The invention of the ice skate responded to the same rationale as the invention of the ski, namely to make it easier to travel on a hostile surface, specifically ice. The first ice skates were probably invented around the same time as the first skis, and in the same areas. However, their evolution and subsequent diffusion was quite different. Ice skates quickly lost their practical character and spread through many countries as a form of sport. Then, in the second half of the 19th century, their use became structured, codified and gave rise to the creation of the various ice-based sports.

**The birth of skating and its diffusion**

**The first ice skates**
Confronted with the ice covered lakes, ponds and rivers for a good part of the year, man needed to invent an appropriate means of locomotion. Mainly used for hunting, the first ice skates were made out of animal bones (particularly the jaw bones and the tibias of reindeer, elks and oxen) attached to the feet using straps of animal skin. Very rudimentary, and quite precarious, it was necessary to use a pole to stay balanced. Archaeological digs have found some very primitive ice skates, particularly in the region of Bjoko in Sweden, with the oldest of them dating from 1000 years BC. These discoveries show that ice skates were used in the majority of the countries around the Baltic Sea, in Scandinavia, in Denmark, in the Baltic republics, and in northeast Russia.

Again, the question of the origins of the ice skate in this part of the world arises. Was it a local invention, or was the use of the ice skate imported with migration from the Altai region in particular? Indeed, ice skates were also used very early on in China (particularly in Manchuria), in Siberia and even in North America.

With the advent of iron, metal blades were used from the second century BC in Scandinavia, even though the majority were made from bones for a long time. The Scandinavian populations seem to have been the only ones (in Europe, in any case) to have continued using ice skates during the first millennium A.D. They were also responsible for the spread of ice skating to other countries in the continent by means of the Viking expeditions.

**Spread through Europe by the Vikings**
Many ice skates similar to those used by the Scandinavians have been found in countries invaded by the Vikings, such as England, France, Holland, Germany, Switzerland, and even as far as the valley of the Danube. These warriors naturally brought with them many aspects of their own lifestyle, including the ice skate. The spread of ice skates therefore was even greater when the Vikings settled in the countries they had invaded, such as in Iceland, in Normandy or in certain parts of England.

In Iceland, many sagas recount the use of the ice skate from the beginning of colonisation as a means of transport, for hunting, and even sometimes in wars. One saga in particular tells how a man escaped from his enemies by skating away on ice skates. In Western Europe, the skate rapidly enjoyed a certain success, partly because of the development of sporting games during the early part of the Middle Ages.

**The development of games on ice**

After the end of the invasions that had punctuated the latter part of the Middle Ages, Western Europe enjoyed a period of relative stability, marked among other things, by con-

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1 A pair of ice skates made of bone dating from 20,000 years ago were found at the mouth of the river Vie in the Vendée area of France. This prehistoric discovery would, however, appear to be an isolated case and the practice of ice skating does not appear to have been developed.
siderable economic development and the growing strength of cities. This development was accompanied by the birth of many physically demanding games, often quite violent and warrior-inspired. At the same time, leisure activities began to appear in this new Europe, particularly in France, and spread with great popular success to other countries, particularly to England (where, centuries later, these developments would occur in the just the opposite manner).

Moreover, it was during this same era that the French word "desport", a synonym for amusement, was first used and was later taken up by the English and is at the origin of the word "sport". Among these different activities, a type of field hockey was played in France (called "choule a la crosse") as well as in England ("cambuca", meaning a bishop’s cross). During the winter, these sports were adapted to ice through the use of ice skates. A monk named Fritz Stephen, chronicler in Lond, England in 1174, noticed that young skaters were confronting each other on the frozen Thames. He also described in a text from 1190, that these games on ice were common practice in France. The Scandinavians were also keenly practising this type of amusement around 1300, and frequently organised competitions between villages. Around 1400, the game "crosse" became very popular in France, and was introduced into the Friesland region of the Netherlands, where it was subsequently transformed into another game, called "ken jae-gen".

The development of skating in Holland

The development of skating in Holland was largely due to the very particular geographic conditions of the country. It’s very flat topography and its numerous streams and rivers which very often froze over in winter were conducive to the practice of skating. Furthermore, the economic growth in Europe favoured the exchange of merchandise. Ice skates were an excellent means of transport in winter, particularly for bringing food supplies to constantly growing cities. The market in Amsterdam was supplied in this manner for many centuries. Parallel to its traditional use, ice skates were also appreciated for their leisure aspect. With general use of blades fabricated from iron beginning in the 12th century, (the blade was mounted on a wooden base, which was attached to the shoe with a leather strap), skating became much easier. Both men and women spent more and more time skating. The oldest document recounting skating scenes is a wood carving published in 1498 by Johannes Brugmann. It shows the fatal fall of Lydwine Brugmann in 1395, the woman who was later to become the patron saint of skaters in the Netherlands.

From the 15th century, speed races were organised, and quickly met with great popular success. The racing technique (called the famous Dutch pendulum) and the type of events performed have remained practically unchanged since then. Edges to the blades were first introduced in the 16th century, making it possible to perform the first figure formations. More than a simple leisure activity, skating in Holland during the Middle Ages became a true cultural phenomenon that still exists today.

The birth of curling

In the other countries of Europe, the practice of ice sports became infrequent at the dawn of the Renaissance. Their violent nature was the harbinger of their decline, although a small level of practice did continue. A painting by Porbus from 1608 shows Parisians playing a form of ice hockey on the frozen Seine. As for speed skating, it was known only in a few regions close to the Netherlands. A much less hazardous game was developed in Scotland, namely curling. Its origins are a subject of some controversy because two countries claim to be the homeland of this sport. First,
Scotland, where a curling rock with the inscription Stirling 1511 was found. Secondly, Holland lays claim to curling, evoking an ice-based game played in the 15th century called "Kulling", supposedly brought to Scotland by Flemish traders. They also cite in their support the painting by Pieter Brueghel from 1560, which shows a game very similar to curling. However, whatever the origins of the sport, it was in Scotland that its practice became structured and organised. The first club was created in 1668 in Kinross, the round rocks with the iron handle first appeared around 1700, and the first rules were established in Perth in 1716. Curling has developed very little since then, and remains very similar today.

Skating outside of Europe
Naturally, Europe was not the only continent at this time where sports on ice were common practice. In China, people enjoying skating on the ice of the Imperial Gardens were documented during the Song dynasty (960 to 1279). Similarly, regiments of soldiers wearing ice skates played a vital role in a battle in 1600 which launched the reign of the Qing dynasty. To commemorate this victory, a large scale ceremony was organised every year in Peking, bringing together more than 1,600 skaters. However, just as it had done for skiing, the demise of the Empire at the end of the 19th century seems to have been responsible for the disappearance of the sport.

In North America, skating only became known after the arrival of the Europeans, notably French explorers in Canada. Father Sagard recounts in his 1632 book entitled "Long voyage in Huron country" how he encountered Indians from Ontario and Quebec who were playing on the ice, pushing a wooden ball with the aid of a stick, or "crosse". However, even though the practice did exist elsewhere, the main developments and changes which gave rise to the different sports took place in Europe.

The important role of the English
The Stuarts, Royal Family of Scotland, exiled in the Netherlands during Cromwell’s dictatorship, discovered ice skating in Holland, and introduced it in their own country when they returned in 1660. Its success quickly grew and the control and organisational capacities of the British soon assured the development of the sport. The first club was created in Edinburgh in 1742 and the first competition was held at Fens in 1763 over a distance of 24km. A skating treaty was elaborated in 1772 by Robert Jones, an artillery lieutenant who also founded a school in the same year. Within the space of one century, the English had monopolised the sport (even though the technique remained Dutch), and laid down the beginnings of its institutionalisation. The distinction between speed skating and artistic skating had not yet come about, but the aristocratic ideas of the English saw the development of a leisure based form of skating that was less and less athletic. This was the type of skating that spread across Europe, particularly in the European courts (Marie Antoinette practised this form of skating from 1776). The Dutch, of course, remained very much attached to the practice of speed skating, and organised many competitions. In general, women were allowed to participate as well as men. A 30km race open only to women was even organised in Leeuwarden in 1805. With the large number of entrants in the race (nearly 130 women), the race was held over 2 days, before more than 12,000 enthusiastic spectators. Nonetheless, measures were imposed to ensure that the competitors remained in a "decent" state of apparel!

Sports on ice become more structured
Curling began to spread and its practice became institutionalised in the 18th century, by which time there were already 42 clubs in Scotland. In 1760, Scottish regiments introduced the game in Canada, with clubs being created in Montreal in 1807 and Quebec in 1821. Curling also spread into England in..
1820 and to the United States in 1832, where Scottish farmers started a club in Detroit. This widespread diffusion of the sport encouraged the creation of the "Grand Caledonian Curling Club" in Edinburgh in 1838, which, with the patronage of Queen Victoria, became the "Royal Caledonian Curling Club" (RCCC) some five years later. This association was a sort of international curling federation, guarantors of the rules of the sport, which brought together all the different clubs. There were an increasing number of affiliated clubs, with many new clubs coming from other countries, such as New Zealand in 1848, Sweden in 1852 and Russia in 1873. It can thus be seen that curling was one of the first sports to be structured, and to spread across several continents, even if its practice abroad was monopolised mainly by Scottish immigrants.

Skating also became more structured during the course of the century, notably with the break between the artistic and speed disciplines. At the outset, the Dutch technique was mainly used, with many competitions taking place in England, the Netherlands, the United States, Canada and later, in Norway. Scandinavia began to rediscover skating, even though it had been the founder country of the sport. The practice of skating spread quickly, and in 1863, a big competition was organised on the fjord of Oslo before thousands of spectators. In Canada, skating also became very popular, and many open air skating rinks were constructed in the major cities, although the initial speed skating form soon had to give way, under the English influence, to a more recreational activity. In fact, the beginnings of division in the 18th century between speed skating and artistic skating became more accentuated in England, leading to the creation of two independent disciplines. The first artistic skating club was founded in London in 1830. The English school, based on the precise execution of precise figures and movements went on to have considerable influence on the development of the discipline.

Innovation in artistic skating

One invention would beat at the origin of the definitive consecration of artistic skating as a separate discipline. In 1850, an American named E.W. Bushnell from Philadelphia, developed the first skates with a steel blade, which made it much easier to perform movements and figures on the ice. Ten years later, Jackson Haines, a ballet instructor in Chicago, began to teach skating. He had the idea of nailing the steel blades to his boots in order to improve his mobility, thus creating the first all-in-one boot (the same system used today). More importantly, however, he also introduced the use of ballet steps into the skating routines, a veritable revolution in skating by the introduction of many new free figures. Faced with the lack of interest in his own country which was struggling under the war of Secession, he decided to travel to Europe to present his new technique. He held exhibitions in Stockholm, and then in Vienna in 1863, where his performance was received in triumph. In 1867, the Vienna club was founded, based on this new technique, marking the start of the famous Vienna school. The growing renown of Haines began to irritate the English, who were very attached to the supremacy of their method. In the end, both techniques were maintained in the elaboration of figure skating competitions, with the English method being transposed into the compulsory figure program and Haines’ technique reflected in the free-skate program.

At the end of the 19th century, the appearance of winter sports resorts, and the construction of the first artificial ice rinks greatly encouraged the practice of ice skating.

The development of winter tourism

At the beginning of the 19th century, the Alps were progressively becoming more open and accessible to tourists (mainly English), but only during the summer period. Winter was still considered as a particularly hostile time, especially in the mountains. Many resorts in the Alps, particularly in Switzerland and Austria, were popular summer tourist destinations. However, winter tourism only began to develop in the second half of the century,
especially in the Swiss resort of Saint Moritz, thanks to the initiative of a local hotel owner in 1864.

At the end of the 19th century, more and more tourists, mainly wealthy city residents, frequented winter resorts. In order to attract a maximum of sportsmen, a wide variety of sporting activities were offered. In Saint Moritz, a curling competition was organised in 1880, as well as an artistic skating competition arranged by the Viennese in 1882. Gradually, winter resorts began to install skating rinks (15 rinks in Saint Moritz at the start of the 20th century) to reply to the demands of the clientele. Ice based sports, especially artistic skating, were extremely popular. However, although widely practised, it was more recreational than athletic, with particular attention paid to the manner in which one dressed. The ice rinks of the major resorts at the time were more like fashion shows than sports centers.

**The first artificial skating rinks and the development of skating in cities**

Artistic skating, already quite fashionable in France under the reign of the second empire, was practised on the frozen lakes of the Bois de Boulogne (the Skaters’ Circle was founded in Paris in 1865). But this urban activity was always subject to the caprice nature of the weather which would determine the length of time there would be ice. Many of the major western cities were confronted with this same problem. The skating rinks were covered in order to minimise the effects of the weather (Quebec in 1858, Montreal in 1859). The real solution came in 1876 with the construction of the first artificial ice rink in London, quickly imitated by many others, such as the Ice Palace in Paris in 1889. The advent of artificially controlled ice resulted in an increase in the number of places the sport could be practised, even in places that would previously have been unsuitable, (such as Nice, Buenos Aires, Adelaide, Melbourne, or even Sydney, in the early 20th century). It also made it possible to anchor the sports in the city, and perpetuate their practice, and cities thereby became able to organise major competitions such as world championships. The combination of competitive and recreational practice could now be developed in new conditions.

**Creation of the International Skating Union (ISU)**

Artistic skating was undoubtedly very fashionable, but in terms of sport, speed skating...
remained the king of disciplines. In Scandinavia or Holland, it was not just the wealthy, idle elite who practised this sport, but rather a considerable proportion of the population. Many races were organised, and attracted large numbers of participants. In this context, the major skating nations tried to set up agreements to institutionalise the sport. There were many problems, starting with how to determine the distance of a race and the length of the track. In general, the Norwegians raced over a distance of 1500 lengths (950m), while the Americans raced over 10 to 20 miles (16 to 32km), and the Dutch sprinted less than 200m. One of the first international meetings was organised at the initiative of the National Skating Association of Great Britain (NSA) at Leeuwarden, Holland in 1885. The rules were standardised for the event, the mile (1609m) was adopted as the race distance, and the oval (2 straights and 2 bends) was given preference over the horseshoe shaped track. However, the various parties involved failed to reach any agreement about the creation of an international federation. The first speed skating world championships were held in 1889 in Amsterdam in the Netherlands, bringing together athletes from 4 countries : Great Britain, United States, Russia, and of course Holland. In 1892, the International Skating Union (ISU) was founded in Scheveningen in the Netherlands, but it recognised only metric distances (500m, 1500m, 5000m, 10,000m). In 1896, the first artistic skating world championships were held in St. Petersburg in Russia.

Although women were integrated into artistic skating relatively fast, the same cannot be said for speed skating. Considered as very (too?) athletic for women, and furthermore, dominated by the Scandinavians who were little inclined toward female participation, speed skating remained reserved exclusively for male competitors for a long time. Finally, the ISU congress of 1935 accepted the idea of
organised women’s competitions at the world championships (the idea having first been presented in 1929). The first women’s world championships took place in 1936 in Stockholm with 15 women participating from the 7 different countries, including Japan, Canada and the USA.

Ice hockey in Canada
The origins of ice hockey are very diverse, but it is the only ice-based sport that has never really caught on in Europe. Ice hockey is a more or less distant relative to the various sports traditionally played on ice in America and Europe since the Middle Ages (bandy, shinney, hurling, lacrosse....). The first ice hockey match took place in 1875 between the students of McGill University in Montreal. The rules of the sport were laid down in a code four years later. This new sport quickly spread throughout the country, taking advantage of the desire of the English-speaking bourgeoisie to develop a typically Canadian national sport and to reinforce their national identity. At the end of the 19th century, ice hockey had become the national sport in Canada. The first tournament was organised in 1883 in Montreal, and the first League in Kingston two years later. Out of fear of losing the organisation of the sport, the clubs in Montreal founded in 1886 the Amateur Hockey Association of Canada (AHAC), which represented a sort of national federation. However, the very spectacular nature of ice hockey led to great rivalry and many associations were created in order to control the sport that was becoming more and more professional. At the end of the 19th century, ice hockey was introduced into the United States where it rapidly took hold in the cities of the northeast. It also spread to Europe more or less at the same time, first to Paris in 1894 where the Hockey Club of Paris was created, then to London in 1897, with the founding of the Prince’s Ice Hockey Club. These two clubs were to play a major role in spreading the sport throughout the rest of Europe by means of exhibition matches. Ice hockey found itself in competition with the English game bandy, which had developed in the early 19th century and spread through Europe in the 1880. However, the more spectacular nature of ice hockey when compared to bandy (a game of 11 against 11 on a football field) would assure that hockey got the upper hand. Bandy continued to be practised, especially in Scandinavia, in Switzerland, and some countries in Eastern Europe.

The International Ice Hockey Federation (IIHF) was founded in 1908, without the presence of the Americans, who were more concerned with setting up professional leagues in their own country. The United States and Canada were not affiliated to the IIHF until 1920.

Ice sports: towards mutual independence?

The individual history of each different ice-based sport has led to noticeable distinctions between countries. The organisation of a large international competition is an excellent means of showing whether or not the sport is popular. A large competition emphasizes the particularities of each country. Thus, for example, curling (first world championships in 1968) is mainly shared between two countries, Canada and Great Britain (Scotland). Both being the founders of the sport, they are also the two largest federations in terms of licensed players (respectively 1,000,000 and 60,000). However, very few other countries are involved, which would tend to show that the practice of this sport is rather limited. The organisation of the ice hockey world championships (first held in 1930) involves a large number of countries, but its diffusion was helped along by the increase in the number of regions. Many large cities, especially after World War II, were well represented. Ice hockey is just the type of spectacular urban show that attracts a large audience and is thus easily suitable for large cities. Europe is over-
represented in participation, contrary to North America, where Canada for example has never organised a men’s competition (only held once in the United States). The all powerful professional NHL league seems to be perfectly suitable for them.

Artistic skating is marked by the monopoly of "western" countries, with poor representation from Eastern European countries. The events are mainly organised in large cities, but also in prestigious winter sports resorts. This discipline remains on the borderline between a sports event and an artistic show, thereby attracting the attention of a wider public compared to the other sports. This justifies the particular economic interest of this discipline.

The cultural and historic aspects seem to be very important in the organisation of speed skating events. Scandinavia, particularly Norway, and the Netherlands are well ahead of the other countries. The specific nature of the infrastructures required is also a limiting factor.

Short track speed skating has existed for a long time. In fact, it can simply be compared to speed skaters training in an ordinary ice rink that is limited by the necessary infrastructure (racing oval). The first world championships were held in 1976. Compared to ordinary speed skating, Great Britain and the countries from the Far East are markedly present.

Ice skating quickly moved from its utilitarian origins to a recreational practice. The great enthusiasm for games on ice in the Middles...
Ice based sports: common origins, contrasting diffusion

Localisation of skating rinks: expensive but possible at all latitudes

The speed skating oval: very specific sports facility found mainly in the northern hemisphere

Levels of development of ice-based sports

Affiliations to ice sports federations: potential not yet filled

The level of competition between countries in ice-based sports, many absent, few nation complete and nations with areas of high specialisation