

CONTACT US
Jonathan Williams
editor@coastweekend.com

WEEKEND BREAK

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THE INVENTION THAT CONNECTED THE WORLD

The Astoria
Bridge.
Ed Hunt

A meditation on bridges

By ED HUNT

We take many things for granted in our daily lives here along the rivers and bays where the Columbia River meets the vast Pacific.

None more so than the practical magic of the bridge.

Beginnings

A long, long time ago, a man or woman following a hunting trail came across a stream flooded after a spring snowmelt. Crossing the stream would mean getting wet and it was already chilly and night falling soon. They shuddered at the thought of the wet, of struggling against the currents that might dash them against the rocks, or wash away their spare and valuable handmade tools. They spied a tree that had fallen across the stream — the root-wad on the near bank, the crown of the tree disappearing into the forest on the other side.

In between, the trunk of the mighty tree connected one side to the other — high and dry above the raging waters. They saw a way to make their path safer and better.

The bridge was born.

In time, the natural bridges like this would be replaced by humans creating their own — crude tools felling a tree or dragging a log and piling rocks to make a crossing when no natural bridge was available. It is unlikely that the bridge was man's first invention, but it may have been the first that involved creating something so long lasting, practical and significant.

There is a bridge still standing that dates to 860 BC that was crossed by the likes of Homer and St. Paul, that still carried the daily vehicle traffic of commerce and civilization until it was closed to cars and trucks in 2006. You can walk or ride your bicycle across it today.

Trial and error, math and geometry — from the strong back of the perfect arch to the sinews of steel cable — bridge design advances on the cutting edge of our practical knowledge while proven designs endure. The Astoria Bridge is the longest continuous through truss bridge in North America. Yet its riveted steel girder triangles look little different from bridges generations older.

The invention that connected the world

It is the invention that first tied the



A natural bridge formed when an ancient lava tube collapsed near Mount Adams.

Ed Hunt



The Brooklyn Bridge in New York.

Jonathan Williams

world together.

Bridges fascinate me not so much in their structure, but in the human cooperation necessary for their genesis. In the ancient world, bridges were built for commerce — like the stone caravan bridge in Turkey — as well as to conquer: Roman legions marched with engineers that erected bridges as they advanced across the Western world. A

ferry or a ford is a bottleneck for cultural interaction — a limitation on human travel that perpetuates isolation. A bridge allows a free flow of movement that can melt this isolation.

You don't need to venture to the ancient world to see an example of this. Think about the dozen bridges that cross the lower Columbia River connecting Washington and Oregon. These two

states have had very different cultures since their inception, different ideas of taxes and tolls and cooperative planning — not to mention competing economies.

That these two states were able time and time again to bridge the river between them speaks to how an overarching practical necessity for connection can build a cathedral to cooperation.

That is how I see bridges, after all.

Lifetimes of toil to construct

The striking thing about cathedrals is how they spanned generations in their making — that the craftsman who laid the first stone, or the architect that designed it never lived to see its completion. Aside from their religious significance, they are monuments to intergenerational cooperation.

While bridges take far less time to construct, they rarely appear overnight. The Astoria Bridge took more than 40 years from conception to ribbon cutting. The Brooklyn Bridge was designed by John Roebling but chief engineering duties were passed on to his son, Washington, after he was felled by tetanus. Washington was incapacitated by injuries suffered during construction, so Washington's wife — Emily Roebling — became chief engineer serving both as on-site project manager and political liaison to see the massive project through.

First conceived in 1800 — it was

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