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# The Legacy of the Olympic Winter Games: An Overview

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## Abstract

The Olympic Winter Games have grown so much in the last twenty years that they are now a major sports event that can be compared to the Olympic Summer Games. Indeed, although the Winter Games comprise only about one-fourth of the athletes and events of their Summer counterpart, they attract almost as much media attention and as many candidate cities. They can have a large impact on the mountain environment and often require the construction of very specialised facilities for ski jumping, speed skating, bobsleigh and luge, which are difficult to use afterwards. Consequently, their legacy is an increasingly important issue. It also presents interesting variations compared to the legacy of the Summer Games.

This paper explores the legacy of the Winter Games from the various perspectives adopted in the conference in their order of perceived importance for the Winter Olympiads: tourism and economy, first and foremost; infrastructures; sport facilities; urbanism and environment; and finally, socio-cultural and communications legacies. Examples of positive and negative legacies of past Olympic Winter Games are given with advice on how to achieve a better overall Olympic Winter legacy for the future.

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## 1. Introduction

From their creation in Chamonix in 1924 until Squaw Valley in 1960, the Olympic Winter Games nearly all took place at winter sports resorts, the exception being Oslo in 1952. As in Innsbruck in 1964, they were mostly hosted by towns with over a hundred thousand inhabitants. Here, the only exceptions were Lake Placid in 1980 (the only candidate), Albertville in 1992 and Lillehammer in 1994. As for Sarajevo in 1984, the Olympic Winter Games became a major sports event for which most indicators (participation, events, broadcasting fees, budget, etc.) increase every four years (Chappelet, 2002a). This phenomenon gained impetus as of 1994 when, for the first time, the Winter Games were not held in the same year as the Summer Games. The recent Games in Salt Lake City broke all records for the previous editions, to the point where one could wonder whether it remains possible to organise the Winter Games elsewhere but in very large cities (Chappelet, 2002b). We can thus, in all legitimacy, raise the question of the legacy of the Winter Games in the same way that this issue is raised for the Summer Games.

This article is intended to present a panorama of the legacy of the Winter Games since their beginning, focusing in particular on those held in the past twenty years and on highlighting the specific features of this legacy compared with that of the Summer Games. Examples – both positive and negative – of legacies are cited with the aim of orienting future host cities towards the best possible solutions for organising Winter Games. In order to do so, we shall examine the major categories of legacy identified in literature and revealed in turn during this conference, even if it is necessary to stress that these legacies are often inter-dependent. First of all, we shall present a rapid overview of studies on the impact of the Winter Games, which will make it possible to explain the methodological approach that will be used in the rest of the article.

## 2. Methodological approach

We shall define the legacy of the (Winter) Games very succinctly as a long-term impact on the Olympic city and its nearby region and possibly on the host country. Although the term “legacy” has positive connotations, the value of an impact can be both favourable and less so. The global impact of the Games can be identified according to the economic, socio-cultural and environmental dimensions highlighted by sustainable development (Griethuysen, 2001). Many impact studies regarding the Olympic Games have been carried out, some in greater depth than others. *Table 1* lists some studies carried out on the Winter Games, and classifies them according to three types of impact related to economic, socio-cultural, environmental (mostly urban development) issues.

**Table 1**  
**Impact studies on the Winter Games**

Games or candidatures	Authors, year	Type of impact studied
Chamonix 1924	Arnaud & Terret, 1993	Various
Grenoble 1968	Arnaud & Terret, 1993	Various
	Berthier, 1999	Urban development
	Joly & Parent, 1988	Urban development, socio-cultural
Sapporo 1972	Kagaya, 1991	Economic
Innsbruck 1976 & 1964	Socher, 1987	Economic
Calgary 1988	DPA Group, 1985	Economic
	Ritchie & Aitken, 1984	Socio-cultural
	Haxton, 1993	Socio-cultural
	Hiller, 1989, 1990	Socio-cultural
	Mount & Leroux, 1994	Economic
Albertville 1992	TETRA, 1986	Economic
	Dailly et al., 1992	Various
	Kukawka et al., 1991	Various
	May, 1995	Environmental
	Andreff, 1992	Various
	Papa, 1995	Socio-cultural
Lillehammer 1994	McIntyre, 1995	Various
	Spilling, 1996, 1999	Economic
	Puijk, 1997	Socio-cultural
	Ronningen, 1995	Economic
	Klausen, 1999	Socio-cultural
Nagano 1998	Tsukuda, 2001	Environmental
Salt Lake City 2002	Fowler, 1998	Economic
	GOPB, 2000	Economic
	Wood, 2002	Economic
Graz 2002	Steiner & Thöni, 1999	Economic
Québec 2002	Fréchette, 1992	Economic
Sion 2006	Stritt, 1997	Economic
Torino 2006	Guala, 2002	Socio-cultural
	PT, 2001	Environmental

Most of these studies are not very useful for assessing the long-term impact of the Games, since they were carried out during the preparatory phase or the year that followed them, or even during the candidature phase in order to justify this latter. The research programme headed by Andreff (1991),



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who wished to study the various types of impact following the Albertville Games, was halted prior to the Games because of lack of financing and according to some, because the results proved less positive than those promoting the Games would have liked (Arnaud & Terret, 1993, p. 255).

To assess the legacy of the Winter Games properly, we can thus only base our work on longitudinal studies published at least several years after the holding of the Games, for example those by: Ritchie (1991, 1999, 2001), Haxton (1993) and Mount & Leroux (1994) for Calgary; May (1995) and Papa (1995) for Albertville; Spilling (1999) for Lillehammer. It should however also be stressed that the further we move away from the year in which the Games were held, the more difficult it becomes to attribute effects to the actual Games, since the city and region continue to be influenced by many other factors that are sometimes far more important than the Games (world recession or boom, political events, special promotion, etc.). In other words, any long-term quantitative analysis of the effects of either the Winter Games or any other major event must be regarded with due caution. On the other hand, it is possible to have confidence in good qualitative studies carried out several years after the Winter Games, for example for Grenoble 1968: Arnaud & Terret (1993) and Berthier (1999); or for several editions of the Winter Games in the Alps from an environmental perspective: CIPRA (1995); or for the development effects of several Winter Games (RGA, 1991).

The approach adopted in this article will thus mainly be a qualitative one, as Spilling (1999, p. 141) recommends for the Lillehammer Games. It will be based on the aforementioned studies, but also on the author's personal experience after attending all the Winter Games since 1980 (except those of 1988) in various capacities<sup>1</sup>. Although we shall focus on the Winter Games from 1980 to 2002, we shall also mention some of the legacies of editions prior to these. Five major types of legacy will be considered: tourism and economy; infrastructures; sport facilities; urban and natural environment; and socio-cultural and communications legacies.

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### 3. Tourism and economic legacy

Unlike the Summer Games, which frequently have other justifications such as national prestige, the positive impact on tourism and the economy are often the first reason highlighted by the candidature committees for the Winter Games. The mountain regions concerned are in fact difficult from the point of view of classical industrial and commercial development. Tourism, in both summer and winter, plays an important role that often represents a quarter to a third of the local economy. The publicity campaign for the first Winter Games in Chamonix in 1924 was carried out by the PLM railway company, which wished to increase the number of visitors to this resort newly served by its trains. Today, beyond tourism, Olympic organisers above all cite economic development in the widest sense as a potential legacy.

The impact on tourism can be measured, in a rudimentary manner, by the number of overnight stays, or by the number of visitors before and after the Games. In Oppland county (region of Lillehammer), the number of guest nights in hotels grew from 1.61 million in 1988 to 2.22 million ten years later, with a peak of 2.31 million two years after the Games (SN, 2002). Spilling (1999, p. 152) estimates that over this period, tourist demand for the Olympic region grew, in a sustainable way, by 68%. From 1988 to 1998, the number of guest nights in Norway grew in parallel from 11.85 m to 16.42 m. A similar phenomenon can be observed in the Savoie department (region of Albertville), where after an increase in "touristic days" during the three winter seasons which followed the Games to 20.8 m, there was a decrease for three Winter seasons to 19 m (the Olympic season level) before this indicator again rose to nearly the post-Olympic record level (MDP, 2000). Ritchie (2001) has shown that the effect of the

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<sup>1</sup> OCOG volunteer in Lake Placid 1980; IOC staff member in Sarajevo 1984; tourist in Albertville 1992; observer of a candidate city in Lillehammer 1994 and Nagano 1998; guest of an Olympic team in Salt Lake City 2002. In addition, the author has visited all but three of the resorts and cities where the Winter Games were held since 1924.



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Calgary Games on foreign tourists took longer to materialise. The number of international visitors to Alberta (Canadian province where Calgary is located) grew from 1.35 m in 1987 to 1.62 m during the year of the Games. It then dropped to 1.42 m in 1989 and 1.26 m in 1990 before rising progressively to 1.8 m ten years after the Games. It would thus appear that on the long term, following a certain levelling-off in the number of visitors after the Games, the tourism legacy measured in terms of overnight stays is positive although smaller than predicted (Teigland, 1999).

The capacity to attract sports or other events after the Games is another way of assessing the tourism legacy of the Games. Lillehammer succeeded in meeting this challenge thanks to a specialised company (Afteruse'94) and has hosted over forty major events since 1994 (Spilling, 1999, p. 147). To a lesser extent, the Albertville and Savoie region has been the venue for several large events (World Cycling, Rowing, Handball, Canoe Slalom Championships, a stage of the Tour de France, etc.). Salt Lake City wants to develop congress and convention tourism – a highly competitive sector in North America. Several large, luxury hotels were built and most others were renovated as the Games approached. In downtown Salt Lake City, the number of hotel rooms rose by 64% between 1994 (year before the Games were attributed) and 2002 (year of the Games), and the occupation rate dropped from 74% to 60% during the same period (Robson, 2001). Although this increased capacity will doubtless be problematic during the months that follow the Games, only the future will tell whether this new hotel capacity will constitute a positive or negative legacy.

Beyond the tourism sector, the economic legacy is the most difficult to identify, and particularly its link with the Winter Games. Many economic impact studies of sports events have been carried out, including on the Winter Games (see above). There is a great deal of debate about their validity. Moreover, they are focused on measuring the impact rather than the economic value (or legacy) of the event (Barget & Gouguet, 2000).

The evolution and unemployment rates among the population of the Olympic region, the number of permanent jobs created, notably following the arrival of companies, are good indicators of economic legacy. However, can these be attributed to the Games alone? Was the creation of a Hewlett Packard factory in Grenoble in 1972 due to the 1968 Winter Games and its infrastructure legacy? Spilling (1999, p. 160) has shown that the population of Lillehammer grew more rapidly than that of Norway as a whole after the Games, and that its unemployment rate was slightly lower. The number of permanent jobs created by the Games is estimated at 400-500 full-time positions, including in the tourism sector. The economic (and tourism) legacy of Lillehammer can thus be considered positive, although this result was obtained following huge public investment which could have been more effective in other projects (“crowding out” effect).

In addition, this economic and tourism legacy is much easier to reveal in areas with a smaller population such as Lillehammer than is the case for cities such as Sapporo, Calgary, Nagano or Salt Lake City, or in regions where tourism is already well developed such as that of Albertville. Moreover, the legacy is strongly linked to that of the new infrastructures made available to visitors and businesses, notably for transport.

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#### 4. Infrastructure legacy

Although the IOC states, in its candidature manuals, that it by no means demands infrastructure to be developed specifically for the Games, the host cities plus their region and country can simply no longer permit themselves to refrain from guaranteeing adequate transport infrastructure (roads, rail access, airport) and other facilities (hotels, hospitals, sewage stations, etc.). In this respect, the Winter Games held over the last twenty years were the object of infrastructure development that was, proportionally, more extensive than that for the Summer Games, which are held in generally well accessible and equipped regions.



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The archetype of these major infrastructure built, at a very high cost, for the Winter Games is no doubt the high-speed train (*Shinkansen*) line from Tokyo to Nagano, inaugurated just before the 1998 Winter Games and which alone cost more than four times the OCOG budget. This train facilitates access to the Olympic city, which has no airport, notably for inhabitants of Tokyo wishing to spend holidays or weekends in resorts of the region. However, it also encouraged rapid travel and thus emptied the Nagano hotels of businessmen or tourists who can now make the journey from Tokyo and back within the same day.

The construction of a highway from Chambéry to Albertville, its extension via a rapid road to Moutiers for the 1992 Games, plus a high-speed train (TGV) line to Bourg Saint-Maurice is another emblematic example. For the 1968 Games, a highway was also built for the northern approach to Grenoble, with a fast road from Grenoble to Chambéry. The first section of the Brenner highway was opened for the Innsbruck Games in 1964. The Great Salt Lake Plain highway network and the Interstate 15 were greatly improved for the Games in Salt Lake City. Although no highway was built around Lillehammer, all the road access routes (but not rail routes) were greatly improved. Similarly, the airports of Salt Lake City, Sarajevo, Chambéry and Grenoble were completely renovated for the Games. All these transport infrastructures constitute a legacy of the Winter Games.

This legacy also applies to infrastructure of other types than those related to transport. The French Public broadcaster (ORTF) used Grenoble 1968 to convert its network and equipment to colour television. Beyond the construction of an underground railway (unique for the Winter Games), Sapporo took advantage of the 1972 Games to develop a regional, centralised heating system, to erect western-type hotels, to build various public constructions and to develop underground shopping malls. Innsbruck and Lillehammer constructed schools (used as the media centres). Albertville rebuilt its hospital, etc.

The fact that the need for infrastructure was behind the candidature of Albertville for the 1992 is not well known. In fact, the French Government was threatening the Tarentaise region to halt construction permits if this zone did not come into line with national norms, notably regarding transport and sewage treatment. However, the tourist resorts were partially financed thanks to a tax paid by real estate promoters. The only “solution” was thus to organise the Games in order to obtain the construction of the infrastructure necessary for developing tourism and real estate. The new, Olympic transport infrastructure greatly facilitated access to the Tarentaise region, but also brought with them a considerable increase in traffic. Today, over several peak weekends, traffic congestion occurs on the highway at Albertville, just as was once the case on the simple national road, although to a lesser extent. The Brenner highway, the indirect legacy of the Games in 1964 and 1976, has become such a well-used transit route between the north and south of Europe that certain inhabitants of the Tyrol regret that it was ever built. The general infrastructures built for the Games clearly form part of their legacy, even if they can have some unanticipated, negative effects.

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## 5. Sports facilities legacy

Like the Summer Games, the Winter Games usually leave behind significant sports facilities that characterise the host city for several decades to follow. Although the Olympic stadium marks the Summer Games, the facility *par excellence* of the Winter Games is often the ski jump, among which some have even been the site for the opening ceremony (Garmisch, Innsbruck, Lillehammer). Those of Garmisch Partenkirchen, Oslo (Holmenkollen), Cortina d’Ampezzo, Innsbruck (Bergisel), and Calgary (Olympic Park) became symbolic sites for these Olympic cities, which organise other events there, notably concerts. The two ski jumps in Grenoble are a rare exception here, since they were decommissioned at the beginning of the ‘90s because of a lack of use and maintenance (Zambiaux, 1992).



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However, the small and large jumping stands (united at a single venue since 1980) can also constitute a “white elephant” for an Olympic city. Ski jumping is, in fact, a discipline that is not widely practised, except in Scandinavia. Even Norway has difficulties in using the Lillehammer Olympic jumps regularly. This syndrome is somewhat alleviated by the development of summer competitions at suitable jumping facilities such as those of Courchevel (Albertville) and Hakuba (Nagano). Two other sports facilities for the Winter Games face the same potential problems, and can thus constitute a rather less positive legacy from the Games. These are the bobsleigh and luge run and the speed skating loop.

The bobsleigh / luge run is an artificial facility that has been required for the Games since Innsbruck 1976 (Igls run). What constituted progress for the athletes (the bobsleigh competitions in Grenoble had to be held at night because the run, carved out of a glacier, melted during the day) often turns out to be a legacy that is difficult to manage for those who inherit it after the Games. Bobsleigh, luge and skeleton are practised by very few athletes, and runs organised for tourists do not permit the facilities of La Plagne (Albertville), Lillehammer or Park City (Salt Lake City) to break even. The Nagano run is only open for two months each year. The only real use of these runs is for training athletes and organising competitions. The International Federations (IFs) concerned organise a rotation system for their competitions among the artificial Olympic runs (except that of Sarajevo, which was destroyed, and that of Lake Placid, which is in bad condition) plus some older runs such as those of St. Moritz (a natural run) and of Cortina.

The artificial 400-metre ice loop for speed skating is a facility whose size is that of an athletics track surrounding a football pitch. Several Olympic cities have in fact converted it into a permanent sports ground (Albertville) or a temporary one for the summer (Lake Placid). However, after a first experience in Calgary, the International Skating Union demands that the run be covered in order to guarantee a quality of ice that is similar for all competitors. As of 1994, the Olympic cities were thus forced to build immense halls to house this run. Those of Lillehammer (in the shape of an upturned Viking drakkar, in Hamar) and of Nagano (named the M-Wave) are architectural works of art. Salt Lake opted for a facility that was much more Spartan. The Hamar hall is satisfactorily used, notably thanks to trade fairs, concerts, and championships for other sports (Spilling, 1999, p. 149). Brown (2002) has undertaken research on the legacy of the Calgary oval.

Apart from these three highly specific sports facilities that are very difficult to make profitable, the Winter Games also leave behind a legacy of ski runs and ice rinks. Olympic ski runs are mostly used by tourists after the Games. The Chamrouse (Grenoble) runs have long been abandoned for competition use, as have the famous Patscherkofel and Axamer Lizum courses for Innsbruck. The downhill runs of Sapporo were replanted with trees immediately after the Games. The Belvedere run in Val d’Isère, created for the Albertville Games, has not seen any competition since because of the cost of installing security equipment. The same is true of the Les Saisies cross-country runs, which do not fit with the Savoie Alpine image. We should note however the success of the cross-country ski centre in Canmore (Calgary 1988), which occurred somewhat to the expense of the resort of Banff, which was previously unrivalled. It seems also that the alpine facilities in Lillehammer are well used, and constitute an essential element for attracting World Cup races to the region and, perhaps one day, for the World Championships, for which Lillehammer has been a candidate on several occasions.

Among the ice rinks necessary for the Games, the IFs for skating and ice hockey each demand an Olympic rink with a capacity of between 8,000 and 10,000 spectators. These are thus facilities for which post-Olympic use constitutes a problem, particularly in small towns. It is often said, in jest, that the entire population of Lillehammer could be brought together in the main ice rink (Håkon’s Hall) built for the 1994 Games and which, moreover, is adjacent to another, smaller rink (Kristin’s Hall). Running the vast ice palace in Grenoble was difficult after the 1968 Games, despite the size of the city. The two large rinks in Nagano, for which the organisers attempted to resist the seat requirements of the skating and ice hockey IFs, face the same problem. The E-Center ice rink built in Salt Lake City can have a more glorious future, since it is the home ground for the local team in the NHL professional league.



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The best solution for avoiding a rink legacy becoming too much of a burden is to plan a maximum of temporary seating. A good example here is that of the Albertville ice rink, even though this is not an architectural masterpiece. The number of seats was reduced from 10,000 to 1,500 permanent ones after the Games, the space thus freed was turned into tennis courts and one of the largest climbing walls in Europe, and the rink is also used for temporary exhibitions. Since demand increased, the number of permanent seats was doubled a few years after the Games. Temporary stadiums are also a good idea for the ceremonies (such as in Grenoble, Lake Placid and Albertville) unless existing stadiums can be renovated (as in Calgary, Salt Lake City and Turin). The brand new 50,000-seat baseball stadium built for the opening and closing ceremonies of the Nagano Games now remains desperately empty.

Globally, the legacy from winter sports facilities is difficult, with only a few exceptions where a great deal of advance planning has taken place. Grenoble and Sapporo have abandoned most of their Olympic facilities. Those destroyed by the war in Sarajevo will no doubt not be rebuilt unless a special, international effort is launched as was the case for the Zetra ice rink, which reopened in 2001 but remains desperately underused. The most positive recent cases are those of Lake Placid, Calgary and Salt Lake City, which have succeeded in setting up (in the two latter cases thanks to the OCOG budget surplus) national training centres that provide a certain level of activity for the Olympic facilities, notably the most rare of them: the bobsleigh / luge run, the speed skating loop and the ski jumps. The 1980 Winter Games facilities even saved Lake Placid from programmed obsolescence as a winter resort on the east coast of the USA.

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## 6. Urban and natural environment legacy

Unlike the Summer Games, the urban development legacy has not, from a historical point of view, been a major concern for organisers of the Winter Games. This could change with the increase in size of the Olympic Winter host cities. The centre of Salt Lake City was considerably redeveloped thanks to the Games (Wood, 2002). Turin aims to draw benefit from the 2006 Games in order to reposition the city thanks to international-level infrastructures (Project Torino-Internazionale), as was the case for Barcelona, which serves as an example. Moreover, particular sensitivity towards the natural Olympic environment appeared at the beginning of the 1990s, and initially at the Winter Games.

One resort was entirely created in order to organise the Winter Games: Squaw Valley in California. However, if we leave aside this unique case, the most striking urban development legacy from the Winter Games so far is that of Grenoble, which was completely transformed into a regional capital by the new infrastructures for the 1968 Games (airport, railway station, town hall, cultural centre, police station, exhibition ground, fire station, hospital, etc.). These facilities were built in only three years thanks to 80% financing by the French government, similar to the strong involvement of the Norwegian government for Lillehammer. In Grenoble, however, only 10% of the funds were used for sports facilities. Moving the railway line and developing new avenues modified the very structure of the city (Berthier, 1999). Several districts were also greatly transformed or even completely created, such as that with the appropriate name of "Villeneuve", or "new town", which housed the Olympic and the media Villages. The pride of the municipal council at the time, home of a sculpture park, this district created by the architect Maurice Novarina has today become a ghetto. The urban development legacy in Grenoble therefore varies, and particularly since it was accompanied by a long-standing increase in local taxes although somehow justified by a better overall infrastructure.

Since the 1960s, in the absence of major athletics stadiums, the Olympic Villages have generally constituted the main urban development legacy of the Winter Games (Chappelet, 1997). They usually become subsidised housing projects (Grenoble, Innsbruck, Sarajevo, Nagano) or more rarely student residences (Calgary, Salt Lake and Turin) or prisons (Lake Placid). Lillehammer constitutes an exception, because the wooden houses of the Village were dismantled and sold throughout Norway.



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Only a few buildings remain on site and are used as a neighbourhood centre and church. Curiously, re-use as tourist accommodation has been rarely favoured with the exception of the main Village of the Albertville Games, which was housed in the spa resort of Brides-les-Bains where each hotel was renovated for the occasion. Brides, which was heavily in debt at the time, is today enjoying a positive Olympic legacy.

The Olympic Villages are always outside the city centre. However, and since 1980, most medals awarded at the Winter Games are presented in the early evening, on a temporarily created square in the heart of the Olympic city (except in Albertville where the medals were presented at the sports venues). It was from this recent tradition that the idea was born to create, after the Games, a commemorative square called “Legacy Plaza”, and where the names of Olympic medallists are featured prominently, as the Olympic Charter demands (Rule 71). Such squares exist in Sarajevo, Calgary and Salt Lake. These initiatives are often accompanied by projects for preserving (and re-installing) the Olympic cauldron, often at locations other than the ceremony arena. These symbolic monuments form part of the sentimental legacy of the Games, and are those most appreciated by residents once the Games are over (Haxton, 1993).

Environmental criticism of the Olympic Games started with those held in Sapporo in 1972 and planned for 1976 in Denver, Colorado (replaced by Innsbruck). The first environmental impact study on the Olympic Games dates from those of Lake Placid in 1980. It is only since the Games in Albertville and Lillehammer, however, that the environmental impact has become topical within the sports movement (May 1995). Increasing awareness of the importance of this dimension when organising major events can thus be seen as a non-material legacy of the Winter Games. We could also cite some concrete projects that have had a long-term, positive influence on the environment of Winter Olympic regions: the Sapporo subway and refurbishment of the city water supply system (Kagaya, 1991), the sewage plants in the Tarentaise region, and the rehabilitation of industrial wasteland for certain sites at the Albertville Games, the 70% recycling of waste from the Lillehammer Games, the numerous trees planted in Nagano, the city centre “light-rail” line in Salt Lake City. These positive projects for the environment are sustainable urban legacies for the Olympic cities and regions.

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## 7. Socio-cultural and communications legacy

The socio-cultural legacy of the Winter Games is as difficult to pinpoint as that for the Summer Games, and has been the subject of few scientific studies (Kidd, 2000, p. 4). Usually, long-term types of impact on employment, housing, societal issues, sports and cultural activity, are united within this dimension. Since these first two aspects were handled under the section on economic and urban development legacies, we shall focus on certain, less material, socio-cultural legacies, i.e. community involvement, sports practice, Olympic culture and history, city renown and image.

Vast teams of volunteers were set up at the Winter Games as of Calgary in 1988. The first experience with Olympic volunteers, however, took place at the Lake Placid Games in 1980 (Chappelet, 2000). The Games of Albertville and Nagano made it possible to initiate a culture of volunteer work in these Olympic regions that had been virtually non-existent on a national level. The Albertville volunteers, dressed in their uniforms with large Olympic rings, have become known for welcoming visitors to the Savoie region since 1992 and to support civic causes (Margot, 2002). In Nagano, the population is now more open to foreign visitors, who were once extremely rare. The young people of the Olympic city had the opportunity of becoming familiar with foreign countries thanks to the “One School, One Country” programme. The Games of Calgary, Salt Lake and Lillehammer have reinforced the already deep-rooted tradition of voluntary work in North America and Scandinavia. In Calgary, Hiller (1990, p. 123) emphasised that the strong and active participation by residents contributed towards the success of the Games, turning them from an elitist sports event into a warm, urban festival. Generally speaking, Olympic volunteer programmes can be the basis of a major legacy in terms of improved community spirit and better social integration.



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Apart from the sports facilities, do the Winter Games have a sports legacy? Scientific studies replying to this question are lacking, so we can just cite a few circumstantial cases. The very first Winter Games in Chamonix favoured the founding of the International Ski Federation, which subsequently played a fundamental role in the development of snow sports. Ice hockey spread to Eastern Europe from Canada during the 1950s thanks to the Olympic tournaments. Today, little-practised winter sports such as bobsleigh, luge and biathlon exist above all thanks to the Games. The Grenoble Games developed cross-country skiing in France (Arnaud & Terret, 1993, p. 237), and those of Albertville promoted the biathlon among top-level athletes. The Salt Lake Games made curling more popular in Utah. The Calgary Games favoured the development of the Nordic events in the Canadian west thanks to the new Olympic facilities. Lillehammer hosts several winter and summer sports for all events that have developed after the Games (Spilling, 1999, p. 148). The question of the sports legacy of the Games is worth more development and study on post-Olympic sport practice should be encouraged.

The historical and cultural legacy of the Winter Games has taken on concrete form over the last few Olympiads thanks to the creation of dedicated museums. This was the case for Lake Placid (in the main ice rink), Sarajevo (sadly now closed), Calgary (Olympic Hall of Fame), Albertville (Maison des Jeux), Lillehammer (Norway Olympic Museum) and Nagano (in the M-Wave ice rink). The precursor of these museums was the Ski Museum at the foot of the Olympic ski jump at Holmenkollen in Oslo, which devotes a few showcases to memories of the 1952 Games. The Winter Games were also an opportunity for erecting buildings such as the *Maison de la culture* in Grenoble, the Dôme theatre in Albertville, or the Museum of Art in Lillehammer, which all constitute traces of a cultural legacy. Renovating and highlighting national heritage, as carried out for the Albertville Games (Baroque churches) or Lillehammer (Maihaugen Open-air Museum) also forms part of this legacy. The OCOG archives are less fortunate, and are usually either very difficult to access or are even destroyed. This loss of cultural and organisational memory will be partly reduced by the IOC's Knowledge Transfer Programme, as of the Salt Lake Games (for winter).

The host city's renown and the image of successful Games can also be ranked within a potential socio-cultural and communications legacy that goes beyond the local or even national population. This is one of the major types of legacy that those promoting the Games seek since it facilitates tourist and economic development, which also constitute important goals. According to Andreff (1991), this media coverage effect is even the main spin-off effect of the Winter Games, but it cannot, nevertheless, reverse deep-rooted economic trends. Ritchie (1991) has revealed, for example, that the renown of Calgary increased strongly in the USA (from 19% in 1986 to 43% in 1988), and in Europe (from 10% in 1986 to 40% in 1988), but that it was difficult to maintain this renown beyond the Games.

The image of Calgary has also evolved from being dubbed a cow town to that of a more chic, cosmopolitan city where the headquarters of major Canadian companies are not hesitating to move. Similarly, two years after the Albertville Games, 88% of the French population, questioned in a survey, were attracted to the Savoie region for their winter holidays (81% for summer holidays) (Sofres, 1994). A survey by the Wirthlin Company among business executives from major American companies reveals that 58% of them were positive about the state of Utah after the Salt Lake Games, as opposed to 42% before them. And 6% more American households indicate that they are prepared to spend their holidays in this state (Oberbeck, 2002). Turin wants to change its image from the FIAT automobile manufacturing city to a more technology-oriented European regional capital.

The spectacular increase in the number of countries where the Winter Games are broadcast (from 40 in Lake Placid to 160 in Salt Lake City) favours this territorial marketing. Moreover, nearly all of the Olympic winter cities since 1948 refer to their Olympic past, in predominant position, on their Internet sites (with the exception of Sapporo and Oslo). It is therefore possible to affirm that the communications legacy is more important for the Winter Games than it is for the Summer Games, because the Olympic cities are often completely unknown prior to the Games, or at least are since they are much less famous than the large metropolises that host their summer counterparts. "Who had



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heard of Lillehammer before the Olympic Winter Games 1994?” asked the IOC President in a recent conference (Rogge, 2002). We could offer the hypothesis that this legacy is inversely proportional to the size of the town, and that it fades out over time. It is claimed that the reputation of St. Moritz comes from organising the Games in 1928 and 1948. This Swiss resort however wished to rekindle the flame by presenting further (unsuccessful) candidacies. Chamonix – which organised the first Winter Games in 1924 – no longer uses the Olympic image in any way, but capitalised on it a great deal prior to the Second World War. The Lake Placid 1932 Olympic poster literally aims at putting the resort on the North American map. The Olympic Games are a “branding moment” for the city that hosts them. And today, establishing a well-known brand is the ultimate goal of any marketing campaign.

Certain countries or regions also wish to develop their image with an objective other than tourism, even if this is more rare for the Winter Games than for the Summer ones. This was certainly the case of Grenoble, a showcase of French grandeur under De Gaulle, of Sarajevo, the symbol of the fleeting success of Yugoslavia in the socialist camp, but also of Norway, which seized the opportunity of the Lillehammer Games to develop a reputation as a country favouring respect for the environment (the green and white Games) and peaceful cohabitation (Oslo agreements between Israel and Palestine). This political-type of legacy is also the likely intention behind the candidatures of Pyeongchang (Korea) and of Harbin (China) for 2010.

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## 8. Conclusion

As we have seen, the Winter Games organised since the 1960s have left a major legacy in terms of general infrastructures, transport and sports facilities. Certain winter Olympic cities have seen their urban landscapes change considerably on the occasion of the Games. The value of this legacy of urban equipment depends to a large extent on the strategic choices made by the organisers, right from the candidature phase. Post-Olympic use depends considerably on careful planning and unusual creativity.

Besides this legacy of bricks and cement, there is a less material and maybe more important legacy from both the Winter and Summer Games. If they have been well organised, their image among the potential visitors / investors, and the inhabitants of the Olympic region, is positive. This favours both individual and congress tourism, as well as industrial developments. New sports or cultural events are organised in the city. And the local population develops a more pronounced civic spirit. The “feel good factor” turns into a “can-do attitude”. In the best of cases, the Olympic city becomes a brand on the market of winter tourist destinations, or even summer ones. This can also constitute a factor in favour of companies moving there.

Only St. Moritz, Lake Placid and Innsbruck have organised the Winter Games twice. Historically, however, half the winter Olympic cities again submitted a candidature for organising them several years later. At the beginning of the 21st century, Grenoble, Sarajevo, Annecy (near to Albertville) and Lillehammer are again envisaging a candidature. Only the people of Innsbruck declined in 1997, making way for other Austrian cities (Graz for 2002, Klagenfurt for 2006 and Salzburg for 2010). Could this frenzy for repeated bids be the sign of a positive legacy that the cities wish to strengthen or to the contrary, a desire to improve an unsatisfactory one? Both, probably, since the perception of the legacy of the Games depends to such a large extent on who is observing or financing it. Rather than often exaggerated or biased impact studies, “costs vs. advantages” analyses should be carried out systematically in order to judge whether the increasingly high investments required on the part of the public authorities in order to organise the Winter Games are worth their potential legacy.



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