BELGIAN PHOTOGRAPHIC LITERATURE OF THE 19TH CENTURY

L'ÉDITION PHOTOGRAPHIQUE BELGE AU 19E SIÈCLE

STEVEN F. JOSEPH

BELGIAN PHOTOGRAPHIC LITERATURE OF THE 19TH CENTURY

A BIBLIOGRAPHY AND CENSUS

L'ÉDITION PHOTOGRAPHIQUE BELGE AU 19E SIÈCLE

BIBLIOGRAPHIE ET RECENSEMENT

Leuven University Press

ISBN 978 94 6270 047 5
D / 2015 / 1869 / 50
NUR: 652

Cover design: Griet Van Haute
Cover image: Photographer with copy camera about to prepare a halftone of the Law Courts, Brussels, c. 1895 / Photographe derrière sa chambre d'atelier se préparant à obtenir une similigravure du Palais de Justice, Bruxelles, c. 1895.
Typesetting: Jurgen Leemans

This book is dedicated to the memory and intellectual spirit of Heinz K. Henisch, professor at Pennsylvania State University and founding editor of *History of Photography*, the leading scholarly journal in the field. It aims to reflect Professor Henisch's advocacy of "*well-documented and bibliographically supported research materials*" with "*emphasis on the methodical compilation of verifiable information*".

Ce livre est dédié à la mémoire et à l'esprit intellectuel de Heinz K. Henisch, professeur à l'Université de Pennsylvanie et fondateur-rédacteur en chef de *History of Photography*, principale revue scientifique dans le domaine. Notre ouvrage se veut le reflet du plaidoyer du professeur Henisch pour la création de « *matériels de recherche bien documentés et soutenus sur le plan bibliographique* » où « *l'accent [est mis] sur la compilation méthodique d'informations vérifiables* ».

CONTENTS / TABLE DES MATIÈRES

ACKNOWLEDGEMENTS / REMERCIEMENTS

May all the following institutions and their staff who have contributed to creating this bibliography and census accept my heart-felt thanks:

Que toutes les institutions et leur personnel qui ont concouru à la préparation de cette bibliographie et de ce recensement, soient chaleureusement remerciés. Il s'agit de :

ANTWERPEN
Artesis Plantijn Hogeschool
Erfgoedbibliotheek Hendrik Conscience
FotoMuseum Provincie Antwerpen
Koninklijk Museum voor Schone Kunsten Antwerpen
Universiteit Antwerpen

BRUXELLES / BRUSSEL
Académie royale des beaux-arts de la ville de Bruxelles
Archives et Bibliothèque de l'Académie royale de Belgique
Archives générales du Royaume
Archives du Palais royal
Archives de la Ville de Bruxelles
Bibliothèque royale de Belgique :
- Cabinet des estampes
- Cabinet des manuscrits
- Section des imprimés anciens et précieux
- Section des imprimés contemporains

Commission royale des monuments et des sites
Facultés Universitaires Saint-Louis
Institut royal du patrimoine artistique
Institut royal des sciences naturelles de Belgique
Musée royal de l'Afrique Centrale à Tervuren
Musée royal de l'armée et d'histoire militaire, Centre de documentation
Musées royaux d'art et d'histoire – Musée du Cinquantenaire
Musées royaux des beaux-arts de Belgique
Université libre de Bruxelles
Vrije Universiteit Brussel

CHARLEROI
Musée de la photographie – Centre d'art contemporain de la Communauté française

GENT
Hogeschool Gent
Museum over Industrie, Arbeid en Textiel

Museum voor Schone Kunsten Gent
Universiteit Gent

LEUVEN
KU Leuven – University of Leuven

LIÈGE
Musée de la Vie Wallonne
Université de Liège

LOUVAIN-LA-NEUVE
Université catholique de Louvain

MONS
Mundaneum – Centre d'archives de la Fédération Wallonie - Bruxelles
Université de Mons

NAMUR
Facultés universitaires Notre-Dame de la Paix – Université de Namur

AMSTERDAM
Rijksmuseum, Prentenkabinet – Nationale Fotocollectie

BRADFORD, UK
National Media Museum, Royal Photographic Society collection

FIRENZE
Biblioteca Nazionale Centrale di Firenze

HORTEN, NORWAY
Norsk Museum for Fotografi – Preus Fotomuseum

KÖLN
Photobibliothek der Kunst- und Museumsbibliothek der Stadt Köln

LONDON
British Library
National Art Library – Victoria & Albert Museum

MADRID
Biblioteca Nacional de España

PARIS
Bibliothèque nationale de France - Département des estampes et de la photographie
Institut national d'histoire de l'art
Société française de photographie

AUSTIN, TEXAS
Harry Ransom Humanities Research Center – University of Texas at Austin

LOS ANGELES
Getty Research Institute

NEW YORK
Frick Art Reference Library
New York Public Library

ROCHESTER, NEW YORK
International Museum of Photography – George Eastman House

… and various private collections / et diverses collections particulières.

All illustrations in the album are drawn from the holdings of the Rijksmuseum, Print Room – National Photography Collection, Amsterdam.

Parts of the introductory essay have previously appeared in *In Monte Artium: Journal of the Royal Library of Belgium,* vol. 7, 2014 and are reprinted with the Library's permission.

Last but not least, amongst the many individuals who have also supported and encouraged me, including the assiduous researchers Marie-Christine Claes, Anthony Hamber and Michael Hocken, I wish to express my especial gratitude to Tristan Schwilden, antiquarian bookseller and photo historian, scholar and bibliographer, without whose example and inspiration this project would most probably never have been undertaken.

~

Toutes les illustrations de l'album proviennent des fonds du Rijksmuseum, Prentenkabinet – Nationale Fotocollectie, Amsterdam.

Des extraits de l'introduction ont paru dans *In Monte Artium: Journal of the Royal Library of Belgium*, vol. 7, 2014 et sont reproduits avec l'autorisation de la Bibliothèque royale de Belgique.

Finalement, parmi les nombreux particuliers qui m'ont également soutenu et encouragé, y compris les chercheurs assidus Marie-Christine Claes, Anthony Hamber et Michael Hocken, que la place d'honneur soit réservée à Tristan Schwilden, antiquaire et historien de la photographie, érudit et bibliographe ; sans son exemple et son inspiration, le présent projet n'aurait-t-il, sans doute, jamais été entrepris.

Introductory essay

Introduction

FROM MICHIELS TO MARISSIAUX: THE FIRST HALF-CENTURY OF PHOTOGRAPHY AND THE BOOK IN BELGIUM[1]

> "It is justly said that everything can be found in books, as they are the perfect conservators. Irrespective of what their authors have filled them with, they transmit to posterity a host of interesting things for the archeologist. (…) Leaving actual reading to the public who patronize the reading room, librarians must examine their books inside and out (…): treasures are sometimes hidden within."[2]

In the early nineteenth century, a trend towards greater accuracy and speed in illustration began to have a distinct impact on the printing industry. Lithography, invented by Aloys Senefelder and commercialized from 1799, smoothed the illustrator's task through ease of handling. It is no coincidence that the two great inventors of photography, Nicéphore Niépce and William Henry Fox Talbot, were both motivated in their different ways by a desire to mechanise graphic printing processes and thereby eliminate the draughtsman's hand. Niépce used metal plates as his printing base in the 1820s, whereas Talbot employed handmade paper from 1835 onwards. Thus photography, from its very conception, was intertwined with printing and many a pioneer of photography turned his sights to a sector viewed as brimming with potential applications.[3]

As soon as the invention of photography was announced in January 1839, simultaneously in France and England, J.B.A.M. (Marcellin) Jobard (1792-1861), a newspaper editor and erstwhile lithographer living in Brussels [Fig. 1], became convinced that this invention was destined to completely change the graphic arts.[4] Once he had obtained one of the first cameras, via Isidore Niépce, the inventor's son, Jobard took the very first photograph in Belgium, a view from his house over the neo-classical Place des Barricades in Brussels, on 16 September 1839. He founded a *Société belge du Daguerrotype* [sic] for exploiting photography commercially, a precocious initiative that did not leave the drawing board. Through his columns in *Le Courrier belge*, a daily newspaper of which he was both publisher and editor, Jobard expressed high hopes, rapidly disappointed, for using the metal daguerreo-

type plate to make direct intaglio prints or transfers for lithography. He predicted somewhat optimistically: "We announce that from today and before six months are up, daguerreotype plates will be printed off in thousands of copies."[5] In another article titled "Le soleil graveur" (The sun as engraver), Jobard stated: "A few days ago we wrote that Monsieur Daguerre had forced the sun to draw but that, before six months had passed, it would be made to engrave. In stating this, we drew our conviction from a set of experiments which we regretted being unable to carry out immediately but which ought to lead us directly to success."[6] In the following year Jobard set out his thoughts in a confidential document "Description of processes for lithographic printing" which he submitted to the Académie des Sciences in Paris. Made public nearly twenty years later, Jobard's text on the reproduction of images fixed in the camera had not the slightest impact on the field of photographic printing.[7]

Whilst there were isolated successes in using the daguerreotype for printing in the early 1840s, by Hippolyte Fizeau in Paris and Joseph Berres in Vienna, this process turned out to be a technological dead-end. The potential of photography applied to book illustration would first be realized quite differently, by means of paper printing, whereby original photographic prints were mounted and bound in *hors texte*. Photographs could then be replicated using Talbot's improved process; from a single paper negative, it was now possible, at least in theory, to obtain as many positive prints as required. Nevertheless the development of successful and reliable operations capable of rivalling traditional graphic processes would prove to be long drawn-out and difficult. Talbot himself founded a photographic printing works in 1844, which produced *inter alia* the plates used to illustrate his treatise *The Pencil of Nature*, a masterful study laying out the various applications of his innovative technology. Yet Talbot's initiative ended in failure and his printing works were forced to close down after operating for only two years, mainly because Talbot never managed to guarantee the stability of his silver prints or to generate a strong enough demand for them.

The process of take-up and integration of the new technology within the printing sector can be divided into several phases, each one corresponding roughly to a decade. Thus, the 1840s may be seen as the experimental phase, the 1850s as one of tentative implementation demonstrating the viability of the new technology whereas the 1860s marked the beginning of sustainable exploitation, underpinned by entrepreneurial flair. Applying this model, no

significant impact of photography on the printing industry would be felt until the new technology became more widespread and began edging out traditional graphic processes in the 1870s.

Back to the infancy of photography. In Belgium, the first decade was characterised by a slow rate of growth with as yet no direct application to printing. Two technologies confronted one another, two radically different systems for forming photographic images that could be traced back to their original inventors. On the one hand, the *daguerreotype* consisted of a one-off image on a silver-coated copper plate, on the other, the *calotype* was a paper negative for printing out positives also on paper. The first permanent studios on Belgium soil, set up in 1842, used the daguerreotype process exclusively, appreciated for its razor-sharp image and for its uniqueness, similar to portrait miniatures. This process maintained its predominance into the 1850s whereas there are no records of paper photography being exploited commercially in the same period. Its only known use was for view-making firstly by British tourists, then by Guillaume Claine (1811-1869), a former journalist and court stenographer, in partnership with landowner Louis Jacopssen (1797-1877). Together they produced salt-paper views of Bruges, Ghent, Brussels and notably the royal palace at Laeken. Professionals in the printing trade also expanded into the area of photography, opening daguerreotype studios as an offshoot to their mainstream business. Emblematic of this first generation of Belgian photographers was Édouard Alexis Daveluy (1812-1894), head of a thriving firm of lithographer-printers who operated a studio in Bruges from 1850 [Fig. 2]. Daveluy was predictably also one of a handful of graphic artists who tried to translate photographic halftones into the medium of lithography and engraving. It must be admitted that these initial attempts to appropriate photography for graphic purposes tended to be unconvincing. Daveluy's set of views [006] has a running title "Collection du Daguerréotype" claiming to be a faithful representation of reality even though it is an obvious exercise in re-creation and interpretation, using artistic skill to add in figures [Fig. 3]. More accurate are works attempting to 'catch a likeness' comprising lithographic portraits from a photograph, such as a gallery of Belgian parliamentarians [002] or the 'official' portrait of King Léopold I, taken by Ghémar & Severin to mark the king's silver jubilee in 1856 and disseminated widely in the form of a lithograph published by Simonau & Toovey [009].

It fell to Louis-Désiré Blanquart-Evrard (1802-1872), a linen merchant from Lille, to set up the first photographic printing works on the continent of Europe, in 1851. He was able to apply his know-how in chemistry and his experience of industry to planning the publication and distribution of photographic albums modelled on collections of topographic views then in vogue and circulating as lithographs during the Romantic era. The proximity of his press allowed him to bank on a Belgian customer-base for his published images of sites, buildings and works of art in Belgium. Blanquart-Evrard announced: "[The publishers] have imagined a publication which would reproduce, with all the charm and accuracy of daguerreian processes, masterpieces of painting and classical and modern sculpture, the most famous sites and monuments, whilst not neglecting those which, be they less well-known, are no less deserving of attention. (…) To this end, museums and private collections have been enlisted, numerous photographs taken in Italy, France, Belgium, the Indies and China, and have been gathered together, and give to the collection an attractive variety."[8] The first part of this first publication from the Lille printing works, *L'Album photographique de l'artiste et de l'amateur*, appeared in September 1851 and was composed of five plates, two of them Belgian subjects, the market place at Ypres and the belfry in Bruges, taken from the canal bank [064]. Of the total of 36 plates which would make up the completed publication, there were no fewer than ten Belgian subjects: five copies of paintings, two of statuary and three topographical works.[9] None of the mounts carries a photographer's credit, unlike the two large-format albums that Blanquart-Evrard published around 1854: *Bruxelles photographique* by Guillaume Claine [111] and *La Belgique* by a Frenchman Eugène Desplanques (c. 1819-1865) [152]. Desplanques crossed Belgium most probably in response to an advertisement such as the one Blanquart-Evrard placed in the periodical *La Lumière* in search of 'skilled photographers who would be prepared to travel on behalf of the firm'.[10] He used very large negatives, around 50 x 40 cm, for taking views of Gothic architecture in Antwerp, Mechelen, Brussels, Oudenaarde and Bruges. In contrast, no source has survived that could shed light on the relationship between Claine and his publisher in Lille. The cryptic phrase printed on the mounts, 'Negative by Claine, photographed and published by Blanquart-Evrard', implies that the Brussels photographer could well have transferred copy plates or prints while retaining his original negatives. The word 'photographed' would thus mean 'rephotographed and printed'. Whatever the case and even though the two photographers had little in common on a profes-

sional level, they managed to take views which, by virtue of their exceptional size, were the most expensive of Blanquart-Evrard's output, selling at 10 francs per print as against 3 francs for *L'Album photographique de l'artiste et de l'amateur* [Fig. 4].[11]

Perhaps it was the high expense and indifference of potential customers to his specifically Belgian-themed publications that persuaded Blanquart-Evrard to abandon plans for a third work dedicated to Belgium, *Les Bords de la Meuse*, announced as being 'in progress' in June 1854,[12] although several other series published by his firm did contain an occasional print of Belgian interest [065]. It therefore need not be repeated that Blanquart-Evrard foresaw a broad distribution of his output in Belgium, as confirmed by advertisements emanating from Alphonse Plumier (1819-1877), painter and pioneering daguerreotypist, whose Brussels address included a 'general repository for Belgium of photographs by Mr Blanquart-Evard of Lille'.[13] This emphasizes the fact that Belgium remained dependent on other countries for technology transfer and that the value added, in the form of marketable prints, was generated abroad even if the raw material, i.e. the images, were created in Belgium. The relationship of producer country and consumer country crops up again with two other photographic printers operating in neighbouring countries around 1855, the Bisson brothers in Paris and Jan-Frans Michiels (1823-1877) in Cologne [Fig. 5]. Both firms supplied the Belgian market with images of local cultural heritage from their respective production sites. Thus the Bisson brothers marketed views of Belgian in the *double-plate* size of 40 x 30 cm in their vast stock of architectural photographs. They also supplied the prints for the first photographically illustrated publication on town-planning in Brussels, although the work has a Paris imprint [137]. Michiels, a former wood carver and native of Bruges, was renowned as a photographer of architecture in Cologne, in particular documenting building work on Cologne cathedral [297, 298], in close partnership with the publisher F.C. Eisen.[14] Amongst his publications, Michiels issued an album of eight *full-plate* prints (31 x 22 cm) of the shrine of St Ursula, housed in the St John hospice in his native city [299]. The hospice authorities approved Michiels' request to photograph the object on receipt of a letter of recommendation penned by the bishop of Bruges Jean-Baptiste Malou on 16 December 1851, in which he emphasized that photographs could be excellent publicity both for Christian art

and for the city of Bruges.[15] Note the trilingual presentation – title page in English and captions in French and German – which demonstrates a clear intention to reach an international public [Fig. 6]. Finally, mention should be made of the earliest printed Belgian book to be photographically illustrated, albeit in a very low print-run and for private circulation only. Count François de Mercy-Argenteau issued a volume to commemorate the reconstruction of his private chapel in 1851. Some copies of an undated second edition of *La Chapelle de Notre-Dame au Bois d'Argenteau* contain a salt-paper print portrait from an engraving [143]. An inscription in one of the photographically illustrated copies points to early July 1854 for the book's *terminus ante quem* of printing.[16] There is no indication of authorship of the photograph; the print, unfaded in the examined copies, demonstrates a level of expertise in photographic printing, probably not usual in Belgium at this time but which a French firm such as Bisson frères could readily supply.

By the mid-1850s, other European photographers followed Blanquart-Evrard and similar pioneers motivated by the conviction that the book could become a reliable and legitimate outlet for photography, insofar as the subject matter was sufficiently commercial and that the process employed could guarantee that prints would be stable and legible. The pioneer in Belgium was a French architect named Gilbert Radoux (1820-1882). A pupil of Henri Labrouste, he established a photographic printing works in Brussels in 1857. In the wake of Louis-Napoléon's *coup d'état* of December 1851, he was sentenced to deportation to Algeria but managed to flee to Belgium. Now a political refugee, Radoux took up photography to earn a living, opening a portrait studio initially in partnership with another French exile, a lawyer called Richard Papon: "Whilst waiting for the foreign [visitors] whose custom was hotly contested with their many able competitors, they would make portraits of their friends, an unprofitable occupation!"[17] Radoux's ambitions did not stop there and in 1856 (henceforth operating alone) his submission of architectural views to the first important photography exhibition organized in Belgium was favourably reviewed.[18] Radoux set up his printing works in 73 Montagne de la Cour. In a circular letter addressed to tradesmen and entrepreneurs, with a price list attached [Fig. 7], Radoux expressed a utilitarian idea of his print works, rather distant in spirit from the establishment 'for the artist and the connoisseur' advocated by Blanquart-Evrard. Radoux's

conception of photography as a tool for a customer-base in industry on the one hand and for commercializing art on the other, was echoed in the Brussels press: "The photographic printing establishment set up by Monsieur Radoux fills a serious gap in this category of industry which is called luxury production. Bronzes, jewellery, ceramics, fabrics, and ivories depend more on photography which alone can give a faithful reproduction to scale. This is an advantage over drawing and engraving, which can only give a rough likeness. (…) Whether a collector or an artist wishes, for instance, to disseminate a landscape, an engraving or paintings; or whether one wishes to distribute to the public plans of machines, maps or architectural work; nothing can respond better than a photographic printing works in meeting this need neglected up to the present time."[19]

Soon after opening his business, Radoux printed the salt-paper prints for the first photographically-illustrated book published and marketed in Belgium, *Les nielles de la Bibliothèque royale de Belgique* by Louis Alvin, an art historian and since 1850 the head curator of the Bibliothèque royale de Belgique [021]. As shown by the introductory comments to his monograph, chosen as our epigraph, Alvin was thoroughly conscious of the radical break with tradition that his choice of photographic illustration represented. His study, which arose from his chance discovery of a set of niellos nestling in an old volume, could even be interpreted as a specific homage made by one innovative graphic process to another process, created four centuries earlier and which itself was destined to revolutionise the practice of book illustration in its era. Radoux was entrusted with producing the illustrations on the basis of negatives supplied by captain Pierre Libois (1818-1899), head of the war ministry's photography studio, newly created for copying maps. Radoux was tasked with printing and mounting the 21 illustrations *hors texte*, first for the periodical publication in *Bulletin de l'Académie royale des sciences, des lettres et des beaux-arts de Belgique* [080], then the offprint [021] and finally a reprint in serial form [092], which must have amounted all in all to several hundred copies. The offprint appeared in two states: with 21 salt-paper prints, described on the title page as 'photographic facsimiles', either on four plates for 3 francs or on 20 plates for 4 francs. While we are unsure of Radoux's working methods, there is some indication that he had trouble meeting the deadline for this bulk order, since not all issues of the *Bulletin* contain the prints and reference to the illustrations in the text. Radoux's work can best be described as mediocre:

not only do the illustrations look crude on the page, with only the slightest attempt at harmonious lay-out, but individual prints have lost their strong tones, demonstrating rushed execution or lack of care taken when washing and mounting the prints. Despite these problems, which will not have escaped the author's attention, Alvin rounds off his study by expressing his confidence in the contribution that photography could make to art history: "I express, to end with, the wish that curators or owners of collections that contain rarities of this type will have them produced by the same process; thus in a small while, all the print rooms will be able to assemble samples of the most important monuments to engraving, which would give a great boost to the history of the early stages of this art."[20] Indeed, Alvin would go on to publish two other photographically illustrated books, once the technology had become tried and tested [022, 023].

Radoux seems to have had even less luck with his next venture, a folio set of prints that he intended to publish in 1858 with the title *Délices de la Belgique au XIXe siècle (la Belgique photographiée)*, deliberately echoing the plate book *Les Délices de la Belgique, ou Description historique, pittoresque et monumentale de ce royaume* (1844). A single announcement stated that 'the 1st series of this publication, comprising 15 plates from Mr Radoux's renowned press, is on sale for 40 francs' but the project seems not to have got any further.[21] Radoux had more conclusive results with his later output. The publisher Charles Muquardt planned to bring out an ambitious set of folio volumes of Pierre-Paul Rubens' engravings; he had assembled a large collection of them. He had brought out a similar volume in 1857 in lithography at 2 fr. 50c. per plate.[22] Muquardt launched the series in a prospectus which stressed the authenticity of the source documents as well as addressing – in the light of justified reservations – the issue of image permanence: "The plates which comprise this work have been photographed after original proofs of prints engraved in Rubens' presence, by artists whom he had trained and made faithful interpreters of his thinking. (…) The process by means of which these engravings have been copied is brand new, and we only determined to employ it after numerous experiments that have convinced us of its superiority. On the one hand, it lends to the plates all the vigour of the originals and, on the other hand, renders them perfectly stable. (…) We have exposed the plates for one year to the sun's rays, next to various engravings and lithographs; the latter have faded perceptibly, whereas the action of strong sunlight has had no effect on the photo-

graphed plates."[23] The publisher's first choice of photographer was B. Leba, the pseudonym of Jean-Louis Bargignac (1816-1858) and his wife and associate Ira Lejeune (born 1816). The first fascicule containing two plates appeared in January 1858 [184] and the first volume was nearing completion when Bargignac died in June 1858. Radoux took over and completed the commission until Muquardt finally abandoned publication, after a second volume [185], in 1860. Despite guaranteeing print stability, the price of 5 francs per plate, double that charged for lithographs, proved too high to attract a large number of subscribers. Sales of the second volume probably dropped off compared to the first (public collections record nine copies of the first volume against only three copies of the second) but together, the two volumes in this series comprise the most ambitious photographically illustrated publication conceived and executed in Belgium in the 1850s.

Radoux carried out his last substantial project in September 1859, probably a personal initiative rather than the result of a publisher's commission, to mark the inauguration of the Congress Column, a monument conceived as a tangible expression of the values that had kindled the revolution of 1830 and Belgian independence. He published a set of 17 prints, *La Colonne du Congrès* [357] depicting details of the monument in such a way as to confirm his affinity for architectural subjects and build upon his mastery of form and mass, as highlighted by an insightful comment: "Monsieur Radoux was an architect in France. His knowledge of architecture is of great use to him, either when selecting the monuments to copy, or when deciding the perspectives to take them from."[24] In the wake of the same event, Radoux supplied a print for use as frontispiece of the first book published in Belgium to be illustrated with a photograph from life, a general view of the column [114].

Gilbert Radoux's photographic printing works were in active operation until summer 1860. In the spring of 1861, taking advantage of the amnesty decreed by the ruling imperial régime, Radoux left Brussels to return to the country of his birth, aiming to resume his profession of architect. Radoux's departure created a vacuum which would be quickly filled in the Belgian capital and after a gap of some years, in Antwerp and Liège. The relatively small Belgian market could not support several photographers devoted entirely to photographic publishing and book illustration: the total number of photographically illustrated publications (including periodicals) and albums with Belgian imprints up to 1870 amounted to less than a hundred

items in all. Consequently, specialization was not on the agenda. For professional photographers, publishing and illustrating were a sideline and most of their income came from their portrait studio; the sole – partial – exception Edmond Fierlants (1819-1869) is discussed below. As to subject matter in photographic illustrations, the pattern was already set: fine and applied art, topography and architecture were preponderant, especially linked to Belgian historic heritage, with a small number of items in the fields of biography, science and technology following up behind; the breakdown by category would remain uneven for the rest of the century.[25] The 1860s definitely marked the beginning of sustainable exploitation but at a low level; the competition coming from France was fierce and the price of photographic prints supplied by Belgian firms remained too high to make significant inroads into the market share for book illustration served by lithography.

The 1860s were characterized by a marked standardisation in materials, the use of *albumen* prints in a typically sepia tone printed from *collodium* 'wet-plate' glass negatives. Amongst the handful of photographers operating in Belgium who took the risk of launching a printing business after Radoux shut down his own firm, the name of Edmond Fierlants deserves to occupy pride of place. In a relatively short creative period – he died at the age of fifty after a professional career spanning twelve years – he established himself as the leading photographer of Belgian cultural heritage and publisher of his own photographs, in particular images of Early Netherlandish painting and the work of contemporary Belgian artists such as Antoine Wiertz. Scion of a well-to-do family – his father was a lawyer and one of the founders of the Université libre de Bruxelles – Fierlants started out as an amateur photographer while living in Paris in 1854 and was the only Belgian amongst the founding members of the Société française de photographie. Back in Brussels in 1858, Fierlants approached the government for financial support to photograph the splendours of Belgian heritage. Receiving a favourable opinion, he undertook a photographic campaign starting with the historic and monumental architecture of Bruges (1858) and then of Antwerp (1860). Two other missions received civic support – Brussels (1862-1864) and finally Louvain (1865). Fierlants established the Société belge de photographie in 1862, granted a royal warrant the next year, to market and distribute his stock, thereby consolidating his place as the country's leading photographer-publisher.

Fierlants exploited a nascent patriotism, reflecting the new Belgian state's concern with creating a coherent narrative of its cultural past. Fierlants set out his 'work programme' tinged with overt nationalism in a letter that he addressed to the interior minister Charles Rogier in 1860: "One of this century's finest discoveries, photography, has placed in our hands the means of preserving from the evil of destruction all those precious monuments which are the surviving embodiment of the minds of the men of genius who have exemplified our native land. Photography can now, rapidly and at modest cost, render this important service to the arts and industry, to historical science and to national glory. It can produce a catalogue, a living inventory, of all our artistic treasures."[26] Fierlants' own inventory, the only stock catalogue produced by a Belgian photographer in the nineteenth century, lists 1372 items [658]. Strangely enough, architectural subjects were sold only by the plate and not bound up into collections, in contrast to prints of art works which formed the basis of several publications, either under Fierlants' own imprint [188, 189, 190] or on commission from other publishers.[27] The first of these was a catalogue raisonné of the art collection amassed by Barthold Suermondt, a banker in Aix-la-Chapelle [093]. This marked the start of a short collaboration with the leading art critic and historian Théophile Thoré, writing under the pseudonym Wilhelm Bürger: "M. Suermondt had the good idea of having some of the most interesting paintings in his Gallery photographed, as well as several drawings in this collection. He quite naturally approached Monsieur Fierlants of Brussels, the skilled artist who has successfully copied works by Memling, van Eyck, Rubens, van Dyck and many other masterpieces of the two great Netherlandish schools. (…) As to the drawings, it goes without saying that Monsieur Fierlants' photographs are perfect; the paintings are generally excellent, which is not easy."[28] Of the 22 prints, 14 were of paintings. It was thanks to technical feats as this, photographing Old Master paintings directly from the canvases themselves rather than producing copy prints of interpretive engravings, that Fierlants' reputation grew. It led directly to a prestige publication, a set of prints taken of the collection of the fine arts museum in Antwerp [064]. Under the Muquardt imprint and with text once again by Wilhelm Bürger, *Le Musée d'Anvers* is one of the greatest Belgian photographically illustrated books, exceptional in its size and scope. The series, exhibited at the Industrial Arts Exhibition in Brussels in 1861 and at the Cercle Artistique the following year, consolidated Fierlants' pre-eminence

as an art photographer in Belgium and naturally featured prominently in the photographer's 1865 catalogue [Fig. 8].

In the same vein, in 1866 and 1867 and with government patronage, Fierlants photographed the total body of work created by Antoine Wiertz, from the artist's studio-cum-museum situated a stone's throw away from his own printing works in Ixelles. This commission resulted in two publications, one of which, *Musée Wiertz photographié*, in double elephant folio, is an accurate reflection of the gigantic canvasses bequeathed to the Belgian state and fated to hang in perpetuity in the very place they had been painted [191]. The prospectus reads: "This publication was begun during his lifetime by Wiertz himself, in extensive trials with Monsieur Fierlants. It contains the artist's portrait, 46 photographs of his works forming 36 plates on large-format bristol board, 1m03 x 0m70 and enclosed in a fine portfolio in Russian leather."[29] The other publication, *Oeuvre complet de Antoine Wiertz*, was produced in a handier quarto size and at the more affordable price of 100 (as against 600) francs [192]. It usually contains at least 62 plates only 50 of which are included in the table of contents – probably works which were deemed more seemly and less bloodthirsty, such as a set of sculptures representing the eras of humanity. Despite his professional reputation and government support, Fierlants was forced to bend to economic reality when, after several years of operating exclusively as a photographic printer and publisher, he opened a portrait studio for the public at large in late 1867, in order to generate extra income.

During the 1860s, the best known portrait studio in Brussels belonged to Louis Ghémar (1819-1873). Painter and lithographer, pupil of Paul Lauters, he demonstrated a strong inclination to portraiture and caricature. He began his career as a photographer in Belgium in 1854 and, as mentioned above, he made a widely disseminated portrait of King Leopold I to mark the silver jubilee of his accession in 1856. Ghémar re-used the same image nearly ten years later in his commemorative album *Funérailles de S.M. Léopold 1er, roi des belges et avènement de Léopold II au trône* [207]. The album contains two further portraits from life of the new king and queen as well as reproductions of paintings made with photo-montaged images by Ghémar himself featuring the ceremonies that marked this first transfer of power in the young constitutional monarchy. Throughout his career as a lithographer and photographer, Ghémar created playful self-portraits, as for his travel narrative through Switzerland [210] where he dramatizes

his dual profession of photographer sitting astride his camera and of artist sketching the mountain scenery [Fig. 9]. Ghémar benefited more than most from the explosive rise of portable photographs, measuring a standard 9 x 6 cm, known as *cartes de visite*, in the early 1860s. His portraits of the royal family and home-grown or visiting celebrities sold in their hundreds if not thousands. Like many another major photographer, Ghémar undertook specific commissions in other fields, such as taking views of country houses [209] or making copies of art works [205, 206] (the latter also as publisher) but he brought out just one set of portraits in the size he had made his own. It is a 'portrait gallery' accompanied by biographies for twelve members of a socially progressive association that included the Belgian and Dutch kings and several leading Belgian and foreign politicians [384]. These portraits are quite typical of Ghémar's output. Despite the indication 'first series' on the title-page, it remained a one-off initiative.

A further publication that deserves attention, since it was unique of its kind in Europe, *Le Chimiste* was the first attempt at a popular scientific periodical to be photographically illustrated [108]. It was the brainchild of scientist and writer Henri Bergé who announced in the first issue in March 1865: "Each month we will publish an illustrated *supplement* featuring the photograph of a novel or important appliance used in chemistry or industrially. This *supplement* will form at the end of the year an atlas with 12 photographic plates."[30] The photographer entrusted with supplying the illustrations was Jean-Baptiste Daems (1837-1875), a rather inexperienced professional operating in Brussels. Very soon technical problems emerged; already by the second 'photographed supplement', an image taken by artificial light, the editor informed his readers that "Circumstances beyond Monsieur Daems' control have prevented him from printing the whole number of photographs ordered; subscribers will receive them as soon as they are ready."[31] It would seem that Daems was not equal to the task because, after the fifth photograph, Bergé completely abandoned illustrating his periodical with photographs in favour of engraved prints.

The conclusion to be drawn from the Belgian record in the field is that greater expertise and resources were still to be found elsewhere, in places where industrial techniques had reached a higher level and where national market size had attained a critical mass, enabling manufacturing costs to fall significantly. Logically, the best-known and commonest Belgian photographically illustrated book in the 1860s was fully conceived and realized

… in Britain. The publishing house of A.W. Bennett in London, specializing in 'photographic gift books' for the Christmas trade, sent the author Frederic Stephens on a tour of Belgium as beloved of summer visitors from Britain. On his return, Stephens wrote an account and informed the public: "In a tour which the author made last summer, he was accompanied by a photographer, Mr Baldwin Fleming (of the firm of Cundall & Fleming), whose duty it was to take pictures of the most important buildings."[32] And again: "[Stephens] enjoyed the great advantage of having Messrs. Cundall and Fleming, photographers, in his service; so that, while he is telling the dramatic history of a famous building, – say of Notre Dame of Antwerp, the Hotel de Ville of Brussels, the Maison des Bateliers of Ghent, the Bishop's Palace at Liège, – the reader has the edifice before his eyes."[33] The ensuing publication, the title of which *Flemish Relics* should be taken in a broader geographical sense, appeared for New Year 1866, illustrated with 15 albumen prints [400]. The book is not without technical flaws: the prints have faded to yellow and the glue used for mounting them has broken down, leading to the prints separating from their mounts, defects that may well have become apparent soon after printing.

The phenomenon of the initial appearance of photography in the book in Belgium, by separately mounting silver prints vulnerable to the vagaries of manufacturing and finishing, could not hide the simple fact that this was a stop-gap solution, above all faced with stiff competition from wood engraving and lithography, cheaper and more entrenched in Belgian publishing. Individual printing was labour-intensive hand work not amenable to large economies of scale, in contradistinction to traditional graphic processes. The Ghent-born photographic chemist Désiré Van Monckhoven (1834-1882), author of the most widely circulated French-language handbook on photography, had clearly identified the issue as early as 1856: "So far we only see an extremely small number of publications illustrated by photography. (…) To achieve [more], it is necessary to replace the silver salts used currently with cheaper substances, and finally ordinary prints with the printing press. In short, if heliographic engraving can make progress, the great issue of applying photography to art and science will be triumphantly resolved."[34]

Indeed, one of the country's largest lithographic printing firms acted in the 1860s to create a practical hybrid of lithography and photography as advocated by Van Monckhoven. Simonau & Toovey was a Brussels firm run by

two talented partners, an artist-lithographer Gustave Simonau (1810-1870) and his brother-in-law William Toovey (1821-1914), printer and technician [Fig. 10]. Simonau & Toovey applied a patent photolithography process to reproduce mechanically in printer's ink all the halftones of the photographic negative. Simonau & Toovey's prints are amongst the most successful examples of photomechanical printing of their period and their reputation spread well beyond Belgium. The first available patent in the field compatible with the planographic processes that the firm used prompted Simonau & Toovey to rapidly acquire a photomechanical capacity. Its source was unusual and far removed from the printing sector. Eduard Isaac Asser was a member of an influential family of lawyers in Amsterdam. One of the few Dutch amateur daguerreotypists, Asser had the attic in his townhouse converted into a studio. Elected to the Société française de photographie (SFP) in 1855, he showed his work at the first international photography exhibition held in Amsterdam the same year.[35] It is not known what induced this well-to-do lawyer to experiment in photolithography but Asser had made enough progress by 1859 to register a patent in three countries including Belgium[36] and thereby details of his process were revealed in the specialist press.[37]

Following negotiations conducted through Asser's son-in-law Édouard Mussche, a Brussels lawyer, Simonau & Toovey purchased rights to the Belgian patent on 21 December 1860.[38] The following May, at the next exhibition of the SFP, they exhibited five specimens of the process, two reproductions of engravings, two reproductions of paintings and an unidentified view from life.[39] The presence in particular of the print from life indicates some early proficiency in producing continuous tone reproductions under normal studio conditions. In the first phase of exploiting the process, from 1861 to mid-1863, Simonau & Toovey's output published in books and periodicals is for the most part in line, reproductions of artists' sketches and reprints of ancient engravings and texts. The very first reprint, a short sixteenth-century political text, contains a well-argued introduction explaining the novelty and advantages of its printing process: "This little book is a facsimile, mathematically the exact size of the original, reproducing it with perfect accuracy. (…) There is, in our opinion, a great future in this new application of photography combined with lithography. (…) The invention can most likely be improved. For letterpress and woodblock printing, we will one day use a process for relief printing, with proper metal plates. But the results achieved so far are not yet good enough. In the meantime, we

believe that photolithography must be employed, having achieved a level that demonstrates immense progress over earlier processes and which can already perform a great service in reproducing rare books, precious prints and important manuscripts. This publication is only a trial. If bibliophiles approve of it, we hope to copy a larger work by the same means."[40] Printed in 100 copies, the brochure contains a frontispiece portrait reproducing a painting – a rather primitive attempt at halftone photolithography.

In cases where the transfer process onto stone resulted in loss of visual information, it would have been simple to strengthen the image with manual retouching. One outstanding exception, the only series of images from life which can unequivocally be attributed to this early period, is an undated souvenir view book *Spa et ses environs*, published under the imprint of G. Engel in Spa and containing thirteen prints of the main sites in the eponymous spa town [386]. The images have an experimental appearance, grainy, most of the images printed in two tints, grey on bistre. The individual mounts are blindstamped 'EA', unique in the firm's output, indicating that Asser himself may have been involved in the printing or at least in quality control.

If the earliest commercial output was variable, this would explain why William Toovey set about improving Asser's process, efforts which came to fruition with a patent that he took out in 1863.[41] Toovey's improvements concerned using pressure for transferring the image to stone, whereby heavily applied force caused the bichromated gum particles to penetrate the stone and thus fix the image without the need for retouching or manual intervention. This enhancement paved the way for greater reliability in the printing process, a larger number of impressions per stone and therefore significant economies of scale.[42] The main advantage was gained in halftone reproductions, to compete against albumen prints, where Simonau & Toovey could stress the stability of photolithographic images compared to their commercial rivals' albumen prints, prone to fading. As a general rule, a series produced by photolithography would retail at about one-third the price of equivalent albumen prints. The longer the print-run, the greater the reduction in unit cost; hence, the very real incentive to extend the process to high-quality halftone impressions. The firm's price scale [Fig. 11] shows that Simonau & Toovey charged twenty to twenty-five percent more for prints in halftone than in line, a modest premium if we assume that the latter were competitive with trad-

itional lithographic impressions. It should also be noted that, by offering large format prints of up to 60 x 78 cm, the firm was positioning itself in the market for fine-art prints suitable for framing and display.

Toovey's improvements constituted a real breakthrough, commercially and aesthetically, bringing professional recognition and greater commercial opportunities. He exhibited at the SFP in 1863 and 1864, careful to credit Asser as the inventor[43] and at the Photographic Society of London in 1864 where he was awarded a medal for best photolithographs.[44] Toovey could now be confident that the firm's prints counted amongst the finest photomechanical work in Europe. He therefore sought further recognition by submitting a set of prints for the prestigious Grand Prix of the Duc de Luynes, a competition run by the SFP since 1856 for the best photomechanical process.[45] The prize was ultimately won by the Frenchman Alphonse Poitevin, the severely critical committee in its final report rejecting Toovey's submission as being too derivative of Asser's, while Asser's own claim was rejected as insufficiently distinct from Poitevin's original process.[46]

In Belgium, use of the process remained intermittent or occasional rather than common, as can be seen in a range of learned journals and regional publications [027, 080, 082, 196, 213]. Often an author or publisher would commission Simonau & Toovey to supply illustrations in a variety of planographic processes, lithographic and/or photolithographic. A typical example is *Tournai ancien et moderne* by A.F.J. Bozière [073]: amongst the nearly fifty litho and chromolitho illustrations, there are two views in photolithography from negatives taken by the author's brother-in-law, local professional photographer Louis Duchâtel (1811-after 1873). It is during this period that Simonau & Toovey's most notable collaboration flourished, with the art historian W.H.J. (James) Weale. The English-born and Bruges-based Weale shared with the two partners not only an Anglo-Belgian background and a family steeped in printing but also an interest in medieval art. His periodical *Le Beffroi*, which ran to four volumes between 1863 and 1873, was the first art-historical journal to provide a forum for serious archival research and scholarly criticism of early Flemish artistic heritage [055].[47] It was predominantly illustrated with photolithographs, most probably the first periodical in the world to use photomechanical illustrations so consistently. Weale organized a major exhibition of ecclesiastical art in Malines (Mechelen) in 1864, the most ambitious event yet held in the field.[48] Weale planned a photographically illustrated record

taken by the young photographer and photographic printer Joseph Maes (1838-1908), then operating out of Brussels. A first folio edition was published just months afterwards as *Album des objets d'art religieux du Moyen Age et de la Rennaissance exposés à Malines en 1864*, under Maes' imprint with fifty-seven albumen prints and priced at 200 francs [466]. A second edition appeared in 1866 under the title *Instrumenta Ecclesiastica. Choix d'objets d'art religieux du Moyen Age et de la Renaissance exposés à Malines en septembre 1864* bearing the Simonau & Toovey imprint and containing the same images in photolithography, at the more affordable price of 60 francs [467]. In his introduction, the author states: "We are very pleased that Mr W. Toovey's photolithographic process has enabled us to offer to the public this valuable collection at a price which places it within the means of our industrial schools, artists and manufacturers, even the most humble."[49] Obviously the concept of the book's affordability was utterly subjective in an era when skilled printshop workers – typesetters and press operators – could expect daily pay of 3 fr. 50c. for a ten-hour day.[50] For quality and sheer number of plates, this book constitutes a real feat of photographic illustration and is testament to Weale's commitment and to the talent of the printer-photographers. Whether for aesthetic reasons or their clients' pronounced conservatism, no other periodical employed the firm's photolithography to the extent of *Le Beffroi*, nor any publication as many halftone prints as Weale's work.

By the late 1860s, a persistent criticism directed at photolithography was its alleged failure to reproduce halftones satisfactorily. Sometimes unfounded criticism was laid directly at the door of Simonau & Toovey, despite strong evidence to the contrary in the public domain. One English commentator wrote: "Messrs Simonau & Toovey produced some promising results with halftone (…). The process by which they were produced was not stated; and as it has not come into use, we fear that some uncertainty in working it must exist."[51] This opinion was echoed locally: "Photolithography is very suitable for copying prints and old texts, handwriting and ink drawings, in a word, anything undertaken in line. As for the reproduction of photographs from life or paintings, the results achieved so far can only be described as test samples."[52] Just once, Toovey answered these critics with the force of wounded pride: "The practical degree of my invention can be judged by the hundred prints of various kinds exhibited at the 1867 international exhibition (…). This process is the best so far for producing halftones."[53]

But in a broader sense, and for all of Toovey's craftsmanship, his defence of the process may be seen as increasingly irrelevant. Photolithography had acquired a reputation for being a 'difficult' process and, although the firm had been exploiting it for the best part of a decade, the market for halftone photolithography had failed to expand decisively. To which must be added the threat of shrinking market share: from about 1868, local competition emerged. Charles Claesen (1829-1886), a Liège-based engraver and publisher, began marketing photolithographs in line of his own devising, breaching Simonau & Toovey's monopoly in Belgium. How the firm tried – and failed – to regain the initiative forms the next chapter in the development of photomechanical printing in Belgium.

Beginning in 1870, a year that registered the commercial introduction of two other processes in printer's ink, the *Woodburytype* or *photoglyptie* in French (process for obtaining *carbon* prints by moulding in a hydraulic press) and the *collotype*, also known as *heliotype* (planographic process that produced fine reticulation recreating the full tonal range of photographic images), the development of photomechanical printing processes began to take on a certain inevitability.

Walter B. Woodbury (1834-1885) registered the process that would bear his name in Belgium in 1865[54] and licensed it to Simonau & Toovey in 1869.[55] Over the next few years, the firm made strenuous efforts to commercialise the Woodburytype, issuing several series of reproductions of Renaissance and Baroque prints [165, 380, 387, 444] and publishing samples in the trade press [336, 483]. Timing was not on their side, however. By 1870, the era of collotype printing was about to dawn, a leaner and cheaper competitor that would eclipse other photomechanical halftone processes in all markets save for France and Great Britain. An informed comparison of the two processes found in favour of the collotype: "Not everybody is able to master the Woodbury process: it requires substantial and expensive equipment, a hydraulic press exerting an enormous force of 132,000 kg like Mr Toovey's! Heliography or the collotype appear alone able to meet the conditions required for simple, reliable and inexpensive use (…)."[56] Curiously, very few Woodburytypes other than after engravings were printed by the firm, perhaps hinting at difficulties in getting the complex gelatin-based process to perform effectively and reproduce halftones in the damp climate of Brussels. In any case, Simonau & Toovey

had backed the 'wrong' process, one that was too cost-intensive to offer a decent financial return in a market as small as Belgium's.

The firm's decline was gradual. Gustave Simonau died on 10 July 1870 and, for a while, his widow and brother-in-law kept the partnership afloat under the name Veuve Simonau & Toovey. They kept faith with photolithography, publishing their only known trade catalogue, composed entirely in the process to demonstrate its versatility, in January 1873 [587]. But within a year, Toovey had quit Brussels, returning to England, and the photomechanical side of the firm was allowed to run down. The business was ceded in 1877 to Henri Leys (born 1854), a jobbing printer who occasionally used the Asser/Toovey process for printing in line, in particular architectural drawings [469]. The Woodburytype machinery was quite possibly transferred to Joseph Maes' printing shop in Antwerp but unofficially since no licence was issued by the patent holder Woodbury. Maes seems to have intermittently exploited the process in the late 1870s, initially with some difficulty [256] then soon obtaining results of impressive quality [186, 366, 372] before ultimately abandoning it in turn around 1880. He also employed his own nomenclature for Woodburytype as well as carbon printing – '*photoautotypie*', perhaps to cover his tracks and hide the fact that he was operating the process without a licence. This was not the end of the story since the French firms of Goupil and Lemercier worked the process profitably throughout the 1870s and into the 1880s. They benefited from their larger home market and were probably able to undercut Belgian competition, both on price and by faster turn-around times. Thus Lemercier produced the prints which were the unique selling point of the most impressive photographically illustrated entertainment-interest magazine in Belgium of the 1870s, *Bruxelles-Théâtre* [078]. Its lay-out was slavishly modelled on *Paris-Théâtre*, which had first appeared a year earlier, in 1873. The front page of each weekly issue was decorated with an ornate lithographed theatre backdrop, the curtain of which opened to reveal a mounted portrait, mainly of actors and actresses, but also singers and composers. The magazine ran for three years from 1874, and was followed by several other periodicals in the same field, but of a very short life-span, some barely surviving a couple of issues [378, 379, 392].

The main beneficiary of the surge in photomechanical printing would be the talented and ambitious Joseph Maes [Fig. 12]. A native of Ghent, Maes moved to Brussels in late 1858 where at the same time as running

a portrait studio, 'his copies of paintings and works of art soon enjoyed considerable success'.[57] His first photographically illustrated books date to 1860, including a *de luxe* edition of *Histoire populaire de la Belgique* by Louis Hymans [239]. He moved permanently to Antwerp in 1866 and opened his first photomechanical printing studio there in 1870. Maes held a prominent position as a photographic printer-publisher for over thirty years, even as he maintained a double career in portrait photography: if there was an economic slowdown on the printing side, he could always fall back on his portrait business.

Maes had already demonstrated great technical proficiency in albumen printing, for instance in his prints for *Les chefs-d'œuvre du musée de Bruxelles* [262], a *de luxe* publication meant to present Old Master paintings in Brussels in a similar way to Fierlants' series for the Antwerp museum, in an edifice 'erected to the glory of our ancestors'. The author vaunted the results achieved by photography above those of engraving, in an era before orthochromatic plates: "Some masters cannot be interpreted by engraving. Even though certain colours, such as blues and reds, do not always print in their correct strength, an intelligent photographer, by special processes, will manage to give the right tonality of the most delicate and complex coloured paintings."[58] It was Maes, the ultimate technician, who worked hard to give the greatest degree of legibility to any subject or object; but it was Maes the ambitious young businessman, who was constantly on the look-out for new opportunities in the printing field.

It was around 1869 that Joseph Albert, a photographer in Munich, managed to make the collotype process workable for long print runs on a flat-bed press as used for lithography. The world of photographic printing immediately reacted with enthusiasm to the results he had achieved, which enabled the finest halftones to be copied. To generate income from the process, Albert gave lessons in his studio and marketed his know-how. This is the route whereby a technology crucial for the future of photographic publishing came to be transferred to Belgium, rather than by more conventional means such as a patent assignment. Gustave De Vylder (1824-1895), engineer and lecturer in photography, reported: "Monitoring all the advances in the art of photography in recent years, Monsieur Maes wanted one day to work a good system of printing in permanent ink. (…) He contacted a German photographer whose collotype prints enjoy great and justified renown in the world of arts. For communicating

the secrets of his process and granting the right to work it in Belgium, the German artist asked a large amount of money, which was not conceded. Monsieur Maes wanted to lower it by 20%, still a considerable sum, but this was rejected in turn and preliminary negotiations broken off. So Monsieur Maes, mustering all his energy, irritated perhaps at seeing his offer rejected, set to work."[59]

Despite the commentator's bias, we can detect in this explanation that Maes had visited Albert, acquiring a rudimentary knowledge of the process which he then proceeded to 'reinvent'. In this way he had the honour of introducing the collotype into Belgium. Maes may have had assistance, or at least support, from an unexpected quarter. In parallel, Désiré Van Monckhoven, with whom Maes had served his apprenticeship in photography in the 1850s, had also undertaken research to improve the process. In August 1870 he was able to reveal a detailed method for producing collotypes which could be used freely by anyone.[60] With the publication of Van Monckhoven's formulae, the collotype process was made available to any photographer or printer who wished to practise it. Despite a patent being issued to Ernest Edwards in April 1870 for a very similar process,[61] the collotype itself could be deemed a generic process and therefore in the public domain. Users of the process like Maes could feel immune from being sued or held financially liable for patent infringement.

The following year, De Vylder (who became the subject of one of Maes' first collotypes published in Belgium [084]) revisited Maes and gave an insight into operations. In the meanwhile, the studio had been fitted out with a lithographic steam press that Maes had himself modified to produce collotypes at full speed: "Monsieur Maes can print, on average, two hundred prints a day from a single plate, which constitutes, by general agreement, very rapid printing. The inventor has just published a price list for his permanent prints. (…) From a picture 18 x 24, printing directly onto heavy paper with wide margins, Monsieur Maes is asking: 65 francs for 100 prints, 300 francs for 500 prints, 500 francs for 1000 prints. It is thus hoped that the invention will quickly make its way and soon enter into serious production, for artistic copies and others, too often poorly duplicated when left to run-of-the-mill lithography."[62] An initial satisfactory solution had now been found to the problem of photographic reproduction. The link between photography and graphic printing processes, so strong in the case of photolithography, was much more tenuous with the widespread use

of collotype. From now on, photographers, just like professional printers before them, could autonomously acquire the necessary know-how and equipment for practising a technology which, by its relative simplicity and speed of execution, had the capacity to compete with lithography – a rival still in the ascendant.

Collotype spread at a steady pace within Belgium. Between 1871 and 1875, early adopters included Charles D'Hoy (1823-1892), a professional photographer in Ghent, the business partners Charles Alker (1838-1908) and Idesbald Chotteau (1847-1884), 'industrial photographers' in Brussels, the Liège publisher Charles Claesen and Alexandre de Blochouse (1821-1901), Fierlants' successor at the head of the Société royale belge de photographie, at Ixelles by Brussels. de Blochouse is the most intriguing case; a civil engineer by training before becoming Fierlants' business partner around 1865 and probable source of funding for the Société royale belge de photographie. After Fierlants died, the new 'managing director' initially envisaged following the same commercial policy as his predecessor, i.e. producing and marketing architectural views and reproductions of art works. But just then it was becoming obvious that his Brussels business could not hope to compete with major print suppliers, such as Adolphe Braun in Dornach, who stocked tens of thousands of negatives (including Belgian subjects) and ran a wholesale distribution network throughout Europe. From 1872 in fact, de Blochouse decided that his firm's future depended unequivocally on working photomechanical processes. To those critics who accused him of abandoning 'the artistic side', he offered an argument that brooked no contradiction. At a meeting of the Brussels section of his alumni association, de Blochouse showed several specimens of collotype and, after explaining how they were made, he stated: "Collotype prints cost a fifth of ordinary photographs."[63]

First among equals, Joseph Maes worked the collotype process for more than a quarter of a century, during which time he produced results of consistently high quality. Not content with being a printer, he expanded his professional activities, founding and editing a general literary magazine, *Revue Artistique*, which appeared for over six years from 1878 [366]. The first two years are photographically illustrated with Maes' own images, a period coinciding with Maes' tenure as editor, severed in June 1880. That year also saw the start of his decade-long partnership with the architect Jean-Jacques Van Ysendyck; together they created the most sustained photographic documentation of the architectural and material heritage of the

historical Low Countries undertaken in the nineteenth century, with Van Ysendyck as author, Maes as photographer, printer and publisher [450]. *Documents classés de l'art dans les Pays-Bas*, a huge series of folio plates with letterpress commentary on the mounts, covers the medieval, renaissance and baroque architecture and applied arts in Belgium and the Netherlands. The work comprises a total of 720 plates, initially issued in monthly parts. It is a triumph of Maes' workmanship as well as a low-key tribute to his predecessors, the *Officina Plantiniana* (he had illustrated the guidebook [372]), reproducing many initials and engravings drawn from works printed by the illustrious Antwerp firm.

Maes also expanded the subject matter of his publications, for instance creating a comprehensive photo-documentation of the World Fair held in Antwerp in 1894, arguably the greatest such event to take place in Belgium in the nineteenth century [284]. The memory of earlier exhibitions had been perpetuated by photography but the images tended to be static, almost monumental, studies of exhibition halls and stands devoid of life, the result of more cumbersome equipment as well as viewers' expectations; such is the case with the crisp full-plate collotypes printed by Ferdinand Fussen (born 1844) of the national exhibition held in Brussels to mark fifty years of Belgian independence in 1880 [231]. Through seven photographers' work, including by Maes himself, Antwerp in 1894 is presented, with its lively exhibits, as a dynamically expanding city, a hub of Belgian industry and showcase on the world. There was also live entertainment to photograph, attractions suffused with exoticism and colonialism, especially 'anthropological curiosities' and a human zoo, as well as an evocation of the city's own history in a reconstruction of its sixteenth-century incarnation of 'Old Antwerp'. The Luxembourg photographer and collotypist Charles Bernhoeft covered similar ground in his series on the exhibition [059] while another folio work, with collotypes by Lyon-Claesen, was devoted exclusively to the reconstruction of Antwerp's historical heyday [443].

The most noteworthy photo-reportage published in Belgium in this era was also under the Maes imprint [670]. On 6 September 1889, at about two o'clock in afternoon, Antwerp was rocked as if by an earthquake. A huge explosion had destroyed the Corvilain ammunitions factory and set nearby petrol tanks ablaze, flattening a whole neighbourhood and killing 95 people. An amateur photographer Ernest Huybrechts captured a snapshot of the column of smoke rising just seconds after the explosion while other local

photographers recorded the aftermath. The Association belge de Photographie decided to make a charitable gesture: "Our photography lovers were not the last to visit the midst of these ruins and cannot be accused, any more than their fellow citizens, of cold-hearted ghoulishness. Members of the Antwerp section, joining in the great spirit of charity that has possessed the whole Belgian nation, have decided to publish a superb album of the best photographs made of the devastated sites. The album, from the presses of Monsieur Maes, will be sold for the benefit of victims of the catastrophe."[64] A first print-run of 400 copies was ready for sale on 25 September and sold out within twenty-four hours; in all one thousand copies were printed and a net profit of 2357 francs, from income of 5000 francs, made over to the committee set up to channel aid to casualties' families.[65] Maes, the focus for printing and fund-raising, had been able to demonstrate many of the qualities that contributed to his professional success: ability to recognize and determination to exploit an opportunity, efficiency, respect for deadlines, working with partners in a team effort and pro-activity in the context of a professional association. By the time he advertised his printing shop rather creatively with collotype vignettes [Fig. 13], Maes could bask in over twenty-five years of achievement in collotype printing (now also called *photocollography*) and in his role as leading representative of Belgian photography.

The *Bulletin de l'Association belge de Photographie (BABPh)* occupies a key position in the study of the published photograph in Belgium during the final quarter of the nineteenth century, as it was the only Belgian periodical to systematically monitor technological innovations in the field of image printing. The idea of featuring specimen plates was raised at the journal's very inception: "Each issue of the *Bulletin* will contain a new and unpublished photograph, from a negative by one of the members of the Association. It will be printed by one or other of the photographic processes in use at the moment of publication, preferably by permanent processes."[66] Thanks to the dynamic policy pursued by the *BABPh*'s editors continuously up until the outbreak of the Great War, it is possible to follow the development of photomechanical illustration, study its practice and plot the pace of technological change via the different processes marketed and published in Belgium, between 1874 and the end of the century [Fig. 14]. The comparative dominance of the collotype process from 1875 to 1895 is incontestable and photolithography was subsumed into it for line work by 1880. However, the persistence of albumen prints and other manual processes is probably

downplayed, given the understandable bias of the *BABPh* editorship towards permanent and photomechanical processes. Nor can the rate of innovation as measured by the *BABPh*'s plates be easily extrapolated into technical literature (handbooks, etc.) as a whole, since so little was illustrated with specimen plates. The exceptions here are some editions of Van Monckhoven's *Traité* [610, 614-617] but with the caveat that the prints used in the 7th edition of 1880 were still being used in the 1884 and 1889 re-issues. Likewise, although the lecture by Joseph Giesen *La photographie au point de vue juridique* [546] is illustrated with a heterogeneous set of prints, the focus of the work is unrelated to printing processes and so no inferences may be drawn.

From now on albumen and other hand-mounted prints would be more or less limited to presentation albums, low print-runs and texts for private circulation. For instance, de Blochouse received a prestige order in 1875 in the area of public works and architecture, titled *Album photographique des maisons primées aux nouveaux boulevards à Bruxelles* [017]. Each of 20 albumen prints features an award-winning edifice, incentives aimed at promoting Parisian-style buildings along the brand new thoroughfares laid out in the centre of Brussels. But when it came to a reprint, it was decided to reproduce the series in collotype [039]. This second edition appeared under the Claesen imprint whose printing works had undergone the same transformation as the Société royale belge de photographie. In 1873 Claesen was still publishing a book of landscapes containing large-format albumen prints, picturesque views from life, the only one of its kind in Belgium [420]. But calling on a range of printing processes and responding to a growing demand for pattern books and reference material for builders and decorators, the firm was permanently converted into a 'specialised bookshop for architecture, furniture, decoration, fine arts' according to its title-page description, and operated as such until it was liquidated in 1898. The 1870s were characterized by restless experimentation in the field of graphic arts. A particular phenomenon was the enthusiasm kindled by an efflorescence of rival processes and their numerous variants. A part work was published from 1873 to 1877 that by its title *Recueil des restes de notre art national* echoes the search for an authentically 'Belgian' identity amongst the artefacts of bygone eras [113]. In a medley of printing processes, Charles Claesen lithographs mingle with halftone photolithographs and Woodburytypes produced by Simonau and Toovey, as well as collotypes on glossy paper strongly reminiscent of Ernest Edward's *heliotypes*,

printed by de Blochouse's firm under its short-lived alternative trade name of 'Établissement polygraphique'.

One niche sector for original prints was the auction catalogue, which seems to have been something of a Belgian speciality, to judge from the considerable number of titles, over forty, that appeared during the last thirty years of the century to serve a market that was particularly advanced in the fields of fine-arts and antiques. Whereas Ghémar, Maes and de Blochouse produced illustrations for them in the 1870s, a major supplier in the 1880s and 1890s was Alexandre, the trade name of Brussels-based studio and art photographer Albert-Édouard Drains (1855-1925). Commonly a catalogue would be produced in two states, non-illustrated and illustrated, the latter costing ten or even twenty times more than ordinary copies [176, 177]; the illustrated state would also sometimes be printed on fine paper with wide margins. The outstanding example of such a prestige publication is the catalogue of the Terme sale, held in Liège in May 1885 [410]. Antonin Terme was an arms dealer and antiques collector who founded the Institut archéologique liégeois. Terme housed his collection, strong in the applied arts and furniture of the eighteenth century, in his mansion, arranged by period and style, in order to recreate typical interiors of historical periods. Uniquely for Belgium, the photographs record the sale items *in situ*, disposed around his home. In contrast to auction catalogues, Belgian trade catalogues are a scarcer category. Bearing witness to a country in the throes of the industrial revolution, these trade catalogues were issued for industrial rather than consumer goods, such as the railway sector [390] and for military equipment [197]. The few titles recorded here do not do justice to the numbers that must have been published, since every photographic printer, from Radoux onwards, stressed the importance of such catalogues. For instance, Wilhelm Otto, who owned a collotype printing works in Düsseldorf, with a Brussels branch operational from 1884 to 1893, advertised prominently these 'industrial publications': "Illustrated catalogues for factories, machines, tools, foundry equipment, furnaces, etc., and in general for all industries."[67] Advertising photography, although recognized from the beginnings of the medium as a potential revenue-earner by many professional photographers, was ignored by the wider world at the time and thought unworthy of shelf space in public libraries. Consequently, in proportion to the amount of catalogues that must have been produced, a large number have since been lost to the historical record.

The potential of photography in the scientific field was recognized early in Belgium but practical applications were slow in coming. Following the failure of *Le Chimiste* in 1865, it was nearly two decades before photography re-emerged in the scientific press in Belgium. In the meantime the *BABPh* published an occasional image of scientific interest, most notably a photogravure of the moon taken by amateur astro- and micro-photographer Adolphe Neyt (1830-1892) at his private observatory in Ghent.[68] Overcoming the conservatism of an older generation more comfortable with traditional graphic illustration, a diverse group of younger scientists published significant papers in the 1880s illustrated by photography. They included the orthopedic surgeon Joseph Deschamps, clinician Gustave Gevaert, biologist Paul Héger, medical journalist Jules Vindevogel, and bacteriologist Émile Van Ermengem. For their respective studies on the surgical procedure of osteotomy [150] and treatment of spinal curvature [204], Deschamps and Gevaert chose albumen prints to depict patients who had been successfully treated, the latter work modelled on an Anglo-American photographically illustrated study on the same topic.[69] Héger and his assistant Dallemagne's *Études sur les caractères craniologiques d'une série d'assassins exécutés en Belgique* may strike us today as a peculiar mixture of phrenology and proto-eugenics [228]. Also surprising is the choice of photographic illustration, photogravures by the Evely process, the first Belgian intaglio process to be commercialized, as early as 1880. Léon Evely (1849-1927) had recently perfected his process and this was probably the first use of photomechanical printing in a medical thesis in Belgium. While it proved more suitable to printing in line, in particular for copying etchings by the likes of Félicien Rops and Odilon Redon, it was occasionally applied to halftone reproduction in Belgium throughout the 1880s. More conventional is the in-depth study of cancer treatment at the Institut Windelincx in Brussels by Jules Vindevogel, copiously illustrated with portraits of patients before and after undergoing surgery, printed in collotype by Wilhelm Otto [464]. Émile Van Ermengem, future professor of bacteriology at the University of Ghent, published his report *Recherches sur le microbe du choléra asiatique*, following research in the laboratory of pioneering microbiologist Robert Koch in Berlin [437]. It remains an important work on two counts: as a founding contribution to the epidemiology of cholera and for being the first extensive text published in Belgium to be illustrated with microphotographs. Van Ermengem chose to have his images of microbe cultures enlarged under the microscope reproduced in collotype. The printer was Émile Aubry (1829-

1900), a French lithographer, bookbinder and Communard who had settled in Brussels in 1873 and branched out into photomechanical printing around 1877. Van Ermengem also had a small number of copies of his report illustrated by the carbon process, since he found that some detail had been lost in the transfer to collotype: "All these photograms are reproduced without any retouching. (…) Because of their extremely faint colouring, [the two spirals] were barely visible on the negative to be collotyped. Silver or carbon-based positive prints show them well, as they do certain finer details, which processes in printer's ink have unfortunately failed to reproduce with all the desirable clarity."[70]

Other Belgian scientists drew attention to shortcomings in the processes employed in printing rather than argue for the superiority of photography for recording scientific phenomena, possibly because that argument had already been won. Dissatisfaction with the quality of collotype reproductions from microphotographs was not limited to local printers like Aubry. Édouard Van Beneden and his photographic collaborator Adolphe Neyt expressed their frustration in no uncertain terms at prints supplied by Bruckmann in Munich and the Autotype Company of London in a disclaimer tipped into the offprint of a research paper presented at the Académie royale de Belgique [421]: "We must regrettably note that the industrial process in printer's ink, used for copying our negatives, has not come up to expectations. The blacks are muddy and the halftones indistinct; the result is an overall lack of sharpness (…) unlike that obtained by printing in silver or even better by the carbon process; but, for a publication such as this, these processes are beyond our means."[71] Another pair of collaborators, Remy and Sugg, came up with a creative solution to the same dilemma [362]: "The photo-lithographic [sic] copies of our negatives, despite the care taken by the firm of Kühl and Co. of Frankfurt in their production, are unclear in certain details. We are making far superior silver prints available for bacteriologists."[72] Moving from the infinitely small to the extremely distant, no expressions of dissatisfaction greeted Joseph Maes' enlargements of images of the moon's surface taken at the Lick Observatory in California and edited by Wilhelm Prinz [355]. Only one fascicule was published in 1894 since the project failed to attract funding; Maes' double-plate prints, measuring 48 x 34 cm, are probably the largest collotypes ever produced in Belgium, the swan song of a process that would soon be swept away in a technological tidal wave.

It had been clear for some time where the next stage of innovation in photomechanical printing should logically occur. Insiders had been predicting it for decades – Toovey quoted above in 1861 or again the leading French expert in photomechanical printing Léon Vidal [615]. He foretold the future at a meeting of the Société photographique de Marseille in 1875, while reviewing some collotypes of Belgian origin: "Proofs in printer's ink (…) by Messieurs Maes of Antwerp, de Blochouse and D'Hoy, were placed on the table and examined by the company. It is certain that progress in this field is ever greater and soon the art of letterpress printing will be enriched with new methods enabling photography to be used for producing photo-typographic blocks that can be printed interspersed with text (…)."[73] Alexandre de Blochouse undoubtedly appreciated the potential of photogravure in relief since he experimented with it as far as exhibiting sample prints in 1880, without ever reaching the stage of commercializing the process. Implementing *halftone relief printing* would have meant completely refitting out his print shop at a time when the collotype was still expanding [Fig. 15] and the marketing opportunities for a new technology could be viewed as more theoretical than tangible. One perceptive critic concluded: "[de Blochouse] was perhaps unable to draw immediate advantage from it; but *noblesse oblige*, knowing how to make sacrifices for future success is essential."[74]

Future success would come from a different quarter, from printing firms that practised *zinc etching* or *gillotage*, a method for reproducing originals in line by transferring images to zinc and then etching them in relief, thereby dispensing with the wood-engraver. The resulting plates could be incorporated into letterpress plates and printed in a single pass, unlike photomechanical processes then in vogue which required separate printing. The first workable process applying a cross-line screen was patented by Georg Meisenbach in 1882 but did not have an immediate impact on the Belgian printing industry.[75] One of the local firms in this field was the Société Anonyme Les Arts Graphiques, a limited company founded in Brussels under the management of Henri Bogaerts (1841-1902). One of the firm's main activities was the confection and supply of etched blocks to illustrate magazines and it was only a small step to attempt expansion into printing from photographic originals, using a dot-matrix screen fine enough to reconstitute halftones in printer's ink. The first recorded halftones in a Belgian periodical are two portraits in *L'Illustration Européenne*, a weekly edited by Bogaerts, from early 1885. The first portrait was produced using a cross-