andesite & after:
Interview with Annabel Vaughan + Rob Brownie
by Gordon Brent Ingram
Annabel Vaughan and Rob Brownie authored one of the more intriguing essays in the 2008 anthology on local sites, materials, cultures, and designs, *Vancouver Matters*.

Andesite is a hard volcanic rock that on Canada’s West Coast is quarried on Haddington Island, near Alert Bay, between Malcolm and Vancouver Islands. In the first four decades of the Twentieth Century, andesite was often the preferred material for the exterior of the larger buildings constructed in Vancouver, especially for the centres of wealth and power. Colder and more durable than sandstone, andesite was nearly always placed on a granite base.

Architect Francis Mawson Rattenbury (1867-1935) institutionalized the use of andesite in south-western British Columbia, after rejecting a load of sandstone, during the 1898 construction of the Provincial Legislature Buildings in Victoria. In slowly decolonizing British Columbia with its extreme economic fluctuations and its geopolitical marginality, andesite was used to symbolize the new durability of both the state and corporate capital -- national, imperial, and transnational.

Curiously, andesite's loss of desirability coincided with mounting challenges to those same institutions during The Great Depression. Preoccupied with making lighter, less constrained structures as cheaper construction materials were becoming more available after World War II, Vancouver's modernists had little use for andesite’s
texture, colour, and weight. For example, concrete was lighter under the weight of Vancouver's winter skies. Curiously, the Haddington Quarry was recently reactivated after almost seven decades of far less durable cladding being the norm and as the most extensive era of construction (of repetitive designs) in Vancouver's history has been coming to a close. If we can understand more about the emergence of the original use of andesite, perhaps we have an entre into the dynamics that formed the texture of Twentieth Century Vancouver with implications for what becomes of the urban space of The Terminal City in the Twenty-First Century.

GBI: How did you both become interested in, could I say passionate about, andesite?

AV+RB: When faculty and students from the UBC School of Architecture put a call out for submissions for the Vancouver Matters book we decided to choose a material that was unique to the built environment of Vancouver and unfamiliar to a conventional reading of the city. As we researched the stone it was clear that there was a good story to be told and with further exploration an interesting pattern in its use emerged.

GBI: How did you first hear about early Twentieth Century Vancouver's short romance with andesite?

AV+RB: One of the more useful texts we came across was Geology Tours of Vancouver's Buildings and Monuments. In this guide we were able to track most of the buildings we
refer to and map in the article. Annabel also knew a bit of the andesite story because of the work Birmingham and Wood Architects was doing on the Mountain View Cemetery buildings.

GBI: Your chapter on andesite in *Vancouver Matters* is the only major discussion in the anthology on a building material. Paradoxically, this discussion has been for a city where obtaining cladding that can resist and seal a structure from our high rainfall has often been difficult and expensive. In a city such as Vancouver, better known for tacky rather than permanent facades, why is understanding the historical use of andesite important – as well as its potentials for future architectural movements and waves of construction?

AV+RB: If we take a moment to consider those materials that make up the majority of Vancouver’s modern building inventory we are typically left with the same palette that you find in any other North American city – concrete, glass and steel. One set of elements that distinguish one city from another are the colours and textures of materials that clad the buildings we are naturally drawn to for their unique historical value. These structures are with us today for a good reason. They were well constructed and made of materials that resisted weathering, floods and fire. They were built to last. In an era that is increasingly faced with genuine moral questions regarding waste production and resource depletion, the construction of buildings that are well designed and use appropriate materials intelligently is becoming a real concern.

GBI: What other building stone has been important in the building of The Terminal City and what have been andesite's particular attractions and limitations?

AV+RB: Throughout Vancouver you can find basalt from the Little Mountain Quarry and Squamish and granite that is used for building foundations and sidewalk curbing. Varieties of sandstone from the interior and the Gulf Islands are also very common. There are also three beautiful marbles from north of Duncan on the island [white, black and blue-gray] some of which you can see in the main lobby of the Marine Building.

GBI: Is correct to say that andesite has been the most durable material, chosen so far, for cladding of buildings in Vancouver? I can run through a list of 'softer' materials with which the city was built, from wood, bricks, and metal to sandstone, tile, and concrete. And granite, that is so heavy, has often been used for the bases of monumental buildings. But were there any harder materials ever chosen for buildings in Vancouver?
AV+RB: The main types of dimension stone in Vancouver include sandstone, granite, andesite, marble and fieldstone. Terracotta is another cladding material for building exteriors, most notably on the Hudson Bay Building downtown. All of these materials, including the ‘softer’ ones that you list are in fact durable if sound building principles are accounted for in the design, i.e. substantial overhangs and proper rain-screening.

GBI: In reconstructing the thinking behind Rattenbury's pioneering use of andesite in Victoria, why do you think that he made the choice to reject sandstone for andesite? Was it just that the sandstone that was previously delivered too weak and would have required more maintenance? Or was the hardness of andesite, and the sense of resilience that it invoked, more aesthetically attractive, and potentially iconic, as British Columbia attempted to become a more legitimate government (as First Nations were subdued and their Nineteenth Century court challenges made illegal in those same decades)?

AV+RB: The Koksilah sandstone that arrived on site at the Parliament Buildings was rejected. Who knows what Rattenbury was making this judgement on – colour, brittleness, unexpected striations? It was really serendipity that allowed andesite to be used. The contractor on site had a financial interest in the quarry and ‘sold’ it to Rattenbury – the luminosity [feldspar] and the crisp carving surface were added benefits that most likely made it a popular stone with local builders and masons.

GBI: How different does andesite look from when it is dry and the weather is clear with shadows and when it is wet and the skies are grey and with reduced contrast?

AV+RB: Depending on the cut of the stone, dry andesite is greyish-blue as in the bossage blocks on the legislature buildings in Victoria, or yellowish in tone when honed or saw-cut. When wet andesite darkens in shades of grey.

GBI: What were the first buildings in Vancouver where andesite was extensively used?

AV+RB: Financial institutions [banks, insurance agents].

GBI: What were the buildings in Vancouver where you believe that the use of andesite was the most powerful, evocative, and symbolic?

AV+RB: [You could make an argument for the Dominion Building – the tallest in the Dominion at the time it was built...] The Royal Bank building [1931] at Granville and Hastings is the most symbolic andesite building in Vancouver. Built in the tradition of
early skyscrapers the building rises into the sky like a mountain, echoing the formidable natural landscape that surrounds the city. The strength and solidity of the bank is certainly evident in the building as it towers over the rest of the city.

GBI: Just yesterday, on a rainy January day, I marvelled at the Royal Bank Building on the north-east corner of West Hastings and Granville. Eight decades on, that building is far more striking and cleaner than many of the more recent steel and concrete buildings streaked with mould and mildew. How are andesite surfaces maintained? Or do they need to be maintained?

AV+RB: Concrete and stone are completely different materials. Concrete is purely fabricated, is porous and tends to fault with years of exposure- just think of the maintenance required on Arthur Erikson's Law Courts or the SFU campus on Burnaby Mountain. Stone can and will suffer when exposed to pollutants such as sulphur dioxide, particularly limestone and marble which contain calcium carbonate.

GBI: What use of andesite on a building in Vancouver do you think was most about promising prosperity?

AV+RB: If the promise of prosperity has any relation to the size and volume of a structure the Royal Bank building at Granville and Hastings is without question the most inspiring building in Vancouver that is clad with andesite.

GBI: What is the most sensual use of andesite on a building in Vancouver? Or were these buildings even supposed to be sensual in the early Twentieth Century?

AV+RB: Keeping in mind the relative softness of the stone one is easily drawn to the gargoyles, sculpted friezes and decorative elements that can be seen on both the Hotel Vancouver and the Sun Tower.

GBI: Did you find an examples of andesite used for housing and smaller buildings?

AV+RB: We accidently discovered a small church at Fraser and 15th that has an andesite wall – we did not really seek out smaller buildings in the city.

GBI: In the first three decades of the Twentieth Century, could many builders of smaller structures afford andesite? Was it an expensive building material back then?
AV+RB: This is a good question that we might follow up on if we extend our research.

GBI: There was something of an anti-andesite subtext to Vancouver's early Twentieth Century architectural narratives. There was some use of sandstone as with the old Vancouver Public Library building, now the Carnegie Centre, at Main and East Hastings. A kilometre west on West Hastings, the 1930 Marine Building, one of the few major Art Deco buildings in the city, is clad in a warm tile and quite a departure from the three decades of dark buildings with wet andesite – as is the old CPR Building, today's Waterfront Centre. So as more building materials were available in Vancouver, what was the aesthetic or any other basis for the avoidance (and choice) of andesite?

AV+RB: The Carnegie Library at Main and Hastings would have used US architects and building materials [I am not even sure if the sandstone is local] [The sandstone quarried on south-eastern Saturna Island. GBI] The influence of art deco moderne [from the US Southwest] which migrated north [most likely with prospectors] pops up all over the province – I suspect the history of the Marine Building would tie into that. I am not sure that andesite was avoided per se... it was simply displaced by other materials.

GBI: After the current Hotel Vancouver was finally completed in 1940 (over a decade late because of The Great Depression) and with the selection of andesite being in the late 1920s and roughly contemporary with the design of the Marine Building, were there any more large buildings constructed with andesite?

AV+RB: The final two contemporary buildings that used andesite were Vancouver City Hall [1935] and the Royal BC Museum [1968] in Victoria.

GBI: Have there been any uses of andesite in hard-surfaced, public open space in Vancouver? There have been lots of critiques of asphalt, concrete and even granite as paving material. But do you know if andesite was ever used on historic or contemporary landscape designs?

AV+RB: Andesite has been used in the landscape at Mountain View Cemetery – it is a very smooth stone that appears to attract moss – its suitability in the landscape is hard to assess.

GBI: In your essay in Vancouver Matters, you began a map of andesite construction that roughly followed the westward expansion of downtown Vancouver. Or is it that simple? Were there outlying uses of andesite outside of contemporary Downtown?
AV+RB: Andesite was used outside of the financial district – [Heritage Hall, the Left Bank [BMO] condo ‘heritage’ component, banks in Kitsilano also used it [there is a Koolhaus or Club Monaco in one on 4th]. That would seem to indicate that andesite did migrate to the early ‘suburbs' or rather "street car communities" in the city – but these buildings are not as noticeable as a district as the ones in the financial areas of the city.

GBI: Are there any buildings with andesite in Vancouver, from the early-mid Twentieth Century, that are under threat of demolition? Could the only limited use of andesite be used as one criterion for maintaining at least the facades of those buildings?

AV+RB: Not that we know of.

GBI: But you had some strong feelings about superficial preservation of heritage buildings to which you referred as "facadism." Could you restate your concerns and reservations about maintaining the andesite cladding of a building, with limited heritage elements aside from its façade, while gutting its interior?

AV+RB: Facadism is a concern if the integrity of the building interior is diminished. Gudrun Will has described horrendous examples of this practice in his essay in The Vancouver Review. In other cases however, successful renovations of building interiors have provided us with valuable cultural spaces in Vancouver such as the Wosk Centre for Dialogue and the Scotia Dance Centre. The real question is what is gained from
altering or saving a façade and what is lost. Retaining the exterior of a building is important to the streetscape but not if the renovation gives little or nothing back to the community or if that space is taken out of the public realm.

GBI: Now that the Haddington Island quarry is back in operation, what have been the largest projects in Vancouver that have used andesite in recent years? And what are the most exciting ways that andesite is being used in contemporary architecture?

AV+RB: The redevelopment of Mountain View Cemetery is the first contemporary project to use andesite as cladding. The Customer Service Building, the Celebration Hall and elements in the landscape, such as columbaria and memorial walls, all use significant amounts of the stone – a nod to the historic importance of the stone in the civic culture of the city. We have also heard that a contemporary house in Point Grey has used andesite cladding.

GBI: Over the last decade, architecture in Vancouver has been increasingly dominated by social commitments to sustainability and to the attaining LEED certification for larger building projects in particular. As LEED certification increasingly focuses on finding ways to lessen the ecological footprint of construction activities, excessive carbon from trucking from transporting building materials is becoming a growing concern. I am wondering whether a material such as andesite, which is quarried near sea level within a kilometre of a dock and then barged to ports such as Vancouver, does not involve a more modest carbon footprint per building surface are over the long-term? These days, half of the projects in the city are seeing architects scrambling for every last possible LEED point to the extent of working more closely with construction decision-makers around the use and disposal of material. Do you recall any discussions of a return to construction with andesite as part of sustainability transitions?

AV+RB: Although andesite would qualify as a local building product for most of the lower mainland in the LEED scorecard – the cost of quarrying local stone is prohibitive. Most projects end up using stone from China that is cheaper to secure. The ‘insanity’ of the global market - where cheap labour trumps almost all aspects of sustainability is a whole other discussion.

GBI: Are there particular architecture office and any municipalities in the region where there is interest in andesite cladding for new buildings and where you think that it could be appropriate?

AV+RB: Not that we know of.
GBI: Annabel, as a professional architect and university teacher, when would you recommend using andesite in a project of yours and when would you recommend its use to your students?

AV+RB: Andesite tends to consistently work well on smaller projects and as a detailing material. What is important is to ensure that designers are aware of the vast range of local materials that are available and to emphasize material choice within a Vancouver context.

GBI: How would you like to see andesite more widely used in contemporary architecture? Could it be a viable export to other parts of the West Coast?

AV+RB: We have to keep in mind that the Haddington Island quarry is relatively small. There is a finite amount of material we have access to. Without question it would be in our favour to see more buildings faced with this material but what is really exciting is the prospect of having all of the local quarries mined for restoration work and some new construction as well. Andesite has unique properties and has historically worked well on public buildings and so if this tradition is carried on we could see an interesting link between historic and modern views of the city.

GBI: Would a revival in the use of andesite in Vancouver have to be just as a cladding or could you see it used for other, more specific functions and aesthetic statements in the designs of concrete and steel buildings?

AV+RB: Stone is a premium building material – it is budget driven. Projects that use stone tend to have larger budgets and specific design agendas. It is a beautiful material but it really comes down to an aesthetic choice of the client.

GBI: But haven't you also begun to engage in an argument about andesite's long-term advantages related to durability and maintenance? As Vancouver accumulates more wealth, don't you think that there could be a loss of interest in the tackier cladding and a movement back to more durable stone surfaces? Don't architects have ethical obligations to promote more durable materials especially if the use of cladding such as andesite lessens ecological footprints? And how could this beautiful material, that shaped a city so briefly, be better promoted to both with designers and clients? And what about municipal approaches to promoting the use of andesite? Andesite is beautiful, it has a historical resonance for downtown Vancouver, and its quarrying and shipping footprint is lower than for many contemporary materials that are far less
durable. So how could municipal politicians and planners contribute to encouraging a renewed use of andesite in Vancouver?

AV+RB: Andesite is one of many types of dimension stone that contribute to the overall texture and colour of built Vancouver. In time, as the cost of transporting imported building materials increases there could be a shift in thinking as we find ourselves forced into thinking more about sustainability. If it is possible to promote the use of indigenous stone into our structures we need to look no further than Heritage Vancouver and people like Bruce McDonald for the work they have done to help preserve historic buildings and educate the public. In 2009 we led a tour of andesite buildings as part of the Jane’s Walks series that was fully attended. Our walk terminated at the Vancouver Art Gallery and one of the participants asked if a film had been made about andesite. To the best of our knowledge nothing has been done yet, but what is obvious is that writers, artists and historians are ready to pick up on questions regarding materials and urban culture and developers are not. We can only hope that a larger discussion has begun and that some energetic and committed citizens will take these types of questions to community planning meetings and talk openly with planners and architects.

Notes


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designs for The Terminal City. www.gordonbrentingram.ca/theterminalcity


5 http://www.cagbc.org/leed/systems/new_construction/index.php