Why did Architecture get stuck with glue?

Glue bonds the parts of a building, prevents them from rubbing, all the while guarding the internal environment from the elements outdoors. A gripping performance indeed.

However, like the caulking of such a common construction detail, the practice of “Gluey Architecture” has largely slipped between the cracks, even though in Montreal, glue still swells in the joints of buildings constructed in the sixties. Sloppy, squidgy, sticky, distended... Today’s architect concerned with impeccable detailing would say that glue is better off hidden away or substituted out.

Glue is often said to be “tacky,” which conveys its “sticky” or “kitschy” qualities, but which also hints at its animal origins: the first glue, a “sticky gelatinous substance,” was made by boiling collagenous animal parts (hides and hooves) of inferior horses, or “tackies.” By the middle of the century, the industrial production of adhesives made rubber available for building purposes. Although caulking is derided for its sloppy amorphousness, the technical advantages of silicone—the inorganic polymer from which caulking is made—are many. The flexible backbone chain of silicone molecules (alternating silicon and oxygen atoms) makes the material a good elastomer. This means that silicone is an ideal filler between joints that will be affected by thermal expansion. What’s more, silicone itself is extremely resistant to large temperature fluctuations, with glass transition temperatures (the temperature at which rubber becomes brittle) well below -100°C. Silicones are made for Montreal, and have been for the last half century.

Here begins the sticky story.

By the end of the fifties, Montrealers had reason to feel optimistic about the times ahead. The sixties marked Quebec’s peak of building virility; it was “a time of construction...of strong men and hard hats.” In Montreal, builders were kept busy between central corporate projects and peripheral housing for corporate commuters.

The downtown core became a hotbed for skyscraper design while post-war families bought up the brand spanking new homes of suburbia. While the city rose up at its commercial center, it swelled towards the east and the west, low and residential, with development in areas like the East End, Park Ex., Beaconsfield and Roxboro. Beyond work and home, Montreal was also preparing for Expo ‘67, building new infrastructure, including a subway system and a
man-made island, that would become fixtures of the flourishing city. The province was no longer under the strict control of Duplessis, who had been "imperméable à toute idée nouvelle." Mayor Jean Drapeau declared that Montreal could be "the London, the Paris, the Great Cosmopolis of the New World" — a winning proposal. With this positive forecast emerged the ultra-urban International Style projects and the quick-build suburban homes. And from skyscraper to bungalow, glue seems to pop out of, or be embedded in the buildings of the sixties.

Some of Montreal's slickest high-rise projects of the sixties are sloshed with glue in their joints: a funny circumstance in which Kindergarten meets Kunst. Place Ville Marie, Montreal's beacon of International Style, is a minefield of silicon: glue threatens to give and sludge wherever it is prodded. The numerous seams inherent to paneled construction and curtain walls are generously laden with sealant. Expansion joints which cruise and crosscut the floor of the underground plaza are doubly lined with sticky substance. Glue-ishy ethereal, the four glass atria which hover above the granite concourse outside were part of a late-decade afterthought to the PVM center. Though completed in 1972, the construction of the skylight draws on Mies van der Rohe's early-sixties technique of the glue 'n' glass corner — "the structural logic and material ingenuity of 'turning the corner' with a richly plastic incident." Glass meets granite in a similarly generous slick, just as granite meets granite on the exterior column panels of the CIBC tower (1963) down René-Lévesque, the grand boulevard of International Style.

While gluey fissures between the glass planes and stone plates of Internationalism marked the first half of the sixties, the later part of the decade featured glueyness in full flow. Montreal imported Brutalism, a British style featuring large, rectilinear, pre-cast concrete components and emphasizing the stacked, joined and locked assembly of the parts. The movement urged an "honesty" in building, insisting that construction techniques should be totally evident, and that the constitution of the building envelope should be visible on the outside as well as the inside of the building: no cladding, no drywall. However, these staunch "theoretical" bases of the style were lost in transit. Montreal architects and developers certainly liked the look of Brutalism on the outside but stuck to keeping some cladding on the inside.
This superficial adjustment is understandable. The notorious weather in Montreal rules out idealistic approaches permissible in more temperate climates. This was pointed out by Montreal author and architect Jean-Claude Marsan, who conceded that “most architecture in Montreal is derivative.” The Montreal derivative of Brutalist style involved generous quantities of protrusive glue, mostly as a proofing agent. A bit of stylistic adaptation to withstand the weather is beyond reparation in this city.

During these Brutal years, adhesives were liberally injected at every gaping joint and at all meetings of concrete slabs, modules and members. Even though the pattern of “seams” was a fundamental visual component of Brutalist style, there were no design attempts to conceal the plentiful glue that visibly bulges at the joints of Brutalist projects around Montreal. Place Bonaventure (1967) and a slew of McGill University buildings are glue-infused, and spectacularly so. Around the base of the Leacock Arts Building, the freely applied abundance of caulking is thick and eminent — almost a design element itself. The ebb and flow of its application contrasts with the hefty, orthogonal concrete members. And no doubt, many students in addition to the author have taken a recess from their studies to peruse the oozy formations of glue along Blackader-Lauderman library’s windows.

Pre-cast concrete panel construction was not just limited to large-scale, institutional or public buildings. Its popularity and proliferation owed to efficient and economical construction, and probably helped earn Montreal’s late-sixties, early-seventies reputation as a “builder’s banana republic.” Small commercial buildings, quickly assembled and clad with cheap panels and caulking, popped up throughout downtown, especially at the west end of St. Catherine Street between Greene and Lambert-Close. In this line-up of “E-Z” edifices, glue sludges vertically, horizontally, out from between the now-crumbling panels, between buildings and onto the street. Walking along the blocks, it’s tempting to stick a finger in a seam, and feel the building give. The curiosity value of these details almost redeems their lack of finesse. But not quite.

Later on, as a key element of the Pop Art movement which trumped curiosity value and disregarded finesse altogether, glue was perfectly placed. Gluey construction marks the burst of Pop, which unleashed art and architectural projects of which the parts were “popular, transient, expendable, low-cost, mass-produced, young, witty, sexy, glamorous, and Big Business.” A good gluey example of Pop architecture is Safdie’s Habitat development. With the optimism characteristic of the Pop art movement, it was conceived that pre-cast concrete dwelling units with pre-installed fittings could easily, efficiently and economically be arranged as a futuristic fortress on the edge of Montreal. Not as easily stacked as said, the technical sophistication required to join the units was underdeveloped compared to the innovative modular components themselves; and so, thick lines of glue delineate modules, plug gaping oversights and fill the ridges along the community’s outdoor corridors. Albeit that the obvious gluey joints emphasize what was really novel about the project: Habitat defied familiar architectural images of Western domesticity.

The defiance and dreaminess of Pop architecture brought on conceptual, “Fantastic Architecture,” as the author of one conceptual project pondered:

Cut the earth in half, turn both halves in opposite directions and glue them together again. The Western part of the British Isles would be located near the North Pole and the English would be even frontier and Paris would be close to the equator and in fact, everything would be totally different.

Hemispheres fixed back-to-back with glue? Only in the mind of the Pop artist, who envisioned larger-than-life works based on everyday things. What’s more: as part of its idealistic package, the Pop mandate urged the “democratization of art.” In Montreal, Claude Jasmin, the Pop-loving art critic of La Presse, claimed that the popularization of art was part of the “Pop storm” effect, leading to “the demystification of art, of its austere museums, its political and snobby galleries.” In terms of construction, the gap between “high” and “low” architecture was largely plugged by glue. Sealant was administered to the cracks and joints of 45-storey towers in the city center, just as it was in the bungalow bathrooms of suburbia. The weekend, do-it-yourself type was dealing with the same stuff, in the same way, as the construction worker on the site of a multi-million dollar project.

However, the use of glue for small-scale domestic up-keep is also its downfall. Glue’s reputation as a building material is sealed by its relationship to repair and disrepair, to laywork and to lack of polish. Possibly, its pervasiveness raises suspicion: how is it that a little caulking can always do the job? And why is it that the job has to be done
over and over again? Although a caulk-job may lack long-term efficiency or expertise, the proofing of a home can be a ritual, worthy of admiration. One Roxboro resident from a particularly sticky home recalls a fellow who used to visit the houses on his block yearly to make sure they were air-tight and waterproof in all the right places; to squeeze a viscous plug into threatening new interstices; and to tend to previous sealing jobs. The Glue Man was admired for his practical know-how, and his precise control of the glue gun: the cachet of the home repairman. The polyfilling of crannies in Montreal homes could be our local version of “People's Detailing,” the sixties term which described "slightly socialist, superficial qualities" in residential façades.13

The bathtub and the garage, though, are probably the last gluey frontiers. Despite a decade of popularity through the sixties, use of glue was on the decline at the beginning of the seventies. Although it was imagined that the cosmopolitan transformation of Montreal in the sixties would mark the beginning of an exciting era, a period of unexpected economic stagnation spurred by cultural and political tensions ground construction to a halt and grounded architectural imagination. The projects to emerge in Quebec in the seventies were sedated versions of those of the sixties. Many new buildings were new trials with old vernacular approaches and natural materials, but the experimental plasticity of the previous decade was all but given up. The upright erection of several blank-faced or postmodern corporate outfits characterized Montreal's bleak eighties. During the increasingly-busy nineties, the details of high-rise and housing projects became ultra-sophisticated and environmentally efficient far beyond that passé gluey fill — now a characteristic component of sixties buildings. Maybe we’re trying to escape the gluey clutch of our technical heritage, but Montreal seems to have become a city of hyper-details. Some highly-commended projects of the last decade are complexes of refined or novel details, for example, Hanganu's Theatre du Nouveau Monde, In Situ's Zone, Saucier and Perotte's Cinémathèque Québécoise. Since the nineties started out slowly for Montreal's architectural scene, with few large-scale projects taking place and mainly in interior design work or
renovation demanded, it's possible that this recent focus on detailing owes naturally to the small scale of most commissions. Most architects had little choice but to re-calibrate the grandeur of their visions, perhaps via meticulous detail work.

Now that Montreal is finally gaining architectural momentum again with several proposals for major projects on drafting tables across the city and a couple already on site, it seems that most of our local practices continue to be enamoured with complex, "clean" detailing. One explanation could be this: Montreal architects have learned to cope with harsh economic and environmental climates prodigiously and elegantly through intense detailing. As Montreal architect Randy Cohen mused in a recent issue of Canadian Architect: "[Most architecture in the city] is extremely inwardly oriented, defensive, technical. The rain and cold, the budget and schedule are the major issues." In Montreal buildings, glue has become squeezed out of the picture, or squeezed deeper between metal extrusions, under fascias, below trim. These little pieces which weather-proof our buildings (with the added bonus of technical polish) are usually inexpensive and readily available.

It seems unlikely, then, that Montreal will embrace the new silicone style. Projects which are amorphous if not outright glutinous, are bringing glue right out of the cracks. Gaetano Pesce, furniture designer of sixties fame and lover of odd building materials, thinks that his gluey Avignon souvenir shop will "express imperfection, the beauty of the future". The small structure will be formed entirely from silicone. Models for the project look like shelves covered with mucous (right). If this outlook seems a little lascivious, there is the fustian approach of Greg Lynn, who has presented conceptual models of blobs during the solemn meetings of architectural heavyweights. Lynn's essay "Blob Tectonics, or Why Tectonics is Square and Topology Is Groovy" draws on Silicon Graphics modeling hardware which emulates the behavior and interactions of gluey bodies (left). Far from the sumptuousnous of Pesce's squishy boutique, Lynn's essays make a specious, no, serious, appeal for glue:

Blobs intervene on the level of form, but they promise to seep into those gaps in representation where the particular and the general have been forced to reconcile—not to suture those gaps with their sticky surfaces, but to call atten-
tion to the necessary existence of gaps in representation.28

A little sticky, isn't it?

Glue Theory may sound like gunk. Glue History, however, is informative.

The use of glue offers insight into architectural construction — to do with building trends, artistic trends and social trends — over the last 40 years and especially during the sixties, when it was most popular.

Still, the likelihood of a gluey renaissance in Montreal is slight. Current affection for detail rejects glue for its sloppy incongruity. Perhaps too, our old preference for neatly mortared masonry is at odds with the gluey joints that sealed the novel construction of the sixties.

Is glue gripping? For now, no.

But in Montreal, it did hold for a while.

7. Ibid., 19.
8. Jean-Claude Marsan, qtd. in Grassroots, Greystones and Glass Towers, 35.
16. Greg Lynn, "Blob Tectonics, or why tectonics is square and topology is groovy" in Folds, Bodies and Blobs: Collected Essays (Belgium: La Lettre Volée, 1998), 169.

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