

Design and Innovation in Montreal through the 1960s and 1970s

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Résumé

Après la Seconde Guerre mondiale, il a fallu transformer l'économie de temps de guerre en économie de temps de paix au Canada et penser à des objets de consommation à produire dans les usines où l'on avait fabriqué des armes. C'est à cette époque que la profession de designer industriel s'est implantée. À Montréal, deux cabinets de consultants en design ont ouvert leurs portes, ceux de Jacques Guillon et Associés et de Julien Hébert et Associés. Ils ont apporté une contribution majeure au design industriel en émergence au Canada. Au cours des années 1960, les designers ont profité de trois projets d'envergure à Montréal : le développement du noyau urbain avec la Place Ville-Marie en son centre, la construction du métro et Expo 67. Ces projets ont transformé la ville, ont attiré l'attention internationale et ont offert de vastes débouchés aux designers. Les bureaux de consultants en design ont alors embauché de nombreux jeunes designers. Après Expo 67, quelques-uns de ceux-ci ont fondé leur propre firme ou ont fabriqué eux-mêmes les objets qu'ils concevaient et certaines de leurs réalisations ont connu du succès sur le marché tant international que national.

Abstract

After the Second World War, the wartime economy in Canada had to be restructured into a peacetime economy, and consumer products were needed for the factories that had been producing weapons. It was at this time that the industrial design profession was organized. In Montreal, two consultant design offices were founded, Jacques Guillon Associates and Julien Hébert Associates, that went on to make a major contribution to the emerging field of industrial design in Canada. In the 1960s three large-scale Montreal initiatives benefited designers: the development of the city core with Place Ville-Marie as its centre, the building of the metro, and Expo 67. These projects transformed the city, drew international attention and provided wide-ranging opportunities for designers, and the consultant design offices employed many young designers at that time. After Expo, some of these young designers formed their own offices or became entrepreneurs manufacturing their own designs, and some of their designs were very successful on both the national and international market.

In the early sixties, I arrived in Montreal with my portfolio under my arm. Although still in my very early twenties, I already had furniture and exhibition designs produced in London and New York, and had designed the display system for London's Kings Road store, Bazaar, for the fashion designer Mary Quant, best known for launching the miniskirt. It was unusual to see such a portfolio in Montreal at this time and Jacques Guillon invited me to join his design office. It was the beginning of an intense and productive time for designers in Montreal. Soon after my arrival I began submitting articles (under the name Lydia Ferrabee) on Canadian design to European design journals. My U.K. experience gave me an understanding of which Canadian design projects European designers and design

journals would find interesting. I had over sixty articles published in the next twenty years. Although architecture, the fine arts and the decorative arts have a long publication history even in Canada, very few people were writing about Canadian industrial design, and virtually none wrote for European design journals. The fact that so many of my articles were accepted is an indication of the international relevance of Canadian design at that time.

Background: Industrial Design in Canada

Before moving the focus of this article to Montreal, it is important to consider the field of industrial design during the Second World War and soon after at a national level in order to understand the distinct

contribution made by Montreal industrial designers during the 1960s and 1970s. During the Second World War, when England was threatened with invasion and France had already been invaded, industries from these two countries were re-established in Canada to produce the supplies needed for the war. After the war, these factories needed to be converted to the production of consumer products. Usually Canadian manufacturers started by copying, or making under licence, products designed and manufactured in the United States or Europe. Nonetheless, the factories offered potential opportunities for Canadian designers. Designers were also helped by the National Research Council, as it was investigating molded plywood and plastic applications and made its findings available to designers. For example, molded plywood chairs, designed by W. Czerwinski and H. Stykolt in 1946 were made by Canadian Wooden Aircraft as they were adapting to a peacetime economy.¹ The Montreal designer, Jacques Guillon, who had come to Canada from Belgium and studied architecture at McGill, designed one particularly innovative chair with a seat and back of nylon parachute cord, from army and navy surplus stores, and a frame using laminated plywood technology developed for skis. Load testing showed this 3-kilogram chair could support 1533 kilograms. It received a patent and won an award at the 1954 Milan *Triennale*. Tens of thousands were sold in a four-year period in Montreal and New York City (by Macy's and Lord and Taylors), where it was advertised in the *New York Times*.² An important initiative in 1951 was the first industrial design competition organized by the Federal Ministry of Trade and Commerce, to encourage the conversion of wartime industry to the manufacture of consumer products.

The industrial design profession became organized after the Second World War. By 1948 there was a sufficient number of resident designers to form the Association of Canadian Industrial Designers, followed by regional associations. Also in 1948, the first professional industrial design program in Canada was introduced, at the Ontario College of Art (now the Ontario College of Art and Design).

However, the profession was just being formed and there was little public understanding of the term "industrial design." Donald Buchanan, and other like-minded modernists, worked to change this. Buchanan, an editor of *Canadian Art* magazine who was instrumental in founding the National Film Board, joined the staff of the National Gallery of Canada in 1947, retiring as its Associate Director in 1960. At the National Gallery, he launched the National Industrial Design Committee (NIDC) and created a Design Index with a committee of architects

to select Canadian products that emphasized "functional grace and utility as the basic requisites for good design in articles for everyday use."³ The rhetoric was very much that of the early days of postwar modernism as expressed in the U.K. with its emphasis on "good design," function and utility, the need to educate consumers to appreciate these qualities, and their economic advantages. The products selected were reminiscent of British postwar utility production. The NIDC promoted the idea of industrial design and its economic advantages through exhibitions and publications over a ten-year period. In 1948–49 there was *Canadian Design for Everyday Use* with the related publication on the Design Index. In Vancouver, the Community Arts Council sponsored *Design for Living* in 1949. In Toronto there was *Design in the Household*. Booklets intended to inform and convince industry of the advantages of employing industrial designers were *Good Design will Sell Your Products*, and *How Industrial Design Can Help You in Your Business*. In 1961, NIDC was re-named the National Design Council (NDC), as part of the federal Department of Industry, Trade and Commerce. This move from the National Gallery was a significant change in the positioning of Industrial Design. Finally, NDC became known as Design Canada.

During the 1960s several colleges, CEGEPs and universities founded industrial design programs. The engineering department of the University of Waterloo started a graduate research program in design in 1962. The first undergraduate degree programs were established at Carleton University, the Université de Montréal, and the University of Calgary in the 1970s; all of them now have graduate programs as well.

It was in Montreal and Toronto, the main population centres in Canada, that the first consultant design offices were established during the 1950s. These offices were relatively small at first, with from one to three partners and employing about six designers. The companies tended to offer a broad range of services including industrial, interior and graphic design. An important turning point came for industrial designers when the Department of Transport built international airports in major cities across the country. The Department stipulated that the architects and designers must be Canadian, and that the interiors must use Canadian products. In addition to the importance of the design projects was the value of the Federal Government's recognition of the competence of Canadian designers that these contracts represented. As the main entry points into Canada, the airports were to set a high standard of design and to showcase the work of Canadian designers.

Montreal Becomes a Centre for Industrial Design

In the early 1960s, Montreal provided unprecedented opportunities for designers with major building projects such as the new international airport at Dorval, Place Ville-Marie, Place Bonaventure, the Montreal metro, and, the International World's Fair, Expo 67. The major development of the downtown centre of Montreal took place in the early 1960s when there was a change in the city planning laws that allowed for the purchase of the air rights over the Canadian National Railway tracks occupying the city core. The American developer William Zechendorf took advantage of this unique opportunity to develop a city centre. Usually small parcels of land have to be bought separately and it is hard to assemble an amount that will allow for a significant development. Zechendorf hired two well-known American designers, Vincent Ponte for the city plan, and I. M. Pei and Associates to plan and design the central complex, Place Ville-Marie. Special consideration was given to the challenging winter conditions that are so much a part of life in Montreal and a protected system of connecting pedestrian walkways with shops was an integral part of the plan.⁴ The Montreal metro was also planned at this time. The combination of the pedestrian walkways and the metro meant that it is possible to work and live in downtown Montreal without putting on winter coats, boots, hats, and gloves, and trudging through the hazards of winter. Apartments, offices, shopping, and performance spaces were all connected by protected spaces. It was at this time that the City of Montreal and its dynamic Mayor, Jean Drapeau, were successful in their bid to have a first class International World's Fair in Montreal. This bonanza of major projects for Montreal designers occurred in a little more than seven years.

The number and size of design consultancies increased. As the profession developed, some designers responded in diverse ways to new demands on their expertise. Some created consultant design offices specializing in a single discipline, such as industrial or graphic design, while others offered a range of design services. Other designers became part of an in-house design team for a corporation or manufacturer. Still others became entrepreneurs, to manufacture and market their own designs. Two of the early design offices in particular, Jacques S. Guillon Associates (JSGA) and Julien Hébert Associates, benefited from the revitalization of Montreal, which enabled it to become the venue for Expo 67. Young designers joined these offices at that time, and after Expo some set up their own offices. Douglas Ball was one of this second wave of designers in Montreal, and had his own consultancy

and designed products that sold widely on the international market.

In the 1960s and 70s, there was a movement among these designers away from the emphasis on utility that had grown out of postwar reconstruction in Europe, to a later modernism identified as the International Style when it was introduced into the United States by Philip Johnson in an exhibition at the Museum of Modern Art (MOMA) in New York City. However, for Montreal designers, the main inspiration was the success of Italian, Scandinavian and U.S. design, which came to be known as Organic Design. There were more new materials to be fully investigated, forms became more sculptural, and advertising no longer stressed function and utility. Gradually, a desire for comfort, luxury and elegance was evolving, still within the ideology of Modernism. The product, graphic and exhibition design work by such American designers as Charles and Ray Eames became an inspiration for Montreal designers.

Jacques S. Guillon Associates

In 1958, Jacques Guillon started one of the earliest industrial design consultancies, Jacques S. Guillon Associates (JSGA), on the second floor of a building in Montreal on the south side of Sherbrooke Street just west of Guy Street. To sustain itself in the industrial design field JSGA took a broad approach covering product design, visual communications, space planning and interior design, bringing together a team of specialists in these various design fields. On the ground floor of the building, Guillon open a boutique, Pego's, with his wife Pego McNaughton, for the import of well designed products, mainly from Scandinavia. It was unique in Montreal at the time.

The original team included architect and president Jacques S. Guillon, partner and furniture designer Christen Sorensen from Denmark, and architect Roger Labastrou from Switzerland. It was at this time that I joined the company. Graphic designer Luc Pagnier and industrial designer Morley L. Smith Jr joined the team in 1962, and graphic designer Laurent Marquart joined in 1965. All of these designers had found their way to Canada from Europe, or in Smith's case, the United States, all countries where the profession of industrial design was well established.

Jacques S. Guillon Associates was retained to design and specify all aspects of the interior of Montreal's Dorval International Airport at a time when airports were not the over crowded places they are today, when they were places to make travellers comfortable and feel welcome. This provided

an opportunity for JSGA to design special products, particularly the seating. I designed the curtains using an abstraction based on a photograph of the scaffolding on the side of London's Big Ben that I had taken with an old plate camera. Seating at international airports⁵ was the subject of the first of over sixty articles on Canadian design that I had published in European design journals, principally *Design* magazine in Britain, *Moebel Interior Design (MD)* in Germany and *Abitare* in Italy. I was also a contributing editor for *Canadian Interiors*.

The Aluminum Company of Canada (ALCAN) retained JSGA to design eight acres of office space for their head offices in the cruciform tower of Place Ville-Marie. These acres were entirely open and empty, with just the concrete slab and structural walls. Roger Labastrou took on the responsibility for the planning and layout. As head of interior design, I interviewed all 1 200 employees to establish an inventory of requirements. I went on to assist in the furniture selection and layout, including selecting colours, materials and finishes. A specific colour was used to identify each floor, using the full colour spectrum. Carpets of these colours were woven specially for the project. Matching vinyl wall coverings were commissioned for accent walls on each floor. For the executive floor, I interviewed the president and vice-presidents and designed their offices.

The Aluminum Company had asked that aluminum be used wherever possible to demonstrate a wide range of applications. An elegant open staircase in aluminum was designed to link the eight floors internally, and architect/artist Norman Slater designed etched aluminum screen units for the lobby of each floor. The 1 200 workstations provided an opportunity to launch a new line of desks incorporating aluminum for the structural elements, because the initial order was sufficient to cover the cost of tooling. The new desk (Fig. 1) was elegant, light and practical, far ahead of the heavy, square-legged steel systems that were the only alternatives at that time. The legs were solid anodized aluminum extrusions into which was fitted another extrusion attached to the wood panels that also held the drawer units (Fig. 2). The furniture system, designed and patented for Art Woodwork Ltd, was entirely new in concept and construction. Its combination of aluminum, wood, and plastic laminates offered not only strength and rigidity but the advantage of finished components manufactured prior to assembly. The design provided a complete range of options for secretarial, clerical and executive workstations and offices. The furniture system, named Alumina, was manufactured by Art Woodwork Ltd, Montreal.⁶ The line of desks went on to sell in Canada and the United States.



Fig. 1
The Alumina desk system was designed for the head offices of the Aluminum Company of Canada in Place Ville-Marie, Montreal, by Jacques S. Guillon Associates, with Christen Sorensen as the partner responsible. Manufactured by Art Woodwork Ltd.

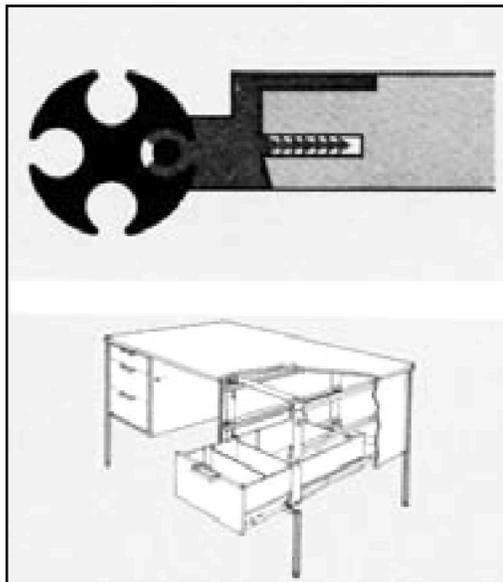


Fig. 2
Construction details for the Alumina desk system include a cross section of the solid aluminum leg extrusion and the extrusion connected to the wood panel that fits into the leg section, and a drawing of the desk assembly.

The next major project for JSGA was the development of a car body for Montreal's new metro system.⁷ A decision was made to use the French rubber tire chassis as it would provide better traction for the steep gradient required to go under the St Lawrence River, and because it would be quieter and more comfortable. At JSGA, Morley Smith, who had graduated in industrial design from Syracuse University specializing in automotive and transportation design, was primarily responsible for the design of the car. The car was narrow due to the width of the chassis, and the decision to use a single tunnel system, rather than the expense and difficulty of building a double tunnel system. Smith and other designers at JSGM were responsible for all aspects of the car



Fig. 3 (top)
The fibreglass scale model of the Montreal metro car

Fig. 4 (above)
The prototype of the metro car interior included the seat design and arrangement, interior finishes and backlit advertising panels.

body and interior. Small models (Fig. 3) were used to develop the exterior shape, including window size, visibility for the driver, the material and the colour. Much consideration was given to circulation, seating and standing areas in the narrow car. The design of the seat was also considered in detail with the final decision being a fibreglass shell with an inlaid upholstered seat that could be easily removed and replaced when it was damaged. Some seats also hinged up to give access to the sliding door mechanism. The backlit advertising display was also innovative at that time and was later used on

buses and trains elsewhere in North America. A full-scale mock-up was built to test the ideas before final production (Fig. 4). Jacques Roy was the graphic designer at JSGM responsible for the metro symbol, the graphic standards for its application, and the route map for the line.

Today the company name has been changed to GSM to represent the three partners, Jacques S. Guillon, Morley L. Smith Jr and Laurent Marquart. Jacques Guillon has now retired, and GSM has expanded into several companies responsible for different areas of design.

Julien Hébert

At about the same time that Jacques Guillon established his company, Julien Hébert established a design consultancy, Julien Hébert Associates, on the opposite side of Sherbrooke Street at Guy Street. The two offices were able to participate in the rapid development of industrial design in Montreal, and provided opportunities for young designers. The office of Julien Hébert focused on product and graphic design, and exhibition design for Expo 67. Hébert died in 1994.

Hébert studied sculpture at the École des beaux-arts de Montréal (1936–41) where he later taught. He earned a degree in philosophy from the Université de Montréal (1944) and then studied sculpture in Paris (1947–48). He considered it was these two interests that drew him to industrial design where art had genuine utility for society. He kept a diary from 1950 to 1980 that reflected his ideas on art, architecture, philosophy and design. In these diaries he developed “a strong advocacy for design’s social role in society.”⁸ Throughout his career he combined education, industrial design and site-specific sculpture.

In 1951 Hébert was a winner in the first industrial design competition organized by the federal department of Trade and Commerce to encourage the conversion of wartime industry to the manufacture of consumer products. The idea for the competition came from Donald Buchanan at the National Gallery, who was aware of the exhibitions and competitions being organized by MOMA in New York to promote modern design in the United States. In the 1950s, Julien Hébert designed a very successful line of aluminum garden furniture.⁹ The best known piece was his aluminum Contour Lounge Chair that was exhibited at the *Triennale di Milano* in 1954, mentioned in Milan’s prestigious design journal, *Domus*, and purchased for the design collection of MOMA in New York. In 1956, Hébert organized an exhibition of aluminum products from Canada, Europe, and the United States for

the National Design Council that was sponsored by ALCAN. The exhibition was reported in New York's *Industrial Design* magazine. Hébert was very concerned that Canada should concentrate on designing and producing its own products, and support its own designers. He believed Canadian designs should find recognition in the international arena.

At the time of Expo 67, Julien Hébert expanded his office in part with some of his former students, to design exhibits for the Canadian and Quebec pavilions. He won a competition for the official symbol for Expo (also used later for "Man and His World," the successor of Expo). Based on his drawing of the oldest known primitive sign for man, a vertical line with outstretched arms, the "man" was arranged in pairs in a circle to connote friendship encircling the earth. The symbol won top awards in New York and Switzerland. In 1970 Hébert designed the Canadian pavilion for the Osaka World's Fair in Japan.

Julien Hébert was very involved with the development of industrial design education in Montreal. In the 1960s he taught at the newly founded Institut des arts appliqués in Montreal. In a ten year period over half the young professional industrial designers in Quebec had been his students.

Expo 67

Expo 67 was the first Universal and International World Exhibition, approved First Class by the International Exhibitions Bureau to be held in the western hemisphere. It opened in Montreal on 28 April 1967. The earlier Seattle and New York World's Fairs were not in this exalted category. Expo lasted six months, bringing Canada and the world to Montreal to celebrate Canada's centennial, and providing an opportunity for Canadian designers to showcase their talents. There were over fifty million visitors. The wide international press coverage included the top architecture and design journals, and general circulation magazines such as *Life*, *Time* and *Newsweek* all of which had Expo 67 on the cover.¹⁰ The architectural journals also covered Montreal's new city core and the unique development opportunity it represented. It was the first time a Canadian city had attracted this amount of international attention.

The site for Expo offered an innovative solution to the problem of finding space for this event that required large expanses of land for a group of temporary installations presenting the latest technological, artistic and social developments from many countries. Two islands were created in the shallow rapids in the St Lawrence River, connected by bridges to the mainland, and providing visitors

with an impressive view of the island of Montreal less than a mile away. These islands were an addition to Île Sainte-Hélène, a historic fort and hilly parkland in the river that remained untouched. Half of the approximately 465 new acres remained as lagoons and canals. To construct these islands, 15 million tons of fill were dredged from the river by hydraulic pipe and two million more were brought in by trucks from the excavation of the new metro tunnel. The island sites housed groups of pavilions that were separated by areas of water and land.

The Expo theme, "Man and his World," was inspired by the philosophy of French airman and author Antoine de Saint-Exupéry, a philosophy contained in a book of the same title. A group of Canadian scholars and scientists met in the spring of 1963 and agreed that such a theme could fully embrace the scope of the 1967 International Exhibition. The theme was interpreted by a series of exhibits and was embodied in an effective graphic symbol by the designer Julien Hébert.

The International Fair that took place in 1851 in London was housed under a single roof, the Crystal Palace, designed by Joseph Paxton. Four years later, the International Fair in Paris provided a small city inside the city with a master plan centralized around the Eiffel tower, instead of an all-inclusive building like London's. The concept of a central monument inspired the Atomium of the 1958 Brussels World's Fair. For Expo 67, it was decided that the permanent legacy would be an experiment in low cost, prefabricated housing units, instead of a monumental, symbolic structure. A competition for the project was won by Moshe Safdie, then a young graduate of McGill's School of Architecture, who called his housing complex "Habitat 67." Habitat's uniqueness was its pre-cast concrete units that stack one on top of another like children's blocks. These units are combined to make "houses" of different sizes on one or two levels. Three hundred and fifty four units make up 158 "houses." Each house has one or two balconies made from the roofs of the units below. The organizers of Expo invited more than a dozen Canadian designers to fully design display suites in Habitat. Some designed furniture specially for the building (Fig. 5), others drew directly from their existing collections. Some examples never reached mass production while others received such acclaim from the public that manufacturers offered to distribute them on the market.

As host of Expo 67, Canada wished to present a comprehensive overview of its culture and the specific challenges raised by its multicultural society. There were two national pavilion structures, four for the provinces — Quebec, Ontario, the



Fig. 5
Outdoor chair designed by Michel Dallaire, a young designer with Jacques S. Guillon Associates, one of the companies commissioned to design a Habitat suite. Dallaire went on to found his own successful design consultant office.

Atlantic provinces and the Western provinces — five theme pavilions — Man the Creator, Man in the Community, Man the Explorer, Man the Producer, and Man the Provider, and “Labyrinth” presenting a multi-screen National Film Board production. These pavilions provided a unique opportunity for Canadian designers. Countries such as Britain, with a long design tradition, tended to give their pavilion design to well-established designers. In contrast, the designers for the Canadian pavilions were young, reflecting the youth of the profession. I joined an architect and a graphic designer to design the theme exhibit, “Man in Control?”, that occupied the top floor of the Man the Producer structure. The designers were all under thirty. On opening day I changed roles from designer to journalist and made good use of my press pass. I wrote articles for design journals and hosted over thirty international architects and designers in my home and at Expo. My son, very young at the time, remembers his visit and has gone on to be an exhibition and museum designer. It is perhaps hard for those who are too young to have been there to imagine the excitement of this time.

During Expo, Canadian industrial designers were given a valuable opportunity to present their work to the international design community when the International Council for the Societies of Industrial Design (ICSID) decided to hold its fifth Congress in Montreal and on the Expo site. Dr Ashley Montagu and Dr Jacob Bronowski were keynote speakers. Jacques Guillon was president of the Association of Canadian Industrial Designers, and I was a director that year, one of only two women in the Association. The other woman was Sigrun Bülow-Hübe, by then in her fifties, who had come to Canada from Sweden in 1950 to work for Eaton’s

as an interior design consultant. Three years later she left to design Scandinavian-style furniture as a consultant for AKA Works in Montreal.

When Expo was over, a new wave of young designers who had been working for the major consultant design offices during the 1960s came into their own. Jean Saint-Cyr and Jacques Roy started Design + Communication and were awarded major exhibition and museum design projects worldwide for over twenty-five years. Other designers became involved in design education. Still others, like Douglas Ball, started their own consultant design offices that had a major international impact. These designers gained from the international recognition that Expo 67 had brought, however, their success was entirely based on the quality of their innovation and design, and their ability to attract foreign markets.

Douglas Ball Inc.

One particularly successful design consultancy deserves consideration as evidence of a flourishing practice that gained international attention during this period. Douglas Ball is one of Canada’s most successful of the new wave of consultant industrial designers. His company, Douglas Ball Inc., located on the shores of lac des Deux Montagnes near Montreal, and far removed from the acknowledged centres of design activity, has designed office furniture systems that have had a major international impact. Because of the quality of his design solutions, his products have remained unsurpassed in the marketplace for decades.

For most of his career, Douglas Ball has worked as a design consultant for Sunar, a company that was formed when Sunshine Office Equipment bought Art Woodwork Ltd. Ball’s close relationship with Sunar has enabled him to become familiar with the needs and facilities of the company, but to maintain the detachment he considers necessary in order to originate new ideas and directions. Ball’s first contact was with Sunshine Office Equipment, a company struggling to make the transition from wartime to consumer production by copying existing designs, often from the United States, and then selling them locally. Ball was able to persuade the company to invest in his new designs so that they could take advantage of a wider, international market. The depth and intensity with which Ball works means that rethinking problems and finding solutions may take some years. In recognition of the expense and risk that a company takes in developing new products for quantity production, he has worked on a royalty basis, taking the risks and reaping the rewards of his designs. The success of

the office systems which he designed has provided Ball with the financial freedom to refuse projects that do not provide him with an opportunity for the full investigation he considers essential, and to take on projects, principally the design of wheelchairs, that he considers need to be addressed.

Ball's first system of open-office furniture, a wood line, was launched in 1967.¹¹ It was of a high standard of design and manufacturing quality and available at a cost appropriate to market standards. The system was a leader in the market. It was not until 1973 that Knoll International, one of America's foremost office furniture design companies, designed their first open-office wood system. Ball designed all the Canadian showrooms for Sunar as well as its high quality catalogues for which he used his own photographic documentation. There was, however, no budget for marketing the products in the United States, not for showrooms nor for advertising, so Ball visited the offices of leading architects in the United States, such as Skidmore, Owens and Merrill, and left Sunar catalogues in the reception areas. Soon the orders were coming in, including a prestigious installation for the corporate headquarters of Atlantic-Richfield in New York City.

The early wood line was followed by a comprehensive, open-office, metal furniture system in 1968; a steel storage system in 1969; a panel system in 1973; and a comprehensive line of chairs to go with the furniture systems. Each new system built on, related to, and incorporated features of earlier designs. The design details were always of major importance. A line of metal drawers, so essential for any office, was one of the early challenges. The final design, featuring a smooth ride, quiet sound, subtle highlights and shadows that accentuate the form (inspired in part by the dashboard design of the Porche, 365, 1960) are typical of the style and quality of Ball's work. The drawer system, in use for twenty years, has not been improved upon.

The quality and design value of these products became an insiders' secret in the United States and attracted the attention of Robert Cadwallader, President of Knoll International from 1971 to 1977. He left Knoll, after being with the company since the 1950s, when his bid to buy it was refused. In 1978, Cadwallader persuaded the American company, Hausermann, to purchase Sunar. He retained Douglas Ball as the design director, and added a constellation of internationally acclaimed designers, including Neils Differient, Massimo and Leila Vignielli, and Don Pettit, who had all been with Knoll. To design new showrooms, Cadwallader chose Michael Graves, at that time a relatively unknown architect, as he had not yet completed



his first major commission. These designers rapidly gave the company a very high profile internationally, but it was still the furniture systems designed by Douglas Ball Associates before Sunar was bought by Hausermann that provided the major portion of sales.

Douglas Ball had a new product, the Race System, that he had developed over a seven-year period, in the small sketchbooks he always has with him when he travels. It was completed just before the sale of Sunar to Hausermann. Neither furniture nor panel system, the Race System represented a completely new concept in office landscape design.¹² The design is based on a sculptured, waist-high beam that moves through an office space, carrying the extensive wiring network that had become an essential part of all office interiors. The workstation components — tables, desks, lights, storage units, and panels — hang from the rail in a way that manages to create a space that is both open and contained (Fig. 6). When Race was launched in 1978, it made an immediate impact in the market place. The sales that had been projected for the first year were exceeded in a few months. The largest installation in the first year was 16 000 workstations for a single company in San Antonio, at a cost of over US\$60 million. Peter Jennings, icon and anchor for ABC News, sat behind a Race desk.

Fig. 6

An installation of the open-office Race System designed by Douglas Ball Associates for Sunar includes the waist-high beam that carries electrical and telephone wiring; desk tops, panels and lighting are hung from the beam.

Conclusion

In Montreal, two generations of industrial designers became established very rapidly as the result of a confluence of major changes and developments in the city. Following the end of the Second World

War, the industrial design profession became organized. The first consultant design offices were established and the first design education programs were founded.

During the 1960s, the development of Montreal's city centre, the metro and Expo 67, provided opportunities for two of the early design consultancies, Jacques S. Guillon Associates and Julien Hébert Associates, to expand their companies and provide valuable opportunities for young designers. After Expo, many of these young designers establish independent careers. One of these designers, Douglas Ball, was particularly successful in making an impact on the international market.

During the 1960s and 1970s, Montreal drew the attention of the international architecture and design communities. Architectural journals wrote about

the city centre with its protected pedestrian streets and about Expo 67. In the early 1960s, very recently arrived from Britain, I could see that Canadian designers were beginning to design products that would be of interest to the European design community. At that time, no one was writing about Canadian design for an international market. I submitted an article to *Design* magazine in Britain, and when it was published, I went on to write regularly for *Design* and other European magazines, principally *Abitare* in Italy, and *M. D.* in Germany. I had over sixty articles published in these widely-distributed magazines, which contributed to the international recognition of the work of Montreal's design community. This recognition was entirely dependent on the quality and innovation of the products about which I wrote.

NOTES

1. Virginia Wright, *Modern Furniture in Canada, 1920–1970* (Toronto: University of Toronto Press, 1997), 93.
2. Rachel Gotlieb and Cora Golden, *Design in Canada: Fifty Years from Teakettles to Task Chairs*, (Toronto: Alfred A. Knopf Canada, 2001), 58.
3. *Canadian designs for everyday use — the Canadian design index* (Ottawa: The National Gallery of Canada, 1949), Foreword, p. 1. Note: this publication imitated the Bauhaus tradition of eliminating capital letters.
4. Lydia Ferrabee, "Montreal Comes in From the Cold," *Design* (UK), no. 235 (July 1968): 52–57.
5. Lydia Ferrabee, "Comfort While You Wait," *Design* (UK), no. 180 (December 1963): 52–56. Wright, *Modern Furniture in Canada*, 193.
6. Lydia Ferrabee, "Meubles de bureau « Alumna » de Jacques Guillon," *Mobel Interior Design* (Germany), no. 4 (April 1967): 102.
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