

A THEATRE OF GLA

David de Haan

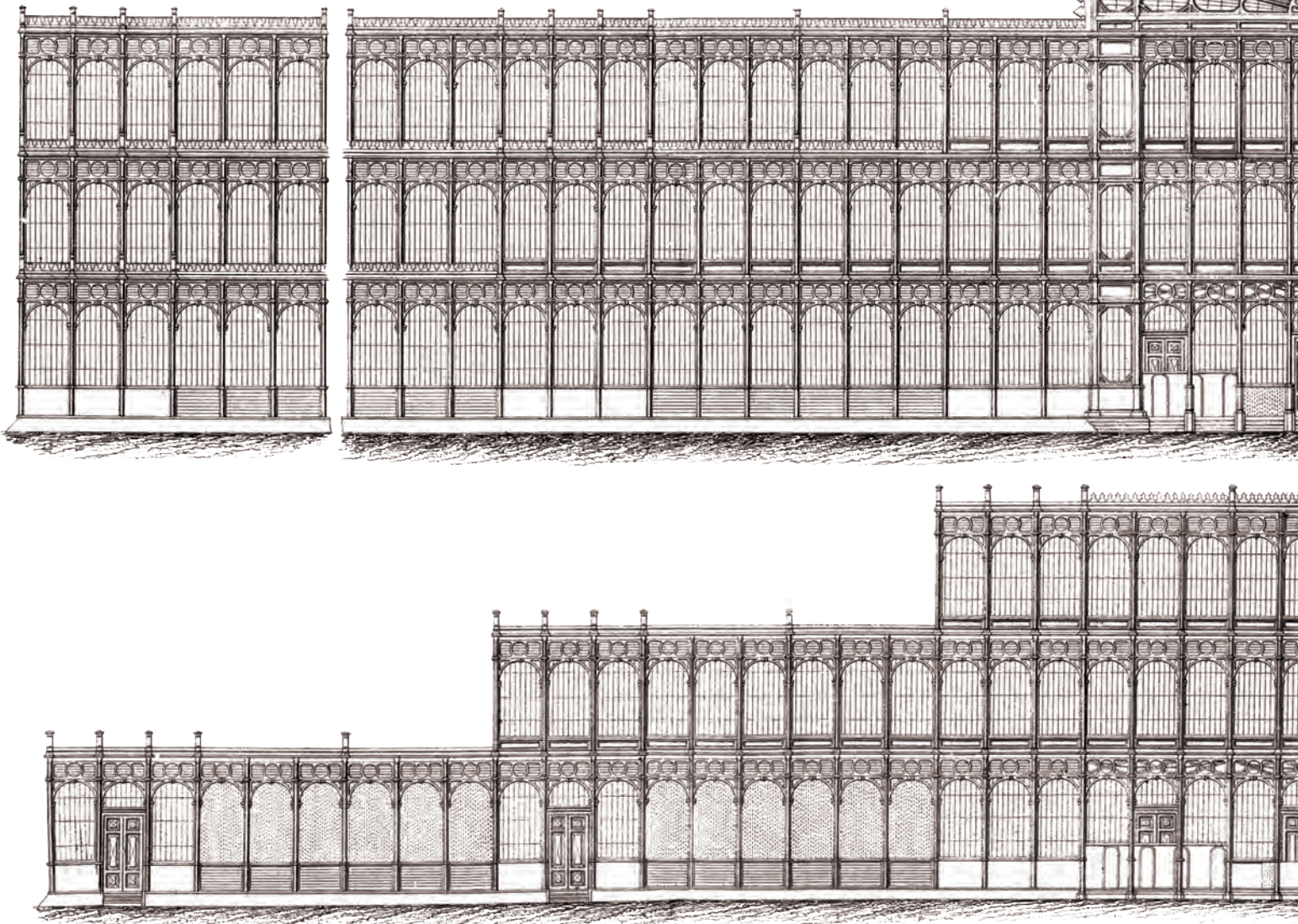
The idea of a national exhibition of Arts and Industry wasn't new. It goes back as far as 1789 in Geneva, 1790 in Hamburg, 1791 in Prague and 1798 in Paris. But those exhibitions were very small scale and only lasted for a few days. The French took it a little more seriously, holding eleven exhibitions of this type between 1801 and 1849 ranging from six days at the beginning to sixty days for the last one, but all of them were strictly national in scope.

What was different about 1851 in London was that it was international. Paris in 1849 had 4,494 exhibitors; London had over 14,000. In the UK the Royal Society of Arts (RSA) had held this type of national exhibition in London in 1828, 1832 and 1833, while Dublin had held such events every three years from 1834 to 1853, and Birmingham had one at Bingley Hall in 1849.

The driving force behind London's Great Exhibition was a handful of committee members of the RSA who responded in

1845 to a proposal by William Cooke (inventor of the electric telegraph) for a 'periodical Exhibition of Works of Industry'. The RSA Secretary, Henry Cole, reported this to their President, Prince Albert, who encouraged them to prepare a plan.

Fundraising began and included a pledge of £1,000 from Robert Stephenson, but the public were not responsive and few applicants put forward designs for a suitable temporary building. They had even proposed a site in Hyde Park. However, in May 1847 the RSA



ASS AND INDUSTRY

held a successful exhibition of British manufactures and decorative arts which drew 20,000 visitors to see 200 exhibits. The following year did even better, attracting 700 exhibits and over seven weeks they welcomed 73,000 visitors. In 1849 RSA member John Scott Russell proposed a large National Exhibition to be held in 1851.

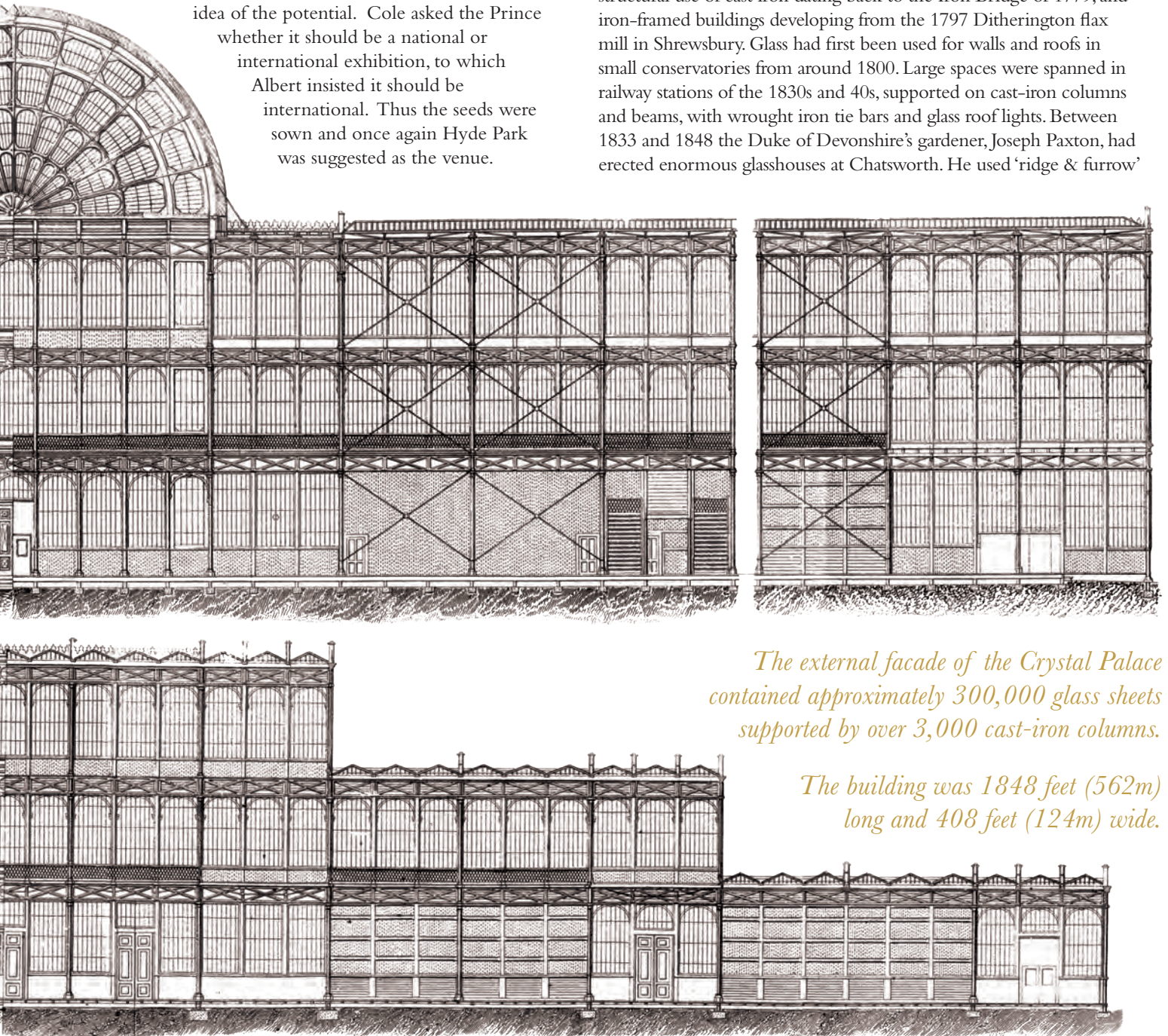
Prince Albert summoned Russell to the Palace on 20 June to elaborate the plan; Russell was accompanied by RSA committee members Henry Cole, Francis Fuller and Thomas Cubitt. Cole and Digby Wyatt had been to

the Paris exhibition that Spring so had a good idea of the potential. Cole asked the Prince whether it should be a national or international exhibition, to which Albert insisted it should be international. Thus the seeds were sown and once again Hyde Park was suggested as the venue.

A Royal Commission and a Design Competition

This time the nation's mood was better and the architectural competition for a building attracted 245 entries. It was also decided it would be privately funded from donations, fundraising events and dinners! No government money was forthcoming, but a Royal Commission was set up under the title of 'The Great Exhibition of the Works of Industry of All Nations, 1851'. The opening ceremony was to be Thursday 1 May 1851, with the closing ceremony on Wednesday 15 October.

The famous iron and glass building had a long pedigree, with the structural use of cast iron dating back to the Iron Bridge of 1779, and iron-framed buildings developing from the 1797 Ditherington flax mill in Shrewsbury. Glass had first been used for walls and roofs in small conservatories from around 1800. Large spaces were spanned in railway stations of the 1830s and 40s, supported on cast-iron columns and beams, with wrought iron tie bars and glass roof lights. Between 1833 and 1848 the Duke of Devonshire's gardener, Joseph Paxton, had erected enormous glasshouses at Chatsworth. He used 'ridge & furrow'



The external facade of the Crystal Palace contained approximately 300,000 glass sheets supported by over 3,000 cast-iron columns.

The building was 1848 feet (562m) long and 408 feet (124m) wide.

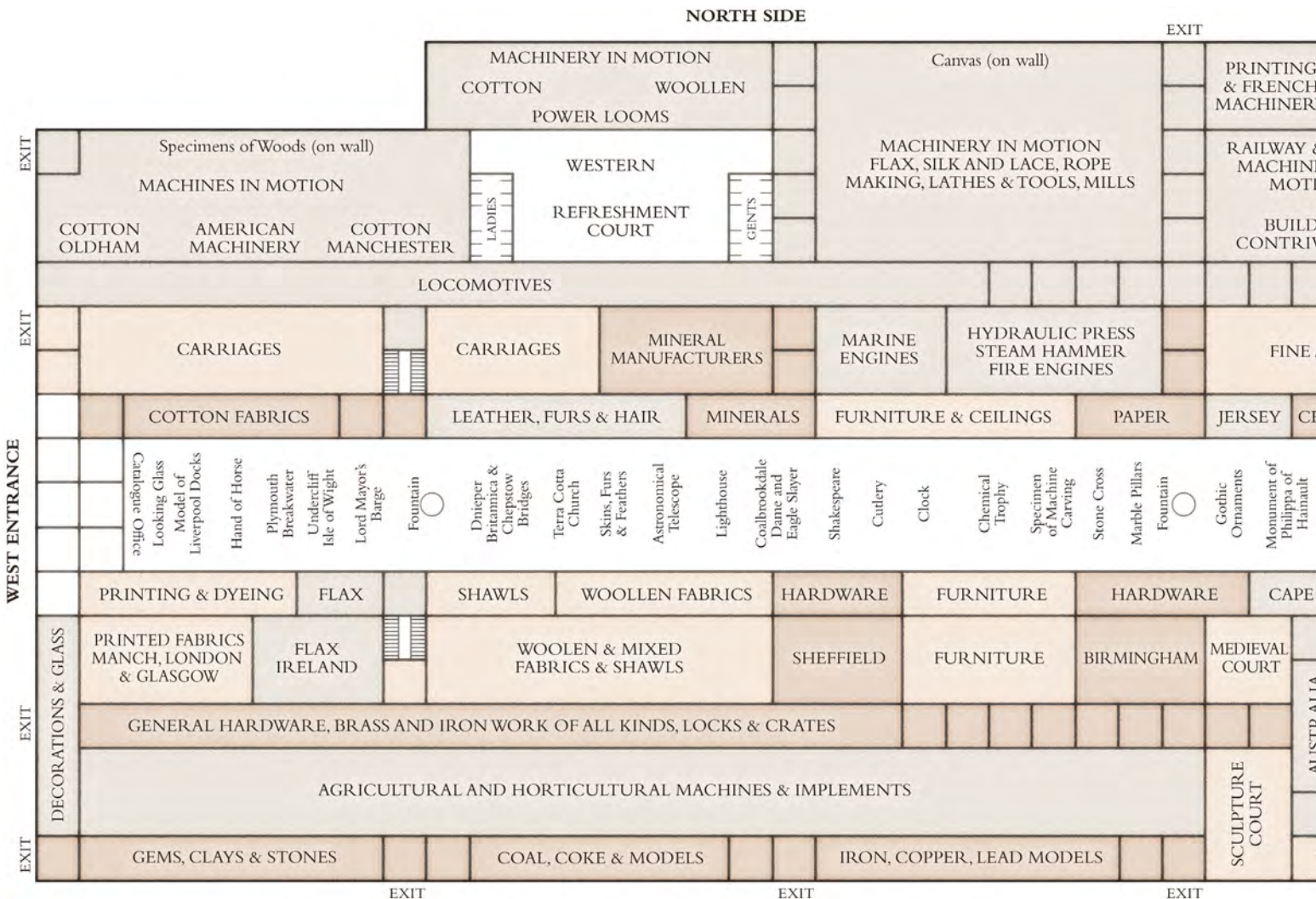
glazing with wooden sash bars and hollow cast-iron columns doubling as drainpipes, all of which reappeared in the Crystal Palace. Paxton knew Robert Lucas Chance of Bros in Birmingham who supplied the glass. A typical iron and glass roof was used in 1845 at Victoria Hunts Bank station, Manchester, built by Charles Fox of Fox Henderson who were based in Birmingham, and who would later become the contractor for the exhibition building. Paxton, as a director of the Midland Railway Company, knew Fox Henderson's work. And so iron, glass, designer and contractor all came together in the Midlands.

The Winning Design

Despite the large number of competition entries the Building Committee rejected them all and produced a much derided hybrid of their own. The public claimed that Hyde Park would be "turned into something between Wolverhampton and Greenwich Fair". Wolverhampton, with a population of only 50,000 was considered to be squalid and crowded; Greenwich Fair was a 3-day rowdy festival in London. However, Paxton doodled a sketch of a more suitable building on 11 June 1850 while at a Midland Railway board meeting. It was his Victoria Regina lily house of 1848 at Chatsworth which was to be his inspiration for the Crystal Palace. His proposal was published

in the *Illustrated London News* on 6 July 1850, though it had no transept at that stage. Nevertheless, the design won great public support. The central barrelled vault was suggested in the second week of July 1850 by John Henderson of Fox Henderson. Paxton's alternative proposal was submitted to the committee nine days before the deadline, strongly supported by four Commissioners – Robert Stephenson, Isambard Kingdom Brunel, Sir Robert Peel and Prince Albert, though the Building Committee did not like it. But Paxton had already got public support by publishing his design before it was seen by the Commissioners and they approved it on 15 July. He was then allowed only 11 days to supply all the detailed and costed drawings, which was done in time! Estimated at £150,000, it actually cost £170,000 to build (£20 million at today's prices). However, Fox Henderson offered to do the job for £79,800 and own the materials. They later sold them for £75,000 to be re-used for 1854 Exhibition, a contract they won. Paxton's plans were accepted.

Even by modern standards the pace of building was rapid. Just 15 days after the design was approved site work began, laying the foundations and column bases. On 14 September the first delivery of the 3,300 cast-iron columns arrived in London from Cochrane's foundry at Holly Hull in Dudley, coming by rail



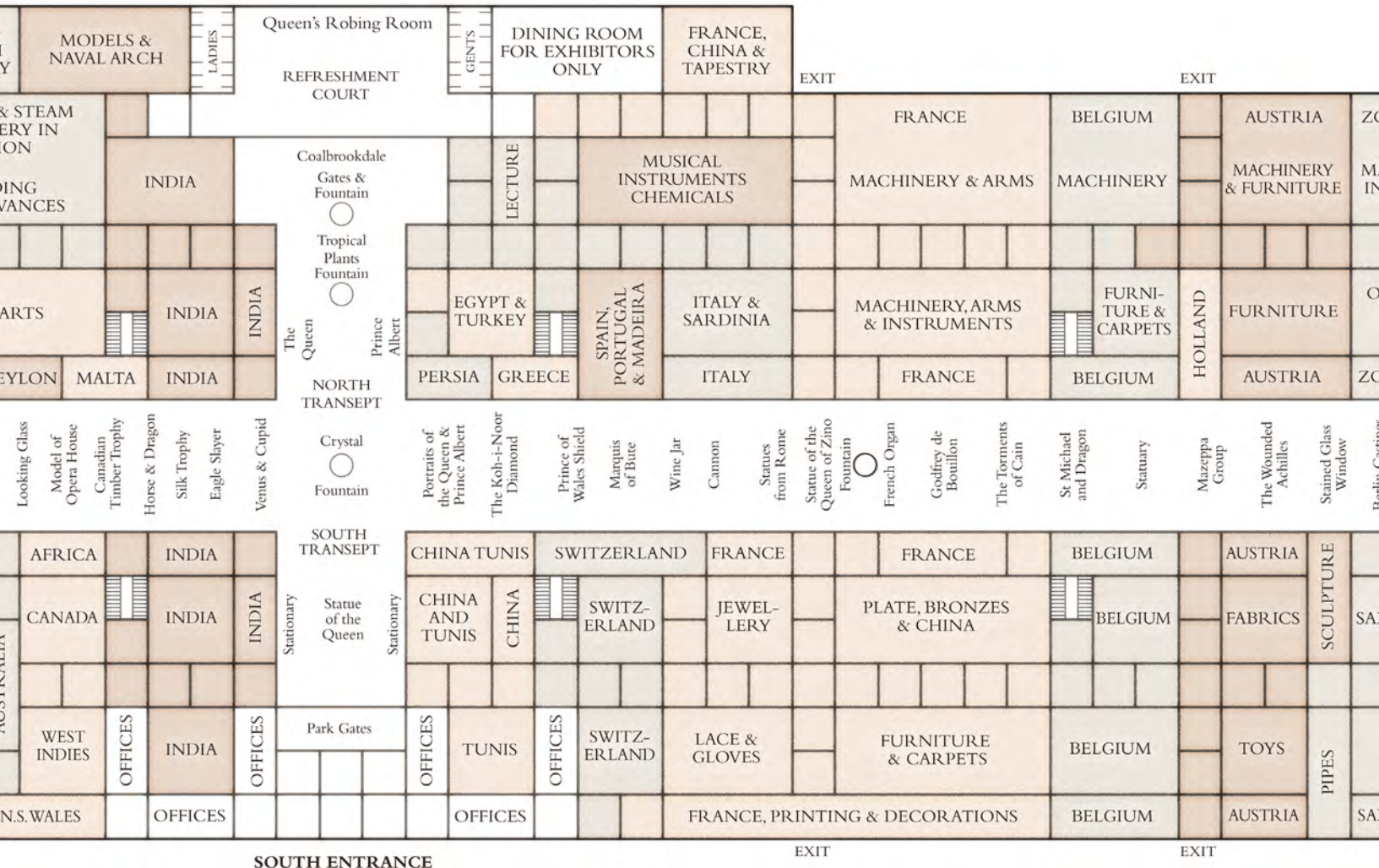
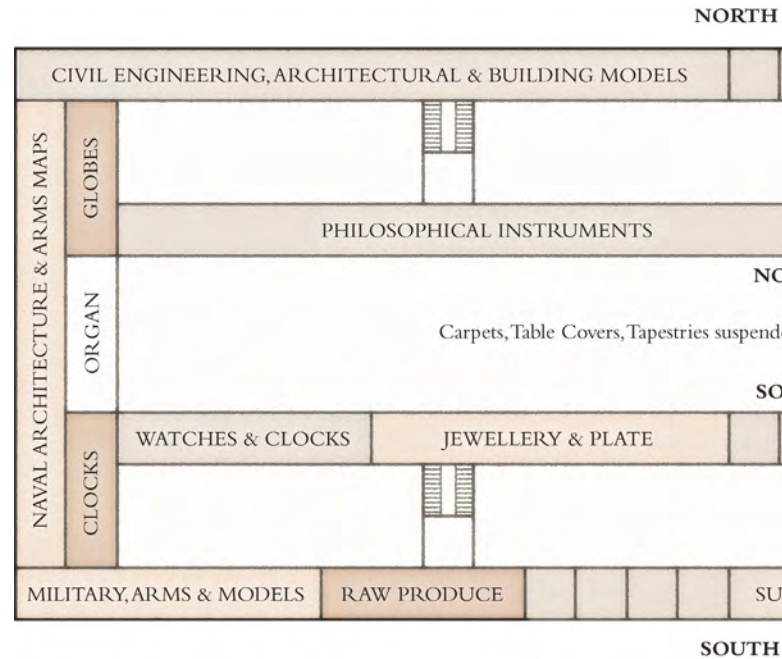
The building was divided into areas (spaces of 24 feet square, between 4 columns) which were marked at each corner of the square, and by numbers along the sides of the Building; these letters and numbers were marked on every column in the building in white characters at about 7 feet from the ground.

Right. The first-floor gallery displays.

Overall the Great Exhibition held over 100,000 items provided by nearly 14,000 exhibitors. Half were from Britain and its Empire and the other half from other countries.

Below. The ground floor of the Great Exhibition.

As well as displays from British, imperial and overseas countries, it contained refreshment courts and lavatories.



GALLERY

MUSICAL	ANATOMICAL	CUTLERY	ANIMAL & VEGETABLE MANUFACTURERS
MUSICAL INSTRUMENTS	GLASS, CHANDELIERS & DECORATIONS		CHINA

NORTH CENTRAL GALLERY

ed from the Girders in the Gallery and against the Wall of the Building

SOUTH CENTRAL GALLERY

LACE & EMBROIDERY		SILKS & SHAWLS	
SUBSTANCES, USED AS FOOD		CHEMICALS	

GALLERY

PAISLEY & SHAWLS	SILK	SILKS & SHAWLS
SHAWLS	TARTANS	HOSIERY

NORTH

POTTERY	ORGAN	FISHING	MISCELLANEOUS	STAINED GLASS
CHINA	CURTAINS	PERFUMERY & TOYS	WAX FLOWERS	ITA
CHINA	CHINA & POTTERY			

Two carpets & large Chandelier exhibited by Her Majesty

NORTH SIDE

OLLV	GENTS	REFRESHMENT ROOM				LADIES	WORKSHOP				
ACH-ERY	OPEN COURT	OPEN COURT				OPEN COURT					
CTAGON ROOM CHINA	HANSE TOWNS	MALACHITE VASES, CHINA		UNITED STATES MACHINERY							
OLLVEREIN	N. GERMANY	RUSSIA	UNITED STATES								
Amazon & Tiger	Bronzes	Bavarian Lion	Stuttgart Horses	Adam & Eve	Falls of Niagara	Block of Zinc 10,400 lbs	The Greek Slave	American Bridge	The Wounded Indian	Large Bell	Catalogue Office
ZOLLVEREIN	DENMARK	SWEDEN	UNITED STATES								
XONY	PRUSSIA FABRICS	ZOLLV	RUSSIA	MUSICAL INSTRUMENTS							
WURTEMBERG	PRUSSIA CLOTHS	PRUSSIA CLOTHS, HATS & CARPETS	RUSSIA	UNITED STATES RAW PRODUCE, OIL CLOTH & HARDWARE							
XONY	ZOLLV	RUSSIA	FRANCE		DECORATIONS & GLASS						

EXIT

EXIT

EAST ENTRANCE

EXIT

EXIT

SOUTH

PAISLEY & SHAWLS	SILK	SILKS & SHAWLS	TARTANS & HOSIERY	CLOTHING	FRANCE PRINT
SHAWLS	TARTANS	HOSIERY			

to Euston and then by Pickford's wagons to Hyde Park. Erection of the columns began on 26 September and six weeks later the glazing began, 293,655 panes of glass coming by the same route from Chance Brothers Glassworks at Spon Lane in Birmingham. Prior to this stage *Punch* had described the architectural style as 'Early English Shed', but once the glass began to twinkle in the sun *Punch* dubbed it 'Crystal Palace' and the name stuck. On 4 December the erection of the laminated timber arches of the Nave began, completed in one week. By March the building was finished though painting went on till 19 April, just 11 days before the opening. Digby Wyatt was the Superintendent of Architecture while Owen Jones as Superintendent of Works was responsible for the colour scheme. Only three serious accidents were reported during the entire construction process and only one of these was fatal. It had taken just 9½ months after approval of the plans! It was open to the public on 141 days, during which a total of 6,039,195 visitors passed through the turnstiles.

Similar exhibitions in temporary buildings followed in rapid succession with ones in New York and Dublin in 1853, Munich in 1854, Paris in 1855 with 4,162,350 visitors, and in London in 1862 with 6,211,000 visitors. The American Centennial Exhibition in Philadelphia in 1876 had 8,004,250 visitors, while somewhat later in Paris in 1889 (an exhibition that included the Eiffel Tower) the visitors numbered 27,722,000.

NORTH GALLERY

BRITISH		FRENCH		BELGIUM		AUSTRIAN & BRITISH				PRUSSIA		BAVARIA		BRITISH PAPERS	
														BRITISH	
LY				BELGIUM		AUSTRIA		ZOLLVEREIN		PRUSSIA		RUSSIA		ENGLAND	
NORTH CENTRAL GALLERY														WALL DECORATIONS	
Carpets, Table Covers, Tapestries suspended from the Girders in the Gallery and against the Wall of the Building															
SOUTH CENTRAL GALLERY														WALL DECORATIONS	
KS, VELVETS & LACE				AUSTRIA LACE & SILKS				ZOLLVEREIN MUSICAL INSTRUMENTS, SILKS & LINENS							
FRANCE				AUSTRIA											
TS, FLOWERS, LACE, LINEN, SILK & HARNESS						AUSTRIA				FURNITURE		FRANCE SURGICAL			
SOUTH GALLERY															

The Legacy

The building contract had cost £79,800; the fitting out, staffing and security, catalogue printing, medals, etc., had cost £255,942; total £335,742 (£40.3 million today). Nothing was allowed to be sold inside except guides and catalogues, refreshments, flowers and medals struck on a great press. Yet the receipts came to £522,179, a profit of £186,436, out of which came £5,000 to Paxton and a knighthood. The bulk went to purchase 87 acres of South Kensington and in 1890 a scholarship and grant scheme was set up. There had been no fee to exhibit, over 7,000 items had been selected by 330 local committees across Britain and £100,000-worth of them were presented to the nation. In 1852 the building was dismantled and rebuilding started in Sydenham.

Some of the original exhibits were shown in an exhibition of the 'Ornamental Art Collection' held in Marlborough House on the Mall near Buckingham Palace in 1852. In 1853 a permanent museum was opened in South Kensington which formed the nucleus of what was later to become the V&A and the Science Museum. The Commissioners developed the South Kensington estate which initially included a horticultural garden and exhibition galleries behind the 1862 Exhibition building where now stands the Natural History Museum. Other buildings included the Imperial Institute (now Imperial College), the Royal College of Arts, the Albert Hall and housing estates. The Albert Hall opened in 1871 and included a picture gallery running round the top of the gallery, with the main hall originally conceived as an exhibition space that might occasionally be used for music. New art schools were started all over the country to improve the teaching of design.

On a broader scale, excursion travel blossomed from the success of Thomas Cook's trips to the Great Exhibition; large public spaces like St Pancras Station of 1865 were covered using iron and glass; and trade exhibitions and Expos followed all over the world.

David de Haan recently retired Senior Curator and Director of Learning at the Ironbridge Gorge Museum Trust, and until 2012 Programme Director of the Ironbridge Institute, University of Birmingham.

Further Reading

Patrick Beaver, *The Crystal Palace, 1851-1936: a Portrait of Victorian Enterprise* (Hugh Evelyn Ltd. 1970).

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Hermione Hobhouse, *The Crystal Place and the Great Exhibition: Art, Science and Productive Industry: a History of the Royal Commission for the Exhibition of 1851* (A & C Black, 2002).

Kenneth Lockhurst, *The Story of Exhibitions* (The Studio Publications, 1951).

Robert Mallet, *The Record of the International Exhibition 1862* (W. MacKenzie, 1862)



WEST MIDLANDS
HISTORY
PEOPLE OF IDEAS, INNOVATION AND ENTERPRISE