

The Great Exhibition – A Common Format for Technological Sharing

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As far back as the mid-nineteenth century, exhibitions have been hosted around the globe, working to showcase the latest developments in technology, manufacturing, and inventions to the public at large. The most groundbreaking of these varied exhibitions are the World's Fairs, the first of which was held in London in 1851, at the tail end of England's Industrial Revolution. The first World's Fair, better known as the Great Exhibition, built upon smaller national and regional technological showcases, all of which worked to promote new technologies and garner public acceptance and support. These promotion ventures were necessary because there existed, and still exists, a time gap between when a new technology is initially released, and when it is widely accepted by the public at large. When innovations have positive medical or safety-related effects specifically, the consequences of not adopting them sooner could be problematic for overall public health and wellbeing. For example, new manufacturing technologies unveiled at the Great Exhibition, such as the precision steam hammer, were dramatically safer than those commonly in use at the time, making their widespread acceptance vital. Current innovators face similar challenges today. Autonomous vehicles, for instance, would greatly reduce or even eliminate deaths due to drunk driving accidents. However, there is current widespread public distrust of autonomous cars, with a score of 36/100 on JD Power's Mobility Confidence index survey (Mobility Pipe, 2019). That same survey uncovered that 66% of its respondents had minimal knowledge about autonomous vehicles, highlighting the public technological knowledge gap that promotion ventures seek to eliminate. The more widely innovators can get the word out about new technologies, the more quickly societies can reach full public acceptance of those felt to be widely beneficial. Since in our current cultural consciousness, the Great Exhibition has become something of an icon of successful technological promotion, this paper looks to examine the Great Exhibition's

successful encouragement of innovation in comparison to its predecessors, namely a series of French Expositions, so that the same strategies might be employed today, allowing for innovative engineering efforts to flourish.

Context

As previously mentioned, The Great Exhibition of the Works of Industry of All Nations was a historical event of unprecedented international technological sharing that seemingly succeeded across the board, becoming a “pre-eminent symbol of the Victorian age” (Auerbach, 1999, p. 1). From its custom-made venue, the 900,000 square foot Crystal Palace erected on a 26 acre site in London’s Hyde Park, to the sheer magnitude of its exhibitor, display, and visitor participation figures, the event was nothing if not monumental. In spite of anticipated financial losses, the Exhibition profited a staggering £186,437, (approximately £26,223,169 today) which was used to found the Victoria and Albert Museum, the Royal College of Art, and the Royal College of Music, along with London’s Natural History Museum and Science Center. Although there were precedents for technological exhibitions, primarily the French Expositions of the early 1800s, which hesitantly allowed British manufactures to be placed on display, none had previously embraced international cooperation to the same extent that the Great Exhibition did (Fay, 1951, p. 5).

The primary driving force behind the event itself was the Exhibition’s Royal Commission. The group was carefully crafted by Prince Albert, husband to Queen Victoria and driving mind behind the event, and Sir Henry Cole, who had coordinated numerous smaller exhibitions for the Royal Society for the Encouragement of Arts, Manufactures and Commerce (Hobhouse, 2002, p. 5). The commission, a group with fewer than two dozen members, had to be

delicately populated, in order to balance out those of differing viewpoints and levels of *de facto* political power (Auerbach, 1999, p. 27). Responsible for everything about the Exhibition, from the impartial judging of exhibits and the distribution of prizes to proper incorporation of foreign exhibits and the exhibition building's site and design, this group came to the decisions that eventually sculpted the event into its final form. Further analysis of the rationale behind the commission's decisions, and the various viewpoints represented therein, provides insight into the Exhibition's eventual technological sharing success, leading it to become the baseline template for all future World's Fairs.

While numerous books exist on the Great Exhibition of 1851, these consist primarily of historical accounts and details of how the Exhibition itself was created. Often, these resources present their evidence in a vacuum, making very little mention of predecessors to the Great Exhibition and differences in their development processes. One of these key forerunners was the series of French expositions, known as *l'Exposition Publique des Produits de l'Industrie Française* (Exposition of Products of French Industry). Initially opened in Paris in the year 1798, these expositions were influenced heavily by the effects of the French Revolution (Courtin, 2016). In fact, the initial idea for a festival paying homage to industry was conceived of by none other than Maximillian Robespierre. However, the idea was given legs four years after his death, by Minister of the Interior François de Neufchâteau. As a member of the French Executive Directory, Neufchâteau posed the idea of an industrial exposition as a celebration of the anniversary of the New Republic, quickly receiving support from all sides (Chandler, n.d.). The *Société d'Encouragement pour l'Industrie Nationale* (Society for Encouraging National Industry), an organization which emerged around the time of the second French exposition, played a continued and major role in the development of these expositions, and serves as an

excellent counterpoint to the Great Exhibition's Royal Commission. Examining the makeup of this society, too, and comparing it and its decision-making process to that of the Great Exhibition's Royal Commission serves as an interesting case study on how these two similar-sounding events were created in such different political climates.

Methods

By gathering primary source materials, largely official documents from committee meetings, complete pictures of the driving bodies behind each exhibition can be crafted, making careful comparison between the Great Exhibition's Royal Commission and that of the Exhibition of Products of French Industry. By examining the perspectives of these groups' founders, their respective sizes, planning decisions, and attitudes on various exhibition issues, the factors which had direct influence on the success or failure of each exhibition can be highlighted.

While information about the success of the Great Exhibition of 1851 is plentiful, the factors in particular that resulted in that success are not as clear. With the most pertinent factors identified and explored in detail, further insight into how exactly technological promotion can best be achieved may be gained. Knowing exactly what decisions were critical in the development of such a successful event allows for the possibility of mapping onto future such promotion ventures.

Findings and Discussion

In examining the committees behind the *Exposition Publique des Produits de l'Industrie Française* and the Great Exhibition of the Works of Industry of all Nations, it is of immense importance to take into account those individuals and governments who worked to initially found each. While the autonomy and decision-making of committee members is not to be

underestimated, governmental authorities and overseers of these groups can be seen to influence and sculpt both committees and the paths they choose to take. Through analysis of the government at the time of each exhibition, taking into account its leaders, coupled with analysis of the actual overseeing committees themselves, further insight into each expo can be gained.

French Oversight

In the case of the Expositions of the Products of French Industry and the corresponding Society for the Encouraging of National Industry, France's governmental turmoil placed both under the jurisdiction of numerous rulers, both Royalist and Republican. While, on the surface, this makes their influences somewhat muddled, all of these governmental figures had one common aim – promoting French nationalism. With the French nation engaged in numerous conflicts and territorial disputes throughout the early 1800s, militaristic and nationalistic pride were staples that defined their expositions. Beginning with the very first Paris expo, nationalistic military influence was on full display. At its commencement, a formal procession of hundreds of French military personnel took place. Among them, however, marched the 110 technologists whose work was on display in the Exposition. According to Arthur Chandler, “[t]he visual effect of these marching manufacturers must have been to give them a status comparable to that of the infantry and cavalry: ‘Here are the industrial soldiers of France, men who supply the arsenal of war against the enemies of the Republic!’” (Chandler, n.d.). To the French governments who oversaw these expositions, technologists and their inventions were placed on display to attain this very effect – to show the strength of France as a nation.

Even as governments changed, with rulers executed and exiled, the Expositions of the Products of French Industry continued to take place, each time being requested by the new leader

of France. As if to establish their legitimacy as a new power, each leader would request that an exposition be held – an event showcasing the military and manufacturing prowess of France under their rule (Chandler, n.d.). The nationalistic and militaristic spectacle that was cultivated by the rulers of France proved one of the defining features of the expositions. The desired effect of heightening national pride is clearly one of the key reasons behind the almost total exclusion of international exhibits. With displays of stunning technology, all of French design and manufacture, public nationalism could be cultivated, providing new leaders with an appearance of legitimacy.

English Oversight

Unlike the situation in France, England's Great Exhibition was, by in large, sculpted by a singular man with a singular vision – Prince Albert. Having married Queen Victoria more than a decade before the event itself, Albert was a steady public figure and longtime patron of the arts and technologies. As the historical progenitor of the Great Exhibition, Albert's own beliefs and views on technology were inherent in the very notion of the event itself. He, being of German decent, was of the mind that technology wasn't something that was defined by the boundaries of the nations in which it developed. In Albert's belief, "whilst it appears an error to fix any limitation to the productions of machinery, science, and taste, which are of no country, but belong, as a whole, to the civilized world, particular advantage to British industry might be derived from placing it in fair competition with that of other nations" (as cited in Shears, 2017, p.19). While Albert's desire to bolster Britain's industry in particular is present, his overarching internationalism defined his thoughts on technological showcases.

Albert's ideas on social classes also bled into his vision for the Great Exhibition. As the president of the Society for the Improvement of the Condition of the Laboring Classes, he felt "sympathy and interest for that class of our community which has most of the toil, and least of the enjoyments, of this world" (as cited in Prince Consort, 1862, p. 87). His desire for social reform, too, is reflected in the longevity of the Great Exhibition. It ran from the 1st of May through the 15th of October, 1851, with its entry price decreasing down to only one shilling as the event continued. Evidently, the working classes of Britain were the target audience of these low-cost tickets, reflecting Albert's inclusivity and reform-mindedness.

French Committee

As previously mentioned, the official group behind the Expositions of Products of French Industry wasn't actually founded until after the first two expositions had taken place. This group, the *Société d'Encouragement pour l'Industrie Nationale* (Society for Encouraging National Industry), was created less than two weeks after the second exposition had concluded, coming into existence on October 4th, 1801. Modelled after the English Royal Society for the Encouragement of Arts, Manufactures and Commerce and led by French Minister for the Interior Jean-Antoine Chaptal, this group's mission was officially to "to revive the economy of the France" ("Histoire De La Société," n.d.). It should be noted, then, that the 270-subscriber Society for Encouraging National Industry was not a group solely focused on the creation and organization of French technological expositions ("Histoire De La Société," n.d.).

On the contrary, the Society was occupied with a number of essential duties, the foremost of which was to "fulfill a mission of appraising the inventions and discoveries submitted to them" ("Préserver Le Patrimoine," n.d.). This work took place in specialized committees, who

then collectively compiled and published their reports in a monthly Bulletin. By the mid-19th century, the Society's bulletin grew to be nearly 500 pages per year, having its scientific articles reprinted in numerous periodicals around the globe ("Préserver Le Patrimoine," n.d.).

English Committee

The Royal Commission of the Great Exhibition of the Works of Industry of All Nations was quite a unique group of men, officially announced on January 3rd, 1850. Prior to the formation of this full planning committee, however, a number of its members were already hard at work planning the general nature of the Great Exhibition. In addition to Prince Albert and Sir Henry Cole, with whom the idea of the Exhibition had originated, John Scott Russell, Francis Fuller, Sir William Cubitt, and Rt. Hon. H. Labouchere, M.P. aided in initial planning efforts to found the Great Exhibition (Gibbs-Smith, 1950, 36). It was this small group of men who set about crafting the larger commission, with Cole and Labouchere even working on Christmas Day of 1849 to forge the ideal group.

The Royal Commission as a whole was, as previously alluded to, moderately diverse, with general overall political leanings in the direction of reform and free trade. That said, however, the committee did feature members whose ideologies conflicted with those prevailing themes, with four protectionists and two opposed to franchise reform among its small set of members. It was heralded by *The Times* at the time of its inception for having “perfect impartiality” and “every shade of political opinion in the country, and every great interest in the state” (Auerbach, 1999, p. 29). Politics aside, many of the commission's members were, in fact, great manufacturers, designers, and engineers themselves, making them perfectly predisposed to the embracing of new technologies that defined the Exhibition.

Instead of acting as a singular body, the commission was instead divided into five committees, each of which featured members specifically suited to deal with that committee's specific genre of planning – be it finance or building construction. The goal in this organizational structure was for the overall commission to “remain above the fray surrounding particular disputes” (Aurbach, 1999, p. 32). In addition to this structure of subdivision greatly aiding in the overall success of the Royal Commission's planning ventures, each committee also featured outside “men of eminence in the particular pursuits most nearly connected with the subject of inquiry”.

In spite of its subdivided structure, the first major decision undertaken by the newly-formed Royal Commission, however, was one which involved all of its members. The topic of funding became a center-stage issue for the newly-formed commission, as a contract with the Munday family signed in early fall of 1849 came into the public eye via negative media to national outcry. This contract, signed before it was known whether the Exhibition would be viable on its own, stipulated that the Mundays would both fund and share in the profits of the Exhibition. Subsequent solicitation on the part of Cole and the other founding members determined that there was widespread support throughout England for the venture, from business leaders and technologists alike, and that funding could easily be acquired voluntarily from these groups. Amid huge news and public backlash, Albert and other top commissioners opted to cancel the contract, making the first major decision under the auspices of the commission to transform the Exhibition, through the nature of its funding, into a fully public event.

While the severing of its contract with the Mundays was a decision made not within a single committee, but by the commission as a whole, the subdivided nature of the commission came into the limelight as a result. The executive committee, in particular, specifically included a

member that was to serve as a representative of the Mundays' interests, making his presence superfluous. With his removal, the remaining executive committee members offered to tender their resignations "in the interest of giving the commissioners the opportunity to choose new executive officers" (Auerbach, 1999, p. 37). While the immediate implication of an entire committee offering to resign is of major dysfunction, the true motives of the committee members were to ensure the success of the Exhibition. While being in the executive leadership of an event of international spectacle and cooperation at an unheard of scale may have tempted others to cling to their power, which had just increased with the loss of a member, the members of the executive committee opted instead to entrust their fates to the commission as a whole. The delicate balance of each committee needed to be maintained for the Exhibition to succeed.

Further, the Royal Commission as a whole had been designed to serve as a central planning authority for the Exhibition, but not to dictate every community's involvement. Commissioners "approached every town and community in a similar manner", from "manufacturing and commercial urban areas" to those that were "predominantly agricultural" (Auerbach, 1999, p.55), with regard to the establishment of local committees. These local committees were to have a voice in the planning of the Exhibition, too, ensuring that all interests and those from all walks of life were appropriately represented in the Exhibition's development. Mirroring Albert's sentiments on inclusivity, the Royal Commission engaged in an ongoing dialogue with these committees throughout the months of exhibition planning, taking local interests into account. Further still, half of the Exhibition's funds came from outside London, furnished in part by these local committees (Auerbach, 1999, p.55). It was only with ideals of inclusiveness at the forefront of its agenda and power perfectly balanced that the Royal Commission prevailed in creating a historically revolutionary event.

Conclusion

Both the Great Exhibition of 1851 and the French Expositions shared the same common goal: promoting their country's industry. That said, the secondary goals of each couldn't have been more different. France's preoccupation with nationalism and military superiority left its expositions displaying technology outside of a larger global context. Further, the French Society for Encouraging National Industry was a group formed almost retroactively, with a plethora of aims and goals unrelated to exposition-planning on the forefront of its agenda. England, however, strove to place its technological developments in-context with those of the rest of the world, looking to ensure that citizens from all walks of life would be able to see the developments on display. With a dedicated Royal Commission, structured as to keep decision-making confined to individual committees, as to not bog down overall progress, the Great Exhibition of 1851 was able to fully embrace the spirit of technological sharing. It wasn't until 1889 – nearly four decades later – that France hosted an official World's Fair of its own.

While World's Fairs have continued on through today, the grand ideas of spectacle and showcase have not. Recent fairs have sported themes keyed to specific fields, making both exhibitor and public participation more limited in scope. However, recent pitches have suggested a return to the Great Exhibition's combination of public edification and education ("USA Reveals," 2018). For those looking into crafting these fairs, it seems only fitting that the Great Exhibition's planning structure, too, should be returned to. With full international inclusivity in exhibitors and monetary inclusivity in attendees, coupled with a delicately-crafted overseeing body, designed to accommodate stalls, arguments, and flexible problem-solving, future World's Fairs themselves have the potential to become Great Exhibitions.

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