

chapter 6

Balls and clubs



A. B. v. Velde. 5
1860



Balls and clubs

The two most important implements for the game of golf in whatever period are the club and the ball. Other items of historic importance are the forms of targets used and the rules by which people played the game. These elements all give an insight into how golf has developed into the popular game of modern golf, as we know it today.

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The most likely theory is the early game of golf found its way from the Flanders to Britain during the late Middle Ages following the Norman Conquest led by William the Conqueror. The Flemish nobility moved into Scotland where the early game of golf developed into the royal and ancient game of the Stuart dynasty. With the people of Flanders, the game had earlier migrated to the northern Low Countries. There it developed into the popular game of colf during the Golden Age of the Republic of United Provinces of the Netherlands and subsequently the newer game of kolf in the late eighteenth century.

Scotland and the Low Countries had always kept close social and commercial ties because of their shared ancestry and heraldry in Flanders. This culminated in the royal marital interrelations between

the Stuarts in Scotland, and later in England, with the House of Orange in the Dutch Republic. After the death Prince William III of Orange, Stadtholder of the Republic and King of England, Ireland and Scotland, the early game of colf gradually lost popularity and faded away into obscurity at the end of the eighteenth century. However, in Scotland the game of golf continued as a Masonic pastime of a small group of 'Caledonian Chiefs' in the eighteenth century.

Golf finally developed into the modern game with the arrival of the rubber ball. In the age of the nineteenth century Industrial Revolution, this Scottish pastime became a game played throughout Great Britain and the British Empire. Thereafter the game spread over the world well into the twentieth century.



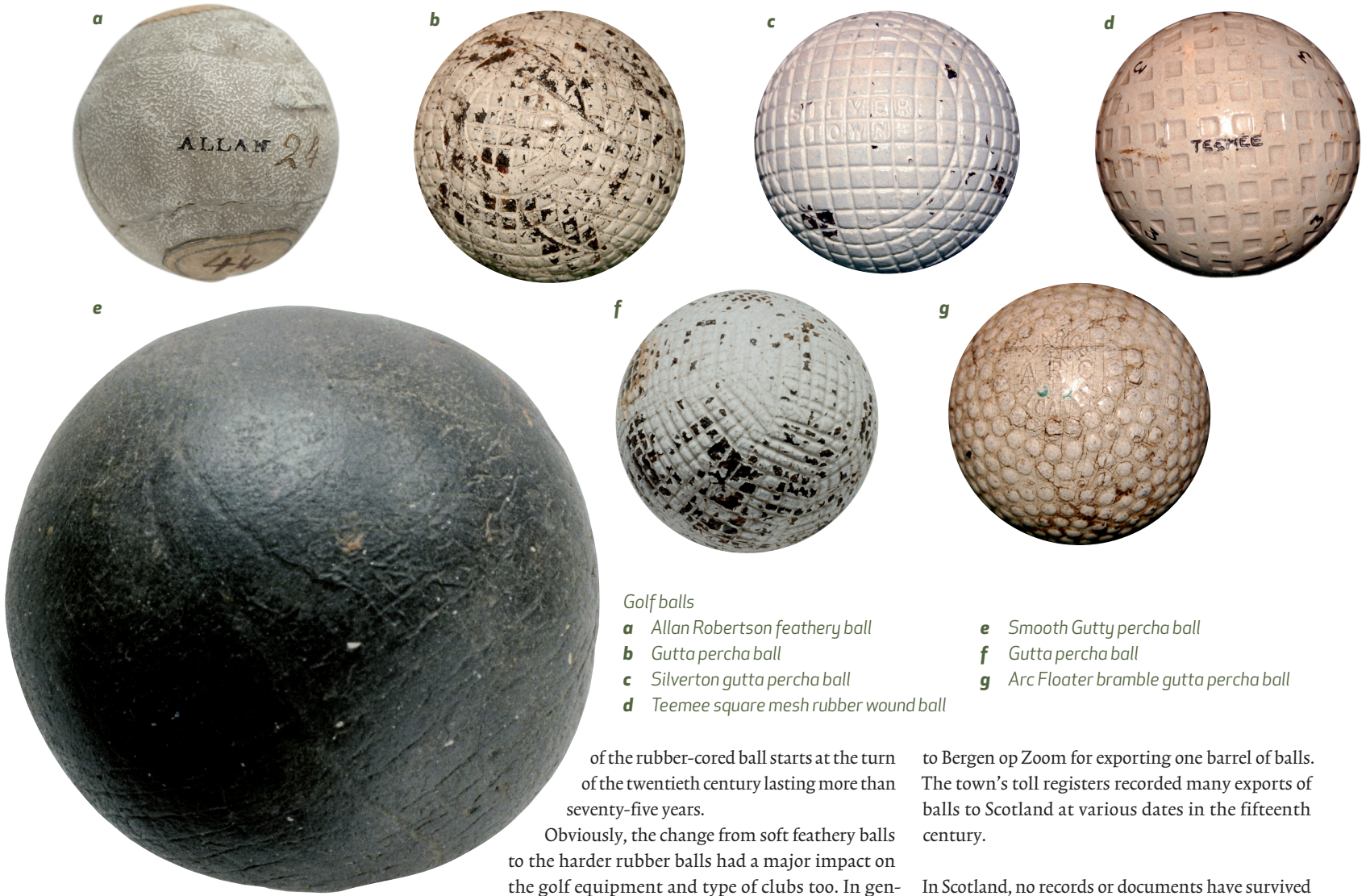
Wooden balls

The earliest form of golf played in Europe was with a wooden mallet or crosse and a wooden ball. From a dynamic game of two opposing teams and one ball, the game had gradually evolved into a more static game with each player hitting his own ball towards a distant target. From this old jeu de mail or jeu de crosse form of early golf the game of pell-mell developed and became a pastime of nobility at the royal courts of Paris, Brussels, The Hague and London. This game of pell mell, played with a wooden mallet and wooden ball continued well into the seventeenth century. In the Republic, the newer game of kolf developed from this malie game using existing elements of colf and beugelen. From the old jeu de crosse, also named chouler or souler à la crosse, the game developed into the target game of colf in the Dutch speaking northern Low Countries. Many Dutch speaking Flemish Protestants had fled to the northern Low Countries at the beginning of the Eighty Year War to avoid the Catholic oppression of the Spaniards in the southern Low Countries.

Interestingly the game of jeu de crosse has to this day survived all regional trials and tribulations. Villagers in the old French speaking Flanders region still play



Crosse and wooden ball



Golf balls

- a** Allan Robertson feathery ball
- b** Gutta percha ball
- c** Silverton gutta percha ball
- d** Teemee square mesh rubber wound ball
- e** Smooth Gutty percha ball
- f** Gutta percha ball
- g** Arc Floater bramble gutta percha ball

it as a traditional game with a single wooden ball and a single club between two opposing teams of three players. The club now has a forged iron head with two typical hitting surfaces. The wooden ball is egg-shaped and placed on its pointed side to help make a proper hit. The rules allow the attacking team three hits towards a target in the form of a wooden post before the defending team can try to hit the ball away from the target, preferably towards a ditch hazard. This area of Flanders is now southern Belgium and northern France around Mons or Bergen.

Usual historic surveys of balls used for the game of golf as it was played in Scotland start with the leather or feathery ball followed by the gutta percha ball and finally the rubber-cored balls. These are the three main phases of the development of the ball leading the world towards the modern game as played today. The leather ball roughly covers the period of more than four hundred years from the mid-fifteenth century to the second half of the nineteenth century. The gutta percha ball covers the period of early modern golf of about fifty years from the middle towards the end of the nineteenth century. The history

of the rubber-cored ball starts at the turn of the twentieth century lasting more than seventy-five years.

Obviously, the change from soft feathery balls to the harder rubber balls had a major impact on the golf equipment and type of clubs too. In general, the softer the ball the harder the wooden club head should be and vice versa. In sixteenth century Scotland, there are many references to golf balls. The earliest record in Scotland is dated 1452 offering 'goiff' balls for sale.

Most probably, the balls were imported from the Low Countries where specialized ball makers produced large quantities of leather balls filled with animal hair. Originally, these balls were made for the highly popular game of caets or caitchpul, the early game of tennis, in the Low Countries. Colf players adopted the balls as a replacement for the harder, more dangerous wooden balls made of elm or beech. Numerous archive records show that these stuffed leather balls were exported from the Low Countries to Scotland in the fifteenth century.

Balls were produced in the town of Goirle near Tilburg and traded in weekly markets in Bergen op Zoom. From there the balls were shipped to other ports and countries. The earliest documentary record is dated 1486 when Ritsaert Clays paid six groats toll

to Bergen op Zoom for exporting one barrel of balls. The town's toll registers recorded many exports of balls to Scotland at various dates in the fifteenth century.

In Scotland, no records or documents have survived describing how people played the game or what type of balls or clubs they used in the early game of golf locally. There was of course the first known law instituted by King James II in 1452 banning the play-

De Kolf, engraving by Jan Luyken (1649-1712), illustration in Des menschen begin, midden en einde, by Jacob Cats (Rijksmuseum Amsterdam)





Allan Robertson (1850)

ing of golf. However, there are no early iconographic images or other written evidence about how people really played the game and with what material.

In Flanders, however, there is rich iconographic evidence provided in the miniature painted decorations of books of hours in the fourteenth and fifteenth century. These images definitely provide an impression on how people played the game and what material the players used. The wonderful decoration made by Master Simon Bening in a Flemish book of hours of about 1520 probably gives the clearest insight of the early game of colf as played in the Low Countries. The similarities between this early Flemish game of colf and the game of golf as played in Scotland are plentiful. It is no coincidence that Scotland imported stuffed leather balls used in the Low Countries for caets and colf. They were used locally in the Scots own favourite pastime. An edict of King James VI in 1618 finally stemmed the import of balls to, and the outflow of funds from Scotland.

The edict granted James Melville a golf ball monopoly in Scotland. Thereby it probably improved the country's balance of payments as well as paying handsome royalties to the crown from this erstwhile cartel. Balls arriving from outside the realm would be confiscated and the proceeds shared between the crown and Melville. Although the royal monopoly did not last, it provided a lasting incentive to local ball makers in the burghs of Scotland.

The locally produced stuffed leather balls became known as featheries after ball makers replaced the heavier animal hair filling with goose down or the feathers of ordinary cocks and hens. Under the reign of the Stuart kings of Scotland, the game of golf became the favoured pastime. The local ball making industry of featheries enjoyed dramatic growth.

From an advertisement in the *Royal Gazette* in New York in 1779 it is known that these good 'Caledonian

balls' even found their way to the British military. Most probably to golf playing officers of Scottish regiments in America during the War of Independence. Very few early feathery balls have survived and the oldest known sold at auction in the market is a second mid-late eighteenth century ball (Bob Gowland Auctions, Miami – 18th March 2001, lot 241).

Ball makers in the beginning were mostly skilled leather shoemakers or cobblers but as the production of balls increased a new category of craftsmen surfaced specialized in ball making, club making and caddying. This breed of men would become the nineteenth century's first professionals of the game. Men such as Allan Robertson and Old Tom Morris, who supplemented their incomes by playing head-to-head matches for money. 'Keeping of the green' also became a related profession of course maintenance. The Romans already used the technique of making leather balls and they introduced it to northern European countries following their conquest. The Roman occupation of European territories lasted until about 500 AD. Monasteries and royal courts subsequently used leather balls for the early games of 'jeu de paume' and 'caets', originally a hand ball game and a precursor of tennis. To protect the hand from the blow of the ball, players first used leather gloves and later bats and rackets with gut strings.

Early ball makers in the Low Countries had developed a technique to make balls harder by cutting and sewing the boiled leather skins, then stuffing the wet leather, pattern reversed inside out, with animal hair. The wet leather cover shrank and hardened as the hair expanded after drying creating an increased compression and bounce of the ball. The stuffing was done through a small hole left in the stitching and then closed by pulling the thread. With the stitches inside the ball, the outside surface was flat and round. To ensure a proper round form the wet leather ball was hammered into a mould before drying. Various patterns or templates were used to form a round ball after stitching. Holes were punched through the moist cut leather pieces to facilitate the stitching. Ball making was a laborious and difficult craft. It is estimated that a good ball maker could produce no more than three balls a day making these expensive for the ordinary man. For the durability of the ball for the game of colf, it was important to keep the ball dry and non-porous by adding white-lead paint to the outside. In the Low Countries, the ball makers occasionally decorated the leather balls with colours or personalised them with markings to enable identification of the costly ball when playing.

Instruments and tools used for ball making in Goirle in the province of Brabant of the Low Countries have been conserved. They may be viewed in the museum Heemerf "De Schutsboom" of the regional historical society 'De Vyer Heertganchen' in Goirle in the

Netherlands. Similarly, the British Golf Museum in St Andrews exhibits the comparable instruments used by early feathery ball makers in Scotland.

During the heyday of caets and colf in the Low Countries in the mid-seventeenth century, more than twenty five qualified ball makers established themselves in Goirle and organized in a guild of professional ball makers. The leather balls came in a wide variety of sizes and weights depending on the destination and end-users need. With the gradual disappearance of caets and colf games in the late eighteenth century, the ball industry in Goirle suffered too. It ended in the second half of the nineteenth century with the coming of the rubber or gutta percha ball, a phenomenon that would advantageously affect the modern game of golf in Scotland. Inhabitants of Goirle to this day are still nicknamed 'ballenfrutters', a name that refers to the widespread craft in olden times of leather ball making in the region. 'Frutten' (or 'frutselen' and 'prutsen') means fiddling, as a derogatory way to say making or producing something. That the feathery ball made in Scotland used an identical technique is colourfully explained in Thomas Mathison's well-known poem *The Goff* of 1743:

*'The feathers harden and the leather swells;
He crams and sweats, yet crams and urges more,
Till scarce the turgid globe contains its store.'*

The careful reader may have noted that Mathison here refers to the traditional ball making process of the feathery.

The formation of golfing societies in Scotland created a growing, stable source of employment for ball and club makers. This would continue until the traditional and ancient character of the game changed with the introduction of gutta percha. This change revolutionized the game at a time when the game of golf was attracting more and more enthusiasts in Scotland and England.

Feathery balls were expensive relative to the wooden club because of the laborious manufacturing process and the limited durability. The cheaper rubber balls, new golf courses, better means of transport, improved manufacturing processes, an improving economy and a growing upper middle class all gave impetus to the further expansion of a new and modern game of golf. A game that had itself, hardly survived the turn of the nineteenth century in Scotland.

The clubs used to propel the feathery ball were the traditional long-nosed concave-faced wooden clubs. Initially beech was used, but hawthorn, apple and

*Tom Morris, by Sir George Reid
(British Golf Museum, St Andrews)*



pear became the preferred timber for quality clubs. Woods needed to be light but very hard as they were used in a flat sweeping motion to propel the ball between 150 and 200 yards. The flat swing path prevented rupturing the balls easily if they were struck perfectly. Iron headed clubs were only used as a 'rescue club' if a ball was hit into a hazardous lie. Other iron headed clubs could be a long shafted cleek or a putter. Normally a player would have up to six long-nosed wooden clubs.

Who exactly had introduced gutta percha as a new base material for golf balls is not clear. James Balfour in *Reminiscences of Golf* recorded the first match of golf using gutta percha in 1848. This was when he and his half-brother Maitland Dougall played a double match at Blackheath Golf Club in London with Ralph Anstruther and William Adam of Blair-Adam.

'A most curious thing - here is a golf ball of gutta percha, Maitland and I have played with all day in the rain, and it flies better at the end of the day than it did at the beginning.' This new type of ball was taken immediately to Musselburgh for a try out as well as being shown to Gourlay the ball maker.

A watchmaker in Musselburgh, William Smith, may be the first claimant of inventing the first gutta percha ball. He was clearly a man of 'considerable inventive genius' in more ways and is remembered in town as the inventor of a tricycle. He is said to have picked some sheets of gutta percha to re-sole his shoes having read about this new material in a local newspaper in 1847 and rolled up leftover clippings into a ball. Another claimant was Robert Adams Peterson, a student in St Andrews and a keen golfer himself. He



Golf balls

- a Robert Gourlay Feathery ball
- b Gutta percha ball
- c Penfold rubber-wound ball - Squares
- d Spalding Dot rubber-wound ball - dimples
- e Haskell rubber-wound ball - bramble

collected the gutta percha shavings, used as protection in a crate his father received in a shipment from Asia, and mould the softened material to form a new golf ball. He passed this idea on to his brother John Peterson, who improved the technique and eliminated the flaws that caused the gutta percha balls to

break open or crack.

He sold these early smooth gutta balls as 'Paterson's Composite Patented' thus commercializing his brother's invention.

The addition of vulcanized Indian rubber, cork and leather to improve the qualities of the gutta material made the ball more versatile. This ball was given the name 'putty' or 'guttie' referring to the more elastic qualities of this ball as opposed to the real gutta. Well-known is the 'Eclipse' gutty ball that tended not to crack or split during cold weather conditions. Another well-known ball is the harder 'Silverton no. 4' gutty ball.

Witnessing the new gutta percha ball was a complete shock to most professional ball makers and not few castigated its use. When Allan Robertson found out that even his apprentice Tom Morris was experimenting with the new gutta percha ball he gave up his criticism and opened the door to a new era in golf history.

The new gutta percha ball in comparison to the old feathery was cheap, robust and more controllable. Although the ball was more durable, it had less length than its predecessor did. However, once players had

Machine gutty ball



adjusted to the new qualities of the gutta, the scoring average improved substantially.

The smooth surface of the early gutta had the disadvantage of giving the ball an unreliable flight causing it to 'duck and dive' too much. This was resolved by hammering it all around with a sharp instrument once it was discovered that scuffed balls gave better flight results. Now regular mesh patterns added to the surface of the moulded ball became the new norm that all ball makers copied.

The introduction of mechanical cutting machines improved and standardised the manufacturing process. Ball makers introduced metal moulds to

form the heated gutta percha so no longer needing to roll the solid gutta by hand. They added patterns to the mould with a fine mesh followed by a bramble design. The hemispherical shaped moulds were pressed together by screw mechanisms or hydraulic equipment to produce a good round ball once the gutta content cooled.

The brambling and the dimpling of the golf balls in combination with the rotation of the ball in flight gave the player much improved control of the ball. Spinning and manoeuvring the ball became new features of the game adding to its growing attraction for the golf player. The game's popularity exploded in the mid-1890s in Britain. Very soon America discovered the game, played with this 'dirty brown gutta ball'.

People such as Allan Robertson, Tom Morris, James C. Goulay and others, switched to using the new ball as a replacement for the expensive feathery. Earlier the production of gutta percha was entirely in the hands of the traditional feathery ball makers. Club makers too had discovered that producing gutta percha balls was an attractive extra income and a good business for little investment. Production companies like Hyde Imperial Rubber Company, initially supplied ball makers large quantities of gutta percha rod as the base material.

Commercial manufacturing companies took on the production of gutta percha golf balls themselves using the new breed of skilled labourers and industrialized processes that surfaced during the Industrial

Revolution in Britain. Eventually, the traditional ball makers and club makers could not stand up against the growing commercialization of golf ball manufacturing by the larger and industrially mechanised companies in Britain by the 1870s. After the turn of the century, American rubber manufacturers would also turn their attention to the manufacturing of golf balls and introduce newer techniques and patents building on the gutta percha revolution.

At the end of the gutta era, A.G. Spalding & Bros. introduced the 'Vardon Flyer' manufactured 'in England from the Special Gutta', capitalizing on the fame and name of the great golfer from Jersey. Spalding and Vardon were yet unaware of the upcoming revolutionary development of a new rubber-cored ball in America, the Haskell ball, patented in 1899 and manufactured by the rubber company of B.F. Goodrich. The rubber-cored ball would rapidly overtake the gutta ball. Harry Vardon promoted the gutta 'Vardon Flyer' ball touring America and playing with it in the US Open in 1900. By the end of the nineteenth century, there were more than forty manufacturers of gutta golf balls in Britain.

The hard gutta balls needed a softer and more pliable wood used for club making. In Britain, the choice fell on beech but in America club makers preferred dogwood. Eventually light and tough persimmon wood became the choice of players on both sides of the Atlantic towards the end of the century. Club heads and necks needed to be made stronger to absorb the impact of the harder gutta ball.

In addition, the shape of the club heads changed and gradually became shorter with a deeper face establishing the new bulging shape for wooden clubs with a convex face for improved resilience. The development of new machinery increased club manufacturers' daily production. The gutta ball encouraged the use of iron clubs that improved the reliability of the gutta ball. The putting game too became an increasingly important scoring element of the game using the new gutty.

Gutta percha was used for various industrial purposes and by the end of the nineteenth century was becoming scarce and expensive. The early gutta's made by professional ball makers like Goulay, Robertson, McEwen, Park and Dunn have now become rare pieces of the avid golf collector.

*'They say it comes frae yont the sea,
The concrete juice o' some rare tree...'*

The word 'gutta' stems from the Malaysian word 'getah' meaning rubber or gum sap and 'percha' means tree. Gutta percha (*Palaquium gutta*) is a genus of tropical trees native to Southeast Asia. It is also the natural latex produced from the sap of the gutta percha tree.

Chemically, gutta percha is determined as a polyter-

pene. The gutta latex is bio-inert, resilient, and is a good electrical insulator because of a high dielectric strength. Pioneer experimenters from Europe discovered the properties of gutta latex in 1842, although the local population in its Malayan habitat had used it for a variety of applications for centuries.

Allowing this fluid to evaporate and then thicken in the sun, produced latex. Hot water would restore the flexibility of the latex. Unlike non-vulcanized rubber, it did not become brittle. By 1845, telegraph wires insulated with gutta percha were being manufactured in the United Kingdom. Gutta percha served as the insulating material for some of the earliest undersea telegraph cables, including the first transatlantic telegraph cable. Gutta percha was particularly suitable for this purpose, as marine plants or animals did not attack this resistant material.

In the mid-nineteenth century, gutta percha was used to make furniture, as well as pistol handgrips and rifle shoulder pads since the material was hard and durable. The material was quickly adopted for numerous other applications. The gutta golf ball revolutionized the game.

Until superior synthetic materials gradually replaced it gutta percha remained an industrial staple well into the twentieth century. Although a similar and cheaper natural material called 'balatá' was often used in gutta percha's place. The two materials are almost identical, and natural balatá is often called gutta-balatá. The same bio-inertness property that made it suitable for marine cables also meant that it does not readily react within the human body. Thus, it is still used for various surgical devices and for dental applications including padding inside fillings or root canal therapy.



Gutta percha tree

In Praise of Gutta Percha

Song written by William Graham, LL.D.

(1st September 1848)

'Of a' the changes that of late
Have shaken Europe's social state,
Let wondering politicians prate,
 And 'bout them mak a wark a'.
A subject mair congenial here,
And deare to a Golfer's ear,
I sing – the change brought round this year
 By balls of GUTTA PERCHA!

Though Gouf be of our games most rare,
Yet, truth to speak, the tear and wear
O' balls was felt to be severe,
 And source o' great vexation;
When Gourlay balls cost half-a-crown,
And Allan's no a farthing down,
The feck o's wad been harried soon
 In this era of taxation.

Right fain we were to be content
Wi' used-up balls new lickt wi' paint,
That ill concealed baith scar and rent –
 Balls scarcely fit for younkers.
And though our best wi' them we tried,
And nicely every club applied,
They whirred and fuffed, and dooked and shied,
 And sklentit into bunkers.

But times are changed – we dinna care
Though we may ne'er drive leather mair,
Be't stuffed wi' feathers or wi' hair –
 For noo we're independent.
At last a substance we hae got,
Frae which for scarce mair than a groat,
A ba' comes that can row and stot –
 A ba' the most transcendent.

They say it comes frae yont the sea,
The concrete juice o' some rare tree –
And hard and horny though it be,
 Just steep it in the water –
As saft as potty soon 'twill grow,
Then 'tween your loofs a portion row –
When cool, a ba' ye'll get, I trow,
 That ye fro years may batter.

Hail, GUTTA PERCHA! Preious gum!
O'er Scotland's links lang may ye bum;
Some purse-proud billies haw and hum,
 And say ye're douf at fleein';
But let them try ye fairly out,
Wi' only balls for days about,
Your merits they will loudly tout,
 And own they hae been leein'.

'Tis true – at first ye seem to hing,
And try the air wi' timid wing –
But firmer grown, a sweep you'll fling
 Wi' only ba' o' leather.
Ye're keen and certain at a put –
Nae weet your sides e'er open up –
And though for years your ribs they whup,
 Ye'll never mout a feather.

But noo that a' your praise is spent,
You'll liste to a friend's comment,
And kindlier tak on the paint,
 The ye wad be perfection.
And sure some scientific loon
On Golfing will bestow a boon,
And gie ye a cosmetic soon,
 And brighten your complexion.'

The idea was Haskell's although he had little to do with the later development and manufacture of the ball itself. Credit was also given to Emmett Junkins of the Goodrich Company who began the first hand winding of this type of golf ball. John Gammeter invented and developed the first automated winding machine that would dramatically increase the production of the new rubber-wound Haskell balls. In 1900, a USA Patent was granted to Gammeter and assigned to Goodrich for this new winding machine and mechanised process. After the introduction of mass-production, the Haskell ball became a huge success although early testing results were not that favourable as balls would duck and dive as the early gutta balls did.

Adding the characteristic bramble pattern resembling a blackberry to the cover of the ball improved the performance dramatically. This pattern was already known as the Agrippa Bramble mould for gutta percha balls introduced by Robert Forgan. Leading golf ball manufactures in the UK and USA took out licences to manufacture this new rubber-wound ball. The field in Britain became open to all manufactures after the Haskell Ball Co. Ltd unsuccessfully sued Hutchison Main & Co. of Glasgow for an apparent infringement of their patent and the House of Lords turned down their case. In the USA Haskell's patent remained protected. This development became a stimulus for the further evolvment of many registrations of patents for new types of balls based on the principle of rubber-wound golf balls as invented by Haskell.

There were changes to the mesh or design of the cover to improve further the flight of the ball. The ball cover itself was strengthened to improve its longevity. Tests had proved the dimple design by William Taylor in 1905 of the cover 'formed with a number of shallow isolated cavities' produced the best flight results. The Red Dot by the manufacturer Spalding is probably the more famous of the first dimpled balls of golf history.

Taylor had sold the rights of the dimple patent to Spalding for a period of seven years. As the dimple pattern had showed to have the best aerodynamic qualities, other manufacturers were forced to copy it with other recessed patterns like circles, squares, stars or rings. Dunlop entered the world of golf ball manufacturing in 1911 with a new incompressible liquid core for the rubber-wound ball.

The immediate effect of the new balls was about another twenty-five metres added to the length of a driven ball that therefore resulted in adjustments needed to course designs. As a further result, a new breed of professional golf course designers and architects was born.

The newly introduced manufacturing process had made the golf ball market highly competitive and many golf ball makers had entered this market by

The invention of the rubber-cored ball is ascribed to the American Coburn Haskell (1868–1922) after whom the famous Haskell ball was named. Haskell was involved in many industrial enterprises in Cleveland, Ohio. He was married to the wealthy Mary Hanna, whose family owned the Hanna Mining Company, and he eventually joined the board of this company. He became associated with Bertram Work of the rubber manufacturing company B.F. Goodrich. Among his many hobbies was golf, a new rapidly developing sport in America in the late nineteenth century. With Bertram Work in 1898, he developed

the idea of winding an elastic rubber thread round a hard core and covering the threading with a gutta cover to improve the flight of the ball. A USA Patent was granted to Haskell and Work in the same year: "Balls for golf or other games are formed of two parts, an inner elastic part A and an out in-elastic part B. The inner part consists of a rubber thread wound into spherical form under tension approaching the elastic limit. A small central hard core can be used on which to wind this thread. The outer part is a gutta percha shell, moulded as usual. Any known substitute may be used for the gutta percha."

the turn of the century. The old breed of professional ball makers now restricted themselves to the remould of damaged rubber-wound balls and developed a market of cheaper used balls. Going forward no material change in the principle of golf ball construction occurred apart from quality improvements. As there was no limit to the size of a golf ball pressure grew to standardise the ball and introduce uniform rules. Authorities in the USA and UK did agree on a standard ball although both agreed on a different size. The R&A preferred the 1.62 x 1.62 standard, that is, a minimum size of 1.62 inch and a maximum weight of 1.62 ounce. Eventually in 1990 the USGA and the R&A agreed to accept the larger American 1.68 inch (or larger) size ball as the new uniform standard worldwide.

The arrival of the new Haskell ball had done more to stimulate the game of golf than any other previous development. Although more expensive than the cheap gutty this new ball was worth the premium to the average player and was still relatively cheap in comparison to the normally inexpensive clubs at the time. The ingenuity of mechanising the winding process of hundreds of feet of elastic rubber thread on to a core and applying a hardcover to the ball produced the most significant invention in the whole development and history of golf.

Once great players such as Sandy Herd and Walter Travis started using this new ball nicknamed 'bouncing Billy' and winning major championships, others followed suit rapidly. They abandoned their previous suspicions about the quality and reliability of this new revolutionary ball especially after manufacturers were able to improve the quality dramatically. The marketing abilities of the new breed of large manufacturing companies bought the industrially produced ball to the attention of the ever-growing golfing population, and so change forever the modern game of golf.

The growing commercial interest of manufacturers of golf equipment led to hundreds of inventions and registered patents since the beginning of the twentieth century on to this day coinciding with the popularity growth of the game itself.

Golf ball patents relate to the machinery of ball manufacture, the cover and paint, the markings on the cover, the mechanical process and machinery of the winding, the core and materials used. At the same time, regulating and supervising authorities continuously set the rules to which the manufacturers have to subject their newly developed equipment, including balls and clubs.

The history of the early game of golf is very much related to the clubs used to play the game. It may be assumed that man, *homo erectus* evolving to *homo ludens*, invented and integrated forms of play into his everyday life pattern. Play as a pastime appeals

to the competitive nature of human beings and their social need to have leaders and winners. To be a game winner it is necessary to train ones skills and to have proper equipment at ones disposal.

Some historians romanticize the earliest golf players as shepherds using their crook turned upside down and hitting cobbles towards a target. Man has been given a pair of legs and feet as well as a pair of arms and hands. Give him a ball and he will throw, smack or kick the ball. Give him a ball and a stick and he will hit it. A combination of both is possible too.

It can be safely assumed that mankind all over the world independently developed various forms of ball games as well as ball and stick games. It would be a farfetched conclusion to state that all ball and stick

games are related to the modern game of golf, as we know it today. It is commonly known that Asian Chinese, North American Indians and European Romans played ball games independently from one another.

Looking at the modern game of golf as it developed in seventeenth century Scotland it is important to look into the history of Scotland itself and the interrelations between Scotland and its neighbouring European countries. Earliest immigrants into Scotland from mainland Europe were tribal Celts (Picti, Scotii and, Briti) forming the nation's well-known Gaelic tradition.

Later the Romans invaded and colonized Britain (Britannia Terra) concentrating on the region south of



Psalter of the Abbey of Fecamp in Normandy – November scene (13th century)



Hadrian's Wall but they also ventured into northern territories. The Romans at the same time colonized the Low Countries (*Belgica Terra*) west of the river Rhine and north of the Seine.

After the collapse of the Roman Empire at the end of the sixth century, a new wave of non-Romanized pagan Germanic tribes settled in Britain (*Anglii*, *Saxi*, *Juti*, and *Frisii*). In addition, Vikings from Scandinavia invaded the British Isles in the ninth century. Towards the end of the eleventh century, the people from Normandy and Flanders joint invasion of Britain would dramatically change the face of the entire British nation.

The northern Scottish nation regularly fought wars against its encroaching southern English enemy. At the same time, it formed political alliances and trading relationships with its European neighbours in the Low Countries and France to preserve and protect their autonomy from England.

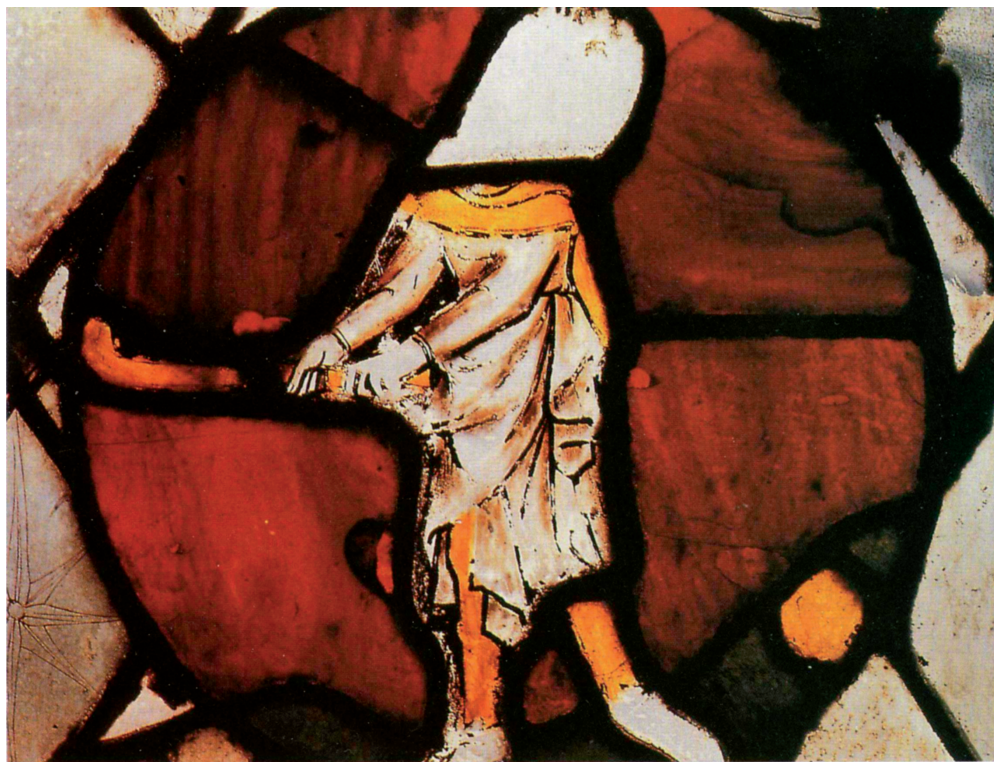
Uniting the crowns of Scotland and England in 1603 under James Stuart changed the political scene of the two nations for good. In the Low Countries, the Golden Age of the new Republic of the Netherlands simultaneously dawned and socio-political relations between Scotland and the Dutch Republic grew closer.

The early Celts (Gaelic) played a stick and ball game between two opposing teams. The illustration of the 'Creçy' man in the cathedral of Gloucester is believed to be playing this originally Gaelic stick and ball game. It is mostly believed to be a representation of the ball and stick game '*souler à la crosse*' or '*sollen met den colf*' as it was played in Flanders in the fourteenth century and before.

There is a strong suggestion the game of early golf made its way from Flanders to Alba (Scotland). The game followed the Norman Conquest and the resulting Normanisation of Britain through the connections of Flemish Knights and the Knights Templars to the Freemasons and Scottish nobility. The game became the Scottish royal and ancient game of golf that we know today as the modern game of golf.

In Scotland, there was a strong connection between archery and golf. There is the commonly known edict of 1457 by King James II banning both football and golf in favour of archery. The affinity of archery and golf was in the making of the bows and arrows for archery and the clubs for golf. In addition, Masonic societies organized the activities of both games in a similar manner as a pastime.

Many of the students and members of the universities and town councils in Edinburgh and St Andrews were both archers and golfers. Craftsmen for making the attributes for archery and golf most probably were artisans living in the town communities



Great East Window – Crécy detail, man playing game of cambuca, (Gloucester Cathedral Church of Saint Peter)

active as bow makers, carpenters, blacksmiths as well as shipwrights and fishermen. These all had the knowledge and the tools to connect spliced wooden joints or forge iron shapes and blades. Wooden club heads were thus jointed to the wooden shafts. Iron blades were connected to a wooden shaft with the same technique as the socket of an arrowhead to the arrow's shaft. The tarred whipping normally used as twine by fishermen strengthened the spliced wooden joints.

There are records showing the Lord High Treasurer of King James IV paid a bill of 13 shillings to a 'bowar' of St Johnstoun for 'clubbis' supplied to him in 1502. Following this first recorded association of the Stuart royalty with the game of golf was the appointment in 1603 of William Mayne, a 'bowyer burgess' of Edinburgh, as Royal Warrant Holder for making clubs for King James VI. In the same year, King James VI became King James I of England. Golf and archery were both exercised as a pastime on the designated playground of Bruntsfield Links and later the more suitable flat coastal grounds of Leith, Musselburgh and St Andrews.

The word 'links' of Bruntsfield Links was later adopted as a synonym for playground of golf and archery. Archery was a game of the royal court in Edinburgh. The society of archers in Edinburgh were organized in the Royal Company of Archers and practiced on Bruntsfield Links and later the Links of Leith and Musselburgh. The earliest known winner of the Silver Arrow trophy was in 1603 as it was recorded on the attached medal.

For archery, 'butts' were used as targets for shooting arrows. Due to the close relationship of archery and golf, it is possible the word 'butt' was also used to identify the target in the game of golf. It is also possible this is the etymological origin of the word 'putt' used for the short game golf shot towards the target, now known as the flagstick in the hole or just the hole. The hole may not have been the target but rather the pole in the ground, which in turn created the hole. The hole itself overtime changed to become the standard target, as we know it today.

There is enough evidence to support the supposition the artisans who made bow and arrow for archers also made clubs for golfers, as these were often the same people too. The bow maker of course had a specific knowledge of the properties of the various types of wood. They knew how to pare a piece of wood down to make a good shaft with enough elasticity without splitting or splintering to flinders after a firm blow.

Recent research by Ian Crowe with regards to the 'Troon clubs' points in the direction that these clubs may have been made by the royal club maker William Mayne. The theory is the clubs belonged to King James VI and the clubs were made for him personally soon after Mayne's appointment in 1603. James moved his royal court from Edinburgh to London having received confirmation from the Privy Council that he would be crowned the next King of England in that year.

The 'Troon clubs' total eight clubs, six of which are

wooden and two iron headed clubs. In 1915, an ex-captain Adam Wood, who had received the clubs from a merchant in Hull, presented the clubs to Troon Golf Club. The merchant had owned the mansion where the hidden clubs had been discovered in 1898, in a previously boarded-up cupboard. The mansion had previously belonged to a family of burgesses with the name Maisters.

How this family obtained the clubs and why they hid them is not known. The clubs are on display in the British Golf Museum in St Andrews on loan from Royal Troon. This theory would make these clubs the oldest surviving set of clubs made in Britain. The six woods form three pairs of two clubs each consisting of a play club and a spoon.

Of the two iron headed clubs, one has a heavy spur toe and the other a light square toe. The wooden clubs are much longer with a flatter lie and the iron clubs much heavier than comparable clubs of a younger age are. All clubs have an identical black coloured stamp in the form of a lozenge or rhombus. Each wooden club has six of these stamps formed in an ellipse on the top of the club head. The two irons each have four identical stamps placed together in similar form on the shaft close to the grip. The black colouring of the stamps is now rather dim and defaced but the outlines of, and the characters contained in the lozenge, are clearly identifiable.

Alistair and James Johnstone had suggested earlier that the markings on the clubs suggest the owner was of aristocratic Scottish heritage with, perhaps, direct blood ties to the royal line. The markings of the insignia on the clubs consist of a crown in the top, a thistle in the bottom, a five-pointed star in the middle with the letter 'I' to the left and the letter 'C' to the right.

Crowe points out the lozenge itself are a token of noble birth. The thistle represents Scotland, the crown royalty, and the combined crowned thistle is a symbol of the Stuart royal dynasty. The five-pointed star in royal heraldry shows succession and in cadency, it marks the third born son. The letter 'I' represents Iacobus and 'C' represents Carolus, Latin for James and Charles respectively.

The conclusion is that the James is King James VI (and I) and the Charles his son who later became King Charles I. The Stuarts were avid golf players. King James' mother was Mary Stuart, Queen of Scots, a renowned golfer; his sons Henry Frederick, Prince of Wales, and Charles, Duke of York, both played golf. Frederick Henry tragically died at the young age of 18 years. After Henry, there was probably a stillborn son, making Charles the third in line for succession. This would explain the five-pointed star cadency.

The Stuart connection with these 'Troon clubs' is quite obvious and convincing. However, whether the club maker was William Mayne and whether King James had commissioned him, is still uncertain.



Troon club and lozenge

Possibly the use of the initials 'I' and 'C' points more in the direction the clubs were owned and commissioned by King Charles I, identified by the markings as the third son of King James I.

Charles was crowned King after his father's death in 1625. Charles I engaged in a struggle for power with the Parliament of England led by Oliver Cromwell and lost. The King unfortunately suffered execution by beheading in 1649.

In any event, the 'Troon clubs' are therefore most probably between 360 and 410 years old. There are no other earlier surviving wooden clubs than from the late eighteenth century, that is to say just over 200 years old. The 'Troon clubs' are therefore by far the oldest set of Scottish clubs. Very few illustrations exist that serve as iconographic evidence of older clubs and there are only a few descriptions, such as that given by Thomas Kincaid in 1687.

Until the coming of the gutta percha ball the wooden clubs used to play the feathery leather ball hardly altered and the form remained remarkably stable and standard over the years. The clubface of the earliest clubs is quite shallow; measuring about one

inch deep and the long nose was markedly hooked to ensure a straighter flight of the smacked leather ball. These long-nosed clubs had elegantly sweeping curves. The leading edge of the sole of the club had a horn insert as protection and in a cavity at the back of the club lead was added to increase the weight. To protect the clubface from the impact of the later harder gutta percha balls a leather inset was used. Many club makers were concentrated in Musselburgh in the late eighteenth century and many of the members of the early golfing societies in Edinburgh, St Andrews, Blackheath, and later even in Pau, France, were the same gentlemen.

This is also a reason club makers in various places followed the same pattern for club making, basing on their demanding customers wishes and instructions. The craft of club making was dominated by few a families and passed over from father to son. Edinburgh was the undisputed metropolis of golf until the late nineteenth century when St Andrews became the new home of golf in Scotland, with the Royal & Ancient Golf Club its governing body.

Six notable families dominated the production of the long-nosed wooden clubs. With the introduction of

the new harder gutta ball, these clubs became obsolete after club manufacturing had adjusted to the new balls. Three of the club makers families were themselves outstanding golfers, who took part in many challenge matches and early championship tournaments: the Morris, Park and Dunn families. The other three families were just excellent craftsmen: the McEwen, Forgan and Patrick families. All played an essential part in the development and expansion of the game that took place in the nineteenth century. The clubs they made during this period are a lasting memorial to the legendary contribution of these few men to golf.

Behind the horizon, the new giants of golf manufacturing loomed such as Slazenger in Britain and Spalding in America and their industrial competence would be the demise of the old craftsmen club makers of Scotland. American club manufacturers had a natural advantage over their British rivals in that they had easier access to the native hickory and persimmon woods used for shafts and club heads. They had first choice of selected trees.

After cutting, these were specially seasoned and processed to improve the quality. Americans were first to use machines for cutting and rough shaping the club heads to standardise and speed up production. Iron club heads were produced using a new method of steel manufacturing, 'drop-forging' and other scientific approaches added new dimensions to club making processes.



Harry Vardon



Tom Morris early bulger



Forgan spoon



Finally, the Americans were pioneers in marketing and sales promotion. For example, Spalding contracted Harry Vardon, the great British champion, for three years to play exhibition matches in America. This promoted their equipment and created a massive home market for them in the wake of the rapidly growing popularity of golf in America. Besides A.G. Spalding & Bros., the early pioneers of golf manufacturing in America were Bridgeport Gun & Implement Co. and Crawford, McGregor & Canby.

At the end of the nineteenth century, a golfer typically carried about eight clubs with varying names. Between brackets, the corresponding numbers or initials of modern clubs are stated. A driver (D), a brassie (3W), a spoon (5W) and a putter. These were all wooden clubs. Various iron clubs such as a cleek (3), a loftier (5), a mashie (7), a mashie niblick (9)

and a niblick (P). Optionally the player could choose from an iron bladed putter or jigger, a driving iron (1), and various mashie types, etc.

Below is a comparative list of club slopes or loft degrees:

Driver	10°	3 Iron	21°	8 Iron	39°
3 Wood	15°	4 Iron	24°	9 Iron	43°
5 Wood	20°	5 Iron	27°	P Wedge	47°
1 Iron	16°	6 Iron	31°	S Wedge	56°
2 Iron	18°	7 Iron	35°		

The 'Troon clubs' give a good impression of the type of clubs played in the seventeenth century, but no clear records are available of earlier clubs used in



Clubs

- a** Auchterlonie putter (c1890)
- b** Rut iron (c1760)
- c** Mashie (c1880)
- d** Iron putter (c1800)

(British Golf Museum, St. Andrews)

Scotland. While the feathery ball remained in use as the common play ball, clubs remained roughly the same.

The long-nosed wooden play club – later named a driver – was used to hit off the teeing area. Another similar wooden club, the scraper, or spoon, had less loft and was used through the green. Usually a shorter wooden playing club served as a putter. Early iron clubs had the purpose for rescue shots from longer grass, sand and ruts. Later records show the use of more names for clubs like a grassed driver or a long spoon, baffing spoon and wooden niblick. The feath-

ery ball needed to be swept off the short grass with a flat swing of the wooden club. Recovery shots with an iron club had a higher degree of risk topping the expensive leather ball and cutting it to smithereens. In general, club makers were knowledgeable wood craftsmen but needed to turn to a blacksmith for iron club heads. Especially forging the hosel to fit the shaft in, needed specific craftsmanship, this was similar to making arrowheads for archery. For this a tapered rod, the mandril or spike, was used as a specialist tool.

Early iron clubs had no markings on the face. The club maker left instructions with the blacksmith with regards to form and weight of the club head. After completion of the forged iron head, the club maker proceeded to fit the shaft and grip. These early iron clubs were fairly heavy as they were used for rough duty and therefore they required a stronger shaft. The shaft was fitted into the iron head by serrated knopping at the top of the hosel. Later rivets were used to hold the wooden shaft.

The smooth face of these early irons was concave and hooked to aid hitting the ball straight and into the air out of trouble. The toe of the club was usually rounded but occasionally looked to have been squarely cut off. After the arrival of the gutta ball, the number and variety of iron clubs used by players increased and a special breed of club head makers called cleek makers developed into a new profession. The recognised cleek makers put their names and specific registered trademarks on the club head.

There was a new development to take the tapered wooden shaft through the hosel right down to the sole of the club. This allowed shortening the hosel, decreasing the overall weight and improving the weight distribution of the club. More lofted shots towards the target were played using the new mashie and niblick iron clubs. For the longer shots, the iron cleek became the favoured club. The modern cleek had a straighter and longer face.

More irons with varied lofts known as mashie niblicks were made to suit different lies of the ball. Oddly, we do not exactly know the etymological origins of the words 'niblick' and 'mashie'. They are probably the local dialect of the cleek makers and early professional players. The explanation may be rather simpler. A nibbling iron was used to nibble and shorten the remaining distance to the hole. With a mashie it seems more complicated but possibly the word relates to an expression used in billiards, 'masher' meaning to manoeuvre or massage the ball. Although this may be a farfetched assumption, it is not implausible. Shafts of the earliest clubs were made of hazel or ash. The soft feathery ball needed a hardwood. Mostly it was cuts of hawthorn wood selected but other hardwoods like apple and pear principally qualified. After the introduction of the gutta ball, the harder woods gave way to the softer beech, the qualities of which

were more suitable to compensate for the very hard gutta percha. Beech remained the wood of choice for club heads until the turn of the century, when America began exporting persimmon club heads to Britain. In the middle of the nineteenth century, hickory wood imported from America was used for tool handles. This wood proving to be superb for golf club shafts, replaced both ash and other woods. Hickory was not too heavy, was resilient with a steely spring and had a minimum of torsion. It was impervious to weather, if properly seasoned and treated with oil. The best hickory was split along the grain and not sawn. The best of the hickory came from the mid-country in Tennessee, brought in by the local 'hill-billies'. The best shafts were said to be of 'ring hickory' cut from the centre of the tree. The grain had the appearance of a ring around the shaft.

The grips of the earliest long-nosed clubs were quite thick and held in the palm of the hand rather than in the fingers. First, the linen strips wrapped on the shaft would control the thickness of the grip. Then leather strips would cover the linen. Initially, they used sheepskin, then later, stronger cowhide or horsehide.

Making golf clubs was initially a second trade for craftsmen as not that many people played the game in an organized manner. After golfing societies formed, the craft of club and ball making became a worthwhile professional job for the green keepers. The societies appointed green keepers to look after the course and allowed them workshops for club making and repairs. These responsible men often made a living as golf professionals. They played games with the gentlemen golfers and taught them a proper technique as well as the tricks of the trade on the way. Extra earnings came from prize money because of winning golf challenges or playing exhibition matches with fellow professional golfers.

For hundreds of years the traditional method of club making passed on from master to apprentice. It was based on the scared and spliced system of joints and needed great craftsmanship. In the nineteenth century age of mechanisation, the introduction of machines helped the club maker in the production process.

However, the hand finish remained an important feature of a good product. The days of the scare-headed long-nosed wooden clubs ended at the turn of the century with the introduction of mechanically processed socket-headed clubs. These have remained on the golf equipment scene since then, despite the early predictable disapproval and critique, finally silenced by sounding victories of reputable golf professionals, who had won important championships playing with the socket-headed wooden club. Shafts for these clubs gradually became thicker and stiffer adapting to the new trend of hitting

the ball with steeliness rather than continuing the old custom of a supple swinging blow used for the scare-headed club. The resilient rubber-cored ball contributed significantly to this change. The earlier scare-headed clubs had changed complexion from a club head with a long, relatively narrow clubface and hooked toe to a more rounded bulgy head after the gutty ball dominated the golfers market.

Willie Park Jr. at the Open Championship of 1885 introduced the first bulger driver. The most important feature of the gracefully shaped bulger was the convex face and the short round head. The elegantly shaped proportions of the bulger driver rapidly made the long-nosed wooden clubs obsolete. Combining the convex shape of the face and the torsion of the shaft improved the effective flight of the ball. The stronger hickory shafts allowed for a shorter club in order to increase control of the shot. The lengthy supple whippy long-nosed clubs were relegated to a chapter in the history of golf.

The magic combination of hickory shafts, the rubber-cored ball, the round-headed persimmon wood and the forged iron clubs had changed the nature of the game forever. They contributed substantially to the further popularity and growth of the modern game of golf at the turn of the last century. Course design and maintenance similarly followed suit.

When comparing the early game of golf in Scotland to the game of colf played in the Low Countries there are some remarkable similarities but at the same time major differences too. The comparisons have given food to the many thoughts and theories that the Scottish game of golf has its origins in the Low Countries. It is certain that both games coexisted for a span of time simultaneously and that both countries have a strong connection with Flanders.

There is sufficient proof that both countries mutually kept close socio-political relations, especially during the important Renaissance and Reformation periods and probably earlier during the Normanisation of Britain. The game of colf in the Low Countries was at the height of its popularity during the sixteenth and seventeenth century.

Only slowly did the game fade away in the second half of the eighteenth century to give way to the new game of kolf. The two most popular games in the Low Countries were the early games of caets and colf. Colf never had the allure of a royal game but was quite popular among the new breed of wealthy merchants.

The old class of aristocracy and nobility in the Low Countries traditionally played the royal games of

caets (tennis) and malie (pell-mell) following the traditions of most European royal courts, including Aachen, Brussels, Paris and London.

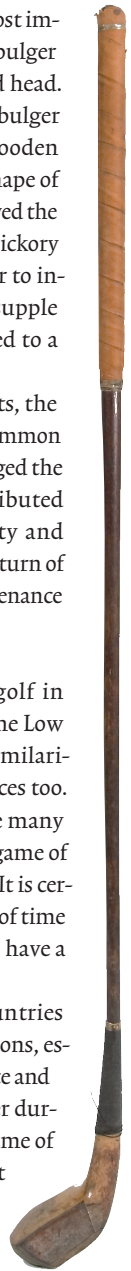
There are many similarities between Scottish golf and Dutch colf starting with etymological roots of both names in the Latin word 'clava'. In addition, the nature of both games was identical being long distance games being played with a full swing of the club towards a target in the form of a post or hole. Both games shared the excitement of the short game towards the end target.

The filled leather balls used in both games were similar and records show that large quantities of balls were exported from the Low Countries to Scotland. However, one important difference remains in that the clubs used in each of the two countries were esoteric and typical. The early Scottish clubs were wooden with a scared joint. In the Low Countries, the colf was made of a single piece of ash wood. The head of the colf was covered with a 'colfslof' made of a sheet of lead metal alloy, whereas the Scottish club head was mostly made of hard beech wood. The wood used for the shafts in Scotland was also ash besides the usual hazel before the later hickory became fashionable.

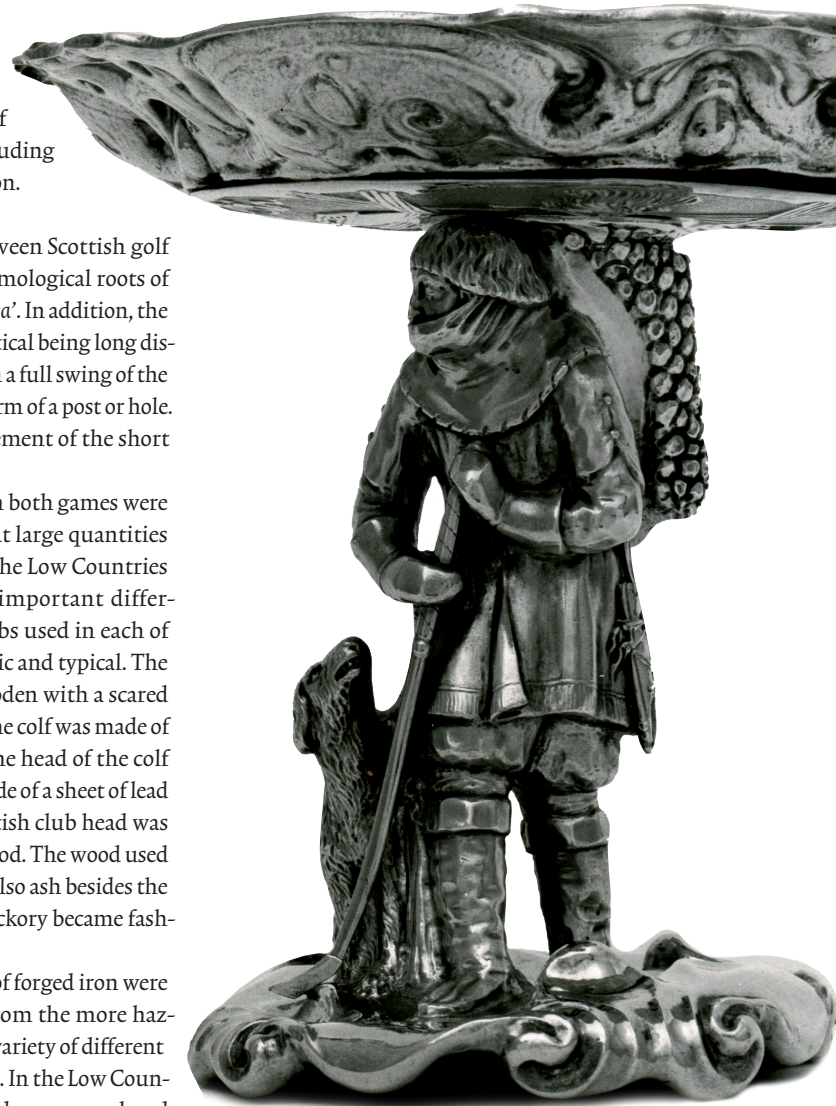
In Scotland, club heads made of forged iron were introduced to play the ball from the more hazardous lies and players used a variety of different wooden and iron headed clubs. In the Low Countries, the game of colf remained as a game played with a single club having a flat lofted face. The back of the club head was normally rounded, although there are examples of colfs with a hitting surface on both sides to suit both the left- and right-handed player. The length of the shaft and the loft of the club heads allowed the ball to be lifted and shot over great distance when hitting with a full swing.

In towns of both the Low Countries and Scotland, the game was played on designated grassy playgrounds away from the city streets, where the game was usually banned. In Haarlem, the Baen was an early playground as the Bruntsfield Links was in Edinburgh. After Bruntsfield became too overcrowded and too small, Edinburgh golfers moved to the coastal lands near Leith and later Musselburgh, similar to the suitable grounds outside St Andrews.

In the Low Countries, the game enjoyed large popularity during wintertime, when rivers and



Bulger headed driver (c1885)



Silver bowl (foot) made by Adam van Vianen (1627)



Ball maker, illustration in *De Vaderlandsche Geschiedenis*, by P.N. Muyl, published in *Zalt-Bommel* by Johannes Noman (Historisch Museum Rotterdam)



Colf maker, illustration in De Vaderlandsche Geschiedenis, by P.N. Muyt, published in Zalt-Bommel by Johannes Noman (Historisch Museum Rotterdam)

canals froze to become a suitable terrain for colf. A time of the year when economic life and warring activities had slowed down or come to a standstill and citizens enjoyed themselves with their favourite winter pastimes and joys.

From the iconographic images, many stories can be told about how the early game of colf was played and what social rules there were. It was a game played by the upper class of the well-to-do gentlemen of society but the ordinary man could explore the many challenges of colf too. The game of colf was a social game and the Dutch loved betting and gambling. The wages on a game ensured that strict rules were set and that no cheating took place.

The matches pictured in the many winter landscape paintings seem well organized. A group consisted of two or four players, an arbiter, a servant for food and drinks on the way and other servants acting as markers tending to the target post 'afore'. Very often, other targets in the form of poles or tree trunks in the frozen water or even small rowing boats stuck in the ice served as target. The extra challenge of integrating rowing boats in the course of the game was that to score a point, the ball needed a lofted shot to hit inside the boat, or carry over the boat as an added hazard. Many innkeepers took their business to the ice and

set up tents. A pole from the top of a tent with a jug or a garland hanging from it served as an invitation to the colf players and others involved in playing games or other winter amusements on the ice. The score of



The Kraanhoofd on the Scheldt (1622), by Sebastiaan Vranx

the match was properly settled inside the tented inn, where people enjoyed drinking and eating together. Interestingly images of the game of colf played in the Low Countries occasionally show that players used Scottish scare-headed wooden clubs, not the traditional colf club with the leaden colfslof as club head. Printed documents refer to these wooden clubs as a 'Schotse kliek' as opposed to a Dutch colf. This in itself is remarkable for many reasons. Firstly, the word 'kliek' in Old Dutch has the meaning of an iron hook. Although the club was all-wooden, at the time of the early flat long nose clubs, iron forged club heads were made in small numbers to hit the ball from hazardous positions such as ruts and cart tracks. Only later with the coming of the gutta percha ball did club makers turn to manufacturing various iron headed clubs. The longest iron club with the least loft of these clubs was the cleek used for the longer lower shots to the putting green.

Vice versa, there are no records showing the typical Dutch colfs with the leaden colfslof were exported from the Low Countries to Scotland for use in the local game of golf. Nor for that matter have any archaeological traces been found in Scotland of any colfs from the Low Countries. These facts point to the logical assumption that both Scotland and the Low Countries developed their own typical club equipment for playing their own game of golf or colf.

The many similarities between colf and golf can be seen in a Latin school textbook written by Pieter van Afferden. The *Tyrocinium linguae Latinae* is a textbook with Latin exercises for pupils containing aspects of everyday life including popular games of the time in the Low Countries.

In forty-seven chapters various subjects are explored



Het IJ in winter with Amsterdam in the background, by Arent Arentz

in their own Dutch language with the correct Latin translation. This exercise book was first published by Pieter van Afferden in 1552 and had roots in similar works that had been in use in previous decades. It inspired others such as Hadrianus Junius for his *Nomenclature* published in 1568 and later Scotland's David Wedderburn book *Vocabula*.

Four chapters of the *Tyrocinium* covered popular ball games entitled *De Sphaeris – Clospoort*, *De Sphaeris missilibus – Cloot worpen*, *De Pila palmaria – Caetsen* and *De Clavis plumbatis – Colven*. The first covers the game of beugelen or ringball, the second the ball throwing game *cloot schieten*. The third chapter has the game of caets or tennis as subject and the last colf. It proves that these games were part of the day-to-day life.

In his *Nomenclatur*, a comprehensive Latin compendium, Junius too describes the game of colf with a definition of the colf ball, '*pila clavaria, que clava plumbata expellitur*'. This work was translated in English in 1585 and gives the following definition: 'a ball stuff with hard haire or wooll, which they use to smite in play with cudgels leaded at the ends'.

Following is chapter 24 of Pieter van Afferden's *Tyrocinium linguae Latinae*:

1. *Clava plumbata*
– Een loden colve
A leaden club
2. *Clave lenta et commode*
– Een taepe ende ghemakelijcke colve
A supple and suitable club
3. *Vis ne ludamus clava plumbata?*
– Willen wij colven?
Shall we play colf?
4. *Ferire pilam clava*
– Den bal met den colve slain
To hit the ball with the colf
5. *Abscedite parum, dum feriam*
– Wijkt een weynich soo lange al sick slae
Stand back, while I am hitting

6. *Abscedite paululum, a luce absitis, idem*
– Gaet uut dat licht
Stand back, do not stand in the light
7. *Non obstamus tibi a luce*
– Wy en staen u niet int licht
We are not standing in your light
8. *Quid tibi videtur is ictus?*
– Wat dunckt u van den slach?
What do you think of the shot?
9. *Ille ictus non est poenitendus*
– Dat is eenen goeden slach
That is a good shot
10. *Amisi pilam e conspectu meo*
– Ick hebben den bal verloren
I have lost the ball
11. *Pila non potest hinc longe abesse*
– Den bal en can niet verre van hier zijn
The ball cannot be far from here

12. *Eccam haud procul a te*
– Siet daer is den bal niet verre van u
Look the ball is not far from you
13. *Qui aberrant a pila, perditus ferendi*
– Die mist, verliest sinen slach
Who misses the ball loses a stroke
14. *Non multum a scrobe absum*
– Ick ben niet verre van den cuyl
I am not far from the hole
15. *Ego recta petam scrobem*
– Ick salt recht nae den cuyl setten
I will aim straight at the hole
16. *Ad quem redit ordo lundendi?*
– Wiens behoorte ist te spelen?
Whose turn is it to play?
17. *Ordo redit ad Ioannem*
– Het is Joanis behoorte
It is John's turn
18. *Ego vicem tuam obibo*
– Ick saal voor u spelen
I will play before you
19. *Haud moris est, obseruat quisque suam vicem*
– Dat en is gheen manier, een yegelijc houde zijn behoorte
That is not good manners, everyone shall keep his turn
20. *Praescribe mihi quid faciam, premonstra quid vieri velis*
– Wijst mij hoe ik doen sal
Tell me what to do, show me how
21. *Pilam facile in scrobem propellam*
– Ick wil den bal lichtelijck in doen
I will stroke the ball easily in the hole
22. *Tu ducis pilam*
– Ghij leyt den bal
You are pushing the ball



Gerritgen van Poelenburgh with grandchildren Egbert, Petrus and Catharina Tulp (1624), attributed to Elias Pickenoy (Six Collection, Amsterdam)

23. *Haud me fallum tue artes*
 – Ick weet u boeverije wel
 I know your tricks
24. *Haud male lusi, sed fortuna non favet*
 – Ick heb wel gespeelt maer ten en wil niet gelucken
 I played well but was unlucky
25. *Desinamus, cepit me faciet as huius ludi*
 – Laet ons ophouden, ick ben dit spel moede
 Let's stop, I have had enough of this game

The above text is the original Dutch wording and Latin translation used by Van Afferden in the *Tyrocinium* exercise book. The English translation added is based on Van Afferden's Dutch wording. The exercise has been set up as a discussion. From the words used, we can deduce from between the lines how the game of colf was played and what the basic rules were. The game was played with a single colf with a leaden shoe fitted around the club head or colfslof. A player selected a colf that suited him best. The ball was hit with a full stroke and others needed to stand well back and not cause distraction to the player with their shadows when hitting the ball.

A missed shot counted as a stroke and each player had to wait for his turn. The ball was played towards a distant target. On land, this was a hole in the ground. The Dutch word used for a hole is 'cuyl'. There is no evidence the Dutch word 'put', meaning pit, was ever used about the game of colf. Therefore, it is not related to the Scottish term 'putt' used for stroking the ball to the hole.

There may be an etymological relation of the word 'putt' with the Old-Scottish word 'butt' used for a target in archery. Archery and golf were closely related games in Scottish society and members of companies or societies of archers and golfers were much the same individuals. It is likely they used the same word 'butt' for target although for different games.

In wintertime when colf was played on ice, a pole or a post was mostly used as target, as a hole in the ice may have been less suitable. One had to stroke the ball to the hole and not shove or push it. An airshot counted as a stroke. These were rules of the game of colf that were similar to the rules of golf set on paper the first time by Edinburgh goffers roughly two hundred years later than Van Afferden's textbook.

Because of the many similarities between the two games, it is safe to infer that both games have the same lineage and share a common ancestry, most probably in Flanders. Flanders later became part of the Burgundy and eventually the Habsburg Netherlands under the reign of Emperor Charles V and King Philips II of Spain. Because of the Reformation, many Flemish people emigrated to the Protestant northern Low Countries from Flanders. This region of the northern Low Countries in turn became the Republic of United Provinces of the Netherlands



Winter landscape with amusements on ice, by Hendrick Avercamp

and the Flemish immigrants were jointly responsible for the creation of the Golden Age of the Republic. After the secession of the northern seven Provinces the southern Provinces of Flanders, Brabant and Luxemburg remained part of the Southern or Spanish and later Austrian Netherlands under Habsburg Catholic rule. After more than two hundred years of separation, the seventeen Provinces of old reunited as the United Kingdom of the Netherlands decided in the Treaty of Vienna following the defeat of France and the abdication of Napoleon as emperor. This reunion was not a happy one because of the inherent historic cultural and religious differences. Finally, the Netherlands, Belgium and Luxemburg were established as three independent nations.

Much earlier in the eleventh century Flanders joined forces with Normandy, led by William the Conqueror, to invade and colonize Britain replacing all Anglo-Saxon nobility in the process. These Flemish landlords and settlers in Britain dominated East Anglia and Northumbria and subsequently Alba, where they set up the new Scottish royal lineage including the most powerful Stuart dynasty.

Sharing a part-Flemish ancestry, the Scots and the Dutch the continued close relationships during successive centuries makes it reasonable that golf in Scotland and colf in the Low Countries are closely related. It is equally likely they have undergone parallel and isolated developments overtime. The shared parentage is best showed by the still existent game of 'crosse' played in the southern Belgian region near Mons or Bergen, that used to be in the heart of the old state of Flanders.

From this intermediary ball and stick game with most probably Celtish roots a newer game of colf developed in Flanders and from there on simulta-

neously in the Low Countries and in Scotland. A game in which two opposing players or two opposing teams of two players, each hit their own ball towards a target with inherent long shots and a short game to score the decisive point. The least number of strokes of each individual player now determined the winner.

There must be a mention made here that the Flanders common French and German border brought in Germanic and Frankish influences and languages. In the Low Countries, Flemish or Dutch, which were the same Germanic dialect, was the dominant language. After the establishment of the Republic in the northern Low Countries, Dutch (Germanic) became the official Netherlandish language following the official translation and publication in 1637 of the State Bible directly from Hebrew and Greek into Dutch. However, in aristocratic circles and royal courts, French (Frankish) remained the standard language. The linguistic influence of both French and Flemish in Britain after the Norman Conquest was substantial and still traceable in the present-day English language. Earlier, Celtic, Roman, Anglo-Saxon and Viking influences all played their part in helping to form the English language of today.



Leo Belgicus, by Hessel Gerritz (Bernard J. Shapero Rare Books, London)