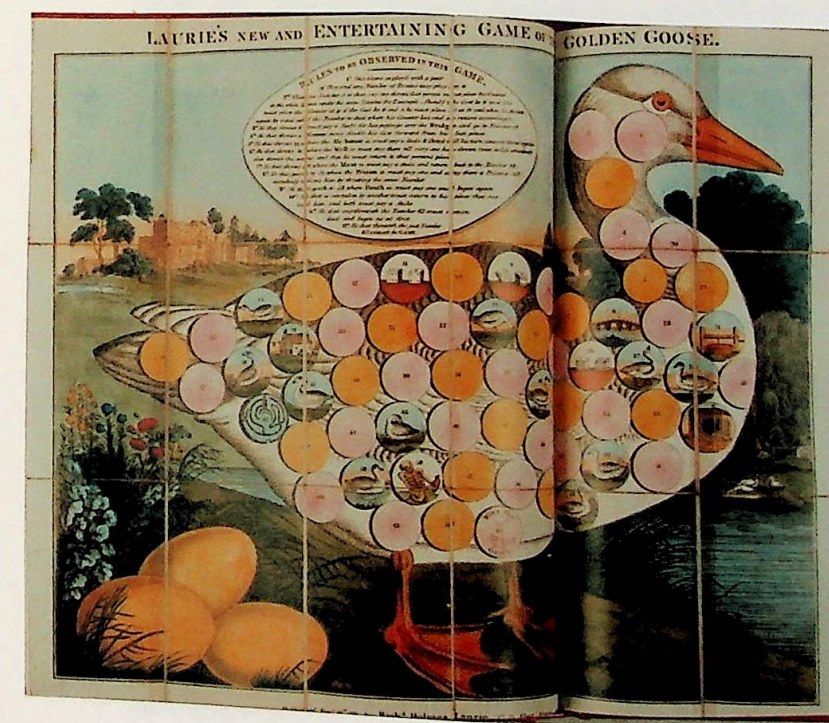
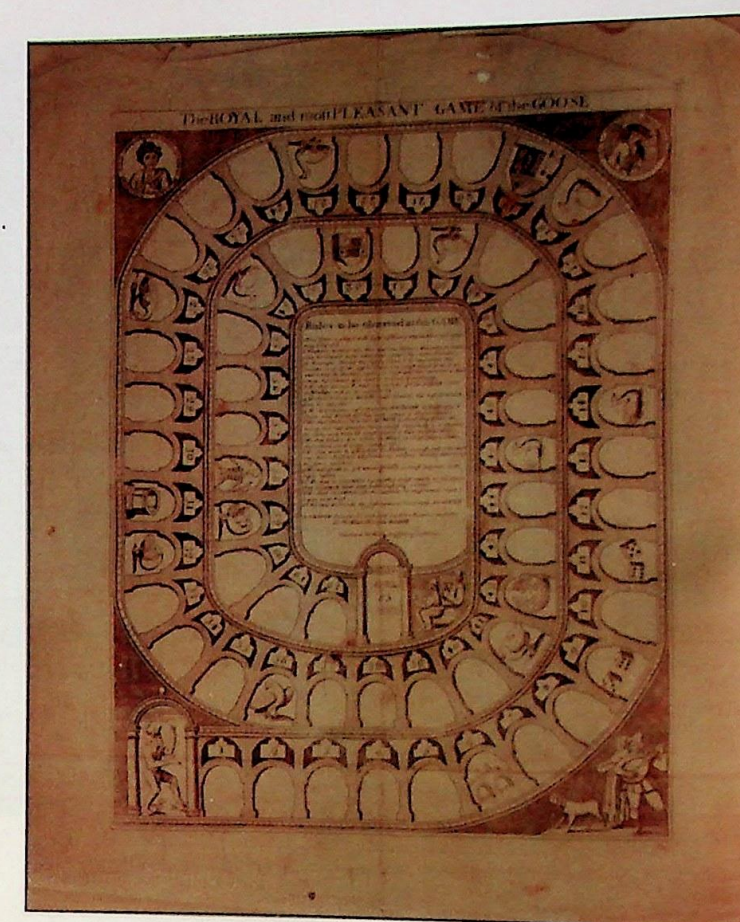


FIG. 5. Royal Gmac of Goose  
Italy, 1831.



FIG. 6. Royal Game of Goose  
(detail).

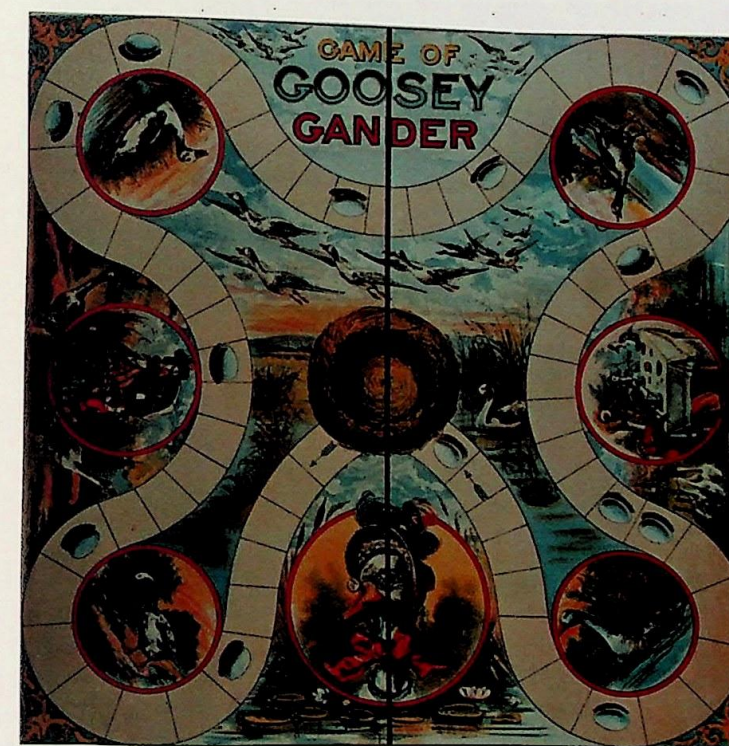
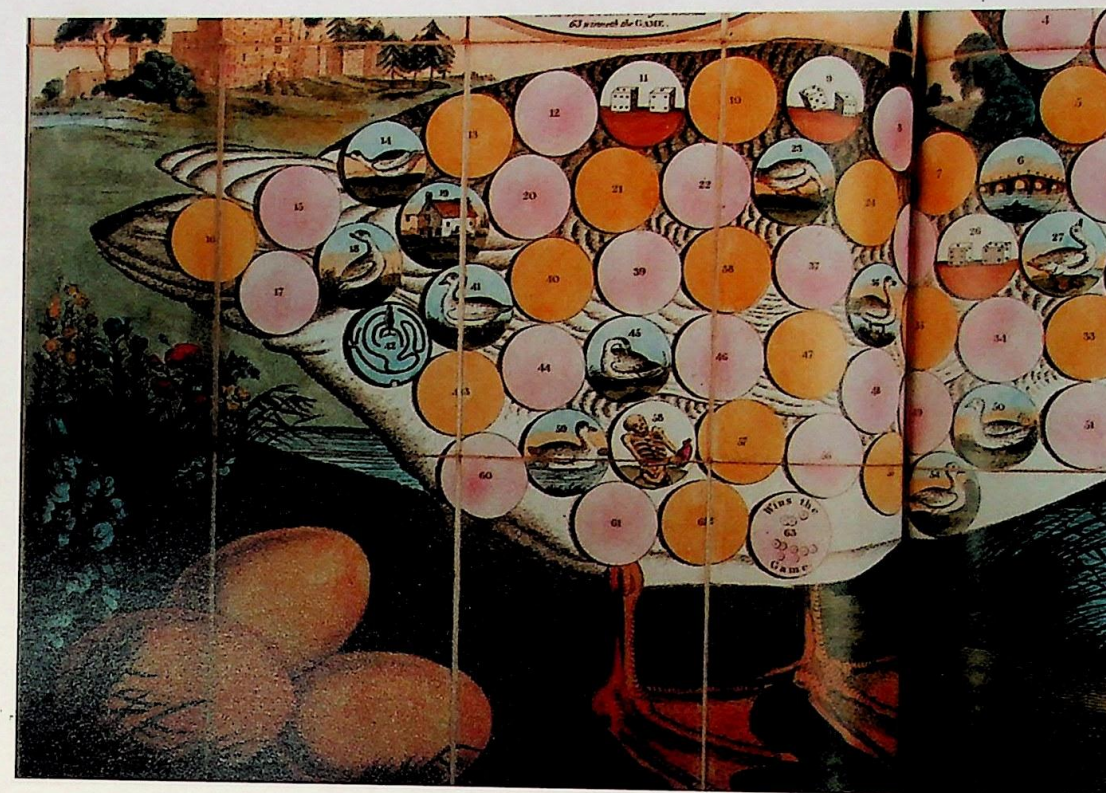


FIG. 7. Game of Goosey Gander  
America, 1890.





FIG. 8. Royal Game of Goose  
Spain, 1778.



The spaces of the spiral are still individual in that they are clearly defined but unlike previous designs the illustration of the spaces merge to become one complete scene. These scenes depict different environments the player passes through which to reach the final goal or space. This makes the board incredibly more interesting from a design viewpoint. It unifies the board in a more successful manner and incorporates the goose subtly into the design, it ~~does~~ not place more importance on the goose but rather the final goal.

#### THE USE OF GEOMETRY:

The design shapes within a game have evolved from ancient times. That is, the geometric shapes were inspired by man's environment as with the spiral which was discussed. Games of linear pattern (squares) can be seen in games of position where each player must outmaneuver his competitor to win dominance on the board. This can be seen in games like *Chess* where armies compete for rule of the territory. The dividing of the board into squares makes it easier to comprehend the position of dominance of the area. With the foundation of the community in ancient times it was necessary to protect and conquer for survival. The boundaries of your territory were important for harmony and compatibility with in the early society. Society today has categorized the boundaries of the individuals life so that there are areas that he can have dominance and others areas which he must compete so as to survive.

With the individual's space acceptable to society, it is necessary for the individual to show intelligence and understanding to his peers so that he can integrate with others. Games of interaction allow us to clarify our ability in these areas of communication. The patterns of a board game act as a guide line for our actions. Why then do we still use geometric patterns in board game formats ? The individual needs to know what is his expected action within a situation , and how he can manipulate these actions to his advantage. The format of a game clearly defines his limitations. As for the geometric patterns, it could be of an aesthetic choice that these patterns are used.

The geometry of some race games (*Monopoly*) are less for territorial position and more for a path or direction for the player to utilize other skills. These skills do not necessarily rely on the player's position on the board but more so on the accomplishments he has achieved as a result of his intelligence. Is geometry then needed if the player's intelligence has more dominance ? There is always some degree direction necessary to achieve the aim/object of the game. The influence of this direction depends on the means by which the game is won. With specific directions the player is given the opportunity to advance his knowledge or exercise his mind. Since race games have become more dominant in society (from 1800's), does this suggest that the individual in society is becoming more restricted and therefore needs to play out restricted games so he can survive with these more social limitations ?



Ancient games were designed simply; their format, colour and shape were basic. The design encouraged play and made it easily understood. The designs had all the basic elements and in a way this simplicity was an advantage to board game design. The importance of the game is in the play, the action, the mental education and application. The design is a method of attracting more frequent use, it gathers every aspect of the game and presents it in the least complicated manner possible. The design takes into consideration shapes, tones, colour, style, scale and later type. All of these elements challenging our knowledge and experience in design. It takes into consideration our reaction to different shapes by the use of line or curve, whether we feel restricted by the straight lines or squares or free and at ease with curves and circles.

The developments in printing and the subsequent styles had an impact on the overall outcome of the games. When printing began to develop, the images reflected the unique quality of this new found or improved technique. At first the woodcut style predominated printing until the boundaries of each printing technique were pushed to their fullest resulting in exciting and new approaches. Within *The Mansion of Happiness* (fig. 2) both format and style were combined into a banner design. The type was moulded into the design by distorting the letterspacing. Here artistic license is brought into play and shows a clever possibility for designers to consider. Not only is their more scope with the illustration but the importance of type has been recognized. As the ancient board games were purely visual, the only informative markings being on the die, the new/modern games do not show transitional design but a revolutionary one.

Board games appear to have skipped a few stages in development and arrived at an advanced design system by including typography and illustration which is totally alien to ancient games. Since the inclusion of written language, game design has become more controlled and increased the areas of graphic design to cover every aspect of daily life. It is only through these new approaches in game development that the graphic possibilities have been acknowledged and explored.



#### CHAPTER FOUR: BOARD GAMES.

##### LUDO:

*Pachisi* (fig. 9) originally had a cross shaped surface, the centre was home base known as Char-koni. This format has been modified to incorporate the cross on a rectangular board. In ancient times the surface was made of fabric which was divided into individual rectangles by an embroidered trim. The surface was mainly one colour with only the trim in a contrasting colour. The main colour used here is red which influenced the player's approach to the game. The red colour, symbolizing excitement, action, and decision, as a result stimulated the player into action. The pieces used are distinguished through colour, ( black, green, red and yellow) all of which have symbolic meanings and are connected with the four directions. Safety spaces are indicated by intersecting diagonals and are geometrically positioned. Though the format has changed little, with the new format alterations of the more modern game extra spaces have resulted to utilize the rectangular surface but still retaining the geometry (fig. 10 & 11).

*Broadway* (1917) (fig. 12) was based on *Ludo* and shows a more complicated use of space than its forerunner. The format has a cross within a square on the board. It is very angular with a strict use of outline and geometry. The use of primary colours with perspective and shading results in bold illustration. The designer used full colour printing and achieved a range of colours giving more realism to the images. Subtle colour changes were used for volume, and shading. The colour changes helped with perspective of the scenes and attempted to build up the depth of the illustrations. All the images are handled in the same manner, the use of space and the structure of the scenes are similar. The viewpoint is constant and focuses on the street scene at street level. The board is divided into two areas, the playing space with its use of flat colour; and the supporting illustrations which use built up colour. The flat colour area is given its importance by the use of scale in relation to the whole board and the use of white for the spaces. The halftone recedes into the background giving more impact to the game itself. The images are controlled by borders, therefore, not taking advantage of building features. Directional graphics for movements along with a combination of serif and sans serif type faces are very discreet and handled in a simple way with nothing new or exciting in the area of typography. All type is centred within each illustration area, underlined with organic scrolls.



FIG. 9. Pachisi  
India.

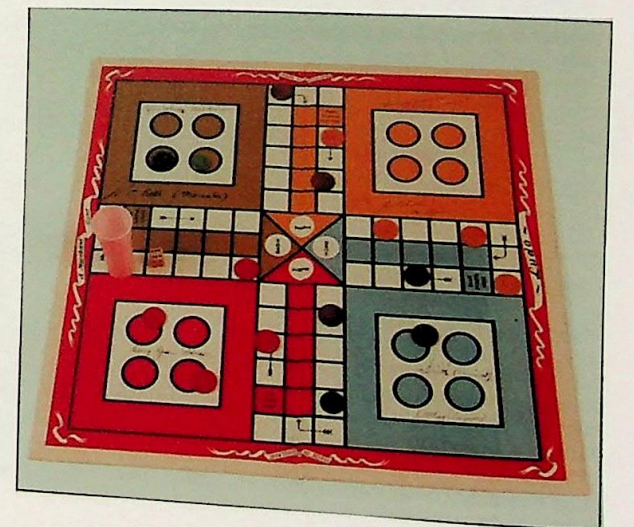
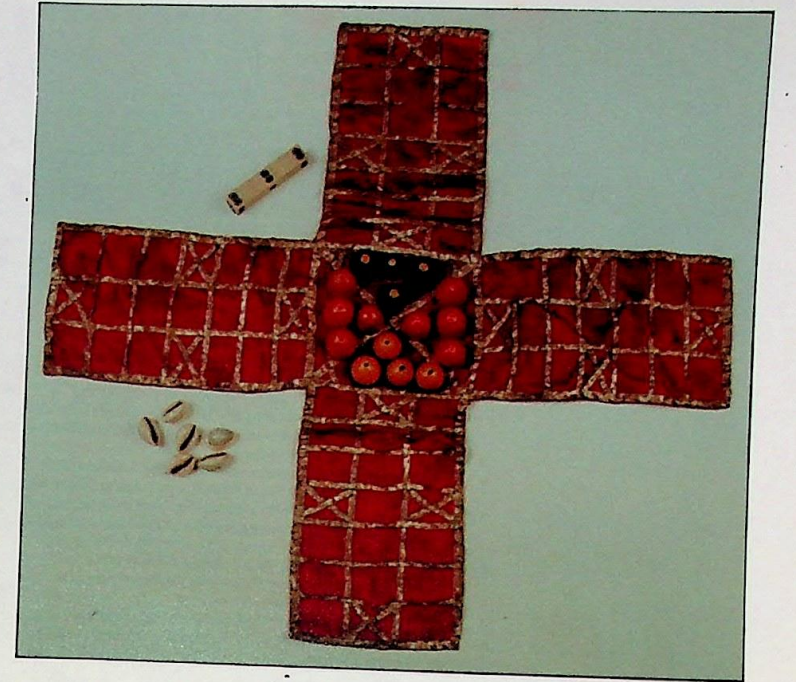


FIG. 10. Ludo  
England, 1959.



FIG. 11. Ludo  
England, 1971.

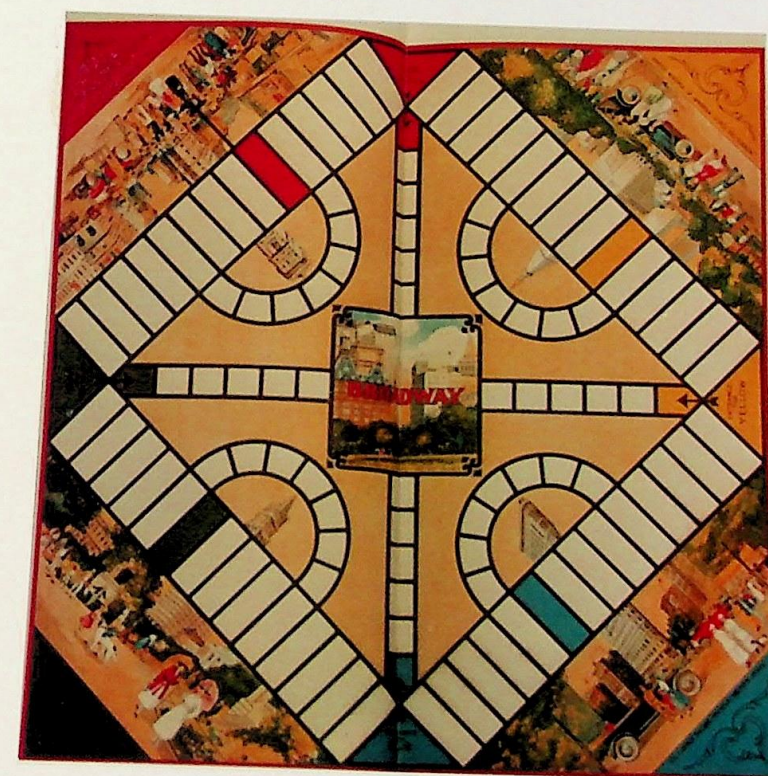


FIG. 12. Broadway  
America, 1917.



*Radio Games* (fig. 13) was published twelve years after *Broadway*. It used the four colour printing with a use of the halftone process. The halftone image in each corner recede and are handled in two different areas. The illustration is used as a backup to the game itself and the actual game play area is emphasized by the use of bold, flat colours. Very few if any game designs vary from this rendition of the era. Space borders are bold and staggered, which gives the design an exciting news flash feel to the game. The designer is trying to evoke quickness and importance of radio. The cross is not dominant as before with inward corner curves changing space relations. Still there is little play on negative space. Illustration indicating travel and the new interest in machinery in society, re-inforces the quickening pace of life and advanced interest and communication of society.

In the 1930s, with the increasing popularity of Mickey Mouse, *Ludo* (fig. 14) was visually altered to meet the mickey craze. Not only did games begin to adapt to the social changes but it had brought new considerations into the use and applications of the board game. The format was modified to bring new interest into the old game with the spaces moving nearer to the edges of the surface. Much more colour was introduced with illustrations of Mickey Mouse. There are five basic colours the designer used with different intensities to achieve a variety of colour combinations. There was still the geometry that had gone before but it was now more exciting and stimulating to look at. The colours were sectioned into definite areas with the main illustrations placed in each corner of the board and centre. They are bright and use the bold colours of the Disney characters.

The subject matter dictated the style of the illustrations which was a cartoon approach. The shape within the illustrations suggested the perspective and the black outline created more depth. The strict borders limited the images, and reduced the play on negative space. The corner illustrations are set within similar environments, a backdrop of house and garden. **This gives** each character its own identity and stereotypes roles within society. **There is perspective** in the illustration and a bold use of colour which had not gone before with board game design. The designer used flat colour so that the images could retain the brightness and vitality of the characters. The images have strict borders and limited space and a play on negative space is not apparent. The colour is applied flatly and not shaded or drawn in perspective with the black outline creating more depth to the images.

#### SNAKES & LADDERS:

This is another game originating from the Indian culture; it was a spiritual game of good and evil and known as *Moksha-Patamu*. The game was westernized and came into circulation around the turn of the century. The most obvious design is used here with ladders going up and snakes going down (fig. 15). It is basically a chance game relying on a die to indicate the moves. It is a square board containing one hundred squares of altering colour, pale yellow and blue. The border of red broken lines and small squares is purely decorative.



FIG. 13. Radio Games America, 1929.

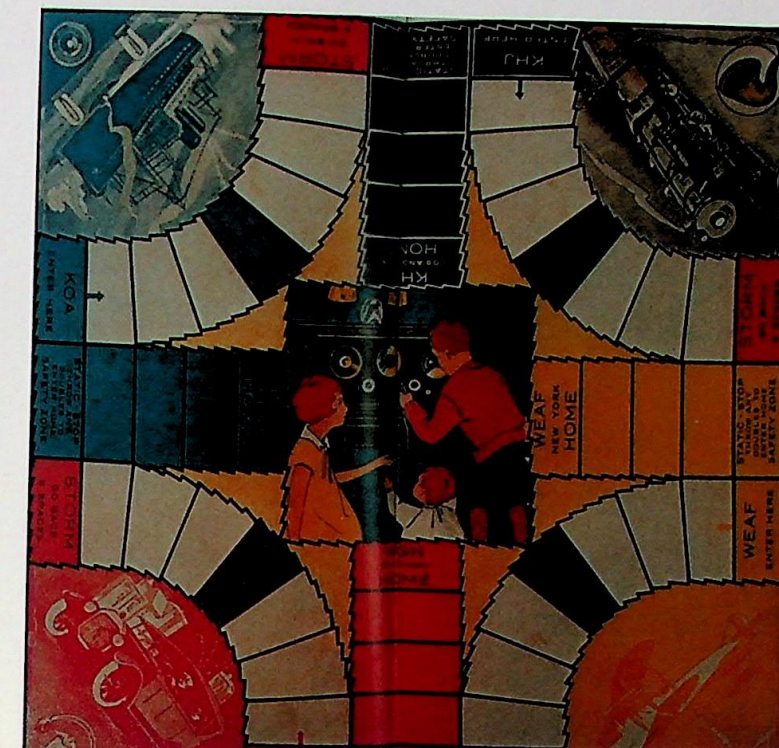


FIG. 14. Mickey Mouse Ludo America.





FIG. 15. Snakes & Ladders  
England.



The ladders are a deep green and vary in length. The snakes have flowing forms with fierce open mouthed heads and cloven tongues. Coloured in black and orange tones which signify negative forces. Black been morbid, depressive and negative to life. Orange is an emotional colour active, unsettling and some what irresponsible. With the light coloured square board and dark subjects it attempts to separate and liven the design by colour contrast.

With a circus theme the game was later called *Ups & Downs* (1920s) (fig. 16) and uses circus imagery and props instead of the snakes. Circus illustration were popular since the impressionists like Degas, Toulouse-Lautrec and Seurat. The board is used in a very imaginative way by relating the up and down movement of pieces to the movement of animals and people of the circus. The board format is composed of one hundred and twenty squares alined around each other to form a rectangle. The board also folds into six when not needed. Because of these folds the illustrated paper top has been divided accordingly which unbalances the image. The images themselves show some sort of perspective but are mainly profile drawings. There is no foreshortening of images which one might expect as with the trapeze artist.

The designer does not consider or make use of the possibilities with perspective by considering different viewpoints. For example the viewer could look up at the trapeze artist, but the artist could use the movement to connect with another square. The designer does attempt to achieve volume by using crosshatching and shows an interest in texture by his rendition of various animals and fabrics. He attempts to create more space but then limits it back to the squares. This makes the game visually complicated and at times confusing.

The representation of the images and their movements have a restrained or stiff feel which implies a lack of expression. The graceful moves are not emphasized. The colours, too, are somewhat lacking the vitality expected by the theme. The squares are chequered and alternate in pale blue and lemon and then are outlined in black. With the altering of coloured squares the black outline becomes an added restriction, appearing unnecessary and out of place. The attempt to create space is of little effect. The props by nature are stiff and handled in a simple manner not giving them much importance. They are just a means of solving a problem but not of any advantage to the design.

The *Bonzo Chase*, (1930) (fig. 17) is possibly the latest of these designs and inspired by the game *Ups & Downs*. The directional moves are not as apparent as the previous designs, never the less this is an extremely; imaginative use of space, because of this the designer has included directional arrows to guide the player. The illustrations shows perspective within the layout. Bonzo is given various positions which allows for foreshortening and results in an interaction between space and objects. The divisions within the board are less obvious and allow for greater freedom.

Negative space plays a more impressive role in the design and brings unity. The designer considers the action of the subject (Bonzo) and tries to create movement by the use of line. This makes the grid of the board less important and directs your vision to the illustration. The background is one colour which also lessens the importance of the grid.



FIG. 16. Ups & Downs  
1920.

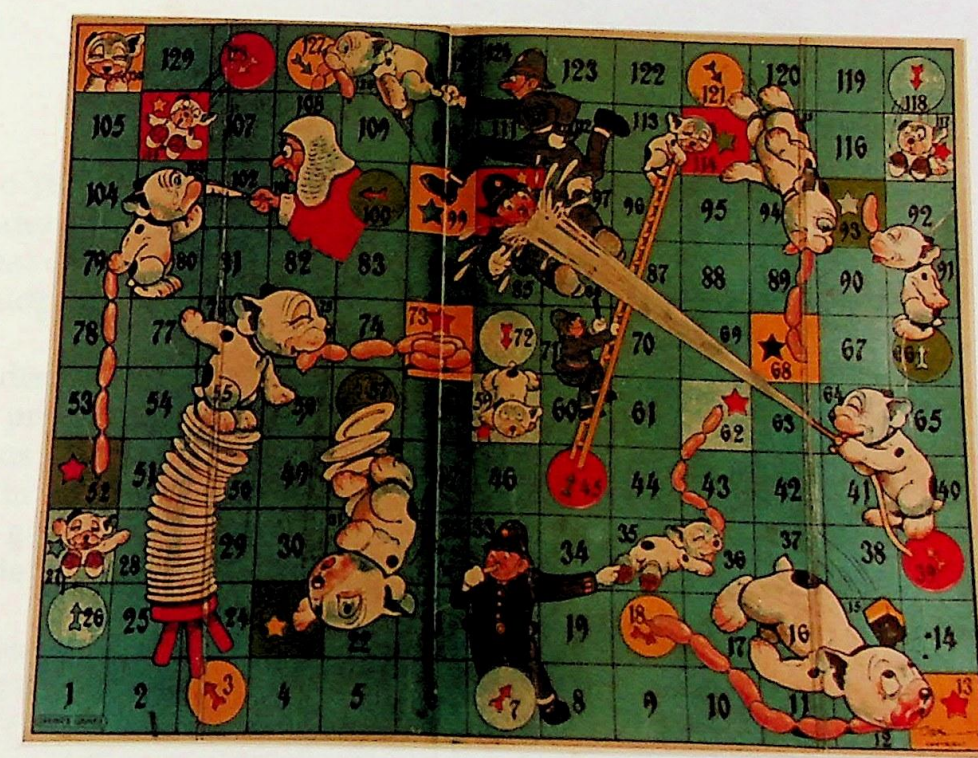
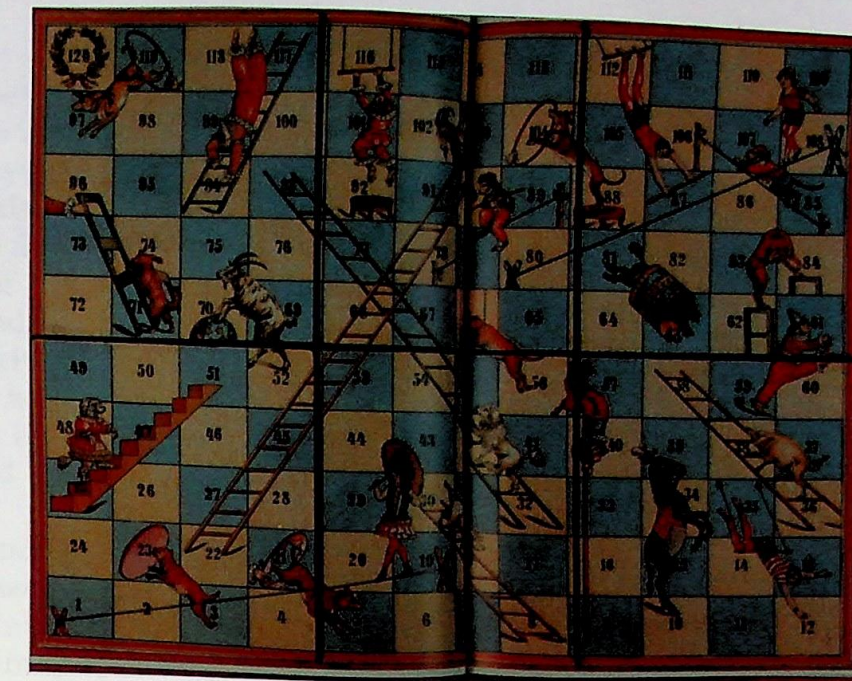


FIG. 17. The Bonzo Chase  
America, 1930.



There are occasional squares of a different colour and these represent the movement up or down of the player. A coloured circle is sometimes incorporated and they allow for a softening of the angular format.

For the majority, the numerals of each square are centred. They do, however, adjust to the design and are then placed wherever the illustration allows. The numerals also vary in size as a result of the images. The rendition of the numerals are not constant and vary in proportion and thickness. Some areas or shapes of the numerals close up and look heavier (inner shape of the numbers). In the double figures the position of the numbers in relation to each other change from too close, too far or sometimes crooked. All this gives the impression of been rendered by hand and attracts to the mood of the board. The cross is not as dominant as before with inward corner curves changing space relations. Still there is little play on negative space. Illustration indicating travel and the new interest in machinery in society, re-inforces the quickening pace of life and advanced interest and communication of society.

Musical notes and stars are used to express the action of the subjects; for example, the policeman blowing the whistle. The illustration attempt to be more descriptive and use line, shapes and halftone for greater detail. Halftone is used to bring volume to the images, thus enhancing the shapes of the subjects. Line is used in a minimal manner and so give importance to the shapes on the board. Halftone is not only used for volume but as a shadowing technique and as such encourages a 3-D effect (fig. 18). In the *Bonzo Chase* the representation of good is significant, where the policeman and judge are portrayed as a means of social judgement.

#### MONOPOLY:

In the mid 1920s *Monopoly* was first thought of, but it was ten years before it came into production by Charles Darrow. *Monopoly* was invented in America during the great depression and is a good example of the influence of social needs on game development and design.

The first design of the *Monopoly* board (fig. 19), was very basic in the use of materials and printing techniques. The three colour design was printed on paper. Unlike previous designs, the *Monopoly* board used a totally new format and was revolutionary in its use of typography. The type on this board was of great importance to game play and this stands in contrast to earlier boards where type was not completely necessary.

Colour, too, was used in a different manner. The shapes resulting from the division of the board, that is the format of the game, were emphasized or intensified by the use of colour within the shapes. Colour was used to code various sections of the board into different property valuations. The first edition of *Monopoly* did not colour code different properties like later designs. Colour had been used prior to this but in a more direct way, that is to distinguish two separate armies as with *Chess*, where the pieces contained the colour variation.



FIG. 18. The Bonzo Chase  
(detail).

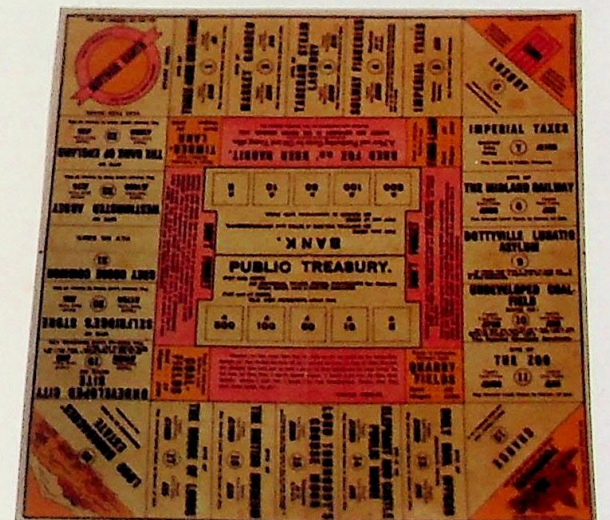
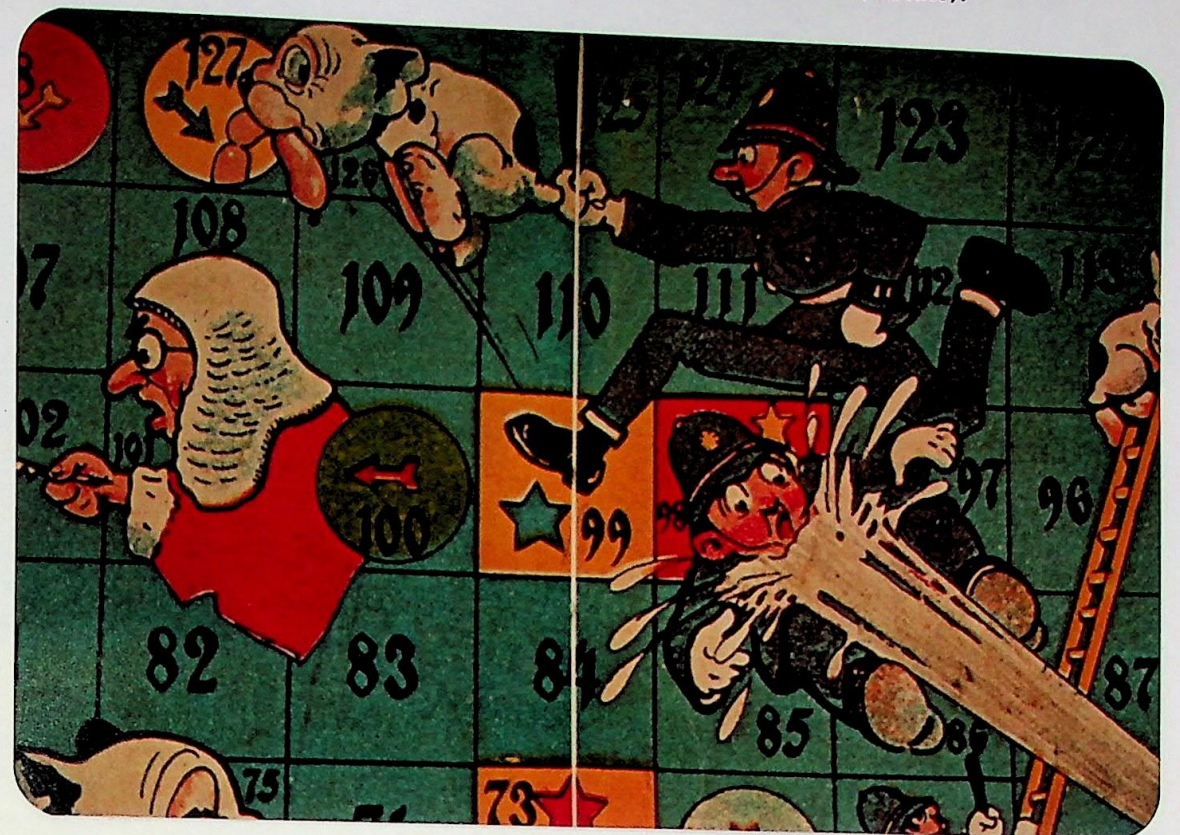


FIG. 19. Monopoly  
America, © 1924.



In *Ludo* colour was used to section the board into four areas and was related to the colour of the pieces. The colour treatment in *Monopoly* was not vital to the movement of pieces as with previous games, but secondary to the game as it supported the administration of property buying and selling.

The original design is more complicated in the use of type, property cards had not been introduced at this point and so the board included this information. Along with the property spaces the centre area was divided and used for the Bank and Public Treasury. These two areas were sectioned to hold the five different money values. The copy for each property was centred in the spaces perpendicular to the sides of the board. Also contrasting with later editions is the inclusion of numbers for the spaces. This appears to be unnecessary and as a result was deleted. The simplification of the design results in a unique board design with which type and colour coding are rendered with a greater awareness. When the design was revised and property cards added, the board was simplified and the majority of type edited. This design, like many ancient games, does not rely on illustration as a means of decoration. The colour shapes in the format are abstract decoration and are reflected in the sans serif typeface with its geometric forms.

This format and design shows a new consciousness of shape and colour in board games. It shows a further development of early geometric designs. In later editions of *Monopoly* (1976) (fig. 20), the same basic layout is still applied. The space moves around the perimeter of the board have been altered to incorporate four extra spaces each side. The type has been centred to be read from each side whereas before the type was at right angles to the edge of the board. The size and scale of the type has been reduced, and unlike the first edition some graphic illustration has been introduced. This illustration occurs on spaces of extra importance to the game, where the property has more significance or where the player is directed in a specific action. The centre square of the board comprises of the *Monopoly* logo and two diagonal rectangular areas for the Community Chest and Chance cards. The *Monopoly* logo is a sans serif typeface in uppercase. The type is outlined in black with the spacing tight. This simple but dramatic use of type in the logo reflects the style of the design.







## CONCLUSION

In conclusion, the whole aspect of board games, their function, relevance and the manner in which they are presented to the individual is a very complex issue. The differing concept of the function of games is a major area where confusion arises. Board games can be said to be multi-functional, from entertaining and stress relief to personality assessment and mental stimulation. With ancient board games the function was, I believe, for survival purposes. War tactics could be played out and analyzed as with *Chess*.

In later modern board games survival does not appear to be the function in the same manner. The function of games evolved into entertainment and education. Entertainment as a function is indirectly educational as it increases our knowledge for integration and as such social education. Board games in general require two or more players and even this causes us to interact and communicate with others. Board games as a medium for education allow us to directly or consciously retain information not specifically for behavior adjustment.

This education in physical knowledge is the area in which illustration and typography become most important in game design as it is the information and not the game itself that is more important. For educational purposes, board games are a creative method of generating interest with young people, and for this application the presentation of information in board game design is vital. With social/moral behavior education the designer has more freedom in his choice and rendition of subjects. Type need not be included and therefore board games of purely illustrative design are usually for entertainment and not education.

Very few educational board games rely on illustration alone, and so type and the designer's use of it, play an increasingly dominant role. Board games since the industrial revolution have changed dramatically in their presentation and design. The effects of technology and the resulting social change having a revolutionary impact on board games. At the time of the industrial revolution the introduction of printing and type was an important step in game design as it gave increased awareness to the written word in the individual's environment. By including words as part of design work, the individual became conscious of words as design in their shape, style and size. This new appreciation of type led to many further applications of type as design. This is especially noticeable and relevant with children's educational games, in which the alphabet is the main subject. Because of new technology the materials for the production of board games ad



vanced. With the reduction of production time, and the increase in production quantity, the availability and market for such games expanded and with it their influence on society. This easy accessibility to board games allowed for an huge increase in the design and production of games. The increasing popularity of board games after the industrial revolution can be accounted for in two areas: the desire for knowledge and social communication, and the increased leisure time as a result of the machine age, and continuing the interest in board games to the present time. As technology advanced, so to did the possibilities for board games. A further development in board game design has resulted in computer games. It is the flexibility of board games to meet the changes in our environment that has helped keep them fashionable and appealing to each new generation.



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