

## **ASSH STUDENT ESSAY PRIZE WINNER**

### *Societal Values, Olympic Values: Technology and the Environment in the 1996 and 2000 Olympic Games<sup>1</sup>*

Whitney Brown

Blending sport with culture and education, Olympism seeks to create a way of life based on the joy found in effort, the educational value of good example and respect for universal fundamental ethical principles.<sup>2</sup>

As the values of society evolve and change, so must the foci of each Olympic Games, given that 'Olympism' is based on universal principles of example and ethics. In recent decades, technology has become a value of society, pushing innovative thinking to the limits, much as Olympism drives athletes to their limits: 'Higher, faster, stronger,' according to the Olympic creed. In conjunction with this outburst of technology, a growing concern for the environment and the harm which technology and other factors may cause has developed. 'Reduce, Reuse, Recycle' has become the attitude of an environmentally conscious society. The Atlanta Olympics of 1996, informally titled 'The High-Tech Games,' illustrated the value that has been assigned to the importance of technology and innovation. The media and communications of the Games was leading-edge, never before seen or tested. The Sydney Olympics of 2000, informally titled 'The Green Games,' will again illustrate the current value of society: environmentalism. An interesting aspect of this is that technology will still be in the forefront of the Games, however, Sydney's innovative technology will be in the form of environmentally protective measures and practices. The media and communications technology of Atlanta will still be present in Sydney, although improved, but it will no longer be groundbreaking and will be overshadowed by the innovations in environmental protection. The shift in focal issues from Atlanta in 1996 to Sydney in 2000 ideally illustrates the parallel of societal values with those values emphasised by the International Olympic Committee (IOC) and the Olympic Games.

In the 1980s Atlanta lawyer Billy Payne created the dream of bringing the 1996 Olympic Games to Atlanta. When the Georgian Institute of Technology (Georgia Tech) became part of the Atlanta Olympic effort in 1988, it was the beginning of a technological relationship that would ultimately succeed in bringing the Games to Atlanta. The initial goal of this relationship was to introduce the members of the IOC to the charm of Southern hospitality, while

at the same time showing them the technological abilities of the city to put on an innovative and successful Games. By the time of the IOC meeting of May 1989, the engineers at Georgia Tech had accomplished this goal through an interactive video that took the viewer on a tour of the city, based on helicopter footage, at his or her direction. The sophisticated technologies of the video thoroughly impressed IOC members who were soon flocking to visit the actual city itself. Having established Atlanta's 'high-tech' image, the engineers went back to work to produce another interactive video, this one computer-generated and focusing on the Olympic Village, to be shown at the September 1990 meeting of the IOC. Again, the impressive technology succeeded, and the video – in addition to a technologically-promising overall bid – persuaded the IOC to award the 1996 Summer Games to Atlanta.<sup>3</sup> In choosing Atlanta over the sentimental favourite for the Centennial Games, Athens, the IOC demonstrated the desire for the Games to reflect the current focus of society: technology.

Once Atlanta's technological advances had been touted, the promises had to be kept, especially due to the 'intense scrutiny' and 'heightened expectations' of a centennial event.<sup>4</sup> The most publicised aspect of the Atlanta Games was the information and communication technology provided by IBM, BellSouth, and Cox Newspapers. Repotting was no longer done with pen and paper, but rather with computers, telephones, data processing equipment, televisions and fibreoptic connections. With its \$40 million investment, IBM was responsible for five main areas of the information technology of the Games: the first official Olympic Games home page, which provided such things as email addresses of athletes; Info '96 Intranet, which provided on-line purchasing of tickets and merchandise; a Commentator Information System, which provided fingertip access to the background and statistics of athletes for announcers; a Results System, which provided instantaneous scores and statistics for events by means of wireless, pen-based Thinkpads<sup>5</sup>; and a Regional Atmospheric Modeling System (RAMS), which could provide weather forecasts as exact as a two-by-two kilometre area for up to six hours.<sup>6</sup> BellSouth provided a "high-speed fibre-optic synchronous optical network (SONET)"<sup>7</sup> for interruption-free broadcasting, as well as a Synchronous Communications Accessing Live Event Television (SCARLET) system to allow journalists access to multiple events simultaneously. Cox was responsible for a Digital Technology International wide-area network (WAN) database from which newspapers in a five-state area could choose articles or even full-page layouts on the Games. As a result of the technology contributed by these as well as many other companies, a fact-filled Olympics was delivered to a world-wide audience faster than ever before.

The improved technology of the Atlanta Games was evident not only to the world-wide audience, but also to the athletes themselves. Every morning, they were awakened by a 'wake-up call' from a pager. They would then put on

their ID badges, encoded with access privileges, the same badges worn by every coach, official, reporter and volunteer, and scanned upon entry of any new area. In addition, the Olympic Village was equipped with hand scanners that compared details as minute as knuckle distance and finger width with previously-recorded information.<sup>8</sup> At the Natatorium, swimmers took advantage of turbulence-damping grills as well as a ten-lane pool (for eight competitors) to virtually eliminate waves.<sup>9</sup> Cyclists were released mechanically to prevent any false starts and rode on a track designed using computer software to create optimal shape and banking.<sup>10</sup> Boxing judges had an electronic input system, keeping a running total of scores. Runners were monitored by false-start detection devices and three camera angles for photo finishes.<sup>11</sup> Fencers were wired so that a touch completed a circuit and was electronically detected. Kayakers and canoers paddled on a course that was computer-designed and engineered so that each rock was specifically placed for optimal challenge and performance.<sup>12</sup> In addition to these innovations, all of these athletes could have been subject to the state of the art drug detection process, which made use of the three \$700,000 high-resolution mass spectrometers.<sup>13</sup> This advanced technology, in conjunction with drug testing innovations, provided an optimal competition environment as well as the most unbiased starting, judging and finishing possible. There was, thus, the opportunity to witness performances of the best and fairest calibre, making the Games more exciting for spectators as well as participants.

Despite the obvious focus on technology during the Atlanta Games, there were some environmental concerns addressed as well, although limited in scope. Georgia Tech developed a hydrogen-fuelled, electric-powered bus, which was tested during the Games and which produced near zero emissions.<sup>14</sup> Following the end of the Games, these buses were slowly phased into the public transportation system of the city and have dramatically reduced air pollution caused by emissions. The portable Velodrome developed for the cycling events was made from polyesterwood rather than the rare rain-forest wood, Afzelia, which is traditionally used.<sup>15</sup> The most notable environmental aspect of the Games was the enormous tree-planting and beautification project undertaken by the state. Trees Atlanta, the Metropolitan Atlanta Transit Authority (MARTA), the Georgia Power Company, and the Georgia Department of Transportation (DOT), among others, planted trees, shrubs and wildflowers along highways, along train tracks, in parking lots and on sidewalks for more than four years before the Games. The DOT alone planted almost 100,000 trees and more than 350,000 shrubs.<sup>16</sup> The beautification carried over into nine parks as well as a twenty-one acre area in downtown Atlanta which is now home to the permanent Centennial Olympic Park. Even with these notable efforts, people like Deo Prasad commented after the Games: "The Atlanta Games made significant claims of innovation and showcased their green credentials but there was little evidence of this during the

games. A 300 kW photovoltaic system on the aquatic centre roof was the only exception.<sup>17</sup> The limited public display of environmental practices merely proves that technology, not the environment, was most highly-valued at the time of the Atlanta Games.

Throughout the 1990s there has been an ever-increasing awareness and concern with respect to environmental issues.<sup>18</sup> The IOC demonstrated its own changing values in 1991 with a myriad of actions making the environment a key concern for the Olympics. The IOC charter was amended to read: "The IOC sees to it that the Olympic Games are held in conditions which demonstrate a responsible concern for environmental issues." It then established its own environmental policy, an agreement with the United Nations Environment Program and a Commission on Sport and the Environment as advisers on environmental issues. Juan Antonio Samaranch even said at the World Conference on Sport and the Environment in the 1995 that: "The IOC is resolved to ensure that environment becomes the third dimension of Olympism."<sup>19</sup> Sydney's equivalent of Billy Payne, Rod McGeoch, notes in his book, *The Bid: How Australia Won the 2000 Games*, that the IOC's requirements of the bid books in 1992 "listed [the environment] as a full chapter in its own right for the first time. The IOC was clearly trying to send a signal that it wanted candidate cities to regard the environment as an important consideration."<sup>20</sup> Thus, as of 1992, the IOC had solidly demonstrated its own value system shifting from a focus on technology to a focus on the environment, keeping up with the same shifting values of society as a whole.

The idea for Sydney to host an Olympic Games began in 1978 when Walter Bunning proposed the development of the Homebush Bay site in preparation for the 1988 Olympic Games. Although actual development did not begin until the early 1990s plans continued to unfold and were nearly complete while Melbourne was bidding for the 1996 Games. Sydney's pre-bid strengths included a compact site, a sport-committed government, good climate, political stability and security, community support, and telecommunications. For the collaborators of the Sydney Games, however, the initial aim was an 'Athletes' Games' due to Australia's ideal climate and conditions as well as the proposed state of the art Athletes' Village. Interestingly enough, it was actually planning for the Village that shifted Sydney's focus from the athletes to the environment. Two of the designers were closely involved with Greenpeace Australia, and Sydney Olympic 2000 Bid Limited (SOBL) subsequently established a partnership with the environmental group.<sup>21</sup> They proceeded to advise on all aspects of development, and the most publicised aspect of the Sydney Games became, according to Helen Lenskyj: "the promise of a Green Games, with the design of Olympic facilities to reflect environmentally friendly principles."<sup>22</sup> Although the other bid cities, seeing the shift in IOC values, touted environmentally conscious designs and practices, none were as thoroughly involved as Sydney.<sup>23</sup> As a result, environmental

plans became the key to Sydney's winning the Games.

An important factor in Sydney's environmentalism stems from the fact that the Olympic Organising Committee chose a toxic waste dump as the site of the Olympic venue. In the late 1980s Homebush Bay was home to "the State Abattoirs, the State Brickworks, the Navy Armaments Depot, chemical industries, landfills, and an industrial waste dump."<sup>24</sup> According to the Olympic Co-Ordination Authority (OCA) Ecologically Sustainable Development (ESD) is "an integrated approach to development which encourages the use, conservation, and enhancement of the community's resources in a way which sustains ecological processes."<sup>25</sup> Using ESD, the plan was to rehabilitate the area by containing and landscaping the hazardous waste, building on the rest, and letting degradation finish the job.<sup>26</sup> Surrounding the waste dump were wetlands, saltmarsh, a eucalypt forest and casuarina woodlands that were home to ten species of migratory birds, fifty species of non-migratory birds, reptiles, mammals and amphibians, including the endangered Green and Golden Bell frog. Development plans incorporated these factors, and the OCA has worked to minimise impact on the existing areas during construction as well as enlarging and improving the areas in order to increase food and habitat and actually attract more species.<sup>27</sup> In addition to fauna, flora has been preserved through the planting of native shrubs and grasses as well as the relocation, rather than destruction, of fourteen Moreton Bay and Port Jackson fig trees.<sup>28</sup> Taking these factors into account, and with the aid of an environmental advisory panel, the OCA has succeeded in planning and implementing the transformation of a contaminated industrial area into a beautiful environmentally-concerned Olympic site.

Sydney's Olympic bid outlined an environmental plan with five foci: "energy conservation and the use of renewable energy sources; water conservation; waste avoidance and minimisation; protecting human health with appropriate standards of air, water, and soil quality; and protecting significant natural and cultural environments."<sup>29</sup> The Homebush Bay development plans outline measures to accomplish these environmental goals in the following ways. Energy will be saved through building orientation, natural lighting, natural ventilation, insulation, efficient appliances, motion detector lighting, daylight sensors and solar panels.<sup>30</sup> Water conservation will be achieved through rainwater collection for toilets and irrigation, enough green spaces to reduce stormwater runoff and low-water use fittings for faucets.<sup>31</sup> For the approximately 5,000 tons of waste expected to be created by Olympic visitors, there will be recycling receptacles as well as on-site composting of kitchen waste. Crockery and cutlery will be reusable, packaging will be recyclable, and information will be conveyed electronically to prevent paper waste. In addition, the OCA has held waste management seminars for employees and the local community, and all volunteers will go through waste management training. Because of the toxic history of the site, the air, water and soil are continually

tested and monitored to protect the health of workers, and the housing developments are not located near the contained contaminated sites.<sup>32</sup> Lastly, the natural and cultural environments will be protected using previously discussed measures, rehabilitation and “management plans for the protection of natural ecosystems.”<sup>33</sup> Thus, Sydney is striving to achieve the high standards desired by the IOC while at the same time taking into account “experience, time, technology, and cost”.<sup>34</sup>

The most noticeable display of technology in conjunction with environmentalism in Sydney will be the Athletes’ Village. Containing 665 houses, supplied with electricity and hot water from photovoltaic solar panels on each house, with the ability to generate more than one million kilowatt-hours of power each year, the Village will be the largest solar-powered suburb in the world.<sup>35</sup> Not only will the energy collected by the panels be so-called ‘clean’ energy, the excess will be stored for use at a later time, maximising the potential of solar energy.<sup>36</sup> The Village will also utilise many of the same energy-saving and waste-management systems as the rest of the Olympic venue, such as energy-efficient appliances, improved and encouraged public transportation, and water and waste management services and community education.<sup>37</sup> Not only does the Village follow these strict environmental standards, it will also be a symbol of world-wide unity as it will be the first time that all athletes, coaches, and officials will be housed together in the same area. After the Games, the environmental practices will continue when the Village becomes the community of Newington. A showcase of environmental technology, the Olympic Village has the potential to set a new standard for community development, as well as demonstrating marketable solar technology to the world.

As the 2000 Games rapidly approach, Sydney looks back to Atlanta as it puts finishing touches on the development of the Homebush Bay site. The Atlanta Committee for the Olympic Games, seeing the potential inherent value of the rapidly-developing technology of the time, utilised innovative practices and a relationship with Georgia Tech to impress the IOC and to subsequently run the Games. The inability of the technology to deliver the promises made caused the spotlight of the Games to “fall on the deficiencies,” especially those of the communications and transportation systems.<sup>38</sup> Likewise, Sydney, seeing the shift of societal values to environmental concerns, took advantage of a relationship with Greenpeace to develop the plans for an environmentally aware Games. Because the success of a Games seems to weigh heavily on the success or failure of practices relating to society’s current value system, it will be interesting to observe whether environmental promises become the Sydney Games’ downfall or the aspect which makes them great. Both Atlanta and Sydney looked to the future and the long-term effects the Games would have on the city in developing the environmental and technological plans, both utilised the societal values of the time, and both attempted their goals with

similar budgets. One was relatively successful with overshadowing deficiencies. What will happen with the other remains to be seen. Successful or not, Sydney has shown the necessary dedication to environmental standards “and has set a new standard for future bidding cities,” much as Atlanta set a new technological standard.<sup>39</sup> ‘The High-Tech Games’ and ‘The Green Games’ clearly demonstrate the relation of Olympic and societal values as well as emphasising the importance of those values on the success or failure of the Games.

#### NOTES:

<sup>1</sup> I would like to thank my tutor, David Holmes, for his comments on this paper.

<sup>2</sup> S. Loland, ‘Pierre de Coubertin’s Ideology of Olympism from the Perspective of the History of Ideas’, in R. Barney & K. Meier (eds.), *Critical Reflections on Olympic Ideology*, University of Western Ontario, Ontario, 1994, p. 26.

<sup>3</sup> N. Faust, ‘Technology Goes for the Gold; By Using the Latest GIS and Related Technologies, Atlanta Was Chosen to Host the 1996 Olympic Summer Games’, *American City and County*, vol. 106, no. 8, 1991, p. 96, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A20300010.

<sup>4</sup> J. Findling & K. Pelle (eds.), *Historical Dictionary of the Modern Olympic Movement*, Greenwood Press, Westport, CT, 1996, p. 194.

<sup>5</sup> E. Chen, ‘IBM Not Winning Medals at Olympics’, *Electronic News*, vol. 42, no. 2127, 1996, p. 2, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A18549438.

<sup>6</sup> R. Nelson, ‘Essential Technology Guide’, *Popular Science*, vol. 249, no.1, 1996, p. 63, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A18540856.

<sup>7</sup> M. Moore, ‘Data/Video Network Helps Overcome Herculean Task of Viewing Olympic Events’, *PC Week*, vol. 13, no. 9, 1996, p. 10, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A18064005.

<sup>8</sup> ‘Gearing Up for the Gold: All the New Equipment You’ll See at the Atlanta Olympics’, *Popular Mechanics*, vol. 173, no. 7, 1996, p. 68, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A18388402.

<sup>9</sup> Nelson, ‘Essential Technology Guide’, p. 63.

<sup>10</sup> ‘Gearing Up for the Gold’, p. 68.

<sup>11</sup> Nelson, ‘Essential Technology Guide’, p. 63.

<sup>12</sup> Gearing Up for the Gold’, p. 68.

<sup>13</sup> R. Corelli, ‘The Drug Detectives: Technological Wizardry Will Try to Keep the Olympics Clean-But is it Enough?’, *Maclean’s*, vol. 109, no. 30, 1996, p. 28, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A18513000.

<sup>14</sup> A. Demmler, ‘Hydrogen-fueled Olympic Bus’, *Automotive Engineering*, vol. 104, no. 9, 1996, p. 74, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A18969735

<sup>15</sup> ‘Gearing Up for the Gold’, p. 68.

<sup>16</sup> N. Dawe, ‘Atlanta Goes for ‘96 Gold’, *American Forests*, vol. 99, no. 9-10, 1993, p.18, Expanded Academic ASAP International Edition, 1980-Sep. 1998, Article A14536147.

<sup>17</sup> D. Prasad, ‘How Green is Green Enough in 2000?’, *Olympic Impact*, no. 1, 1996, p. 6.

<sup>18</sup> R. Cashman & A. Hughes (eds.), *The Green Games: A Golden Opportunity*, The Centre for Olympic Studies, University of New South Wales, 1998, p. 32.

<sup>19</sup> Cashman & Hughes, *The Green Games*, p. 32.

<sup>20</sup> R. McGeoch with G. Korporaal, *The Bid: How Australia Won the 2000 Games*, William

Heinemann Australia, 1994, p. 139.

<sup>21</sup> McGeoch & Korporaal, *The Bid*, pp. 139-40.

<sup>22</sup> Lenskyj, H., 'Sharing the Spirit or Manufacturing Consent? Sydney 2000, Olympic Sport and the Australian Media', in R. Barney, S. Martyn, D. Brown, & G. MacDonald (eds.), *Olympic Perspectives: The Third International Symposium for Olympic Research*, University of Western Ontario, Ontario, 1996, p. 182.

<sup>23</sup> McGeoch & Korporaal, *The Bid*, p. 140.

<sup>24</sup> R. Freestone (ed.), *Urban Impacts of Olympic Games*, University of New South Wales Planning Studies, no. 2. 1996, p.93.

<sup>25</sup> 'Breaking New Ground: Environmental Strategy for the New Sydney Showground', OCA, Oct. 1996.

<sup>26</sup> S. Beder, 'Sydney's Toxic Green Olympics', *Current Affairs Bulletin*, Nov. 1993, p. 16.

<sup>27</sup> 'Environment Fact Sheet: Protecting Our Heritage', OCA, March 1998.

<sup>28</sup> 'Breaking New Ground'.

<sup>29</sup> *Olympics 2000...And the Winner Is?* Report by the House of Representatives Standing Committee on Industry, Science and Technology, The Parliament of the Commonwealth of Australia, June 1995, p. 29.

<sup>30</sup> 'Environment Fact Sheet: Saving Energy', OCA, March 1998.

<sup>31</sup> 'Breaking New Ground'.

<sup>32</sup> K. Short, *Management of Contaminated Sites for the Sydney Olympics 2000*, Green Games Watch 2000, Inc.. 1996, p. 3.

<sup>33</sup> *Olympics 2000*, p. 30.

<sup>34</sup> Cashman & Hughes, *The Green Games*, p. 38.

<sup>35</sup> 'Newington News', OCA, March 1998.

<sup>36</sup> *Olympics 2000*, p. 32.

<sup>37</sup> Freestone, *Urban Impacts of Olympic Games*, p. 101.

<sup>38</sup> Cashman & Hughes, *The Green Games*, p. 15.

<sup>39</sup> Cashman & Hughes, *The Green Games*, p. 8.