Campus Concrete
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ABSTRACT: This paper will look at the celebrations of concrete apparent in the Brutalist architecture of the 1970s. It will particularly examine Toomath’s Wellington Teachers’ Training College (Stage I design 1962-65, built 1966-69; Stage II design 1966-69; built 1972-75), Chris Brooke-White’s Central Institute of Technology campus in Heretaunga, Upper Hutt (Stage I, 1969-72; Stage II, 1972-77), and Ted McCoy’s additions to Otago University (namely the Archway Theatres (1972-73) and the Hocken Building (1979-80)). Concrete is understood on these sites as textures as well as spatial articulators. Helmut Einhorn’s 1975 consideration of concrete surfaces for the Wellington Urban Motorway, Charles Fearnley’s 1975 Where have all the Textures gone? and Banham’s 1955 "The New Brutalism," will provide the prime theoretical context.

Introduction
Charles Fearnley’s 1975 Where have all the Textures gone? is perhaps a much belated New Zealand reply to Adolf Loos’ famous 1908 essay "Ornament and Crime" where Loos stated that “[t]he modern person who tattoos himself is either a criminal or a degenerate.”¹ In the introduction to his book, Fearnley traces an architectural history from Victorian clutter up to a renewed desire for texture in the 1970s, chronologically interspersed with the well-known tale of modernism’s rejection of ornament. Fearnley attributes to the Industrial Revolution mass-access to "culture,” which for him resulted in the lower classes acquiring decorated artefacts in order to distinguish themselves from the abject poor and their "unadorned furniture,”² followed by a violent modernist reaction to ornament: “as decoration went out through the door, austerity flew in at the window.”³ The result, according to Fearnley, was a shift "from a society that was afraid to leave a surface plain ... [to] a society that was afraid not to."⁴

This ornamental history sets the scene for a late modernist reconsideration of surface decoration, under the guise of texture. Braham’s discussion of natural colour, and his identification of books as introducing into the modernist interior "colored elements ... without the artifice of painting the walls or draping fabric,"⁵ is not unrelated. Fearnley thus positions late modernist decoration as charged with an obligation to convey a material’s authenticity while linking this practice to broader economic and technological issues, such as income distribution ("the less the rich man gets for his dollar, and the less likely he is to spend money on decoration"), and the technological development of sheet materials.⁶ Material integrity is to reflect both materiality and its role in construction:

Concrete became concrete, and not a substitute for stone ... and when a stone veneer on a brick or concrete wall, it was jointed to look like a veneer, and not to try to pretend that it was solid stone.⁷

Fearnley’s position in relation to texture thus co-incides with a New Brutalist attitude to architecture, posited by Alison and Peter Smithsons, and articulated by Reyner Banham’s 1955 essay "The New Brutalism," which claimed that:

what has caused [the Smithson’s] Hunstanton [school] to lodge in the public’s gullet is the fact that it is almost

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¹ Loos "Ornament and Crime" p 104.
² Fearnley Where have all the Textures gone? p 7.
³ Fearnley Where have all the Textures gone? p 8.
⁴ Fearnley Where have all the Textures gone? p 9.
⁵ Braham “A Wall of Books” p 5.
⁶ Fearnley Where have all the Textures gone? pp 10, 11.
⁷ Fearnley Where have all the Textures gone? p 10.
unique among modern buildings in being made of what it appears to be made of. Whatever has been said about honest use of materials, most modern buildings appear to be made of whitewash or patent glazing, even when they are made of concrete or steel. Hunstanton appears to be made of glass, brick, steel and concrete, and is in fact made of glass, brick, steel and concrete. ... it is the ruthless logic more than anything else which most hostile critics find disturbing about Hunstanton - or perhaps it is the fact that this logic is worn on the sleeve.8

Fearnley's call is hence a Brutalist, rather than simply a modernist, understanding of ornament, where decoration is both intentional and obliged to articulate the material, functional, constructional, structural and spatial qualities of architecture. Published in 1975, Fearnley was writing 20 years after Banham, but contemporary with a number of substantial Brutalist tertiary institutional campuses nearing completion in New Zealand. Chris Brooke-White's CIT Campus (Stage I, 1969-72; Stage II, 1972-77),9 Bill Toomath's Wellington Teachers' Training College (Stage I 1962-69; Stage II 1966-75)10 and Ted McCoy's additions to the University of Otago (the Archway Theatres (1972-73) and Hocken Building (1979-80))11 are all seemingly accomplished essays in the decorative agenda of Brutalism. Warren and Mahoney's University of Auckland Student Union Building (1965-73) and Maidment Theatre (1967), and their University of Canterbury Student Union (1964-73), and Bill Alington's Wellington High School (1973) are other New Brutalist campuses built at this time, when, as Paul Walker has observed, "[t]he 1960s and 1970s boom period of campus building in New Zealand coincided with the local peak of New Brutalist influence."12

The Brutalist Image
Banham encapsulates the ethos of Brutalism in his concept of "image," which:

requires that the building should be an immediately apprehensible visual entity, and that the form grasped by the eye should be confirmed by experience of the building in use. Further, that this form should be entirely proper to the functions and materials of the building, in their entirety.13

McCoy's Archway Lecture Theatres at the University of Otago (1972-73)14 effect such a Brutalist image.15 Less acknowledged - but, to my mind, as accomplished as McCoy's award-winning Hocken Arts Building (now Richardson Building)16 - the Archway Theatres are usually considered to be a prelude to the more obviously majestic Hocken, in part because of their shared textural cladding in diagonally-ribbed fair-faced concrete.17 Located hard adjacent to Edmund Anscombe's Home Science Building (1920) and proximate to his 1908 School of Mines building and later Archway Building (1914), the Archway Lecture Theatres arrived in the early 1970s an alien on the tennis courts foregrounding the Home Science Building and Miller, White and Dunn's 1960s Gregory Wing (1961-68).18

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8 Banham "The New Brutalism" pp 357-358.
9 The firm responsible was Haughton and Mair.
10 The firms responsible were Toomath, Wilson, Irvine, Anderson and Gabites Toomath Beard, Wilson and Partners.
11 The firm responsible was McCoy and Wixon.
12 Walker "Rough Poetry" p 17.
13 Banham "The New Brutalism" p 358.
14 The dates given for the Archway lecture theatres vary: 1972 in McCoy "E.J. McCoy, architect" pp 73, 76; 1973 in McCoy A southern architecture: the work of Ted McCoy p 127.
15 According to his son (John), Ted McCoy's engagement with "New Brutalism" began c1959. McCoy "E.J. McCoy, architect" p 32.
16 "1927-2004 NZIA Award Winners [1983]" p 238.
17 "The basic exterior finish will be pre-cast concrete panels with a diagonal, trough section pattern similar to that used on the nearby Lecture Theatre block by the same architects." "Arts Library Building" p 56.
18 Clarke incorrectly describes the courts as netball courts, but Janet Mitchell, a former Home Sciences
The cruciform plan of the Archway Theatres, deriving from a pedigree as fine as Palladio and Louis Khan, is diagonally disposed in plan to its neighbours. Its in-situ formworked landscape anchors this constrained site within the orthographic context, providing a geometric logic for the diagonal texture of its precast concrete panel cladding, seemingly misunderstood by the landscaping team who have recently "Victorianised" it. Paint, cast in-situ members, and recurring rhythms within the design of the building (such as the raked undercroft), create the texturing of the building. Painted super-graphic numerals, anticipated in the precast mould, explicitly identify the internal arrangement of lecture theatres.

The exterior expression of the interior and the building’s location though is not simply confined to surface articulated in precast concrete and paint. Banham’s use of “image” in his “The New Brutalism” essay demands formal legibility of space and function. He references the Smithson’s unsuccessful Sheffield University competition entry (1953) as: “the most consistent and extreme point reached by any Brutalists,” while referring to the ability of “Brutalists to define their relationship to the visual world in terms of something other than geometry.”

For Banham, Sheffield is a demonstration of a dominant topology and subordinate geometry, and he states of Sheffield that:

[...]he "connectivity" of the circulation route is flourished on the exterior and no attempt is made to give a geometrical form to the total scheme; large blocks of topologically similar spaces stand about the site with the same graceless memorability as martello towers or pit-head gear.

This crass "bloody-mindedness,” a quality Banham attributes to the core of Brutalism, perhaps explains the seemingly inconsiderate intrusion of the Archway Theatres building, on its site, though the conventional explanation is a former intention to demolish the Anscombe-designed Home Science building which came unstuck with rising expectations of a vocal heritage lobby, a parallel instance being demonstrated in the Michael Fowler Centre’s impolite relationship with the Wellington Town Hall. It also

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21 Findlay “Archway Lecture Theatres and Hocken Building” p 213.
22 McCoy “E.J. McCoy, architect” pp 73-74.
explains the comfort with an inherent flatness and closeness - the “in-your-face-ness” - of a well-articulated concrete surface, and the explicit and unambiguous transparency of function spatially read on the building’s exterior. McCoy junior refers to this quality when he describes the Archway Theatres’ "plan arrangement and structural form ... [as] spatially economic almost to the point of extremity. Each of the four theatres [he states] is given a clear and separate volume which speaks clearly of the structure and function."²⁷

The Smithson’s Sheffield University project also proposed a series of lecture theatres whose raked undercroft form was explicitly articulated as viable public space, consistent with Banham’s New Brutalist creed that:

the building should be an immediately apprehensible visual entity, and that the form grasped by the eye should be confirmed by experience of the building in use. Further, that this form should be entirely proper to the functions and materials of the building, in their entirety.²⁸

This was a notion followed in British and American university projects built in the 1950s and 60s in Leicester (1957), Liverpool (1960), New York (1957-61), Edinburgh (1961), Hull (1965), London (1965-66), and Manchester (1967-68). The 1957 Leicester building was described by Robert Maxwell as:

Fiercely self-confident, fanatically consistent in every detail, it is poised and complete like a work of art. It demands to be assessed by the highest standards and this is rare in architecture, not only in Britain but across the world.²⁹

Maxwell concluded noting of Leicester that it is "in the search for directness in connecting form with function that the appeal of modern architecture lies."³⁰

In New Zealand, McCoy’s Archway Theatres, "with [their] tiered seating expressed externally"³¹ was not the first articulation of this idea. Both Bill Toomath’s Wellington Teachers Training College lecture theatre block (designed 1966-69) and Chris Brooke-White’s voluptuous CIT F Block (1969-72) predate the McCoy design. Toomath’s Teachers’ Training College design uses building to articulate the terrain, including retention of existing vegetation, which appears to have shaped the organisation of the site, and is certainly now integral to the design.³² The height of 40 feet across the section is reflected in three floor levels stepping down the slope.³³ Texts about the Karori complex stress a Brutalist agenda with respect to building surfaces, with each element having "a texture and tone value arising from its method of production, ranging from smooth to hacked and light grey to dark basalt aggregate."³⁴ The 1972 NZIA award citation highlighted materials as "sympathetic to the functions,"³⁵ while the later 2005 NZIA Wellington Branch Enduring Architecture award citation stated that “[t]he buildings are honestly and thoroughly detailed, and the clarity of the layered 16‘ module and indigenous materiality is a pleasure to read."³⁶

Cast in-situ columns and spine frames contrast precast floor systems and panels set in place "without further finish."³⁷ There is an explicit

²⁷ McCoy "E.J. McCoy, architect" pp 73-74.
²⁸ Banham "The New Brutalism" p 358.
²⁹ Maxwell "Frontiers of Inner Space" p 237.
³⁰ Maxwell "Frontiers of Inner Space" p 242.
³¹ Findlay "Archway Lecture Theatres and Hocken Building" p 213, caption.
³² "Wellington Teachers’ College" p 225.
³³ "Teachers college, Karori" p 26.
³⁴ "Teachers’ College" p 56; "Teachers college, Karori" p 26.
³⁵ "Teachers college, Karori" p 24.
³⁶ "NZIA Resene Local Awards for Architecture 2005 p 36.
³⁷ "Teachers college, Karori" p 26.
interest in an architecture which expresses "the various natures of concrete,” including: smooth and slender precast members, through board-marked columns and beams, to ribbed and hacked wall areas. Tone values extend from off-white cement, through normal concrete, to dark basalt aggregate for cladding panels.

This relishing of surface materiality embodies architectural making and tectonics, but also becomes, for Toomath, an expression of humanity and architectural precedent. In a later text he critically reflected on functional modernism, concluding that it had "left too much out by ignoring, or failing to satisfy, basic needs of the human mind for a degree of elaboration and involvement, for recognisable associations and symbols rather than abstract forms without apparent content.”

The rigor of materiality also supports a new understanding of the college as a design charged with an avoidance of "an institutional character," a sentiment perhaps now undermined by the proliferation of New Brutalist institutions in the 1960s and 70s across the country, which has no doubt redefined our understanding of the architecture of the institution, which prior to these projects was distinctly formal, symmetrical and class-inflected.

Fearnley refers to the introduction of texture in architecture by the Japanese and to other aesthetic changes in cultural realms. More specifically he credits a radical texture to The Beatles, who "started off with a haircut a little longer than was conventional." Such a challenging of convention might also be ascribed to Chris Brooke-White's weighty lecture theatre block at Heretaunga, apparently christened as "an elephant's arse" by Prime Minister Norm Kirk at the building opening, and later named the "Heretaunga Hilton" due to cost overruns. Fearnley's plea for a return of textures in architecture was equally forward-looking and progressive, and he asserted that:

"old textures should not be imitated once they cease to be logical either in their method of production or their application in general. Rather it is suggested that, as in the past, textural qualities should evolve either consciously or unconsciously. New techniques could produce new textures to combat the flatness of the extruded sheet material so typical of today."

Fearnley's manifesto complements Helmut Einhorn's contemporary justification of the...
need for textures in engineering projects, specifically the Wellington Urban Motorway. Both Fearnley and Einhorn were members of the Architectural Centre, and had both been on the Centre’s committee the decade before - Einhorn as president (1964-65), and Fearnley as minute secretary (1966). So too were Toomath, a former treasurer (1950), and president (1960), and Brooke-White, a committee member while designing CIT (1969-71). Einhorn confined his discussion of texture to the surface treatment of concrete, while Fearnley’s account was eclectic and photographic, incorporating: tombstones, street furniture, balustrades, fences, gable ends, and gateposts. It reflects the wide-ranging engagement Fearnley had demonstrated in his prolific NZIA Journal series, which included subjects as diverse as "Wellington Lions," "Coastal Defences," and "Cream Stands." Einhorn extends Fearnley’s confinement of texture to its logic of production or application, identifying two other reasons for surface concrete treatments, specifically: “to bring out the inherent qualities of concrete which reside in its basic composition as a reconstituted conglomerate stone,” and “to obscure ... blemishes and imperfections ... and thereby enable greater control of consistency and uniformity of the appearance to be exercised.”

Echoing in some respects Venturi, Scott Brown and Izenour’s assertion, in their 1972 Learning from Las Vegas (that the “architecture of styles and signs is antispacial ... The commercial persuasion of roadside eclecticism provokes bold impact in the vast and complex setting of a new landscape of big spaces, high speeds, and complex programs ... enormous signs in vast spaces at high speeds”)

Einhorn identifies the conventional lack of aesthetic attention given to the surface of engineering works as due to a perception that this is unwarranted due to their location or “the speed at which they can be perceived only fleetingly,” but rather than simply agreeing with the Venturi et al. position, Einhorn argues that:

People are influenced by their surroundings by repeated contact, even if it should be true in the case of the motorist that his first acquaintance with road structures may be blurred by the speed of his travel. ... engineering structures should be, by the nature of their function, bold and powerful in their primary design expression, and that any applied design might only detract from this forcefulness.

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Einhorn though appears torn between the conflict of texture as preserving "the concrete-ness of concrete" and the use of surface texture to introduce new ideas about a structure. He justifies fluting on columns supporting the Wellington motorway as "giving expression to the strong flow of forces," and an overlay of a supplementary pattern of grooves used "to relate the vast wall areas to the human scale." For Einhorn, removing the cement skin removes a layer, which "hides the latent masonry character of the conglomerate concrete stone" in a Wigley-like undressing, concluding that the ambit of texture should be to achieve "the breaking of the light and exposure of the basic concrete matrix. One of the main aims should be a high standard of uniformity in appearance."  

The palette of surface texture in Toomath's Teachers' College appears to be an object lesson in Einhorn's textural interests. Textured concrete is everywhere. In this way the buildings themselves are overwrought, and everything feels close. The rigorous and unrelenting articulation of surface is at times suffocating, claustrophobic and intensely proximate; intimate. The precision of its material intensity is both flat and spatially flattening. It pulls the occupant in.

Chris Brooke-White's CIT Campus (Stage I, 1969-72; Stage II, 1972-77) at first appearance, might appear complicit with this surface texture agenda. As Leach documents, the strident F Block is indebted in its architectural impact in no small part to Paul Rudolph's "patented process of casting the concrete surface in parallel triangular cross-section forms ... edges hammered off the protruding fins, and the surface wire - brushed, leaving the concrete aggregate exposed and the building bearing a "pock-marked, striated effect";" one used in the Art and Architecture Building at Yale (1963), and also by Toomath, in contrast to McCoy's cheesy glossed cement finish.

Astutely, Leach credits the aesthetic of F Block with "[m]ore than a simple formal gesture," identifying it as celebrating the shift in educational policies that the Institute, in practice, represented technical training reinvented within a university environment ... Borrowing the formal typologies of the traditional, medieval university, the Central Institute of Technology argued - through its lecture theatre block - a new relationship between master and student. It demonstrated that a polytechnic could reinvent the forms and functions of the university for the educational needs of the present moment.

But at CIT the articulation of texture is not a simple surface, but instead implicates a larger scale of architectural unit, as the modulated repetition of A and B Block windows "set in faceted and polished quartz aggregate fair-
faced concrete modules" create textured backdrops to both nearby houses and the prima-donna F Block. While Leach argues that CIT represents an ideological middle ground in its façades, he also writes that "the articulation of the building’s external skin [was intended] as an element in its own right: neither expressive of the building’s own structure, nor demonstrably independent." Of greater importance is the relationship between the different buildings' surface textures, and it is this relationship of distinct textual strategies where Leach ultimately locates the campus' ability to convey its bigger architectural and political understanding of the new Central Institute of Technology following in the ambitious footsteps of Massachusetts' MIT:

As an overall composition, the expressive form of the F Block lecture theatre, flanked by the sterner façades of Blacks A and B, speaks of a campus privileging, on one hand, the traditions and structure of university education and, on the other, a sense of technological innovation.

The Hocken, geometry and Banham's Brutalist lingering "image"

This complex spatial interplay vanishes with the abrupt relationships to context that McCoy's lanky Hocken Building enacts. Findlay notes that the building "was controversial for its substantial height," its vertical scale and its width approximates a thinness more conventionally associated with wallpaper than building. As such, despite its significant dimensions, it operates as a screen, designed as "a back-drop to what has become ... the major open space on the campus."

Findlay describes: "McCoy’s use of a narrow footprint, glazed links between towers and unexpected openings at ground level [which] preserved the open space and the important vista of the Leith Stream that bisects the campus," while McCoy’s confession that: "[a]n effort was made to set up changing rhythms[sic], a little like [jazz musician] Dave Brubeck," points to an intended ephemerality and lightness; a building lingering rather than firmly anchored.

Inheriting its hand-me down attire from the very different architecture of the Archway Lecture Theatres Building, the Hocken edits its cladding to tailor its light-weight version of Brutalism, its surface continuing a forced relationship to function, which suggests a repetition Fearnley warned against when he stated that "old textures should not be imitated once they cease to be logical either in their method of production of their application in general."

The official word observes a largely abstract and applied identity, rather than inherent coding of function, in the building:

The Hocken Library inhabits the south block of the complex and has its own identity. The small projecting windows belong to the Exhibition Gallery and the blank

65 Leach Campus Confessions pp 20-24.
66 Leach Campus Confessions p 24.
67 Leach describes F Block as: "[t]he most idiosyncratic element ... the lecture theatre block (F) ... houses three large theatres ... formed as an expressive sculptural concrete element finished in bush-hammered cement ribs, supported above the ground by a "foot" containing the stairwell access." Leach Campus Confessions p 24.
68 Leach Campus Confessions p 28; also: "to liberate the facade from both complete dependence on the building’s inner workings and complete independence as a transparent, irrelevant gesture." Leach Campus Confessions p 30.
69 "The institute’s nomenclature as an "Institute of Technology” made explicit reference to the United States’ industrial and scientific research hot house, the Massachusetts Institute of Technology." Leach Campus Confessions pp 10-11.
70 Leach Campus Confessions p 30.
71 Findlay “Archway Lecture Theatres and Hocken Building” p 213.
72 “Hocken Building University of Otago” p 31 (emphasis added); also p 32.
73 Findlay “Archway Lecture Theatres and Hocken Building” p. 213.
74 “Hocken Building University of Otago” p 33.
75 Fearnley Where have all the Textures gone? p 18.
walls designate the library stack areas.\textsuperscript{76}

All this suggests that the building’s Brutalist thinness may be close to evaporating as it retreats from topology into the geometric and material mimicry that Banham found in opposition to Brutalism: “The elongated plan form was developed to relate sympathetically to the old clock-tower ... The roofs are mansard shape and clad with asbestos-cement slates to echo the old university buildings.”\textsuperscript{77}

\textbf{Conclusion}
Collectively these projects demonstrate the capacity for surface and its textures to operate in a sophisticated and substantive architectural manner conveying aspects of political, material production, architectural history, spatial planning and construction. Brutalism demands the exterior surface of a building to be a device of legibility, its size, and physical nature intrinsic to all other aspects of building. Without this role a building fails to be Brutalist, because unremitting and fearless legibility, rather than any specific aesthetic of material quality, determines Brutalism. Given this, it is perhaps Fearnley’s stated requirement of texture to be both progressive and to be relevant (as distinct from familiar or simply occupying a flat surface) where New Zealand’s Brutalism’s bloody-mindedness ultimately resides, rather than the usually stated “straightforwardness,” concocting a watered-down “kind of colonial Brutalism”\textsuperscript{78} and a weakened New Zealand substitute for the more rigorous agenda that Banham had articulated as a challenge to modernism and to architecture.

\textsuperscript{76} “Hocken Building University of Otago” p 35, caption.
\textsuperscript{77} “Hocken Building University of Otago” p 33.
\textsuperscript{78} Walker “Some Images of Brutalism and Australia and New Zealand” p 121.
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