# LIMESTONE CLADDING: THE CASE OF MODERNIST ARCHITECTURE OF LONDON[*]

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**Abstract.** Modernism flourished on the European Continent during the interwar period. Its impact in Britain, although for a short period, was mainly after the Second World War, most notably in London. Key buildings developed over the period 1956-64 are Bracken House, the Shell Centre and the Economist Building, the latter two including a high-rise block as part of the development. Despite the fact that modernism exiled the use of masonry from architecture because it was considered to be a conveyor of historical styles, these iconic buildings use it to clad the structure. This paper attempts to investigate why this is the case by delving into who was the client, the design brief and the design philosophy of the architect responsible for each of these case studies. Besides these factors, another important parameter which played a key role was the awareness of cultural environs at the time which was significantly stirred by planning regulators.

**Keywords:** limestone cladding, Modernist architecture, Bracken House, Shell Centre, Economist Building, London.

## INTRODUCTION

Modernist architecture, the dominant style in Europe during the interwar period, made it to Britain and became dominant by 1956. Post-war Britain is the last territory on the Continent where modernist design axioms were introduced. The Modernists were antagonistic to the use of limestone in their architecture. Being the conveyor of historical architectural styles, limestone was read as unprogressive and thus exiled from Modernist architecture.

Key buildings in London developed over the period 1956–64 are Bracken House (1956–9), the Shell Centre (1953–63) and the Economist Building (1962–64), the subject of an unpublished study undertaken at The Bartlett Graduate School of

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Architecture, University College London, a part of which study is reproduced hereunder including the photos of the author[1]. These iconic buildings make use of limestone to clad the structure. Why were they clad? What use did such architecture make of cladding? A building is the end product of architecture. It is controlled by the client, the brief, and the architect's design philosophy. It is the resultant manifestation of the structural system, materials and space specifications together with the geocultural context in which the building is erected, perceived concurrently through the philosophies and ambitions of the patron and the architect.

## BRACKEN HOUSE

The former headquarters of the Financial Times, known as Bracken House (Fig. 1), was purposely designed by Albert Richardson for the newspaper. Building works commenced soon after his designs were approved by the London County Council (LCC) in 1955, and was almost completed by 1959. The building consisted of three units: two office wings and a printing works in between. The offices were finished in sandstone and warm-toned, rough-textured, brown brick while the printing works were finished in metallic material. The lighter finish of the works provided a contrast with the office buildings. Continuity was achieved by horizontal lines consistently running through all units and by using stone, brick and copper throughout the first two storeys along Friday Street.

Fig. 1 –Bracken House (Left): Richardson's Cannon Street wing;
(Right) Queen Victoria Street wing (Source: William Bondin).

[1] Lino Bianco, *Limestone in Post-War British Architecture*, University College London M.Sc. dissertation, 1995, 20–36.

Reactions to Richardson's design of Bracken House varied. Some argued that it „[...] demonstrates [...] the work of an architect who really knew what it was to be able to solve difficult problems of style, arrangement and utility simultaneously in this highly specialised building".[2] Others, like Colin Boyne, argued that Richardson did not appreciate „the sense of seemliness in town planning" when he designed „the extraordinary, aggressively-shaped Financial Times offices in Cannon Street, alongside St Paul's"[3]. Gavin Stamp, for English Heritage, got the building listed by the Department of the Environment as a Grade II for its historical value two months after it was purchased by the Japanese Ohbayashi Corporation in June 1987 thus protecting it against demolition to be redeveloped to meet the needs of the new owners[4].

Lord Brendan Bracken, then Chairman of the Financial Times, commissioned Richardson, an old friend, to design a new building for the newspaper. Bracken suggested both the colours and the elevation for the building; he insisted that the building materials should be pink, the colour of the paper[5]. An entry in Richardson's diary for the 11th November 1952 states that „Lord Bracken suggested a curvilinear facade"[6]. Further on, Richardson's diary for 16th November 1952 reads: „I began sketching the plans and elevations of the Financial Times building in London [...]. The curved treatment was suggested to me in Turin by the design of Carignano Palace of Guarini [...]," a brick and terracotta faced Baroque palace. Although Richardson, together with his son-in-law and partner Eric Houfe, visited Guarino Guarini's seventeenth century palazzo in October 1952, Michael Hopkins's opinion is that Richardson did not adopt Guarini's solution[7]. When the corporation had acquired Bracken House, Michael and Patty Hopkins were commissioned to convert the building into offices compatible with both Richardson's design and the urban setting. His desire to complement Richardson's design took him to Turin to visit the palace[8]. Their intervention at the intersection with Richardson's work can be appreciated in Fig. 2.

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[2] Patrick Reyntiens, Letter to Gavin Stamp entitled „The Financial Times Building" (20 September 1986): 1.

[3] Colin Boyne, „Offices", *The Architects Journal* vol. 129, no. 3333 (1959): 92.

[4] Michael Hopkins, „RIBA/English Heritage Seminar: Building in a Historic Context", *RIBA Journal*, 100, no. 2 (1993): 39.

[5] Gavin Stamp, Report for English Heritage entitled „Bracken House, Cannon Street, City of London" (17 October 1986): 5. Reyntiens, „The Financial Times Building", is attached as Appendix II to said report.

[6] Simon Houfe, *Sir Albert Richardson, the Professor* (Luton: White Cresent Press, 1980).

[7] Hopkins, „RIBA/English Heritage Seminar", 40.

[8] *Ibid.*

Fig. 2 – (Left) Bracken House: Hopkins' elevation on Friday Street; (Right) detail of intersection of Richardson's Cannon Street wing with Hopkins' elevation on Friday Street (Source: author).

Richardson's architecture is characterised by carefully selected, traditional building materials. Bracken House is no exception. It has a unique combination of stone, brick, copper and, for the apertures, bronze. Materials were chosen and selected for their elegance, durability and behaviour in use. They seem to have weathered well in the polluted atmosphere of Central London. According to Richardson, „[...] concrete is an excellent material for foundations and structural supports. It is useful for shelters and esplanades, but it should be used wisely and remains a medium which should be clothed with superior material"[9].

The surrounding built-environment around St Paul's Cathedral is constructed in Portland Stone. Bracken House stands out as it is erected in brick and red sandstone which differ in colour. Richardson used Hollington Sandstone because it matches the signature colour of the *Financial Times*. The selection of the building material was interpreted by Patrick Reyntiens as typical of Richardson's humbleness: „Richardson was the kind of character who would appreciate the impertinence of attempting to compete with Wren by producing a pristine shining white stone building so close to that church"[10].

[9] Simon Houfe, „The Professor Remembered", *RIBA Journal* vol. 87, no. 12 (1980): 46.

[10] Reyntiens, „The Financial Times Building", 2. In his letter Reyntiens urged the Thirties Society to put up a front with the President of the Royal Academy to fight against the possible demolition of Bracken House.

Unlike Portland Stone, selecting pink-red coloured bricks did not present any problems. It is used in the lower courses/floors while copper is used in the main cornice and the roof. „The wholly alien combination of red sandstone and brown brick is effortlessly mellow [...]".[11] In a paper presented at a seminar held at the RIBA on 2nd December 1992, Michael Hopkins suggested that at Bracken House, Richardson „[...] picked a quite different colour, perhaps fortuitously, perhaps because the proprietor wanted it to be pink and perhaps for reasons to do with the architect's visits to Italy of around that time"[12].

**THE SHELL CENTRE**

The Shell Centre, by the River Thames, is one of the earliest tall buildings in Central London (Fig. 3)[13]. It was designed by Howard Robertson and Ralph Maynard Smith between 1953 and 1963 for the Shell Petroleum Company, a multinational corporation of significant importance and status. At the time of its construction it was the largest fully air-conditioned building in Europe.[14] These parameters not only fulfilled the work space required but also served as a status symbol of a major oil company at a time when the oil crisis, and the subsequent influence on energy consumption, was still remote.

Fig. 3 – (Left) The Shell Centre: South Bank (Source: William Bondin); (Right) In the multi-storey building of the Shell Centre, Portland stone and marble are used to clad the upper and lower storeys respectively (Source: author).

[11] Ian Nairn, *Nairn's London* (London: Penguin Modern Classics, 1966), 20-21.

[12] Hopkins, „RIBA/English Heritage Seminar", 38.

[13] Another tall building constructed at the time of the Shell Centre and in close proximity to it is Millbank Tower.

[14] Elain Harwood, Nicholas Long, *Twin Peaks: Visits to the Shell Centre and Millbank Tower* (London: The Twentieth Century Society, 1993), 7.

The Shell Centre comprises two main office blocks, East and West of the railway viaduct to Hungerford Bridge, to accommodate approximately 6,000 workers. The former is L-shaped while the latter is U-shaped. Both are 10 storeys high. A 26 storey block is situated in the latter block (Fig. 4). In-situ pumped concrete was used in the construction of the 10-storey blocks while steel frame-structure was used in the tower[15].


Fig. 4 – The Shell Centre: Note the distinctive black and white appearance of Portland Stone (Source: author).

Until the erection of the Shell Centre, the skyline of central London was dominated by St. Paul's and Victoria Tower at heights of 365 and 340 feet respectively. Following the 1947 *Town and Country Planning Act*, the 100 feet building height restriction stipulated by the 1894 *London Building Act* was relaxed in 1956, three years after the publication of the planning brief for the site of the Shell Centre.[16] Under this new legislation the plot ratio system was introduced to calculate zoning and regulate building heights.

The planning brief issued by the planning regulator in October 1953 was rigid.[17] Robertson stated that in the contract of leasing the site to the company for 199 years, the following three conditions were included by the LCC, the lessor: (i)

[15] „The building of the Shell Centre", *The Architect & Building News*, 01 August 1962: 162.

[16] Also, the 1894 Act restricted the angle subtended by the building's cornice at the opposite pavement to be at least 56 degrees.

[17] Unlike the case for the Shell Centre, the brief for the Millbank Tower had practically no planning constraints.

the basic layout plans of the LCC produced to the designs of Leslie Martin, then its Chief Architect, were to be substantially followed; (ii) Martin's massing dimensions and height are to be followed and (iii) the exterior had to be clad in Portland Stone[18]. The layout plans of the LCC scheme incorporated, besides offices, a concert hall, a national theatre and a hotel[19]. The 1953 LCC master plan proposed only one high tower[20].

In a letter to *The Architects' Journal*, Robertson defended the use of stone as a building material in general and Portland Stone in particular:

> „[...] All-metal or glass buildings [...] deteriorate with even a minimum of neglect [...] whereas materials such as stone and brick actually improve with age. [...] To my mind the question of weathering remains of prime importance from the aesthetic angle in this country. [...] I feel that Portland in particular – a beautiful and traditional material – has its place in many key London positions"[21].

The elevations of the finished building blocks show the characteristic black and white staining of Portland Stone (Fig. 4). Due to the plot ratio system introduced by the 1947 Act, the brief was too restrictive for the floor space required. To cater for such space, 40 percent of the volume was below ground level[22]. The architects wanted and designed three tall buildings and not two office blocks and a tower. Robertson argued that the Royal Fine Art Commission did not „appreciate the fact that the tall block was not a tower, in the sense of the earlier American skyscrapers, but was in reality a tall slab building more like those being built today in America"[23]. This is the position of Bridget Cherry and Nicholas Pevsner who had pointed out that the height to width ratio was too small for the block to be read as a tower[24]. They stated that „the whole [Shell building] is faced with Portland Stone"[25]. This claim is not true to fact as the columns, for example in the courtyard of the U-shaped block, are clad in Portland Stone and marble and have a skirting of gabbro (Fig. 5). The interesting interplay of limestone and metamorphic material is evident in the main entrance (Fig. 6).

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[18] Howard Robertson, „Obbligato to Architecture", *The Builder*, 22 June 1962: 1278.

[19] „South Bank's Vertical Failure", *The Architects' Journal* vol. 123, no. 3193 (1956): 466.

[20] Bridget Cherry, Nikolaus Pevsner, *Buildings of England: London 2 [South]* (Middlesex, Penguin, 1983), 349.

[21] Howard Robertson, „New York and London", *The Architects' Journal* vol. 123, no. 3201 (1956): 6–7.

[22] The total volume of the building is 28.4 million cubic feet. „The building of the Shell Centre", *The Architect & Building News*, 01 August 1962:162.

[23] Robertson, „Obbligato to Architecture", 1279.

[24] Cherry and Pevsner, *Buildings of England: London 2 [South]*, 349.

[25] *Ibid.*

Fig. 5 – (Left) The Shell Centre: Courtyard of U-shaped block; (Right) Detail of low part of columns surrounding the courtyard; scale bar is 30cm in length (Source: author).

Fig. 6 – (Left) The Shell Centre: Main entrance to multi-storey building; (Right) Detail; scale bar is 30 cm in length (Source: author).

**THE ECONOMIST DEVELOPMENT**

The new headquarters for *The Economist* and the Economist Intelligent Unit, was designed by Alison and Peter Smithson. It is one of the earliest Modern office developments which complement and enhance the character of the area (Fig. 7). Completed in 1964, it was described by its architects as „[...] a didactic building, a dry building – deliberately so"[26].

The Smithsons' technique is Miesian in inspiration[27]. Comprising three blocks, it is „partly inspired by the organisation of the Rockefeller Centre in New York"[28]. Although all blocks had to house different functions, their appearance, construction and finishes are similar. They are all reinforced concrete frame structures. In each block,

[26] „Offices and shops", *The Architects' Journal*, 140, no. 25 (1964): 1445.
[27] „New building for The Economist", *The Architects' Journal*, 134, no. 6 (1961): 193.
[28] Edward Jones, Christopher Woodward, *A Guide to the Architecture of London* (London: Weindenfeld & Nicolson, 1983), 28.

flat slab floors span between the external columns and the central service core. On the exterior, both the columns and the spandrels between them are clad in Portland Roach (Fig. 8). The three separate towers are linked by a raised piazzetta overlying a carpark, at the south end along St James Street. „While there is precedent in the Seagram Building, New York, for a single block formally disposed on a piazza, this scheme boldly and with clarity proclaims its own, succeeding admirably as a piece of urban design"[29]. Cladding in Mies designs was an essential requirement imposed by fire regulations.

Fig. 7 – The Economist Development: The bank block from across St James's Street (Source: William Bondin).

Fig. 8 – The Economist Development: Entrance to tower from the piazzetta (Source: William Bondin).

[29] „Offices and shops": 1446.

The Economist development is a product of a quasi-ideal client-architect interaction to redevelop a site in a highly sensitive eighteenth and nineteenth century area. The aims of The Economist, the clients, were three-fold: (i) to have new efficient offices, (ii) to profit financially and (iii) „to make a worthy and novel contribution to the civic architecture of London and the town landscape of St James's"[30]. John Carter notes that the main concern of the clients was not office space and budget but „quality and a humane solution"; their concern was „architectural integrity"[31]. The clients were „Enlightened Clients"[32]; they were aware of the historical sensitivity of the site.

The problem which the architects faced was four-fold: (i) urban renewal of a limited site, (ii) respect to the historical context, (iii) maximising and fulfilling demands posed by functional, technological and urban needs, and (iv) making a convincing original contribution[33]. The use of Portland stone cladding was a requirement stated by the Royal Fine Arts Commission. As stipulated by the regulations issued by the LCC regulations, the ratio of total floor area of the building to the area of site had to be 5:1. These regulations also stated the respective proportions of office, commercial and residential uses and made provision for fifty-two parking spaces[34].

To meet the objectives of the design brief, the architects set the following objectives (i) to design a cluster of buildings sympathetic with the eighteenth century St. James streetscape, (ii) to provide public open space and through views and (iii) „to tidy up the backs or 'inside' of the block"[35]. The urban needs were partly met by the design of the piazzetta for pedestrians.

The general approach to the external treatment of the building is dominated by the rejection of a rigid steel and glass design solution for one which is more sympathetic to the historically sensitive setting, exploiting solids and voids, and making use of the open textured Roach Portland stone[36]. On the exterior, with a ratio of 21:29 solid to window area, stone ashlar and stove enamelled windows amounted to 14 percent of the total cost of the building[37]. Three materials were used in the construction of the external walls: (i) concrete, finished in stone ashlar was used between the columns under the windows; (ii) Portland stone was used for the full length of the projecting mullions; and (iii) Portland cement plain facing was used in small amounts to the tank rooms[38]. Portland Roach was not only used to clad the towers but also as paving stone for the piazzetta and the steps (Figs 9 and 10).

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[30] Michael. Webb, *Architecture in Britain Today* (Middlesex: Hamlyn Publishing Group, 1969), 157.
[31] John Carter, „The Economist Building", *The Architects' Journal*, 150, no. 36 (1969): 551.
[32] *Ibid*.
[33] „Offices and shops", 1446.
[34] *Ibid*, 1454.
[35] Jones and Woodward, *A Guide to the Architecture of London*, 247.
[36] „Offices and shops", 1452.
[37] *Ibid.*, 1460.
[38] *Ibid.*, 1456.

Fig. 9 – The Economist Development: Steps leading to the piazzetta
(Source: William Bondin).

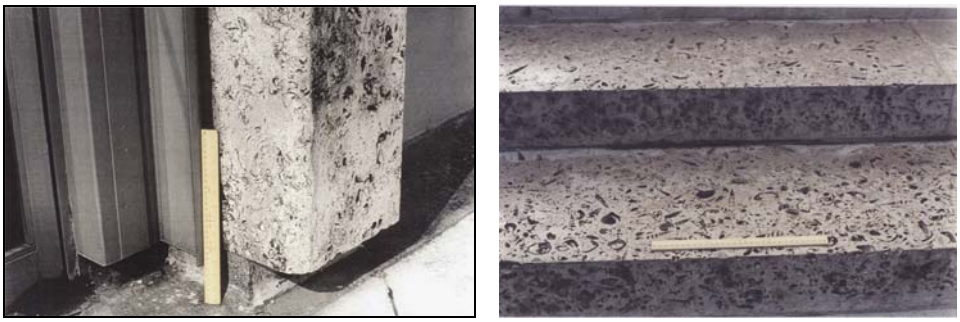

Fig. 10 – (Left) The Economist Development: Portland Roach cladding to columns;
(Right) Stairs to the piazzetta in Portland Roach; scale bar is 30cm in length (Source: author).

Portland Roach had appeared for the first time on the building market in 1964[39]. It was during this time that architects became aware of the potential visual interest of this cavity rich limestone[40]. Its texture and tones significantly contrast with the large glazed areas. Colour and tone, on weathering, will be more sympathetic to the existing urban context and thus help to visually integrate the buildings with the surroundings:

[39] Eric Robinson, *London: Illustrated Geological Walks*, Book Two (Edinburgh: Scottish Academic Press, 1985), 91-2.

[40] *Ibid*.

> „In our climate the enemy is mostly dirt and rain and an architecture to respond to these needs a weather skin. This is the sort of argument that lies behind the development of the Economist facade, where the most self-cleansing natural stone available in England – Portland – covers the reinforced concrete frame and the dirt-laden run-off from the glassed areas is directed away from the masonry facings. The channels of this run-off provide a sort of symbolic separation between the facing and the supporting. Where concrete is exposed, it is clearly supporting, and it is only exposed when under cover and thus partly protected from dirt"[41].

The Portland stone used in the building has weathered evenly due to appropriate design decisions taken by the architects. They prevented the surfaces exposed to rain from becoming white and those which are protected from accumulating dirt and turning black, a characteristic weathering pattern of Portland buildings[42]. Through the use of classical detailing, the Smithsons solved the uneven discoloration generated by weathering which ruin the appearance of other modern London buildings[43]. The Smithsons' choice of some paving slabs of the piazzetta is less impressive. The Portland Roach paving stones, labelled „smoke outlet", which have to be broken in case of fire, proved to be very hard to break when firemen tried to get through them in the arsenal attack of November 1967[44].

## THE RELEVANCE OF POST-WAR BRITISH BUILDINGS

The significance of Bracken House, the Shell Centre and the Economist Building was discussed by the author elsewhere[45]. Bracken House, Richardson's magnum opus, was the first post-war listed building[46]. Hopkins' interventions for converting the building to its new use took note of Richardson's work and improved on it[47]. The re-design of the elevations was inspired by Richardson. „From being one of the best buildings to have been built in the City of London in the 1950s, Bracken House has emerged in the 1990s with a new heart and a striking and handsome new presence in the City"[48].

The design of the Shell Centre generated harsh criticism. Recalling William Blake, Ian Nairn stated that the Shell Centre was "hired by Satan to depress art". The *Architects' Journal* summed up the reactions thus:

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[41] Alison Smithson, Peter Smithson, „The pavilion and the route", *Architectural Design*, 35, no. 3 (1965): 145.

[42] Elaine Leary, *The building limestones of the British Isles* (London: Her Majesty's Stationery Office, 1983), 50.

[43] Jones and Woodward, *A Guide to the Architecture of London*, 248.

[44] Carter, „The Economist Building", 555.

[45] Lino Bianco, „Limestone in Post-war British architecture: Is it a plea for a return to Pugin?", *Melita Theologica*, 49, no. 2 (1998): 74–78.

[46] Colin Amery, *Bracken House* (London: Wordsearch, 1992), 9.

[47] *Ibid.*, 9–10.

[48] *Ibid.*, 78.

> „The Shell building [...] is a monument, the largest, most arresting, and most depressing so far, to the failure of our town planning legislation [...][49].
> „It was the town planners who set the plot ratio, who limited the heights of the various blocks [...][50].
> „Planners may indeed have set wrong conditions, but failure to create a building representing twentieth-century architecture can only be the responsibility of the architect"[51].

The Shell Centre differs from the Seagram Building. In a publication by Denys Lasdun and John Davies on this theme, they express the difference as follows:

> „The Seagram Building expresses the idea of efficiency, lightness, airiness, the things which we regard as characteristic of our time; it has that machine-made look which we tend to applaud. And what has the Shell Building got? Heavy nothingness; it looks like some sombre institution where a few eighteenth-century ideas have been inflated far beyond the scale for which they were appropriate. As far as it presents us with an image at all, it is one totally without significance for us [...]"[52].

The Economist Building reflected the architects' intentions to rebuild the site in an architectural language that complements the sensitive historical setting. The free standing buildings stand on a raised, not overwhelming yet enclosing, pedestrian piazzetta[53] which reads as an extension to the existing eighteenth century streetscape[54]. „The modest development based on the tower and plaza format, achieves rare elegance and structural logic, while showing great consideration for its sensitive location amongst the 18th Century streets of London's St James"[55].

## CONCLUSION

The modernist associated the Adolf Loos notion of ornament with crime[56]. Given that limestone was the medium through which such ornamentation was expressed, it was not an approved material[57]. Then, why was limestone cladding

[49] „Monumental Failure", *The Architects' Journal*, vol. 135, no. 14 (1962): 703.
[50] *Ibid.*, 703.
[51] *Ibid.*, 704.
[52] Denys Lasdun, John Davies, „Thoughts in Progress: Seagram versus Shell", *Architectural Design,* vol 26, no. 12 (1956): 378.
[53] Carter, „The Economist Building", 555.
[54] Webb, *Architecture in Britain Today*, 157–159.
[55] Adrian Welch, „Economist Building London: Smithsons, St James Street", *e-architect* (15 October 2016), http://www.e-architect.co.uk/london/economist-building, accessed on 23 November 2016.
[56] Adolf Loos, „Ornament and Crime" in *Programmes and Manifestoes on 20th-Century architecture*, Ulrich Conrads ed., trans. by Michael Bullock (London: Lund Humphries, 1970), 19–24.
[57] Lino Bianco, „Masonry and the Modernist Ethic", *The Masonry Society Journal*, 18, no. 2, (2000): 95–99.

used by Modern post-war British architects? Taste and fashion are a sure response; they are crucial in viewing and interpreting buildings. The issue is deep-rooted in Western culture. Limestone raised nostalgic feelings, feelings about the classical, unquestionable past designs. Concrete was thought to be by some traditionalists as ugly. Unlike the Futurists, who made a virtue out of its ugliness, conservatives considered concrete, to use Richardson's words, „a medium which should be clothed with superior material"[58]. The return to limestone was heralded not only for the aesthetic reasons and ethical notions conventionally expressed in stone but also for the return of the craftsmanship involved.

Two other reasons may be identified as responsible for the return of limestone cladding in Modern post-war British architecture. Planning regulations such as those integrated by the LCC in the brief for the Shell Centre left the architects with no choice but to clad the exterior in Portland stone[59]. The other reason is due to industrial, culture-sensitive, patrons. The main concern of the clients of the Economist building was not just office space and budget but „quality and a humane solution"; their concern was „architectural integrity"[60]. They wanted a building which makes „a worthy and novel contribution to the civic architecture of London and the town landscape of St James'". Portland stone cladding, a requirement stated by the Royal Art Commission, was used by the Smithsons to provide a design sympathetic with the historically sensitive eighteenth century St. James' streetscape. Furthermore, they made use of Portland Roach, a new building material on the market, rather than the traditional Portland Whitbed. This design decision was in line with the „awareness that the project should express its own time and take advantage of technological development"[61].

What use does Modern post-war British architecture make of limestone cladding? It was used as a two-dimensional decoration able to fit the new with the old. Planar ornamentation reinforces the sense of surface. Such cladding is used not only to imply a sense of depth but to generate visual and psychosocial links, a use not new to Western architecture. Marble was used to clad facades of Renaissance churches. It was not solely used to provide delight in finish, colour and variety but also to convey values associated with the respective industrial rock. „Decoration [or ornament] very generally had a utilitarian purpose, that of carrying over the virtues of the things imitated to the things made".[62] The Economist building uses Portland stone cladding on the exterior to relate it to its environs. The Hollington sandstone used in Bracken House was selected as it matched the signature colour

[58] Houfe, „The Professor Remembered", 46.
[59] Robertson, „Obbligato to Architecture", 1278.
[60] Carter, „The Economist Building", 553.
[61] „Offices and shops", 1446.
[62] William Richard Lethaby, *Architecture: An introduction to the history and theory of the art of building* (London: Thornton Butterworth, 1939 edition), 15.

of the Financial Times. Rather than integrating it to the surrounding Portland-built urban environs, Bracken House contrasted with it.

Post-war British architects wanted their buildings to have a character other than just a brutalist frame structure. Such buildings assumed a different image. If Pugin's rationalist argument elaborated in *Contrasts* [63] and in *The True Principles*[64] is upheld, both Smithsons' concrete frame for the Economist tower and Robertson's steel frame Shell tower assume a self-concept of a masonry building and thus the edifices seem to be trapped in the wrong fabric. In this sense the structure is born in the wrong material; completeness can only be attained through cladding. The concrete designed Economist building assumes a masonry designed self-concept although it hardly exhibits the mannerism which characterise masonry construction. Buildings may be considered as having a different personality when they are clad to exhibit traditional, stereotypic appearances. But is not historical transvestism an integral part of traditional architectural legacy?

[63] Augustus Welby Northmore Pugin, *Contrasts: or, a parallel between the noble edifices of the fourteenth and fifteenth centuries, and similar buildings of the present day; shewing the present decay of taste* (London: St Marie's Grange, 1836).

[64] Augustus Welby Northmore Pugin, *The True Principles of Pointed or Christian Architecture* (London: John Weale, 1841).