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"A post occupancy Evaluation of the Holyrood Parliament Building"

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Introduction, Report Purpose and Methodology:

In September 2004 the Scottish Parliament began moving into its Holyrood building. During Fresher's week at the University of Edinburgh that year, many of the student political societies offered a tour of the building with a local MSP. On the tour I went on, I was told about the Parliament having one of the top three percentages of women serving in it in the world, that Parliament operates on "family hours" - meaning they try to get the MSPs (Members of the Scottish Parliament) home by the time their children are, and that some of the Parliament's goals were being open and accessible to the public and the press by broadcasting all of their sessions and allowing reporters to sit in on meetings. On 9 October 2004, the Queen came to Edinburgh to formally open the Holyrood Scottish Parliament Building.

A year and a half later, I was interning in the Parliament, where I was placed with Dr. Murray because she is a member of the Cross Party Group on Architecture and the Built Environment. Post Occupancy Evaluations of public buildings usually take place about a year after occupation of the building had begun, so this seemed like a perfect time for me, as an Architecture student, to undertake such an evaluation. The time ended up being less than ideal, due to a beam coming loose in the debating chamber during the period of evaluation. On the other hand, perhaps the reliability of the ceiling beams is something that should be taken into account during the evaluation of a building, and so this is discussed briefly later in this report.

The main purpose of a Post Occupancy Building Evaluation in architectural terms is to examine the outcomes of the design process. In layman's terms, this means to evaluate which parts of the design work well and which parts do not. Capitol Insight, an Australian firm specializing in Post Occupancy Evaluations, says such evaluations also "...are intended to highlight how development, procurement, delivery and commissioning processes might be improved in the future as well as identifying processes and techniques that are worth incorporating into future projects because of the benefits or outcomes gained." (Capitol Insight Website, "Post Occupancy Reviews/ Post Occupancy Evaluations, viewed 26 April 2006). The development, procurement, delivery, and commissioning process of the Holyrood Parliament Building were evaluated by Lord Fraser in *The Holyrood Inquiry*. So they will not be reevaluated in this report, although

some of the key findings from *The Holyrood Inquiry* will be summarized. Instead this report will focus on the building as it is today, and which parts are functioning well and which parts are not. Since it is unlikely that the Scottish Parliament will be building a new complex for itself anytime soon, these findings are not meant to be incorporated into future Parliamentary building projects, but are intended to be used to find ways that areas of the Holyrood building which are not functioning as well as expected can be improved within the existing complex.

In terms of doing a Post-Occupancy Evaluation of a Parliament building, there are few published guidelines, perhaps because Parliaments are built so seldom, so this report will use criteria adapted from various guidelines for public buildings in general. The Scottish Executive's *Scottish Public Finance Manual* of 2004 included a section on "Major Capitol Construction Works - Appraisal, Evaluation, and Major investment"; however it seems to focus more on the development, procurement, delivery, and commissioning processes (perhaps as a result of the *Holyrood Inquiry*) than an evaluation of the actual building once it is completed.

European Union Post Occupancy Evaluation methodologies are geared mostly toward hospital buildings and public health care buildings. The Scotland branch of World Wildlife Fund had a methodology for evaluating how "green" a building is that would be useful for any future post occupancy evaluations of the Holyrood Parliament building. Most Post Occupancy Evaluation methodologies for public buildings focus on school buildings. The National Clearinghouse for Educational Facilities website lists some of the better ones, including those used by the Organization for Economic Co-Operation and Development and California Department of Education. The Evaluation forms of the latter are included in the Appendices to this report. With some modification they could be used as a possible starting point for any future evaluations of the Holyrood Parliament Building.

" POST-OCCUPANCY REVIEW OF BUILDINGS AND THEIR ENGINEERING" or "PROBE" is a Post Occupancy Evaluation methodology put together by the UK Department of Environment, Transport and the Regions, the Chartered Institution of Building Service Engineers and a research team in 1995 for evaluating buildings in the public domain. The 14 main aspects of the methodology are 1.

Procurement route, 2. Design and construction, 3. Initial occupancy, 4. Occupant satisfaction, 5. Management perceptions, 6. Energy and water consumption, 7. Operation and management, 8. Maintenance and reliability, 9. Controls and controllability, 10. Design intentions, 11. Alterations made, 12. Benchmark comparisons, 13. Strengths and weaknesses, 14. Key messages. (2002, *Liber Quarterly*, 12, p.27) The *Holyrood Inquiry* covered areas 1, 2, and 10, and 11 in terms of alterations made to the original design intentions. This report will cover 3, 4, 10, 13, and 14 and some of 6, 7, 9, and 12.

These areas helped to shape the survey that Dr. Murray sent out on my behalf to all 129 MSPs and their staff members (about 350). A copy of the survey questions I asked is included in the appendices. I received responses from 10 MSPs and 10 staff members and was also able to conduct an interview with the Presiding Officer. However, due to the size and complexity of the building, it would take more than the 2 and a half months I was able to spend at Holyrood to cover all of these areas in depth and my first recommendation is that following on this report someone should undertake to evaluate the Holyrood Parliament Building in all of these areas more thoroughly.

Now that the methodology for my evaluation is established, let's move on to the results, first with a brief summarization of those findings in the Holyrood Inquiry that related to my evaluation, followed by my conclusions and recommendations.

The Development, Procurement, Design, Construction, Commissioning, Delivery, and Alteration Processes of the Holyrood Parliament Building: *The Holyrood Inquiry*

The Old Royal High School Complex had been earmarked to accommodate the Scottish Assembly had the 1979 referendum been successful. However, it was not, and the Scottish Constitutional Convention, which emerged from various pressure groups and political parties in 1989, was more focused on designing the Parliament as an institution rather than as a building. Once the 1997 referendum for a Scottish Parliament was successful, a Parliament building again became an issue. "The experience of 1979 may have played some part in the subsequent determination of the incoming Labour

administration in 1997 to ensure that its devolution proposals, including a building for the Parliament, were irreversibly established." (2004, *Holyrood Inquiry*, p. 9)

The Old Royal High complex was duly revisited and found to be unsuitable for the new Scottish Parliament. "Donald Dewar did not consider it appropriate to identify only a temporary location and leave the permanent location to the incoming Parliament. Those were matters for his judgment and decision he was entitled to take at that time." (2004, *Holyrood Inquiry*, p. 241) A long list of other sites was considered and narrowed down to a site at Haymarket on Morrison Street, a site in Leith adjacent to Victoria Quay, and the Holyrood Brewery site. From the Costings done in December 1997 the Old Royal High School site was calculated at £65 million plus fees and Vat, Leith at £59 million plus fees and VAT, Haymarket at £53 million plus fees, VAT and site acquisition costs; and Holyrood was estimated at £49.5 million plus fees, VAT, and site acquisition costs. (2004, *Holyrood Inquiry*, p. 45). Though four years late and 10 times over budget has become rhetoric often used in relation to the Holyrood Parliament building, it is clear from the numbers above that the Scottish Parliament Building, whether it was the result of remodeling an existing complex or a new building, could never have been done for 40 million and it was entirely too optimistic to hope that a building meeting the requirement of lasting for 100 years and accommodating the complex needs of a Parliament could be completely designed and built within three years of the site being selected. The Welsh Assembly building cost $\frac{1}{4}$ of what Holyrood did, but it also took over a year longer to build (the Welsh Assembly will be discussed more in the "benchmarks" section of this report).

Though Fraser refrained from commenting on whether the process used to select an Architect was illegal, on 19 March 2005 *Building Design* announced that the European Commission had issued a formal notice to the UK requesting further explanation of how the architect for Holyrood was chosen. The point of contention is that Enric Miralles, Bendetta Tagliabue (EMBT) and RMJM (Scotland) Ltd entered the competition as separate candidates, they were allowed to resubmit their bid as joint-candidates and EMBT/RMJM was chosen as the winning architect, even though the other entrants were not given the opportunity to resubmit their bids. The Commission accused the selection process of failing to "respect the principles of equal treatment and transparency" during

the competition (2005, *Building Design*, 1665, p.1). The Commission could have proceeded to the European Court of Justice after issuing such a notice, but so far it has not chosen to do so.

The building method chosen for the Holyrood Parliament Building was construction management. Construction management was explained to Fraser by Colin Carter of Gardiner & Theobald, an expert on construction management. In construction management, construction begins while the design is still being completed. Possible benefits of this arrangement are increased speed, the ability to reorganize the building's program fairly late in the construction process, control being retained by the design, and "...the relative ease with which individual non-performing trade package contractors can be removed." (2004, *Holyrood Inquiry*, p. 80). The main disadvantage of Construction management is that the building's price can not be fixed ahead of construction commencing because construction starts while the design is going on, which also means greater client risk. Other disadvantage are the complexity of trying to administer many different trade packages and the increased difficulty (when compared to traditional building methods) of managing delay and or other disruptions. Fraser concluded that "...the Scottish Office, while working to publicly declared fixed budgets and being highly 'risk-adverse', was preparing to follow a procurement route for which there could be no fixed budget and a high degree of risk would rest with the client." (2004, *Holyrood Inquiry* , p.243)

In the original Brief laying out the needs of the Parliament building and in its subsequent revisions put together by the civil service, the writers were often confused by the difference in meaning of "gross area" (the total amount of space occupied by a building), "net area" (the total amount of usual space in a building), and "balance area" (the circulation spaces of stairs, corridors, plant rooms, and void areas.) Early estimates by the Scottish Office had placed the total space requirements of the building at 15,000 m²; by the time the brief was released during the architectural competition that estimate had increased to 20,740 m² as a result of more space being required for staff than originally expected. In their bid EMBT/RMJM estimated the Parliament's space requirements at 27,610 m². At the time that the Scottish Office handed the Holyrood Parliament building over to the Scottish Parliament Corporate Body (SPCB) in June

1999, the gross area of the building was 23,214 m², the car park was 3,867 m², for a total gross area of 27,081 m². By 14 February 2000 the gross area of the building was 29,579 m², the car park was 1.731 m², and the total gross area was 31,310 m². (2004, *Holyrood Inquiry*, p. 136) Part of this space increase was driven by Parliamentary requirements and part of it was the result of the architect's design revisions.

In the debates held by the Scottish Parliament concerning the Holyrood building, MSPs seemed to focus more on comparing the building to the Old Royal High School and debating the site than on overseeing the Development, Procurement, Design, Construction, Commissioning, Delivery, and Alteration Processes of the Holyrood Parliament Building. All motions for a temporary halt to the Holyrood Parliament Building process to evaluate it also included the caveat of re-examining the Old Royal High School site. Donald Gorrie's motion in the debate of 17 June 1999 did this (2004, *Holyrood Inquiry*, p. 126) as did his motion in the 5 April 2000 debate (2004, *Holyrood Inquiry*, p. 161). If Donald Dewar "...did not want the new Parliament to spend its early year squabbling over the location or cost of a permanent home,... by following the course he did, he patently failed." (2004, *Holyrood Inquiry*, p.49) When Parliament did discuss the Holyrood building, MSP comments tended to focus more on their desire for a quality building to be completed quickly than on cost. The motion passed in the 21 June 2001 debate "...represented recognition by the Parliament for the first time that there were factors exerting an influence on the budget for the Project which meant it could not be contained within the cap of 195 million agreed in April 2000. As well as requiring the SPCB to report quarterly to the Parliament's Finance Committee, the motion directed the SPCB, through the HPG (Holyrood Progress Group) to work with the Design and Project Teams to complete the project without compromising quality" (2004, *Holyrood Inquiry*, p. 195). Quality, Speed, and Cost were repeatedly mentioned as the triumvirate of the new Scottish Parliament Building, but whenever those involved with the project - whether it was Scottish Office Civil Servants, the Scottish Parliament Corporate Body, on the Holyrood Progress Group - were forced to choose between quality, speed or cost, they inevitably chose one of the former.

This has resulted in a remarkable building, but some architects have criticized the building as being architecture for architecture's sake. After Holyrood won the Stirling

(the highest award for Architecture in the UK) Bob White, a *Building Design* columnist, spoke for many when he asked "...do the judges believe design can be separated from the building's delivery process?" (2005, *Building Design*, 1695, p.1). Sean Griffins, another columnist wrote "Those who bothered to visit it were, of course, completely won over. But what a story. Three years late, 10 times over budget, and tragically, seeing the death of both the architect and the first minister. Is this what it can take to achieve great architecture? And make no mistake, the Scottish Parliament is great architecture." (2005, *Building Design*, 1695, p.9). As one staff member responding to my survey wrote "I think that despite its architectural brilliance, it is completely dysfunctional and a nuisance." The rest of this report will attempt to analyze whether this great piece of architecture is also a workable building, and if any parts of it are not, what can be done to make them work.

Initial occupancy, Occupant satisfaction, Management perceptions, Energy and water consumption, Operation, Maintenance, Reliability and controllability;

At the time the Scottish Parliament began moving into the Holyrood Complex in September 2004, it was still being completed. A year and a half later, most of the kinks have been worked out, but there have still been problems. On 2 March 2006 a 3.725m oak beam came loose in the debating chamber. On the one hand, it shows how well balanced the engineering of the roof was so that the loss of one beam didn't threaten its structural stability. On the other hand, the beam shouldn't have come loose in the first place. As John Spencely, who conducted an inquiry into the construction of Holyrood in 2000, told *Building Design*, "There has been no progressive collapse. This is a very serious embarrassment to everyone concerned but catastrophe has not happened." (2006, *Building Design*, 1712, p.7).

Aside from the beam incident, occupants tended to overall be satisfied with the debating chamber. Ten MSPs and ten staff members responded to my survey. A majority responded quite favorably, using words like "Brilliant", "Stunning". "Outstanding",

"Impressive", "Character", and "Wow Factor". Even those who generally had unfavorable responses to the Holyrood complex generally found something complementary. One respondent wrote "I find it to be the only room in the whole building that was done acceptably." Intern Kendra Keller wrote "It shows that the Parliament is a place that actually functions, and still holds some grandeur". Only three flat-out declared they found it unacceptable. One of them called the debating chamber "an IKEA fan's wet dream" and said he was "not altogether convinced it will stand the test of time." Constituency Aide John Beare wrote "the ceiling is a mess of structure and lighting, far too busy, not unlike Jazz music, lots of action but going nowhere." Of those in the middle, most were satisfied but had a few complaints. Three commented that at times the room seemed too big, with one remarking about how empty it looked on TV. Jack Pringle, President of the Royal Institute of British Architects (RIBA) and a judge for the Stirling Prize, commented in *Architect's Journal's* Stirling Prize Edition, "I am concerned about the debating chamber. The arc of seats is less than 180 degrees, so none of the MSPs are looking at each other in debates. It's more like a lecture theatre." (2005, *Architect's Journal*, Number 13: Volume 222., p. 47)

The Holyrood Inquiry seemed to imply that the final shape of the debating chamber was a compromise between the half circle the SPCB wanted and the half oval Miralles preferred. When I asked Presiding Officer George Reid about this in an interview on 20 April 2006, he rejected the idea that the final shape was a compromise. He said he preferred a u-shape to the "banana shape" that the chamber ended up being, but that "site constraints" wouldn't allow it. "If it was too big" Reid said, "people couldn't have a dialogue. There's never once been a time when members were unable to have a dialogue". Unprompted, he added that the one area where the debating chamber was less than satisfactory is that speakers often didn't know whether to face the Presiding Officer or speak with their backs to him and address the Member's seats. He said that could be fixed by the sound engineers turning on the microphones as soon as someone rose to speak, so that the speaker's voice would project no matter where they spoke. That echoed another comment from survey, where an MSP wrote the chamber was "Not bad if they can fix the ventilation and sound". Intern Rachel Gallagher thought that the wall behind

where the Presiding Officer sits was "a bit bare" and another commented "the seats in the visitors' section are uncomfortable."

I didn't have enough time to include energy and water consumption to any great extent in my survey, but two MSPs and one staff member brought this issue up on their own. MSP Phil Gallie wrote "I suspect, despite all claims, it is not particularly environmentally friendly." The other MSP commented "The whole building is disgracefully un-green. Huge lengths of outside walls require more heating. 100s of lights in Chamber and Committee Rooms require lots of power." Parliamentary Aide Samuel McMillan remarked "Many offices in MSPs block now have fans, even though the SPCB originally ruled against giving out electric fans and wasting energy." When asked if Holyrood is as green as it should be, the Presiding Officer responded "It's Greenish, on a level with most public buildings in Europe" and remarked that there were some attempts at recycling water, but he didn't seem to feel that it had every been a goal to make the building entirely green, although there was a focus on making Holyrood sympathetic to its surroundings. *The Holyrood Inquiry* quoted from Miralles' vision given during the architect selection process as a building which "...sits in the land because it belongs to the land." (2004, *Holyrood Inquiry*, p. 63) *Building Design* columnist Ellis Woodman wrote Miralles' "...sought a quasi-mystical engagement between the new building and its volcanic landscape." (2005, *Building Design*, 1684, p.12-13) As for fans, Reid said the SPCB had ruled them out because there's "only four or five days in a whole year in Scotland where you really need a fan".

Just over half of respondents (11/20) found the building as easy to get around as it should be. Several commented on the fact that the building needs to be 'learnt', although some found that an attraction, and all of those who commented on this aspect felt the complex was quite easy to get around once it was learnt. Parliamentary Assistant Morag Dunbar wrote "To answer this you have to look at what each worker does in a day. I can speak for MSP staff only... You have over 500 staff working on the one site not in an unattractive tower block... From the MSP block, it is easy to go to the restaurant, coffee bar, SPICe [the Scottish Parliament Information Center], the Chamber Clerk's office. Queensberry House is easy to access." Some respondents said the exact opposite of each other, with McMillan writing it was "...fairly easy to get around considering it is quite a

big complex", while Keller felt Holyrood "takes quite a while to orient yourself completely, despite the relatively small size of the building." The latter was the only respondent who thought the Holyrood complex was small. Quite a few respondents used "maze-like" to describe the building and Beare and Intern James Wallace used the description of "rabbit warren." Of those respondents who offered suggestions for improvement, one MSP wrote "the lifts can be very congested at peak or rush hours". A few felt that signage around the building could be improved and one felt that the numbering of the committee rooms was "illogical". The Presiding Officer said "Holyrood is not a building, it is a village, a community" and felt that was reflected in the layout.

In terms of noise levels, most respondents felt they were okay, but almost all commented on the public lobby. As Dunbar pointed out, it is logical that the Public lobby "...is very noisy but then that is because it is full of members of the public and school groups". One staff member and one MSP felt the canteen is too noisy, but again that is probably because it is one of the meeting places of parliament. Four respondents pointed out that voices from conversations in the staff offices travel down the hallways of the MSP block, although McMillan thought "...noise is good for an office." About another area of the building, MSP Eleanor Scott wrote "...the division bell is very loud for those sitting under it!" referring to where her party's interns sit. For dealing with noise levels, the only thing I can think of is installing sound dampening materials, but I have to wonder if that could be done without compromising the integrity of the design. However, a material engineer at the University of Edinburgh was certain putting padding on the edges of the "thinking pods" (discussed later) was certain to break its lines; but after seeing this padding post-installation during my internship I have to conclude it hasn't compromised the design integrity of the thinking pods at all and probably no one except for an architect or engineer looking for it would even notice the padding. So it is probably possible that sound dampening materials could be installed as unobtrusively.

Almost as many respondents found the building too cold as found it too warm, but perhaps this can be explained by Lorna Bett's comment, "the heating is not consistent." Some of the problems with ventilation were discussed with fans, above. Most found ventilation levels fine and commented that they preferred opening windows for fresh air to using air conditioning. A few commented on the windows, with one staff member

writing that "windows won't stay open without paper being wedged in the hinges". Dunbar remarked that "it should be easier to get windows opened that are not manually operated" and added "No one seems to know who is responsible for opening windows or the fire doors to the garden. When they are opened is also inconsistent." In the office where I worked, the automatically operated vent/window above my desk didn't work. One MSP wrote "some rooms overheat with large numbers of people in them - passive ventilation system does not cope with this very well."

Most respondents felt that generally lighting levels were good, except for in the public lobby, which almost everyone felt was too dark. Knowing that architects often make entrances dark so as to set up contrast and make entering the light-filled parts of the building more dramatic, I asked the Presiding Officer if he felt this was what had happened with the lobby. He said that Miralles admired the effect of coming into the cool, dark lobbies of the monasteries in Spain, but that he might have been too influenced by that as it works better in a climate hotter than Scotland's. "We have plans to redesign the lighting levels in the public lobby." Reid stated, and added "No one thought we'd have heating, ventilation, and lighting levels figured out in only a year. We're about 95% there." Some respondents felt that lighting levels in general were too low, based upon the fact that the overhead lights are almost always turned on when people are using the committee rooms or office spaces. I don't know if that's necessarily a result of lighting levels being too low or just that in the electrified world most people develop an almost instinctual habit of turning on the lights whenever they walk into a room. I've done a few random walk-throughs of the MSP's tower to observe whether or not the overhead lights are on. Perhaps as a result of the natural light levels more people (an average of 6 out of 10 occupied offices) work with the overhead lights off than not. On all the other floors, more people work with the overhead lights on than not. Max Fordham, an environmental engineer and Stirling Prize Judge, stated in *Architect's Journal*, "The light levels are generally quite low, and that's fantastically important because when light levels are high, people automatically turn on the lights as it always feels lighter with the lights on than it does with the lights off. It's crucial that the electric lights are designed for a low light level because then the natural light is able to compete. And the natural lighting has been shoehorned in so that it's all naturally lit." (2005, *Architect's Journal*, Number 13:

Volume 222, p.48) Dunbar did find fault with the lighting in "the model room" of Queensberry house. They are often not on, she wrote, "...and often don't work with the switches. Maybe they are faulty."

The Holyrood Inquiry found Queensberry House to be the most expensive area of the building in terms of cost per m². "Nevertheless, the overall cost [£14 million] when viewed in light of the full cost of the project currently at £432 million, can be viewed as comparatively minor" (2004, *Holyrood Inquiry*, p. 220) Perhaps the cost per m² was what one MSP was thinking about when he responded to the survey question about Queensberry House being incorporated into the Holyrood complex with "Ok, but it should have been knocked down and a look-alike erected." Along the same vein, another MSP wrote that "It is a good but expensive use of an old building." In contrast, Dunbar commented about the incorporation of Queensberry House and the façade of the Canongate building, "I think it shows sensitivity to old buildings not proposing they be demolished like would have happened in the 1960's. Look at the mess of Princes Street and other parts of the Royal Mile". Whether people loved or hated Holyrood as a whole, apart from the cost, they all liked the inclusion of Queensberry House and the Cannongate building. One of Holyrood's detractors wrote "It's a pity they weren't repeated for the whole building...". MSP Jamie Stone felt that the façade of Queensberry House was fine, but that aesthetically the interior was a bit disappointing. Keller wrote Queensberry House and the Canongate facade "...make it seem like the city can grasp on and accept the building." Many felt that mix of old and new set each other off. Gallagher commented "I think it is innovative and interestingly symbolic of where this government came from." I asked the Presiding Officer if he felt the mix of Canongate, Queensberry House, and the Post-Modernist architecture of Holyrood allowed the complex to be in a sort of dialogue with the old and new parts of Edinburgh. He agreed and added that he liked the symbolism of Queensberry House and being in the house where the union with England was orchestrated. Reid said he felt "Holyrood is a building where Scotland gets its future from its past."

If the future is represented by the post-modernist mix of old and new architectural styles in Holyrood, then it's certainly a controversial future. In the survey I asked about one of the icons of modernism in the building; the thinking pod windows in the MSP's

offices, supposedly based on Sir Henry Raeburn's portrait *Rev. Robert Walker skating on Duddin*. Only four respondents said they disliked the thinking pods, but only 6 respondents said they'd used or seen the shelves in the thinking pod used and only two MSPs actually said they sat in them. One of them that does wrote "It works! I was a bit cynical about them at first." MSP Elaine Murray said she liked "the look of it", but didn't use it much, "...Visitors, especially kids, love it though," she wrote. A majority of respondents (14) said there was enough space in the MSP and staff offices, although Gallagher stated "...I find it odd that we all work together in these cubby holes". Almost everyone commented on the need for more storage space.

A majority (also 14) also felt there were enough toilets, but quite a few commented on the fact that there are more women's toilets than men's. It's well documented that the lines for women's toilets tends to be longer because women usually take more time in the toilets. I speculate the architects were conscious of this and designed accordingly. (This will be discussed again in the section on design intentions and key messages.) McMillan didn't think there were enough toilets for visitors. "For example," he wrote "in committee towers the toilets alternate between male/female on each floor, which means men or women (depending on the floor) have to be escorted to another floor for the bathroom."

Design intentions, Alterations made, Benchmark comparisons, Strengths and weaknesses, Key messages.

The White Paper published on 24 July 1997 included a section on "A Home fit for the Scottish Parliament." Some of the goals for the Scottish Parliament Building were:

10.2 The building the Scottish Parliament occupies must be of such quality, durability, and civic importance as to reflect the Parliament's status and operational needs; it must be secure but also accessible to all including people with special needs; it must promote modern and efficient ways of working and good environmental practice.

10.3 It will be an important symbol for Scotland. It should pay tribute to the country's past achievements and signal its future aspirations. It must be

flexible enough to accommodate changes over time in operational requirements. Quality and value for money are also key considerations.

10.4 The Accommodation must allow Scottish Parliamentarians and their staff to work efficiently harnessing the best of modern technology. People must be able to see and meet their elected representatives and to watch the Scottish Parliament in operation. Provision needs to be made to permit easy reporting and broadcasting of Parliamentary proceedings so that people throughout Scotland can be aware of its work and decisions." (2004, *Hollyrood Inquiry*, p. 17)

The Consultative Steering Group (CSG), which was set up after the 1997 referendum to design the actual Parliament, had four main goals for the Scottish Parliament: Power sharing between the people, the legislature, and the government; Accountability, with the executive accountable to Parliament and both accountable to the people; Accessibility, with open, responsive procedures for public participation; and a focus on Equal Opportunities (from a lecture by Professor David McCrone at the University of Edinburgh 24 January 2004). The Holyrood Building Steering Group consulted the CSG as it developed its brief for the Parliament building. The final goals for the Scottish Parliament building (listed below) show the influence of both the White Paper and the CSG.

"The building must be of such quality, durability, and civic importance as to reflect the Parliament's status and operational needs... the building presents the appointed design team with a unique opportunity to make a significant contribution to the design of this building which marks a milestone in Scotland's political history... The design should embody the image that Scotland has of itself with reference to both its past and its future. The building should be vested with the authority and the Scottish people's aspirations as a nation... the Architecture should reflect the social and economic culture of the nation as well as producing a building which will be a work of art in its own right. It should reflect the cultural dimensions of the country and be a place for the work of artists and designers in Scotland...the design should respect its historic surroundings, paying due regard to the significant adjacent buildings of the Palace of Holyrood House, Queensberry House, and the Canongate, but at the same time be a building which reflects the culture at the end of the century and the millennium. It will be the first landmark political building of the 21st Century. It should have a resonance of quality, durability, and civic importance of which the Scottish people can be proud... this project represents a wonderful opportunity for the Design Team to produce a landmark building reflecting the aspirations of Scotland as a nation, with a building of quality and value." (2004, *Hollyrood Inquiry*, p. 71-72)

The first question I asked in my survey was "Do you think the CSG's goal of the new parliament building being open and accessible to the public was taken into consideration during the design of the Holyrood Parliament Building?" A majority of 16 (8 MSPs and 8 staff members) responded yes. Four (2 MSPs and 2 staff) responded no. Dunbar summarized the feelings of the majority in how the social program is entwined with the architecture when she wrote "Anyone who has to use a wheelchair or has a walking difficulty can get anywhere in the building through using the lifts. The cash machine is at a height for a wheelchair and there are spaces in the chamber for MSPs and the public to take a wheelchair ramp leading down to the chamber floor. The Visitor desk in the public Lobby has a place where wheelchairs users can get direct access at an appropriate level. There are disabled loos through-out the building... Members of the public can attend the Chamber (225 seats) or Committees (varying number of public seats)... There are Braille signs throughout the building... Organizations get to hold exhibitions in the [Garden Lobby]". Of the few who felt this goal had not been taken into account, Keller felt this way because a lot of the building "is very restricted access". One MSP commented "Articulation between public and member sections is not good."

The follow-up question asked if the Holyrood Building actually did encourage the public to take an interest in the Scottish Parliament. An overwhelming majority (All ten of the MSPs and eight of the staff members) responded yes. Only two staff members answered no. Both a MSP and the Presiding Officer quoted the statistics of 30,000 school children and over half a million visitors in the first year alone. (According to the Scottish Parliament Information Centre, there have been 680,495 visitors to Parliament between September 2004 and the third week of March. Colin Baird, the Visitor's Services Supervisor, estimates there is an average of 8,000 to 10,000 visitors per week.)

Some felt that interest generated by the building was negative. McMillan wrote, "As it's completely over budget and had lots of bad press on the running costs, etc, then people are interested to see what all the money has been spent on." *Building Design* columnist Ellis Woodman wrote along the same vein "The scandal of its procurement and cost overruns damaged confidence in procuring radical architecture across the UK." (2005, *Building Design*, 1684, p.12-13) Of the staff members who responded in the

negative, one cited this as his reason. "I feel as though there has been so much warranted and unwarranted contempt towards this building, whether that be due to cost, faulty work, or distaste in construction design choice, that the Holyrood Building has discouraged the public to take anything from Parliament." Many MSPs acknowledged this, but felt visitors were won over once they had actually been to the building. Stone wrote "It's a very clever way -via admiration of the beauty of the building - of drawing people into politics itself." In his analysis of the *Scottish Social Attitude Survey* in his lecture of 24 January 2005, David McCrone, a professor at the University of Edinburgh, found that in 2003, about 45% of respondents felt the parliament should never have been built, about 45% said it was need and cost to much, and about 8% said it was worth it in the end. In 2005, 40% said it should never have been built, 49% it was needed but cost too much, and 9% said it was worth it in the end.

In terms of whether the CSG's goal of being open and accessible to the media had been taken into consideration during the design, again a majority of 18 (nine MSPs and nine staff members) thought it had been. One MSP and one staff member disagreed. The majority felt the evidence of the media being taken into consideration in the design was the fact that it included a tower specifically for media. Scott felt too much consideration had been given to the media. "We've bent over backwards to accommodate the media" she wrote. The one MSP who answered no to this question did so because "...some media complain about their accommodation."

When asked whether Holyrood had actually succeeded in being open and accessible to the media, a slightly smaller majority of 15 (7 MSPs and 8 Staff members) responded in the affirmative. Five (three MSPs and two staff members) responded in the negative. Some felt the relationship between individual MSPs and the media had improved since moving into Holyrood. Many cited the garden lobby as evidence of the success. One MSP wrote "...the best bit of the building was not specifically thought of as a media meeting place, but is has turned into that very thing, and is popular with all - originally a meeting place for the public and invited guests, the lobby is now for every one." The Presiding Officer denied that the Garden Lobby as a hub for the media was an unintended by-product of the design, instead claiming that since its inception it was meant to be "...the meeting place of the village.". Bett found this intimidating, "If there is

an event taking place in the garden lobby, the staff begins to remove tables and chairs and I have been asked on more than one occasion to let them move a table etc. It's embarrassing. I also hate having to pass the cameras." Other areas cited as informal meeting places were the coffee bar, staff restaurant, and (in the warmer months) the garden off the Garden Lobby. Dr. Murray commented that the "...issue of the Members' Bar and Restaurant which, although very pleasant, are not well used" still needs to be resolved.

Though I didn't evaluate the landscaping, Scott did bring it up in terms of the Garden off the lobby, pointing out that if the apple trees in the garden are Bramleys, they won't fruit unless two other varieties pollinate them. In terms of the landscaping being part of the design to attract the public to the Parliament area, skateboarders have been making use of it (2005, Alexander, p.1), though it's doubtful as to whether this has caused them to have a greater interest in the Parliament. It is, however, evidence of the Parliament and its landscaping serving as a meeting point for a vast range of Edinburgh community members.

The CSG's goals of openness, accessibility, and equal opportunity included an emphasis on encouraging women to become involved as Members of the Scottish Parliament. When asked whether they thought this had been considered during the design of the building, three MSPs and six staff members thought it had, citing the toilets (as mentioned earlier) and the Crèche (the nursery, discussed later.) If the architects knew that the Scottish Parliament (at least compared with Westminster) would have roughly equal numbers of women and men serving, and that there tend to be longer lines for women's toilet, the fact that there are more toilets for women than men could be taken as evidence that the architects were designing with the CSG's goals in mind. Three MSPs and one staff member disagreed, feeling that there wasn't any way to take the goals in relation to women into account during the design process. Four MSPs and three staff members created a third option, saying that it wasn't relevant, they didn't know, or they had no opinion. Some, in the words of Gallie, simply felt that "equality of provision is common in all public buildings these days."

As to whether the Holyrood Building could have an effect on the number of women serving in Parliament, only one MSP agreed. Five MSPs and 6 staff members

disagreed. Four MSPs and four staff members again created a third option, saying it wasn't relevant, they didn't know, or they had no opinion. Some felt that the simple fact of the Parliament being in Edinburgh, and therefore closer to home for MSPs than Westminster, might encourage more female MSPs (not to imply that only females have family concerns) to be involved. Others cited the family friendly working hours. This isn't something that can be directly observed in the building's design, but it could have influenced the emphasis on natural light in the design if it was assumed the Parliament would be meeting more during the day than at night. Again the Crèche facility (or nursery in American English) was mentioned. Holyrood is the only Parliament in Europe to have a Crèche. When asked about this, the Presiding Officer said that "It was always conceived that when people came to visit Parliament, attend a committee meeting, or give testimony, there would be a place for their children." The Crèche was originally only open to MSPs and staff members on an emergency basis, as MSPs and staff members were already given vouchers for childcare and it was assumed that since most MSPs weren't from the Edinburgh area they would prefer to leave their children in their home area instead of bringing them to Parliament. Due to the cyclical nature of when people come to Parliament, some days the Crèche is quite full and some days it is not and the crèche is now being opened up for use on a regular basis to MSPs, Parliament employees, service providers and members of the media working in the building (2006, Scottish Parliament press release). Reid also mentioned that involvement of Benedetti Tagliabue, Miralles' wife and design partner, in the Holyrood project. As a female architect, it is conceivable that she could have brought an awareness of designing for women to the project.

Other Parliaments logically provide the benchmarks for the Scottish Parliament. In the fall, in preparation for this internship, I visited the Welsh Assembly and the Westminster Parliament. The Welsh Assembly was still under construction during my visit, finishing even a year later than Holyrood. One respondent to my survey said she preferred the Welsh Assembly to the Scottish Parliament. although both buildings are post-modernist. The Welsh Assembly cost about £100 million. Holyrood cost £431 million, which came out to roughly £80 for every person living in Scotland. (2004, Slessor, p.48). Wales had a population of 2,903,085 in 2001 (2001, UK Government

Census Webpage), which puts the cost per capita at half of Scotland's. Then again, the Welsh Assembly building only includes a debating chamber and two committee rooms. All the other features of Scotland's Holyrood Parliament complex (other committee rooms, MSP offices, Centres etc.) are located in two other buildings, which the Welsh Parliament rents. Taken in those terms, the Welsh Assembly is more expensive. Murray thought it could be inferred from the Holyrood Inquiry that Holyrood as it stands now could have built for £250 million pounds if they'd had this design finished at the beginning of construction, but with all the hypotheticals, perhaps constantly redesigning throughout the construction phase is what it took to get the building as it stands now. The other Parliament I visited prior to beginning my survey was Westminster, which is in a completely different style and it certainly doesn't have an equal number of women's toilet's (or women MPs for that matter).

Over the Easter Recess I visited the Slovak National Parliament. The Slovak Parliament was started in the late 80's, before the fall of communism, when the Slovak Socialist Republic existed within the larger federation of Czechoslovakia; which could be compared to the Nation of Scotland existing within the larger United Kingdom today. For this reason the Slovak National Parliament building is much smaller than what was needed after the peaceful end of Communism (the Velvet Revolution in 1989) and the peaceful separation of the Czech and Slovak republics (the Velvet Divorce in 1993), when the Slovak Parliament became the Parliament of a Nation-State. There is not enough room for the members of the Slovak Parliament and their staff to have offices in the Parliament building and instead they spread throughout the Slovak Capitol (Bratislava). In contrast, Holyrood is able to accommodate the MSPs, their staff, several resource centres, the media, the debating chamber, and the restaurants all within one complex. It also appears to be flexible enough that the building could easily be adapted from the Parliament of Nation to the Parliament of a nation-state if indeed that ever were to happen (and this report takes no stance on whether that should happen or not).

The Holyrood Inquiry mentioned that the writers of the Holyrood brief had visited the Dresden State Parliament building, however I didn't have time to visit this building. The Reichstag in Berlin had also been referenced during the Holyrood brief process. I did happen to visit this building a year ago. Before Holyrood, the Reichstag was probably the

most well known post-modernist Parliament building in the world. (The most well known modernist Parliament is Jatiyo Sangsad Bhaban, the National Assembly Building of Bangladesh, designed by Louis I. Kahn). The essence of post-modernism is combining different architectural styles so that they comment on each other and the purpose a building is meant to serve. Architect Norman Foster combined neo-classicism with modernism in the remodeled Reichstag to express the hopes of a reunified Germany. Holyrood is meant to express the hopes of a devolved Scotland. Foster's goals for the Reichstag are remarkably similar to what Miralles and others have said about Holyrood and the Garden lobby.

" We conceived the Reichstag not as a sequestered chamber building, but rather as a gathering place... so on top of all these working levels, the public realm reasserts itself in the great roof terrace and a restaurant which Legislators, the press and members of the public can share." (Wikipedia Foundation Inc., "Reichstag", viewed 26 April 2006)

Again from the Stirling discussion about Holyrood in Architect's Journal, Pier Gough, Architect, broadcaster, and Stirling Judge, said, "...in the end, if you get a building like this right, it will pay for itself several times over, by allowing all the right decisions to be made in the future." (2005, Bridge, p.47)

Conclusion and Recommendations:

Almost everyone agree that large parts of the Development, Procurement, Design, Construction, Commissioning, Delivery, and Alteration Processes of the Holyrood Parliament Building were far from right, but in the areas this report was meant to evaluate (Occupant satisfaction, Operation, Maintenance, Reliability and controllability, Design intentions, Benchmark comparisons, Strengths and weaknesses, Key messages) I have to conclude that Holyrood got it mostly right. Though I have to stress that this report only beings to scratch the surface and should by no means be taken as definitive. In the hope that the weaknesses pointed out in the report can be rectified, the following recommendations are offered:

1. Following on this report, someone should undertake a more thorough Post Occupancy Evaluation of Holyrood.
2. The sound engineering in the Debating Chamber should be more carefully calibrated.
3. Hanging artwork or something of symbolic significance on the wall behind where the Presiding Officer sits in the Debating Chamber should be considered.
4. The Visitor's seats in the Debating Chamber should be made more comfortable.
5. Ways of making Holyrood more green should be investigated
6. By the debating chamber and conference rooms there are public and Member/Staff elevators. Encourage Members/Staff to use their elevators or the stairs to avoid congestion in the public elevators during peak hours.
7. Improve the signage around the building so it is more easy for new arrivals to understand how the different parts of the complex fit together
8. The Committee rooms are numbered in order of size, with 1 being the largest and 6 the smallest. However, this is absolutely no help when it comes to figuring where in the building a committee room actually is. Even though signs by the elevators state where each committee room is located, it might be wise to reconsider the logic behind how the committee rooms are numbered and renumber them.
9. Investigate the installation of sound dampening materials in some of the more noisy areas of Holyrood, such as the restaurant or the public lobby, but sound-dampening materials should not be installed if they would compromise the building's design integrity.
10. Investigate ways to make the windows that aren't manually operated more easy to open (such as making all windows manually operated). The manual windows were designed with a steel prop attached to them that works well, but in my walk through of the MSP's Block I discovered that some windows on the ground floor were missing this prop and had paper wedged in them to keep them open. Therefore, I recommend that all windows be inspected to make sure they have the prop and if the prop is missing it be installed.
11. Make it clear who is supposed to open the windows and fire doors to the garden and have these opened more consistently, particularly during the summer months.

12. As the Presiding Officer has already mentioned that the lighting in the public lobby will be redesigned, I will not recommend this but will instead commend him for being aware of the problem and taking action to rectify it.

13. The switches for the overhead lights and the lights in the model in the model room of Queensberry House do work, but the light for the model should be labeled.

14. Find a way to provide MSPs and their staff members more storage space in their office areas and make it clear to MSPs that the "steps" opposite the sitting area in the thinking pods can be used as shelves.

15. Since it is advisable to give women more toilets based upon the considerations listed earlier in this report, the number of women's and men's toilets in Holyrood should not be made completely equal but the numbers should be more balanced than they are at present.

16. Determine what type of apple trees are in the garden and if they need other varieties to pollinate them. Any future Post Occupancy Evaluations should also include a thorough investigation of how the landscaping is being used and if it is becoming a public hub of Edinburgh.

17. As the Crèche is already testing a scheme whereby MSPs, Parliament employees, service providers, and member of the media working in Holyrood can use it on a regular basis, I will not recommend this change but will instead commend the SPCB and the Crèche Advisory Board for recognizing this should be changed and doing so.

Lastly, I would like to thank all those MSPs and Staff members who contributed to this report.

Submitted 1 May 2006
to The University of Edinburgh
and Dr. Elaine Murray, MSP

Submitted 22 May 2006
to The University of Minnesota

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Dr. Elaine Murray, MSP for Dumfries, and member, Cross Party Group, Architecture and the Built Environment
George Reid, MSP for Ochil, and Presiding Officer, Scottish Parliament, since 2003 (includes duties of convener of Scottish Parliament Corporate Body and convener of Parliamentary Bureau; Deputy Presiding Officer since 1999; member of Steering Group for Scottish Parliament prior to that)
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James Wallace, Intern for Dr. Elaine Murray
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Appendix A:

1. Do you think that the Consultative Steering Group (CSG)'s goal of the new parliament building being open and accessible to the public was taken into consideration during the design of the Holyrood Parliament Building?

Yes / No

Comments:

2. Do you feel that the Holyrood Building encourages the public to take an interest in the Scottish Parliament?

Yes / No

Comments:

3. Do you think that the CSG's goal of being open and accessible to the media was taken in to consideration during the design of the Holyrood Building?

Yes / No

Comments:

4. Do you feel that the Holyrood Parliament Building has had any effect on how accessible MSPs are to the Media?

Yes / No

Comments:

5. The CSG's goal of an increase in the number of women (compared to previous parliaments) in the Scottish Parliament was taken into account during the design of the Holyrood Building?

Agree Disagree

Comments

6. The Holyrood Building does have an effect on the number of women serving in the Scottish Parliament.

Agree Disagree

Comments:

7. What do you think of the overall layout - meaning how different functions are divided into different areas and how these areas interact - of the Holyrood building? Do you think the Holyrood Building is as easy to get around as it should be?

8. Are Heating, Ventilation, and lighting levels adequate in all areas of the building? Do you think any areas of the building are noisier than they should be?

> Heating:

> Ventilation:

> Lighting:

> Noise:

9. Aside from the beam incident, what do you think of the debating chamber?

10. What do you think about Queensberry House and the facade of the Canongate Building being incorporated in the new Parliament building?

11. What do you think of the "thinking pods" and other modernist elements in the new areas of the Parliament Building?

12. Do you feel that you and your staff have enough space? If Yes, why? If no, do you have suggestions for improving the space?

13. Do you think there are an adequate amount of toilets for MSPs, staff and visitors?

Yes / no

Comments:

14. Do you have any other comments you'd like to share about the Holyrood Building not covered in any of the other questions?

Appendix B:
High School Post Occupancy Evaluation (POE) Form,
California Department of Education

Appendix C:
Maps and evaluations of Holyrood