

Introduction

International Exhibitions, Paul Otlet, Henri La Fontaine and the Paradox of the Belle Époque

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From the close of the year 1811 intensified arming and concentrating of the forces of Western Europe began, and in 1812 these forces—millions of men, reckoning those transporting and feeding the army—moved from the west eastwards to the Russian frontier, toward which since 1811 Russian forces had been similarly drawn. On the twelfth of June, 1812, the forces of Western Europe crossed the Russian frontier and war began, that is, an event took place opposed to human reason and to human nature. Millions of men perpetrated against one another such innumerable crimes, frauds, treacheries, thefts, forgeries, issues of false money, burglaries, incendiarisms, and murders as in whole centuries are not recorded in the annals of all the law courts of the world, but which those who committed them did not at the time regard as being crimes ... The people of the west moved eastwards to slay their fellow men, and by the law of coincidence thousands of minute causes fitted in and co-ordinated to produce that movement and war (Tolstoy, *War and Peace*).¹

The Proud Tower built up through the great age of European Civilisation was an edifice of grandeur and passion, of riches and beauty and dark cellars. Its inhabitants lived, as compared to a later time, with more self-reliance, more confidence, more hope; greater magnificence, extravagance and elegance; more careless ease, more gaiety, more pleasure in each other's company and conversation, more injustice and hypocrisy, more misery and want, more sentiment including false sentiment, less sufferance of mediocrity, more dignity in work; more delight in nature, more zest. The Old World had much that has since been lost, whatever may have been gained (Tuchman 1967, 544).

From the middle of the nineteenth century to 1914 the daily life of Europeans was radically transformed by an astonishing number of innovations. This period of innovation, historically unique in its speed and global reach, led Charles Péguy to say that “the world changed more between 1880 and 1914 than since the Romans” (Matin and Giget, 2001, 30).

1 Tolstoy, Leo. *War and Peace* (Book Nine, Chapter 1). Translated by Louise and Aylmer Maude [1922–23 pp. 458, 460] <http://books.google.com.au/books?id=jhZzwKsi0OsC&pg=PT1&dq=Aylmer+maude&hl=en&sa=X&ei=TYsYUciOCYSkkwXc0IHgAQ&output=reader>.

On June 28, 1914 the heir apparent to the Austrian Empire, the Archduke Franz Ferdinand and his wife, were paying a state visit to Sarajevo in Bosnia. As they drove by in an open carriage, they were assassinated by a member of a group of Serbian conspirators. Slowly, inexorably, despite all efforts to avert it, a situation arose like that described in Tolstoy's account of Napoleon's invasion of Russia. Day by day, for five agonising weeks, thousands of minute causes fitted in and co-ordinated like the slowly engaging gears and wheels of a huge engine to produce a movement that ended in the outbreak of a general European war. The war rapidly escalated until, except for a handful of neutral states, it involved the entire world. The four years of violence and invasion that followed the echo around Europe of those shots in that remote corner of the Austro-Hungarian empire produced not only devastation, destruction, mutilation and death on a scale so vast that even Tolstoy could hardly have imagined them, but also political and social upheaval on a scale no less vast. The old world of European emperors and empires disappeared, though the sun continued not quite yet to set on the British Empire, and a recognisably modern world emerged from the ruins of the War. This was a world, however, so insecurely, so precariously ordered by the peace treaties of 1919 and 1920 and by subsequent national and international developments that the armistice of November 11, 1918 that was supposed to end the "War to End all Wars" in hindsight did nothing of the sort. It had taken a hundred years from the Congress of Vienna for the general peace of Europe to be shattered by the first World War. It took a mere twenty years for an unstable, uneasily maintained peace sustained at the end by misleading documents, one merely a flimsy note waved in the air before a cheering crowd by the British Prime Minister, Neville Chamberlain, to be broken by Nazi Germany's invasion of Poland on September 1, 1939. And once more thousands of minute causes fitted in and co-ordinated to produce the movement that led to a new world war even more terrible in its conduct than the war that had preceded it.

Yet in those last decades of the nineteenth century and the first years of the new century, the period known as the *belle époque*, Europe seemed relatively secure, prosperous, stable, full of possibilities. General world peace had been disturbed, for example, by the Boer War (1889–1902), the Boxer rebellion in China (1900–1901), the brief Russo-Japanese War of 1904–05, some failed German gun-boat diplomacy in Morocco in 1905–6 and again in 1911, and by never-ending tensions in the Balkans all of which excited intense European interest. But most of these disturbances were relatively short, localised and distant. There was nothing, at least until the outbreak of the Balkan Wars of 1912 and 1913, to suggest that rising nationalisms, the emerging pattern of international alliances, the rivalries of imperial expansion, an accelerating international arms and naval race fuelled by dramatic innovations in weapons design and the construction and movement of shipping, the spread of socialism, the advent of communism and of anarchism with its spectacular assassinations along with the social and industrial unrest that fuelled the development of these movements, could not be controlled.

Looking back, we may think that it was inconceivable that so exciting, so eventful a period culturally and intellectually with its ever-strengthening international

orientation could end in the disaster of world war. It was a period of efflorescence in the arts and sciences. This was the period of Rutherford, Bohr, Einstein, Mme Curie, the Solvay Conferences on Physics, Freud, Proust, Gertrude Stein and her circle, of Oscar Wilde, of James Joyce, of the *International Catalogue of Scientific Literature* and other great bibliographic enterprises, of the *Carte du Ciel*, of Stravinsky and the Diaghilev ballets, of the triumph at last by Wagner in the opera houses of Europe, the advent of Debussy and of Webern, the creation of the Nobel Prizes, the spread of the influence of the Art and Crafts Movement and of Art Nouveau into almost every nation of Europe and beyond.

It was the period of a widespread development of interest in international arbitration as the basis for settling disputes between nations to ensure the maintenance of peace. This led in 1889 to what became grand annual Universal Peace Congresses in the different cities of Europe, the United Kingdom and the USA. In 1891 in part as a result of the early Peace Congresses, the International Peace Bureau was set up, the headquarters for the International Union of Peace Societies. The Bureau won the Nobel Peace Prize in 1910.² The year 1889 also saw the formation of the Interparliamentary Union which also met almost annually, for a number of years in association with the Peace Congresses. Despite the hypocrisy, scorn and reluctant participation of many of the official governmental representatives, The Hague Peace Congresses of 1899 and 1907 seemed to have had important successes in terms of the international conventions eventually concluded for the pacific settlements of disputes, the creation of regulations governing the conduct of war, and the specification of the rights and obligations of neutral powers (Scott 1913; Tuchman 1967, Ch. 5; Cooper 1991).

A relatively young French Jew of thirty-one, Julien Broda, who was to become a well known philosopher, a man of letters and survivor of the Second World War, reflecting on what he remembered of this period observed: "We were sincerely persuaded in 1898 that the era of wars was over. For fifteen years from 1890 to 1905 men of my generation really believed in world peace" (quoted in Tuchman 1967, p. 272).

It was moreover a period in which governments increasingly came together to create official multinational treaties such as those for managing standardised international systems of weights and measures, posts, the telegraph and railways, and establishing, for example, the prime meridian for providing a common global reference point for determining time and cartographic location for navigation. It was, that is to say, a period of emerging and strengthening infrastructures of communications, of technologies and agreements that allowed people, ideas and capital to flow relatively unhindered and with a previously unheard of rapidity across all the land and sea borders of Europe and the Western World. Progress, industrial and scientific development, global trade, social amelioration, hard-won political liberalism, a flowering in the fine and liberal arts, dynamic peace movements and

2 http://www.nobelprize.org/nobel_prizes/peace/laureates/1910/.

above all, internationalism in all of its ramifications seemed to typify the age. But the end did come violently, seemingly abruptly, completely.

In his memoirs of growing up in Vienna in this period, Stefan Zweig captures something of the pre-War sense of peaceful, comfortable progress.

When I attempt to find a simple formula for the period in which I grew up, prior to the First World War, I hope that I convey its fullness by calling it the Golden Age of Security ... In its liberal ideals, the nineteenth century was honestly convinced that it was on the straight and unfailing path toward being the best of all worlds. Earlier eras, with their wars, famines, and revolts, were deprecated as times when mankind was still immature and unenlightened. But now it was merely a matter of decades until the last vestige of evil and violence would finally be conquered, and this faith in an uninterrupted and irresistible “progress” truly had the force of a religion for that generation. One began to believe more in this “progress” than in the Bible, and its gospel appeared ultimate because of the daily new wonders of science and technology. In fact, at the end of this peaceful century, a general advance became more marked, more rapid, more varied (Zweig 1943, 1, 3)

Zweig goes on to mention not only new inventions such as electricity illuminating the city’s streets and the presence of “horseless carriage” but advances in plumbing, hygiene, social welfare, and the extension of the franchise. “Sociologists and professors,” he said, “competed with one another to create healthier and happier living conditions for the proletariat” (Zweig 1943, 3–4). He also stressed that “There is hardly a city in Europe where the drive towards cultural ideals was as passionate as it was in Vienna.” It was an epicurean city too in which life was to be enjoyed, not only in terms of food and wine but for its music, dancing, and theatre. Indeed, the ordinary Viennese, he said, opened their morning newspapers not for world news but for news of the theatre. “It was,” he concluded, “wonderful to live here, in this city which hospitably took up everything foreign and gave itself so gladly ...” (Zweig 1943, 13–14).

Technology, Commerce, Culture and Knowledge: The Belle Époque on Display

Much of what Zweig says of Vienna could equally be said of most of the great cities of the world at this time for, to echo Zweig, they too took up everything foreign and gave of themselves so gladly. We see this reflected dramatically in the great Expositions or World’s Fairs that were so much a feature of this period. They constituted not so much periodic snapshots or even changing kaleidoscopes but detailed, encyclopedic, museum-like representations of the world as it was thought to be at each of times in which they were held. Ephemeral like fireworks, they sprang up, sometimes as many as three or four a year, in the major and not so major centres across Europe, the US and even as far away as the British dominions. In

1888, for example, international expositions appeared in Barcelona, Copenhagen, Melbourne and Brussels (Poirier, 1958 98). In these magnificently engineered environments, epitomised perhaps by the Eiffel Tower of 1889, rose that Proud Tower of European civilisation to which Barbara Tuchman refers so elegiacly and which was brought down by the First World War.

The Expositions drew enormous admiring crowds from all over the world. Millions marvelled at innovations and discoveries that heralded the appearance of a new kind of modern life that was rapidly developing and expanding before their astonished eyes. The presence of these multitudes of visitors reflected the ease and speed with which people and goods could be transported by the network of railways that, as the century progressed, ever-increased in power, capacity and comfort as they ever-more tightly interlinked every corner of the European continent. The oceans were equally hospitable. Developments in maritime technologies, especially steam turbines, iron and then steel-framed ships and submarines, while reflecting and driving national naval rivalries, also led to the building of commercial liners and cargo ships that became ever faster, safer, larger and, some of them, refrigerated. As various national commercial shipping lines became established and in competition, the long journeys of goods and people to and from the new and old worlds, to and from the metropolitan centres and the colonial peripheries, to and from India, the Orient and Australasia became more regular, cheaper and in a sense shorter and more profitable. And these vessels could be used to lay the undersea cables that allowed information in the form of news and of various personal and official kinds to be transmitted almost instantaneously from one continent to another.

At the international expositions in often architecturally spectacular if temporary pavilions, the nations celebrated historical anniversaries, proclaimed the brilliance of their achievements, and revealed the magnitude of their nationalist aspirations in science, technology, industry, commerce, agriculture, empire-building, architecture and the arts—in effect, every sphere of activity and daily life. The number of innovations that appeared in this period, observed Martin and Giget, was “staggering.” “Essentially what we have around us today had been created or had its basis in this period” (Martin and Giget 2001, 30–31). They mention the automobile, the bicycle, the lift or elevator, the telegraph and telephone, the typewriter and the sewing machine among many other machines and devices, all making their appearance both as products for exhibition and later as services—available to the public at the Expositions themselves in the case of the telephone and telegraph. And successive expositions revealed how these sorts of invention while constantly being improved seemed to move ever more quickly from idea, to prototype, to industrial production, to international availability and distribution in a diffusion process that signaled the advent of our modernist society and economy. Uniting propaganda, entertainment, and information, these universal encyclopedic exhibitions also provided “elaborate projects for the improvement of social conditions in the areas of health, sanitation, education and welfare.” They were “promissory notes,” observed Tony Bennett, “that the engines of progress would be harnessed for the general good” (Bennett 1995, 82).

To take an example. The Paris Exposition of 1889, over which the Eiffel Tower loomed, saw 32 million people pass through its gates. This Exposition was to be

the greatest in every sense of the word of any that have preceded it in France and abroad. Never will buildings so vast have been devoted to an exposition. Never will the manufacturers of any country in the world have had at their disposal a hall comparable to the Palais des Machines ... Never will an engineer have dared to raise a tower three hundred metres high. Never moreover will so great a number of exhibitors be brought together from so varied a number of countries. Never, finally, will more attractions and entertainments have been promised to the innumerable visitors from all points of the globe already indicating that they will be attending.³

Its organisers pointed out that there had been international congresses of various kinds held on the occasion of past expositions, but these congresses had been few and uncoordinated. In 1889, the centennial year of the French Revolution, the Minister had decided that the physical splendours of the Exposition would be matched intellectually by a series of congresses and conferences that would cover all the branches of human knowledge. These gatherings would help create international agreement in such matters as “weights, measures and currencies, the application of sanitation regulations, the preparation of comparable statistics, and the conduct of great scientific work either in collecting comparable data on questions on which differences in climate, race and temperament do not permit the adoption of uniform solutions or in determining the relative state of science in the different parts of the world” (Picard 1891, 327–8). Over 70 international conferences are listed with reports of their discussions and resolutions taking up one or more volumes.⁴

The Paris Exposition revealed in a way that could not be clearer, both explicitly by the organisers and implicitly by what was finally achieved “on the ground,” the fundamental paradox implicit in these great expositions. They embodied a universalist aspiration that was harnessed to goals of nationalist prestige. Beneath the excitement and glitter was a powerfully competitive ranking and display of the relative power and progress of the nations in all of the transformative developments of modern life as it was then emerging.

The Universal Exposition of Brussels, 1897

This is no less clear in Brussels almost ten years later. On the initiative of King Leopold II, King of the Belgians, the fifteenth section of the 1897 Universal Exposition of Brussels, was designated a separate International Colonial Congress by the Exposition’s organising committee. The congress had a large attendance

³ *Bulletin Officiel de l’Exposition universelle de 1889*, vol 1; Paris: Bureaux. p. 3.

⁴ For a list of proceedings volumes see Le Conservatoire Numérique des Arts & Métiers. Publications des Expositions nationales et universelles (par auteurs) http://cnum.cnam.fr/RUB/fcata_expo.html).

of scholars, politicians and colonial administrators. It was held not where the rest of the exposition was taking place in the Parc du Cinquanteenaire, more or less in the centre of Brussels, but in the impressive, newly reconstructed Palais des Colonies in the Parc de Tervuren. The two sites were linked by a special tramway, a “monorail” (although it seems that the monorail “had five rails in fact”; Legrand 1898, 298) and a grand boulevard constructed for the occasion at the instigation of the King. Only one colony, however, was involved in the Palais des Colonies, the Belgian Free State which was neither Belgian nor free but the private fiefdom of Leopold II, knowledge of the horrors of whose “reign” there were only beginning to emerge (Hochschild 1998).

Opening the congress, the Belgian Foreign Minister articulated in a rhetoric of civic virtue the rationalisations that led what we now accept as the economic exploitation and social oppression of native peoples by the colonial powers in their competitive quest for new territories. The Congress’s aim, he said, was “to study in a common aspiration for progress, the serious problems that were being experienced by the government and administration of the new continents to which the old nations must offer the benefits of civilisation.” Science along with “A legion of intrepid sailors” and “heroic travellers” had led to “civilisation’s conquest.” He went on to observe aphoristically: “In effect to colonise is essentially to civilise. Universal history proves this axiom. ... Colonisation is therefore a manifestation of progress; it is also an expression of human solidarity. It brings together inferior races with those who are more advanced. It teaches them how to improve, to ennoble their conditions of existence” (De Favereau, 1887, 38).

These words help reveal an aspect of the ironies inherent in the doctrine of modernist social and economic progress in this *fin-de-siècle* period of the great international expositions for, outside the Palais des Colonies in the Parc de Tervuren, were the huts of nearly 300 Congolese men and women of whom only 6 it is said died of influenza from the effects of the temperamental weather of that Belgian summer (Esgain 2001, 127). “The blacks [les noirs] were installed in villages imitating those of the Congo and were surrounded by native African plants.” Rather than maps and posters of the principal tribes, the visitor was provided with “a living Congo ethnography” (Braun 1987, 19, 138). The native peoples in their huts and with their hints of “fierce and cannibal customs” fascinated a public of over a million persons who visited them in the course of the six months of the Exposition. They came to witness of the primitiveness of their modes of life, to experience a sense of the almost non-human otherness that they represented and to glory in the benevolent, improving power of their Belgian master.

Inside the Palais des Colonies in a beautiful art nouveau hall built of Congolese wood and intended to represent the jungle, were stuffed animals and exhibits of art and other cultural, botanical and ethnographic objects from the Congo. But there were also separate galleries for exhibits of imports and exports designed to emphasise its potential benefits to be had from the commercial exploitation, especially in terms of collecting and processing its products such as wood, ivory, cocoa, coffee and above all rubber. A separate gallery called

a *musée commercial*, was devoted to the sorts of merchandise believed to be desired by the indigenous populations. Here was provided information about packaging methods that could be used to help avoid damage and theft in the transport of these sorts of goods to the colony by ship (Legrand 329; Braun 1897, 155). The exhibits in the Palais des Colonies and the Palais itself became the basis of the Musée du Congo created the next year and now known as the Musée Royale d’Afrique Centrale.⁵

Away from this outpost of Empire, in the Parc du Cinquantenaire the rest of the International Exposition, the opening of which was delayed by torrential rains, unfolded in the many pavilions in the gardens and in the exhibition galleries of the great wings of the Palais du Cinquantenaire. The 1897 Exposition, undertaken and funded privately but with major support from the State, was to be in fifteen sections such as Fine Arts; Industrial and Decorative Arts; Hygiene; Lighting and Heating and Their Applications; Electricity; and the Material, Processes and Products of Industrial Manufacture. The fourteenth section dealt with the Congo and the 13th with Congresses and conferences, though this enumeration was later varied and congresses and conferences were no longer regarded as forming a special section but as a component of the many ancillary exhibitions, music competitions, concerts, and festivals that would take place on the occasion of the Exposition (Legrand 1898, 27). Thirty nations participated and provided 10,000 exhibits for the six million visitors to the Exposition (Slate, n.d.).

An innovative feature of the Exposition was the setting up of an International Competition of Science and Industry. The idea was that the various sections should raise important questions and problems that might be addressed in the displays and help guide future progress. Cash prizes were offered for the best solutions or answers demonstrated by the various processes, products and machines being exhibited. Exhibitors were expected to indicate how their exhibits responded to particular questions and the exhibits were assembled in the international galleries according to the particular phenomena involved. Only exhibits not in competition were to be displayed in national galleries. The importance of this aspect of the Exposition is indicated by the fact that 885 special prizes were awarded at the Exposition, by far the highest number going to French exhibitors (Legrand 1898, 10, 27, 34).

Bibliographic Internationalism: An Epiphenomenon of Science and Scholarship

A section of the Sciences was devoted to the disciplines concerned with observation and experiment without necessarily having industrial or commercial applications. This section consisted of six divisions and was entered somewhat ludicrously amid cannons, artillery shells and torpedoes through an area shared with the Military Arts. As well as exhibits related to the traditional disciplines of astronomy and

5 “History of the RMCA,” <http://www.africamuseum.be/about-us/museum/history>.

meteorology, physics, chemistry, biology, geology and anthropology, there was a division related to Bibliography. This last division had the goal of “collecting, classifying and cataloguing all the production of the human intellect.” It presented an outline of the Dewey Decimal classification. This seemed to Legrand a very simple method that he hoped might be “adopted by all. In this way not only the scholar or the professional person but the ordinary reader would be able to find immediately the list of works that dealt with the questions that interested him (Legrand 1898, 312).

The bibliographic exhibit in the Section of the Sciences had been organised by Paul Otlet and Henri La Fontaine representing the International Office of Bibliography, a semi-official agency of the Belgian government that they had founded in 1895 following an International Conference on Bibliography in September that year. Legrand’s observations reflected the aspirations that they had invested in the special development of the Decimal Classification as the tool by means of which a universal bibliographic catalogue on cards (*Répertoire Bibliographique Universel*) would be organised within the Office of Bibliography. The Office was also to be the headquarters for a related International Institute of Bibliography, a loosely affiliated group of individuals from all over the world interested in the kinds of bibliographical problems being explored by the Office of Bibliography and its founders. The idea was that members of the institute would meet from time to time (the IIB’s pre-War international conferences were held in 1895, in 1897 at the International Exposition of Brussels, in 1900 at the Universal Exposition of Paris, 1908, and in 1910 at the Universal Exposition of Brussels and continued after the War).

One of the problems presented by the construction of the Universal Catalogue was how to reproduce cards quickly and in many copies so that the whole or parts of the universal repertory could be distributed throughout the world. Following the Exposition procedure, Otlet and his colleagues offered a prize of 500 francs for a machine or process that would enable the rapid and economical printing of from 50 to 100 copies of cards with the plate created for each card storable for later reuse.⁶ Nothing came of this competition and the problem was referred to the International Bibliographical Conference that was held in August that year as one of the conferences associated with the Exposition.

This conference was well attended with a number of representatives from the US as well as from the countries of Europe. Its discussions included a wide-ranging canvassing of important bibliographic developments from around the world; the problems involved in developing the Decimal classification as the central tool for organising a universal cooperatively compiled universal catalogue; and issues related to international cooperation more generally. And of course a committee was established to examine the problem of finding the most economical and practical methods for printing bibliographic cards. The delegates were taken on visits to

6 “Faits et Documents: Exposition Bibliographique de Bruxelles,” *Institut International de bibliographie Bulletin* 1 (1895–6): 120–21.

the installation of the International Office of Bibliography to examine the work being undertaken there for the Universal Catalogue, to the bibliographic exhibit that had been prepared for the Science section of the Exposition and, among other excursions, at night to the Parc du Tervuren ablaze with electrical lights.

One of the conference's resolutions was to offer congratulations to the Swiss authorities for their support of the Concilium Bibliographicum in Zurich. Behind these few words of tribute lie an important exercise in scientific internationalism. The Concilium Bibliographicum had been set up in 1895 by a brilliant, multi-lingual American zoologist, Herbert Havilland Field, to prepare and distribute card bibliographies initially on Zoology but expanding subsequently to cover related subject areas such as anatomy, physiology, and palaeontology. In developing his bibliographic project, Field had decided that bibliographies on cards were an important innovation that would avoid the delays and inconveniences of published bibliographies. The use of cards enabled the maintaining currency and access to a systematically organised, always up-to-date, cumulated record of a science. He had consulted Melvil Dewey about the usefulness of the Decimal Classification for the subject arrangement of such bibliographies. He had also held discussions about the need for them with various scientists in the US and Europe and raised the matter at a number of European scientific conferences. The third International Congress of Zoology held in Leiden in 1895 agreed to support his plan for a special bibliographical agency for Zoology and with subventions from the Canton and City of Zurich, Field set up the Concilium Bibliographicum in Zurich in the autumn of 1895 (Ward 1921). As he prepared to begin work, Field consulted closely with Otlet and La Fontaine in Brussels. To secure Field's collaboration, they agreed to use the standard American 3×5 inch (or 125×75 mm) card for their bibliographic work. Independently of Field, Otlet had already established an agreement with Melvil Dewey in the US to develop a European version of the Decimal Classification that would be suitable for the minute classification required for bibliographies. Field for his part undertook not only to supply references on cards prepared at the Concilium Bibliographicum to the Universal Catalogue being compiled in Brussels but also to develop the tables of the Decimal Classification related to the sciences of interest to the Concilium Bibliographicum. In addition to the card bibliographies, Field also used his cards to prepare regular printed bibliographical supplements to two of the major scientific journals, the *Zoologische Anzeiger* and the *Anatomische Anzeiger* (Rayward, 1975, ch. V). Thus Field and the Concilium Bibliographicum represent a kind of pivot in the creation of an international information infrastructure involving elements from the US, Switzerland, Germany and Belgium for managing flows of scientific bibliographic information originating in books, journals and research reports from all around the world.

One reason that the Bibliographical Conference in Brussels was held in 1897, apart from the international context that the Exposition provided for it, was not to have a meeting in potential conflict with a meeting in London that the Royal Society had called in 1896 to begin to discuss what became the

monumental *International Catalogue of Scientific Literature*. Otlet, La Fontaine and a colleague represented Belgium at this and subsequent meetings and tried to influence the Royal Society's representatives to adopt the Decimal Classification for this work. A delegation from the Royal Society visited Brussels but remained unconvinced and drew up a special classification that was continually refined and revised during the course of the publication of the *International Catalogue*. This began to appear annually from 1900 in 17 broad subject areas covering the scientific literature from 1900 to 1914. Ultimately the catalogue comprised 238 volumes, the last of which was not published until 1916. Governed by an international convention and financed by a loan from the Royal Society, the catalogue involved a complex machinery of international cooperation. Like spokes to a wheel, 32 countries set up Regional Bureaux to collect references to the most important scientific literature published in their country or region, to transcribe the references in a highly stylised format onto standardised slips of paper and forwarded the slips to London where they were collated, checked and published. The currency of the material in each annual volume of the catalogue depended on the efficiency of the bureaux and the speed of rail and sea transport of the packets of slips from the outlying areas to the centre in London. There were regional bureaux set up, for example, in the distant former British colonies that after 1901 had become the states of NSW, Victoria, Queensland, South Australia and Western Australia of the newly independent, federated Commonwealth of Australia. Nearer the centre, the International Office of Bibliography in Brussels became the Regional Bureau for Belgium. Otlet and La Fontaine represented Belgium at the various meetings of the convention governing the catalogue until it went into liquidation in the early 1920s.

There was yet another bibliographical venture of this kind, *the Répertoire bibliographique des sciences mathématiques*. The idea for this had been broached as early as 1885 by the Société mathématique de France. Eventually with the cooperation of some 50 mathematicians in 16 countries the repertory appeared between 1894 and 1912. It was published on long narrow cards with a classification number “of a rare complexity”⁷ at the top and up to ten entries for the books and journal articles in that category listed on each card. The repertory was designed to cover the period from 1800 through 1900, not to be a current index. It eventually comprised the analysis of an estimated 20,000 works. Its classification and the use of cards represented a carefully considered experiment in the diffusion of mathematical information and, until Field had persuaded Otlet and La Fontaine otherwise, they considered using the format of these cards for their own bibliographical work.

What is of interest is that these vast, sometimes overlapping, sometimes competitive bibliographical enterprises, whose compilation depended on various

7 The phrase “rare complexité” was used to describe the classification system in the French original of this article http://poincare.univ-nancy2.fr/digitalAssets/12594_bibliographie_mathematique_ideale.pdf.

forms of international cooperation, should emerge at much the same time in this period of rapid scientific development. They may be seen as a useful epiphenomenon of science and scholarship that testifies to the rapidity of the growth in size, complexity, specialisation and fragmentation of the world of contemporary scientific knowledge. They suggest how pressing the imperative had become that this world be brought under some form of integrated, coordinated, international control that would ensure orderly cumulation, ease of access and the avoidance of duplicative research. The discussions that led to the creation of the various Classification systems in their turn suggest the extent to which groups of scientists and scholars struggled to achieve agreement on how their disciplines were constituted conceptually, to formulate the criteria for inclusion and exclusion when identifying the components and relationships of various subject areas and to how to create effective notations to represent the affiliations of established and emerging fields and subfields. As Rollet and Nabonnand point out:

During the second half of the 19th century, a large number of disruptions affected science: an unprecedented increase of research and a growing specialisation in every domain; the organisation of institutions in networks; an institutionalisation of research in most European countries via the creation of academies, learned societies and universities ... finally the considerable acceleration of the internationalisation of science (Rollet and Nabonnand 2003, 9)

They also refer to the exponential growth of the scientific literature in this period which stimulated so much of the bibliographical activity discussed above.

Some sense of the growing international traffic of scientists, scholars, officials, and others is given by the increasing number of international meetings that were held in this pre-War period. In the contemporary *Annuaire de la Vie Internationale* for 1910–11, Table VII shows that in the period from 1860 to 1879 there were 246 of these meetings. In the period 1880 to 1899 this number had risen to 819 and in the ten year period 1909 to 1909 the number was 1,070 (*Annuaire de la Vie Internationale 1910–11*). How were the transnational flows of information that resulted from participation in these meetings to be organised? The answers to such a question could only be tentative but it nevertheless required and received immediate practical attention.

The Chapters in this Volume

The authors of the chapters in this book in terms of their affiliations come from Melbourne and Sydney in Australia, from the USA via Leeds, from Vienna, from Switzerland via Paris, one has come from Vienna via Moscow, others have come more directly from England, the Netherlands, Germany, and Austria. Several have transcended the invisible but powerfully restrictive internal borders that can divide a single nation like Belgium. This is a form of intellectual voyaging that

is intended to explore the ways in which for a relatively limited historical period societies create and manage knowledge, how networks of personal contacts and of publication emerge to instantiate knowledge for distribution and use, and how boundaries between disciplines and epistemic cultures are transcended as we strive to arrive at new kinds of understanding of our past. In bringing together scholars from a variety of disciplines, research practices, linguistic backgrounds and different levels of experience the book itself is intended to represent a kind of physical exemplum of information transcending a range of boundaries.

The chapters in this volume do not pretend to be a systematic or comprehensive study but to assess through the various subjects they explore the implications of the increasing, diversifying flow of information (and the documents in which it was recorded and the people who created, expressed and used it) across and beyond the borders of the states of Europe. The chapters deal with the period of the so-called *belle époque*, approximately from 1880 to the outbreak of the First World War. As discussed above, this was a period of enormous, exhilarating, disturbing change that was a response in part to the emergence of new communications technologies and information infrastructures. These allowed the relatively easy international movement of people, goods, influence and ideas to create what is recognisably a new kind of globalising information society, but one cut short by the movement of deeper historical forces that led to world war.

Information History

Our hope is that the chapters offer an approach that is unusual and suggestive of what more might be done along the lines it describes. All societies depend in both obvious and less obvious ways on information and the technical and institutional infrastructures by means of which it is produced and disseminated and access to it facilitated or withheld. Our hope is that these chapters suggest that an information history lens is valuable in examining an important historical period and the issues it encompasses. As global trade begins to develop how do the companies involved create and retain some kind of constructive identity across the various international sites in which they establish themselves? In an innovative chapter Alistair Black offers one answer to the question in his chapter: “An Information Tool for Dismantling barriers in Early Multinational Corporations: The Staff Magazine in Britain before World War I.” As global trade in the period grew in volume, importance financially and in the competitiveness of national business interests, the idea gained ground not only that acquiring the right kind of information or intelligence might well secure a competitive edge for an enterprise but that the provision of such information or intelligence might itself be a commercial proposition. These ideas led to the formation of commercial museums in most of the major centres of Europe. In his chapter, “From Display to Data: The Commercial Museum and the Beginnings of Business Information, 1870–1914,” Dave Muddiman explores “the origins, functions and significance of commercial museums,” concentrating on the

examples of the Musée Commercial in Brussels (founded in 1882), the Imperial Institute in London (1892) and the Commercial Museum of Philadelphia (1894).

International Organisation and Pacifism

An important document both in itself but also as a source of contemporary data about international organisation is the *Annuaire de la Vie Internationale* in its two editions of 1908–09 and 1910–11. In his chapter in this book, “Alfred H. Fried and the Challenges of ‘Scientific Pacifism’ in the Belle Époque,” Daniel Laqua discusses the background to the development of this example of transnational information exchange and the eventual outcome of the collaborations it involved with Fried, Paul Otlet, Henri La Fontaine and others involved in setting up in Brussels the Central Office of International Institutions in 1907 and the Union of International Associations in 1910. The *Annaaires* represented an interest in documentation shared by all of the protagonists involved in that the volumes originated in an extensive, extremely detailed, formal survey of international organisations undertaken by the Central Office of International Institutions. The survey was intended to cover all aspects of the foundation, range of activities and in some cases dissolution of international official and non-official “unions, associations, institutes, commissions, bureaux, offices, conferences, congresses, expositions, publications” that then existed—the subtitle of the volume. Laqua discusses the difficulties experienced in preparing the two editions of the *Annuaire*, the light that they throw the pacifist movement in the period, the contributions of Fried and La Fontaine to this movement, and the stresses and strains that appeared in the relationships between them until the final rupture that occurred when war broke out. Laqua also discusses the Dutchman, Pieter Eijkman’s alternative approach to documenting the international movement that resulted in his “l’internationalisme medical” (1910) and *L’internationalisme scientifique*” (1910).

The curious story of Eijkman is told by Geert Somsen in his chapter “Global Government through Science: Pieter Eijkmans Plans for a World Capital.” Somsen outlines Eijkman’s scientific and medical background and discusses his attempts to harness the pacifist movement, especially the 1907 meeting of the Peace Congress in The Hague in support of his idea of creating a World Capital there. Eijkman battled to convince the Dutch authorities that nationalism and internationalism were not mutually antithetical, that arbitration was the highest form of civilisation, and that a World City would enhance the country’s status internationally. Though he failed, his arguments nevertheless suggest something of the paradox in the ideological movements that swept across Europe in the period of the belle époque. Influenced by Fried, Eijkman believed that internationalisation was a natural, inevitable process. He argued that an international government based on the certitudes of science was possible and should be part of the institutions of his World City.

A case study of the evolution of one of the scholarly associations of the kind that were grist to the mill of the *Annuaire de la Vie Internationale* was the Congrès international des orientalistes. In his chapter “Scholarly Networks and International Congresses: The Orientalists before the First World War,” Paul Servais follows

the international congresses of orientalists from city to city across Europe from the first congress in 1873 to that of 1912, the last before the War. He discusses the physical features of the various congresses, their reception, the changing numbers of participants and what this may have meant, the locations of the meetings in the different European cities and above all the subjects that were included for discussion (or excluded) and how the categories of conference sections and so on were constructed. Referring to the hypotheses of Edward Said, he points out the essential Eurocentrism of the congresses and how various scientific and political, “specifically imperialist” priorities were entangled in them, but also how, because of the information that they produced and disseminated, they transcended these limitations in important ways.

Both Otlet and La Fontaine’s interest in documentation, pacifism and internationalism were strongly influenced by their membership in Brussels of a number of organisations concerned with the emerging social sciences. In his chapter, “Sociology in Brussels, Organicism and the Idea of a World Society in the Period before the First World War,” Wouter van Acker discusses the contributions to the social sciences of the Société d’études sociales et politiques, the Institut des Sciences Sociales (later the Institut de Sociologie Solvay) and the Institut des Hautes Études of the Université Nouvelle. Active in these settings were leading Belgian social theorists and later politicians, strongly socialist in their political orientations. The meetings of the various groups provided a forum for publications, reports and discussions on issues of political reform and economic and social welfare. Van Acker suggests that the idea of organicism, the comparison of society to a biological organism, was an important aspect of Brussels sociology at the time. It was also the basis for the active participation of the Belgian sociologists in the Institut International de Sociologie that had been founded in Paris in 1893 by René Worms. Van Acker shows how the theory of organicism influenced Otlet and la Fontaine’s ideas about international organisation and underpinned their development in association with their colleague Cyrille van Overbergh of, and their rationale for, the Union of International Associations.

In their chapter “Laboratories of Social Thought: The Transitional Advocacy Network of the Institut International pour la Diffusion des Expériences Sociales and its Documents du Progrès,” Christophe Verbruggen and Julie Carlier deal with an organisation that was part of the “nebula of reform movements” in Europe in the period under review. Created by Rudolf Broda, the authors describe the Institute as “an enlarged and locally rooted transnational advocacy network, interconnecting scientific expertise and social activism.” Its fundamental aims were to “encourage intellectual cooperation and the dissemination of social expertise as the engine of social progress and peace.” They analyse the national locales and their influence on the sharing of content between the several journals in France, England, Germany and elsewhere that were affiliated both formally and informally with the Institute. Broda believed that female emancipation and enfranchisement was an aspect of social progress that would contribute to the obsolescence of war. In this context, Verbruggen and Carlier focus special attention on the involvement of the Institute with the rise of the Belgian feminist movement. Leading feminists, Belgian and

non-Belgian, gave lectures at the Institut des Haut Études of the Université Nouvelle which, a centre for innovation in the study of the social sciences, became a major site for the creative transnational entanglements of those involved in Broda's Institute (including Broda himself) with the Belgian feminist movement.

The Problem of Language and International Communication

One of the outcomes of the increasing internationalisation of scientific and other forms of communication during this period in terms of the formation of international organisations, the growing number of international meetings, and the proliferating quantity and range of publications was a recognition in the scientific and scholarly community that national languages presented serious obstacles to mutual understanding in areas which should be universal in outlook. If information were to be shared transnationally, if the natural, spontaneous social processes of global integration, ideas about which animated so many of the social theories of the time, were to be allowed to develop freely, new forms of language were necessary.

Two chapters in this volume deal with the phenomenon of the development of international auxiliary languages that were a feature of this period. They are complementary in subject, emphasis and points of view. Markus Krajewski points out that in 1900 there were about 250 "planned or artificial languages." In his chapter, "Organizing a Global Idiom: Esperanto, Ido and the World Auxiliary Movement," Krajewski provides an overview of the development of perhaps the major artificial languages of the period, Volapük, Esperanto and its derivative Ido. He discusses the roles of the "devisers" of these languages, how the languages were received, the characteristics that were thought necessary for an auxiliary language to be effective, their particular importance in the pacifist movement, and how they supplanted each other. He analyses the involvement of the famous German chemist, Willhelm Ostwald, in the popularisation of Esperanto and his conversion to the use of Ido. In any explanation of the paradoxes of the belle époque, the role Ostwald played in the international auxiliary language movement is emblematic. With the outbreak of war he abandoned his interests in Ido as an international language with a pacifist orientation. Instead, Ostwald worked on the formation of a simplified German that could be used in the countries newly occupied by German forces in the early period of the War. This was *Weltdeutsch*, a language "which could be learned and used by everyone with little effort."

Fabian de Kloe's "Beyond Babel: Esperanto, Ido and Louis Couturat's Pursuit of an International Scientific Language," concentrates on the work of the Frenchman, Louis Couturat, in the development of Esperanto and Ido. He discusses the increasing numbers of international meetings that brought together people from different national language practices in mutual incomprehension, the growth in the literature of science and the number of languages in which it was published, the problems that this posed for translation, and the kinds of solution that might be had first from Esperanto and then from Ido as, in Couturat's view, a more linguistically precise and neutral development from Esperanto. Couturat was a committed pacifist and wrote in defence of the idea of "the progress of civilization

towards a peaceful world state.” Ido, he believed, in its logical structure and its linguistic characteristics could have maximum international impact “in advancing the principles of justice and neutrality.”

The intense struggles for national identity and the languages in which this should be expressed and, in particular, the bearing that linguistic decisions would have on the conduct and publication of science is the subject of Jan Surman’s chapter, “Divided Space—Divided Science? Closing and Transcending Scientific Boundaries in Central Europe between 1860 and 1900.” Universities and academies in the Austro-Hungarian empire faced language and identity issues that tighter linguistic constraints in the Russian and German empires obviated. In the Hapsburg empire the lingua franca was German, an international language in the sense that it was used in so many scientific publications and in many German-speaking universities and research institutions who trained those who were to become academic staff throughout the Universities and Academies of central Europe. But with rising nationalist movements its use was challenged in the Polish, Ruthenian, and Czech communities. As the stitching that held the polygot Hapsburg empire together began to unravel and local Slavic languages gained territorial supremacy, there were paradoxically increasing efforts in these territories to transcend the limitations that the use of these languages imposed on the conduct and reporting of science. These efforts occurred not only because of the universalist orientation of science but also because of the national prestige that could accrue from highly visible participation both personally and in publications in the international scientific community. Such participation required the use of one of the “international” languages, French, German, English and to a lesser extent Italian.

Communications Technologies and News

One of the features of the period of the *Belle époque* was the speed, development and global spread of communications infrastructures. One of the most important of these was the telegraph and the submarine telegraph cables that connected the continents so that, in the words of one of the contemporaries quoted by Frank Hartmann, the ocean became “a highway of thought.” Hartman discusses the implications of the new world of global telecommunications inaugurated by the submarine cables in his chapter, “Of Artifacts and Organs: World Telegraph Cables and Ernst Kapp’s Philosophy of Technology.” The new infrastructure changed both “the way people communicated and their view of the world.” He discusses Ernst Kapp’s idea that there was “a specific relationship between biology and technology”: tools as an extension of the body (hammer and fist); mechanical systems paralleling organ systems (the railway and the circulatory system; the telegraph and the nervous system). He explains Kapp’s theory of unconscious organic projection reproducing Kapp’s illustration of the visually remarkably similar section of the submarine telegraph cable and the cross section of a nerve fibre. He stresses Kapp’s interest in analysing objectively, not romanticising, the changes that were occurring as the new technology spread across the globe and

in finding an appropriate conceptual framework for them, thus becoming an early media theorist.

The advent of the telegraph and the cable had an immediate effect on the creation of agencies for the dissemination of news. In his chapter, “The Formation of Global News Agencies, 1859–1914,” Volker Barth discusses the history of the Agence Havas founded in Paris as early as 1835, the creation of the Reuter Agency in London in 1851 just after a telegraph line had been laid under the English channel (though Reuter had earlier resorted to a pigeon service to bridge a gap in the telegraph line from Berlin to Paris), Wolffs Telegraphisches Burö in 1848, and the American Associated Press also in 1848. Barth analyses the “cartel treaties” that created “diversely structured national zones of influence within a global communications network” for each of the agencies. He describes their modes of operation, critiques their ethos of objectivity, neutrality, accuracy and factuality in terms of the political and cultural contexts within which each operated and the various techniques that were evolved to establish these characteristics. Finally, he discusses the demise of the cartel idea as competitor agencies emerged in the 1920s and 1930s.

Willhelm Ostwald’s international interests were nowhere better reflected than in his participation in the period before the outbreak of war in *Die Brücke*, the Bridge. In his chapter, “Collecting Paper: *Die Brücke*, the Bourgeois Interior, and the Architecture of Knowledge,” Nader Vossoughian, quoting Ostwald, indicated that *Die Brücke*’s name was derived “from its goal of using a specially constructed organ to unify harmoniously and effectively separate intellectual undertakings that emerge on isolated islands.” The Bridge was in effect a kind of virtual organisational technology. Vossoughian suggests that those who were interested in *Die Brücke* hoped “to coordinate and control the production of information from the bottom up. That is, they wanted to manage how it circulates in and between offices, schools, government agencies, and private citizens, and not just in scientific laboratories.” One of the most important outcomes of the work of *Die Brücke* was the idea of international standard paper formats, especially Ostwald’s “world formats” that influenced today’s A-Series formats. This leads Vossoughian into a discussion based on the book, *Raumnot und Weltformat*, published by *Die Brücke* and written by one of its co-founders, Karl Bühler, of the ways in which the commitment to these formats led to a reformulation of the idea of the collector and the nature of the areas, the rooms, where the collections were housed. Vossoughian analyses images of Freud’s consulting room and study and makes comparisons between *Die Brücke* and the German Werkbund, concluding ultimately that “standard paper formats anticipate the advent of ‘collecting machines’ such as the Internet.”

Information, Classification and National Identity

The impact of these changes in communications form the background for Heather Gaunt’s paper “‘In the Pursuit of Colonial Intelligence’: The Archive and Identity in the Australian Colonies in the Nineteenth Century.” She stresses the importance

of information to the six colonies on that remote continent some 12,000 nautical miles and more from Europe and the mother country. She analyses how the systems and patterns of the acquisition of information developed and changed as the speed and capacity of sea travel increased and when the submarine cable eventually reached the northern tip of Australia from Britain in 1871 and proceeded overland to connect the southern colonies. She discusses the emergence of formal programs of publication exchange as a way both of participation by the colonies in the international flow of knowledge but also as a way to build up the physical intellectual capital represented by library collections. The range of European, US and Imperial institutions with which these distant Australian colonial Boards of Exchange established and maintained contact was extraordinary. In the second part of her chapter, Gaunt reverses the direction of her discussion and analyses the need in the colonies of information about their own recent past in order to recreate their histories and to begin to formulate and shape their identities. The new historical imperative of the time was for formal, objective documentation. Gaunt discusses among other issues the problem of the local loss or destruction of records. To recreate them involved transcription projects especially dealing with colonial records held in London. Gaunt concluded that at work here was the idea that through collecting the documentation internationally and writing the local histories, it was possible for “the new nation to write itself into the wider histories of the British Empire, and indeed the world.” These histories “offered a vehicle to project a formalised Australian identity to a global audience.”

International developments in the transfer of information played out in a curious way in the Melbourne Public Library in 1910. Melbourne was the capital city of the State of Victoria and indeed of the Commonwealth of Australia until Canberra was built. Metropolitan and modern, it was a “large, complex, multifaceted urban centre” with “a world class public library.” Mary Carroll and Sue Reynolds in their chapter “The Great Classification Battle of 1910: A Tale of ‘Blunders and Bizarreries’ at the Melbourne Public Library” discuss the conflicts that arose in the library over the question of how its collections should be classified—by the home-grown system currently in operation or the Dewey Decimal system from the US or the Universal Decimal Classification developed in Brussels by Otlet and La Fontaine. With the increasing availability, speed and affordability of sea travel in this period, it had become not uncommon for officials and others to spend time in exploring what European countries had to offer them. Libraries and librarians were no exception. Morris Miller, one of the protagonists in the classification debate, on leave from the Library, visited a number of European libraries and also the installation of the International Office and Institute of Bibliography in Brussels. Its catalogue left him “spellbound.” He also met the Chief Librarian of the Melbourne Public Library, a proponent of the Dewey system, in Scotland where they had amicable discussions. Back in Melbourne however, the classification controversy boiled over into formal hearings before a “Library Staff Disaffection Committee” established by the Board of Trustees. The national–international classification battle was won by the American Decimal Classification.

The completed full edition of the Universal Decimal Classification was published in 1905 as the *Manuel du Répertoire Bibliographique Universel*. It was a huge volume of over 2,000 pages incorporating tables that had been collaboratively developed by scientists and scholars throughout Europe including the classification tables for a range biologically related subjects prepared by Field and his staff in the *Concilium Bibliographicum*.⁸ The appearance of this huge volume attracted the attention of Johan Zaalberg in the Netherlands who consulted Otlet about the use of the Universal Decimal Classification for the management of the administrative records of municipal governments, something about which Otlet had already written at some length. In his chapter, “Dynamics of Networks and of Decimal Classification Systems, 1905–35,” Charles van den Heuvel discusses the increasing Dutch interest in the classification that began with Zaalberg in the early 1900s. His focus is ultimately on Frits Donker Duyvis who was to become a central figure in managing the development of the UDC after World War I—the full French revision that was achieved 1929–31, the translations into other languages, eventually English, and transformative revisions mooted by Duyvis as late as 1951. How to secure a workable concordance between the Dewey system and the UDC, a kind of basic international harmonisation of the two systems, had been a tendentious problem between the Belgians and the Americans even as the first edition of the UDC was being developed in the 1890s. The problem became even more acute after its publication in 1905. Duyvis played a major diplomatic role in post-War negotiations between the Americans and Otlet and La Fontaine in Brussels about concordance between the two editions and the publication of an English edition of the UDC. These discussions see-sawed across the Atlantic between Dewey’s Lake Placid Club in upper New York State and Brussels and lasted well into the period after the Second World War. Van den Heuvel also discusses a curious development of the UDC by a colleague of Otlet’s in the 1930s. Walter Théodore Glineur suggested that the UDC be modified in a variety of ways to create what he called the Decimal Classification of the Human Senses [Classification Décimale d’après les Sens Humains]. He changed the name later to the Decimal Classification of Consciousness (Classification Décimale de la Conscience—CDC) to make the parallel with the UDC more apparent. Nothing came of Glineur’s initiative.⁹

But the outcome of all the discussions and speculations of the time was never in doubt. In one of his great set pieces, reflecting on the British fleet’s visit to Kiel, Churchill observed: “the old world in its sunset was fair.” He captured the sense of what had been achieved and what might be lost as world peace hung in the balance in the fateful days of late June 1914.

8 For an account of the development of the material that was incorporated into the volume and of the volume itself, see Rayward, 1975, Chapter V.

9 It might well be noted that the UDC continues to be in use in 130 countries around the world and has been published as a whole or in part in 40 languages. “UDC Consortium: About the Universal Decimal Classification” <http://www.udcc.org/about.htm>.

The world on the verge of its catastrophe was very brilliant. Nations and Empires crowned with princes and potentates rose majestically on every side, lapped in the accumulated treasures of the long peace. All were fitted and fastened—it seemed securely—into an immense cantilever. ... Would Europe have thus marshalled, thus grouped, thus related, unite into one universal and glorious organism capable of receiving and enjoying in undreamed of abundance the bounty which nature and science stood hand in hand to give.

The German Emperor, out sailing when the news of the assassination of the Archduke Franz Ferdinand arrived, “came on shore in noticeable agitation, and that same evening, cancelling his other arrangements, quitted Kiel” (Churchill 1923, pp. 198–9). By the first days of August, the world was at War.

Conclusion

The chapters of this book reveal aspects of the complexity of aspirations and the realities that far-sighted, well-meaning, imaginative individuals faced in the great melting pot of the *belle époque* period. As people, publications, objects and ideas—as information—in all its many formats and carriers moved ever more freely and quickly to and fro across the boundaries of the European states and beyond them to animate international conferences and international expositions; to stimulate local adaptations of international artistic and craft styles flowing out of England, France and Belgium; to influence the creation and disciplinary orientations of new international scholarly societies and institutes; to lay the foundation of new kinds of international information infrastructures for the management of the escalating volume and increasing fragmentation of the literature of science and scholarship, there were always tensions at work. These arose from a profound, powerful, inescapable, nationalism that was deeply rooted in the individual psyches of peoples, even in those individuals who consciously aspired to transcend the languages and cultures, the social and political institutions in which it was expressed. We see it colouring the attitudes and behaviour of some of the most deeply committed pacifist figures discussed in this book as the First World War began to draw ever closer. It everywhere informed the political and diplomatic crises of the times and the alarm that they created over the possibility of belligerent outcomes. These crises escalated in number and severity as the period drew inexorably towards the last years of peace. Perhaps in part because of the energy that such tensions produce, the *Belle époque* remains, especially in Europe but not only there, an enormously exciting and productive period scientifically, technologically, intellectually, socially and artistically. It provided a forge in which was shaped an emergent modern world and the information systems, formats, institutions, and modalities of communication on which this new world was to depend.

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Information Beyond Borders

International Cultural and Intellectual
Exchange in the Belle Époque

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ASHGATE

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