Reading the Pym Extension

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John Smylie, architect and member of INTBAU Ireland, takes a brief look back at one of Northern Ireland's best known Modern Movement works: the 1971 extension to the Ulster Museum in Belfast, designed by Modernist architect Francis Pym, and finds a project which has its strengths and weaknesses.

In his 2007 television documentary series "How We Built Britain", David Dimbleby described the aesthetic quality of the new Scottish Parliament Building in Edinburgh as less attractive externally than internally. It is arguable that the 1963 Pym extension to the Ulster Museum in Belfast could be described as the reverse of this: strong externally but perhaps disappointing internally.

Image above: The Ulster Museum (by Wynne) prior to the Pym extension.

Externally, the original Francis Pym extension to the 1920's neo-classical Wynne building is, in overall visio-structural terms, quite a convincing-looking contrivance. The elevations of the building present to the observer what might well be a stack of huge, dense blocks of concrete of varying sizes and alignments which jut in and out, with relative overhangs that are more corbelled than cantilevered. Just as brick courses can incrementally project in a traditional wall under their own self-weight, here, it may be argued, it is similar - except done in concrete and on quite a giant scale. This is not to say that the building actually consists of a stack of huge, dense blocks – it doesn't. But it is how it appears to the observer and so therefore one must assume that it is how it wishes to be read.

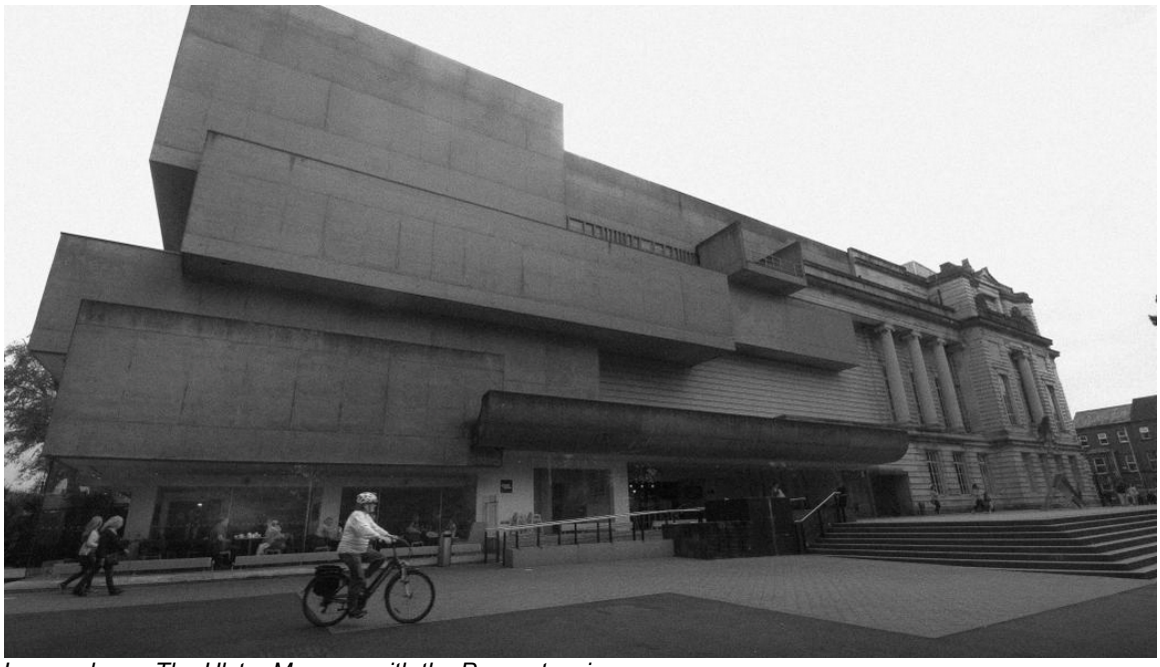

Image above: The Ulster Museum with the Pym extension.

An alternative reading of the external façade is of the whole extension existing as single 'stone' from which its simple block-like geometrical composition has been carved out. Indeed, its gradual blending with the Wynne neo-classical building suggests that the latter may possibly have emerged from the same block but having been tooled to a more detailed and intricate level. Certainly, the grey concrete finish of the Pym extension matches quite well with the Portland stone of the Wynne building. In this way, the whole might remind one of a half-finished sculpture – reminiscent of, say, Michelangelo's Rondanini Pieta.

For both readings, contrary to the views of some observers, the overall visual effect of the exterior of Pym's addition is, in fact, of a restful composition: if what appear to be massive blocks of concrete were indeed just that, then there is no reason for the eye to doubt the viability or stability of the overall structure. Concrete is essentially reconstituted or artificial stone, and it behaves like stone: strong in compression, with limited ability to perform in tension. The arrangement of the large, overlapping blocks does not disturb the visual senses. It does not come across as a precarious or impossible composition, as all protrusions or overhangs are, relatively speaking, of a limited dimension. This apparent 'firmness' of structure, to use a Vitruvian term, provides the Pym extension with a rather profound gravitas, a real architectonic quality that, in this sense, is in harmony with the equally restful stone-upon-stone construction of the original Wynne building.

One very satisfying detail of the Pym structure is to be found on the main entrance elevation where the entablature of the Wynne building is continued into the extension zone and then appears to be supported (with an architectural wink) beyond the last Ionic column by one of the large concrete 'corbels'.

Overall, the strength of the Pym extension lies in the fact that the façade material that is presented externally, in this case concrete, appears to perform broadly in accordance with the structural characteristics, including limitations, of that material.

But there are problem areas.

Some elements depart from this discipline, especially on the main entrance elevation of the extension. For example, a relatively large and horizontal area of glazing has been introduced at third floor level and this has the effect of leaving a significant part of one of the largest concrete 'blocks' apparently corbelling off a weak glass partition, with the result that the façade here feels visually unresolved. Glazing could have been successfully introduced if done in smaller openings and some of the large 'blocks' had been arranged to act as spanning 'lintels'. In these instances, the architectonic power of the building is weakened and the overall visual concept that is so strong elsewhere is compromised.

And it could be argued that the most disappointing element of all is the cantilevered entrance canopy on the main elevation of the extension. Here, as with many Modernist (and indeed contemporary neo-Modernist) buildings, concrete is forced to act unnaturally, to defy as opposed to express its innate structural characteristics, to take on a feigned ability to be able to perform under enormous tensile forces. The actual structure of the canopy, of course, is reliant upon hidden steel reinforcement within the concrete. But the 'apparent structure', which is what the eye reads because it is what is presented, is lacking in architectonic quality as it is left to fight against the natural force of gravity. It is akin to the unsatisfactory sensation that would be created if, say, some of the columns of the Pantheon were removed and in their place sufficient hidden support was introduced into to the famous entablature and pediment.

Of course, the designer of the extension most probably believed in the structural and indeed plastic properties of the then very fashionable material of 'reinforced concrete' and did not intend his museum extension to be read as a concrete structure, but as a reinforced concrete structure. Such a belief in reinforced concrete as a homogeneous material in its own right was common throughout the 20th Century and is indeed surprisingly very much alive today. However, many now recognize the truth of the matter is that reinforced concrete is not a construction material at all, but two construction materials - one visible (concrete) and the other hidden (steel reinforcement), and that the honest expression of this combo can never be achieved as the steel element (along with the significant structural contribution that it makes) must by definition remain concealed from view. Reinforced concrete designs invariably present concrete as performing contrary to its innate characteristics with the potential for serious implications for the tectonic authenticity of the resultant architecture.

Image above: The cantilevered entrance canopy (Now closed in and part of the café).

Regardless of the aesthetic problems associated with the entrance canopy and Francis Pym's acceptance here of reinforced concrete as a singular building

material, the fact remains that the specific extents to which the apparent massive, solid blocks of concrete overhang relative to one another happen to be within the realms of believability. Indeed, all that really matters is that the elevations of the extension (in particular the front one facing onto the gardens) are generally speaking visio-structurally resolved (whether or not partly or wholly by default). The overall compositional effect is generally one of structural honesty.

However, no such visual satisfaction is to be found in the interior of the museum's extension. The interior has recently undergone a transformation, but with respect to the original Pym interior, it was clear on entering beneath the hovering slab of concrete that is the canopy feature, that what the external material and form of the building promised to deliver internally did not happen.

On entering the extension, the seemingly dense blocks of concrete that dominate the external theme dissolved, in the original Pym interior, into a series of unexpected voids. The grand idea of an apparent external solidity was met by a hollow shell. The visitor was presented, as it were, with the back side of the stage-set. This may have been fair enough if the building had not been one designed to linger in. But a museum must attract and hold the visitor. So, considering the lithic exterior of the building, one would have expected to enter into a series of passageways and chambers hewn out of the solid concrete, in many ways similar to the spatial concept of the Egyptian pyramids – something akin to the tunnels that a mole would carve out within the solid earth.

The internal spaces of Pym's structure were very much (and to a large extent still are) of a free-flowing nature, and enclosure (and avoidance of enclosure) was bounded (or not) by concrete elements which acted as the 'scaffold' to the exterior concept. Again, these long, low spans, unnatural for concrete, are only made possible by the hidden reinforcement within, an element which cannot, of course, be appreciated aesthetically as contributing an overall tectonic effect.

One solution would have been to create a shell within the shell – an internal, convincing stage-set, made up of, say, concrete elements behaving or at least appearing to behave as concrete should, defining an enticing series of passageways and chambers 'carved out' of and through the massive stack of concrete blocks that can be appreciated from the Botanic Gardens

Buildings which are convincing stage-sets have played a positive role throughout the history of architecture. For example, the stacked orders which adorn Rome's Coliseum are of course not required to hold up the main walls of the building, but are decoration which represent a structurally convincing idea in line with the natural law of gravity. Whilst stage-sets may be less desirable than, for example, real, load-bearing structures in terms of authenticity, they are superior to the many examples of stage-set architecture which fill the histories of Modernist architecture and which are not visio-structurally convincing (for example, Frank

Lloyd Wright's Johnson Wax tower - panels of brickwork made to apparently rest on bands of glass). It is clear that the interior of the Pym extension of 1971 failed to deliver what was loudly promised by the external form of the building.

Overall, the Pym extension to the Ulster Museum stands out as an example of a structure which succeeds to a large degree in its external form to communicate a strong architectural idea whilst, generally speaking, is apparently structurally logical and restful. The external façade offers the viewer a sense of solidity that is seemingly shot through with a material homogeneity. It is a composition of parts that appears quite stable and relaxed, despite its Brutalist stylistic pedigree. It's a pity therefore that, on its opening, its first visitors discovered that they had been beaten to it by *concretus hollocitus*, a parasite which devours the complete innards of concrete buildings leaving just a thin shell.

Viewed from the Gardens, The Pym extension is alas not of course what is seems: it is not a pile of huge solid blocks of concrete, or one solid block of the stuff which will one day be carved into a complimentary neo-classical extension to match the original Wynne building. However, a clever architectural concept, such as that of Pym's museum exterior, will never fail to interest the passer-by or maybe raise a smile. The exterior of the building is, by and large, a successful stage-set, the concretization of an interesting tectonic idea.

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