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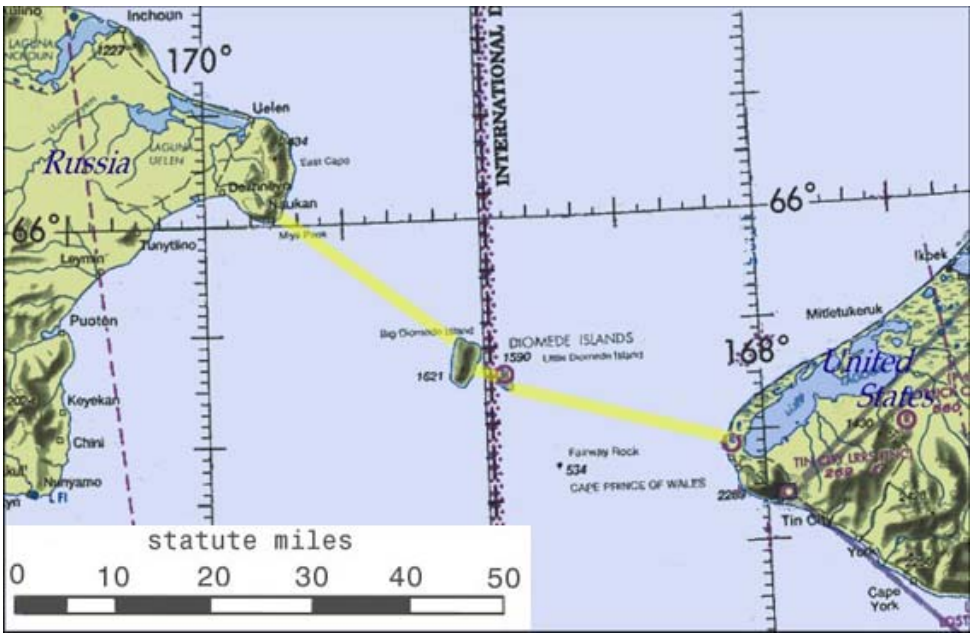
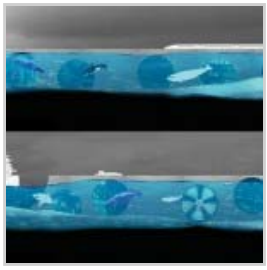
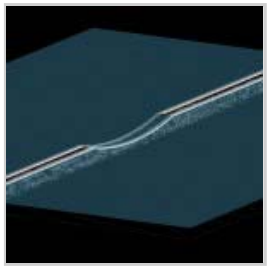
OFF Architecture's Bering Strait Project

The Bering Strait Project international ideas competition recently announced the winning concepts in the professional and student categories. The Bering Strait Project attempts to span the Bering Strait between Russia and the United States via a bridge or a tunnel which would create an overland connection linking Asia, Africa and Europe with North America and South America.



Here is the proposal by Paris-based OFF Architecture (Team comprised of Manal Rachdi, Tanguy Vermet, Mathieu Michel, Takanao Todo, and Lily Nourmansouri) that won the 2nd Prize in the Professional Category.

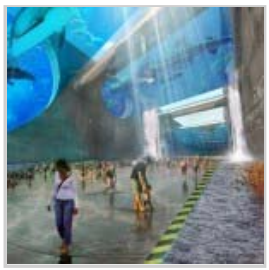

From the architects' project's description:

'The project does not simply concern itself with the construction of a commercial or railway link, nor a bridge connecting one continent to another. The amplitude, siting, geopolitical context as well as the global ecological conscience entails a proposal far more audacious, an active project sensitive to the conditions of the site.

A threshold between the arctic and pacific oceans, the Strait manifests a highly fragile and sensitive climate, linked to the fabrication of ice, acting as a strategic zone for global climate. An incredibly particular ecosystem connected to the surrounding climate is composed of very rare and fragile species which includes belugas, walrus, polar bears, blue whales, dolphins, and orcas, to name a few.

Due to the Straits relatively shallow water levels; the proposed structure is able to descend to the bottom of the ocean, with only a few meters floating above the water level.





The structure works in compression. Two parallel walls cut through the adjacent bodies of water, held apart with bracing, which at times is habitable. Each wall, 10 meters wide, respectfully provides train and vehicle infrastructures at its apex. The massive structure requires simplicity, a trait only achieved with a direct line that connects the two sides of the Strait.

The interstitial space created by this vast separation, spanning 50 meters, becomes an interface for human passage and exchange, providing visitors and inhabitants the opportunity to traverse the Strait by foot, as was originally intended by primary civilizations. Constant views of the marine landscape travelling across the perforating tubes pierce the linear horizon of the space, constructing a new ground floor plane, submerged 50 meters below water level.

The project creates a milieu dependant on green energy, taking advantage of the site and it's inherent currents, to install a completely ecological, renewable system.

The delicate ecosystem embodied in the site is enriched through the implication of perforations in the main structure, across which local fauna can permeate, providing adjacent laboratories direct access for research, as well as inviting the public to explore and witness this unique habitation. A protected space is thus created for these ecologies to flourish. This filter allows things to occur naturally in terms of energy, fishing and observation, but under controlled circumstances.

Furthermore, the separation of the Arctic from the Pacific can only improve temperature isolation, gradually decreasing water temperatures in the Arctic as there is much less exchange between the two bodies of water. The Arctic ice sheet will stabilize itself, protecting the cap from melting. Salinity levels are also stabilized seeing as there is a decrease inflow of the salty Pacific waters, further decreasing ice melt, hence reducing global climate change.

The structure takes advantage of the existing currents in the channel. Certain perforations in the structure act as marine current turbines, accelerating water movement and currents. Because the water level in the Strait is relatively shallow, flows tend to be faster, generating more energy.

Because of their large scale, the turbines move in such a slow manner, that fauna is still able to pass through, diminishing any repercussions on marine life. The energy produced from this action is channelled into programmatic zones of the schemes, such as the residences and the laboratories. Furthermore, the structure's walls rise 2 meters above the level of the sea, utilizing the energy produced from storm fetch, waves that crash and break on the boundary walls.

The Peace Park's form is as symbolic to the past as it is to the future. The notion of time and temporality becomes central; its unstable and transient nature is mirrored in the ice that engulfs the site. Fragile floating pieces of ice, known as pancake ice, maintain a strong presence. They are constantly in collision with each other, until they transform into circular form, and later solidify to create a continuous field of ice. This phenomenon is the basis for the minimal footbridge connecting the little and big Diomedes.

Extending the 50 meter wide opening created by the structure, a series of 10 meter by 10 meter modular cubes, faced with a polished reflective metal, delicately float above the waters surface. The subtle undulation of the modules solidifies once the ice freezes into a unified plane, displaying the instability, political and climactic, that exists in the zone. Individual modules characterize themselves with the engraving of celebrated peoples who have sacrificed themselves for the unification of these continents. Each module, acting as a floating buoy, is equipped to harness energy from the ocean's undulating waves, channelling it back into the zones of habitation within the scheme.

Acting as a viewing platform, the entirety of the sublime landscape can be witnessed, experienced and respected. A powerful place where time dissolves, past and future amalgamate and only the existing landscape reigns.

The structure splits the Diomedes in two. A hermetic city, built into the 400 meter high island, pierces the façade of the cut, comprised of residences, theatres and cultural centres. A fractal view of a submerged city can be seen as pedestrians travel across the Strait, giving birth to a vertical city. A new mode of living is established. Due to the innate thermal mass of the subterranean rock, the diverse program is attributed natural heating and cooling qualities. The surface of the Diomede is uncovered with the rift of habitation below.'

From the competition brief:

'This project is a dream project attempting to connect two continents. In a wide sense, it includes building a tunnel or a bridge at both ends of the strait, extending an existing railways of the United States and Russia, and laying a world highway around the coasts of the world, which require a massive amount of construction.

Once the connection is made, the railway will go through both Uelen of Russia and Cape Prince of Wales of the United States linking the North American Rail System. A new highway will link the existing coastal highway of Uelen – Dezhnev – Tunytlino at Russia and Wales – Tin City – York at the United States.

The scope of the competition includes:
A design proposal of a peace park with a bridging structure using the two islands, Big Diomede and Little Diomede at the Bering Strait to symbolize the continuation of two continents. An idea proposal of how to connect two continents.

The design proposal should stress out the fact that two continents are to be connected. Force of Nature divided the continent into two and the disjunction of people and nation due to this separation has been maintained for a long time.

Now two continents will be connected once again. Therefore, an entrant should express this meaning of connection in his/her work. In other words, a work should show visually and physically the link of these two Diomedes which represent the overcome of time gap and nation's border set by human.

The Promoter also encourages two Diomede Islands (American one in the front and Russian one in the back) various ideas for the connection and its means and method. The Promoter does not anticipate a technically and realistically perfect

solution, however, certain level of a technical clarification for building a tunnel or a bridge in an extreme condition and harsh weather of the Bering Strait is recommended to be included in the design proposal.'

The other jury's winners are:

Professional Category:

1st Prize (USD 55,000):

Diomede Archipelago: TALLER 301 – Julian Restrepo (Colombia), Pablo Forero (Colombia), Manuela Mosquera (Colombia), Susana Somoza (Venezuela), Tomas Jaramillo (Colombia)

2nd Prize (each USD 25,000):

Bering Strait: Rachdi Manal (France), architecture OFF (France)

Bridge the Memory: Jaeik Sim (Republic of Korea), Hyunwook Woo (Republic of Korea), Daekwon Park (Republic of Korea), Jonghyuk Lim (Republic of Korea), Dongjin Lee (Republic of Korea)

Imprinted Time: Jitaek Shim (Republic of Korea), Sung Hoon Chung (Republic of Korea), Seung Youp Lee (Republic of Korea), Seung Hwan Shim (Republic of Korea), Sung Gi Park (Republic of Korea)

3rd Prize (each USD 10,000)

Entanglement: Evelyn Alonso (Spain), Sara Sarmiento (Spain), Manuel Perez (Spain)

Nebula: Marek Rytych (Poland), Krzysztof Kryska (Poland), Malgorzata Piotrowska (Poland), Pasternak Karol (Poland), Radek Tabor (Poland)

Honorable Mention

Connect Five: Jessica Liew (Australia), Clare Kwok (Australia), Zi Yang Boon (Australia), Elissa Loh (Australia), Irene Ng (Australia)

Diomede Plane: zerOgroup [Laurent Troost] (Brazil)

Light of Peace: Jacob Forsberg (Sweden), Helen Hallberg (Sweden)

Suspended Time: Ben Addy (United Kingdom)

Student Category

1st Prize (USD 15,000)

Nature Must Colonize Human: Taegon Kim (Republic of Korea), SeongJae Lee (Republic of Korea), Joohui Son (Republic of Korea)

2nd Prize (each USD 10,000)

Gone with the Wind: Hyunil Oh (Republic of Korea), Jongwon Lee (Republic of Korea), Jaesuk Choi (Republic of Korea), Sangyoon Lee (Republic of Korea)

Rising Land: Jannik Duellmann (Germany), Philipp Lueffe (Germany), Pascal Maas (Germany)

3rd Prize (each USD 5,000)

Invisible Bridge: Hyungi Kim (Republic of Korea), Jihwan Moon (Republic of Korea), Tahn Shin (Republic of Korea), Sungyeol Choi (Republic of Korea), Hanbyul Rhee (Republic of Korea)

Solid Linking: Antoine Denieau (France)

Trans Bering Strait Tunnel & International Peace Park Memorial: Julian Huang (United Kingdom), Vimal Mehta (United Kingdom), James Petty (United States), Hongtao Wei (China)

Honorable Mention

Breakwater: Joohyung Oh (Republic of Korea), Yunsuk Lee (Republic of Korea), Doosan Baek (Republic of Korea)