

Don't blame the Hurricane

Letter to the Editor by Michael L. Ferro
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I've been told that a hurricane named Gustav is to blame for all the recent destruction in Baton Rouge and surrounding areas. I respectfully disagree. Let me explain. Imagine that you encounter a stove for the very first time and you burn your hand. Certainly you could say "the stove burned me." But what about the second, third, fourth, fifth, and sixth time you burn your hand? Is it still appropriate to blame the stove?

According to a hurricane timeline from <http://www.thecajuns.com/lahurricanes.htm> Louisiana was affected by hurricanes in 1711, 1722, 1740, 1766, 1772, 1776, 1778, 1779, 1780, 1781, 1793, 1794, 1800, 1811, 1812, 1813, 1819, 1821, 1831 (x2), 1837, 1839, 1840, 1844, 1846, 1852, 1855, 1856, 1860 (x3), 1865 (x2), 1866 (x2), 1867, 1868, 1871 (x3), 1875, 1879 (x2), 1882 (x2), 1886 (x2), 1887, 1888, 1892, 1893 (x2), 1897, 1901, 1906, 1909 (x2), 1915 (x2), 1916, 1918, 1919, 1923, 1926, 1933, 1934, 1940, 1941, 1943 (x2), 1947, 1948, 1956, 1957, 1960, 1961, 1964, 1965, 1969, 1971, 1974, 1979, 1985 (x3), 1986, 1988, 1992, 1995, 1996, 1997, 1998 (x2), 2002, 2005 (x2), and 2008.

Cities the world over have worked to better design their buildings and city infrastructure to cope with earthquakes. It's big business. But in hurricane country we live as if we are powerless fools that providence has ordained must continue to rebuild our cities and homes using the same failed designs and materials we used last time. We live as if we have never heard of the Three Little Pigs. We act as if this sort of destruction is inevitable, and we blame the hurricane.

While a two year old computer, digital camera, or cell phone is considered outdated and in need of replacing, and we understand the drawbacks of the older technology and the benefits of the newer, we continue to build buildings and houses much the same way they were built 100 years ago. This is mostly because building codes, which mandate how buildings should be built, fail to take modern designs and materials into consideration. They are ancient, outdated documents that have been cobbled together and tarred over with slightly new snippets here and there, much like the roofs that were blown apart by the last hurricane.

If you surf the web you'll find numerous examples of home and building designs that are MUCH better suited for hurricane prone areas (check out <http://domeofahome.com/> for an idea of what a truly beautiful hurricane resistant house looks like). All of these are based on the idea of making the building more aerodynamic. If this doesn't immediately make sense, imagine your home on the back of an immense trailer being hauled down the road at 90 miles an hour. Of course it's going to tear apart! Engineers call buildings "bluff bodies" for obvious reasons. Added benefits of a more aerodynamic building are reduced heating and cooling costs as a building's heat loss is directly proportional to its aerodynamic drag. Conversely a hot wind will have less of an influence on a cool building in the summer.

Infrastructure design is also important. There were no downed power lines on LSU's campus, because a power line can't fall if it was never above ground. We inherited aerial power lines from those that re-erected them after they were blow down in 1882 (x2), 1886 (x2), 1887, 1888, 1892, 1893 (x2), 1897, 1901, 1906, 1909 (x2), 1915 (x2), 1916, 1918, 1919, 1923, 1926, 1933, 1934, 1940, 1941, 1943 (x2), 1947, 1948, 1956, 1957, 1960, 1961, 1964, 1965, 1969, 1971, 1974, 1979, 1985 (x3), 1986, 1988, 1992, 1995, 1996, 1997, 1998 (x2), 2002, 2005 (x2), and 2008 (Louisiana's first power plant was incorporated in New Orleans in 1881). Underground electrical lines may have a greater initial installation expense, but might they be cheaper in the long run? Consider where we would be if in, say, 1958 the city of Baton Rouge passed a resolution that all new power lines should be underground, and passed a plan to replace all aerial lines over the next 50 years. Would it have been less expensive to have started that in 1958 than now? Will it be less expensive to start now than 20 years in the future? Or are we happy with the design we have?

If you proposed a school building but didn't include any fire alarms, emergency exits, or a sprinkler system you wouldn't be allowed to build it. "That would cost too much," would not be a valid excuse. Nor would you be allowed to build a house without a proper sewage system, a car without airbags, run a hospital without gloves or masks, or practice improper hygiene in a restaurant because "that would cost too much." We as a society understand that for many activities you MUST meet a certain minimum of safety. As is painfully obvious when it comes to the infrastructure of this city and buildings within it, that minimum is much too low.

This isn't just a safety issue. It is also financial. A vast swath of the US is in hurricane country and billions of dollars are lost to these major storms. But even more billions of dollars are lost by the schools, researchers, groups, firms, and businesses that don't take advantage of the opportunity to design better homes, buildings, and city infrastructures. Wouldn't it be in the interest of the utility companies, insurance companies, hospitals, National Guard, highway patrol, state and local governments, and the population at large to develop better designs for hurricane resistance? Louisiana has a fantastic opportunity to be a leader in research and development of "urban hurricane ecology." We could export technology and education, save money (and lives), and bring a lot of money and industry to our state.

This is a design problem. Please don't blame the hurricanes.

Michael Ferro