

EDITORIAL

Richard G. Van Treuren, PO Box 700, Edgewater, Florida 32132-0700, rgvant@juno.com

Concerning the cover story, its author (and History Chair) Mark Lutz wrote, "I was looking at articles in English & French about Flying Whale Airships and was astonished at how many different sources of financial support they have. This made it worth looking further into them." Luckily NOON BALLOON is blessed to have volunteers to cover all the news in LTA, and we believe every concept should be given an even fair chance. In fact, their artist might be seen as clairvoyant, in light of what happened in Egypt!

Speaking of covers, last issue's cover story about the origins of Akron's Air Dock was inspirational even across the Atlantic. We heard from Dr. Roland Fuhrmann, who has been studying airship shed architecture for some time now. He kindly accepted our invitation to translate and allow us to use the beautiful graphic that graces our centerfold (pages 14-15). Dr. Fuhrmann's book is entitled: *Dresden's gateway to the skies: the world's first streamlined airship hangar and its influence on architectural history* (Dresdens Tor zum Himmel – Die erste aerodynamisch geformte Luftschiffhalle und ihr Einfluss auf die Baugeschichte), Publisher: THELEM, Dresden, Germany, 2019, Hardcover, 12 x 8.5", 536 pp., 770 ill., ISBN: 978-3-95908-482-6.

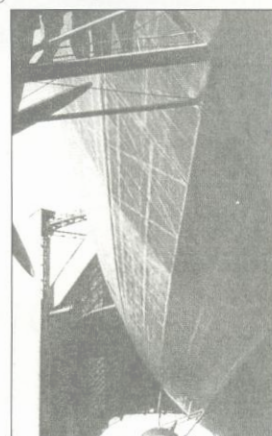
Member Cheryl Ganz has exposed a previously unheralded service delivered by K-ships during WWII on page 10. Following her cover story for the Fall '20 issue, Cheryl wrote, "On its 1954 record-setting Endurance Flight, YZPG-2 BuNo 126710, dropped mail over Kindley Air Force Base in Bermuda; San Juan in Puerto Rico; Windsor Field in Nassau, Bahamas; and U.S. Navy Master Field, Miami. In 1958, on its Arctic flight, ZPG-2 BuNo 126719 *Snow Goose* dropped mail and supplies to personnel on the floating Fletcher Ice Island T-3." Naturally if there is anyone who remembers other mail carries or deliveries that have thus far evaded historians, we'd like to hear about them before they are forgotten and lost forever. A glance at page 28 serves as a quick reminder that time is not on our side.

New to our pages is member Quentin Fleming, who shares his experience with one of the all-time LTA greats. Quentin writes, "I have always believed that you can tell a lot about a person by the way they treat you when there is absolutely nothing you can do for them in return. That says a lot about "Tex" Settle.... What follows is our time together that afternoon. Any errors in fact are my responsibility (though I'll claim that's the way I remember it!)



Sun N Fun 2021 (above, the C-17 slow flight demo over the warbird parking area) was just wrapping at press time, the Blue Angels-headlined festival re-establishing the big crowd airshow at Lakeland, Florida. We volunteers were told that SNF21 is now in the record books as the most successful in the show's 47-year history. "We had more aircraft and campers on our field and for longer periods than we have seen in more than two decades."

Again trying to give everything its due, we have a new Hindy book with yet another idea of how to sandwich hydrogen in between the visibly burning outer cover and its ignition source. Just Ed.'s opinion, but the idea of the outer cover coming in contact with the interior cells is not supported by the engineering. If the back light is strong enough (photo) one can see the fabric-stabilizing tensioned wire sewn into each major panel. We should remember always air-in-gas vs. gas-in-air minimum flammability limits are not interchangeable. Incendiary bullets were snuffed in the pure gas found in a cell of an airworthy airship.



Ed.'s longtime friend Dr. Giles Camplin let us know of a completely new effort celebrating airship history. A geography professor at the European University of Rome, Gianluca Casagrande, heads a joint commemoration project: www.shadowofnorge.eu. This "Shadow of NORGE" commemorates the 95th anniversary of the first transpolar flight, conducted by airship NORGE in 1926, via an augmented reality app for smart phones. Visiting the site along the airship's original route, for example the fuel stop at Pulham, one can "see" the airship as it appeared there. A preview is on Facebook.

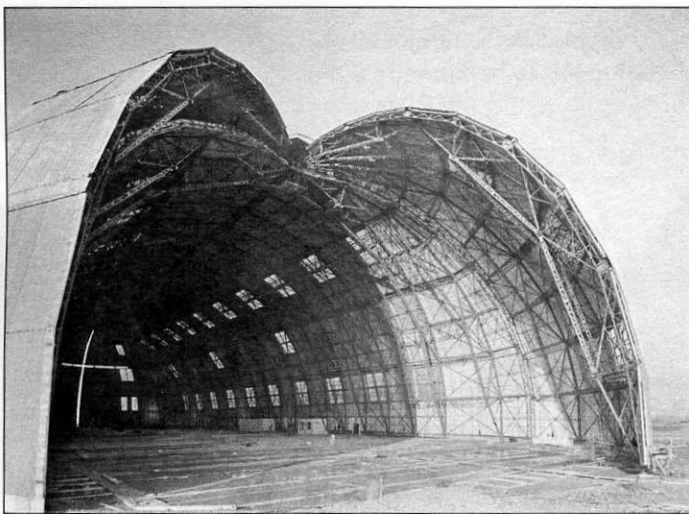
– R G Van Treuren

Alphabet's Loon subsidiary is shutting down. Loon used high-altitude balloons to deliver internet connectivity to areas with limited connectivity, such as rural areas and regions affected by natural disasters. A blog post said the company will wind down operations in the coming months because "the road to commercial viability has proven much longer and riskier than hoped." Ω

General Atomics Aeronautical Systems Inc. "revealed that it has completed the development and testing of a self-contained anti-submarine warfare (ASW) package, the first such equipment for an unmanned aircraft system (UAS)." The package consists of podded sonobuoy dispenser systems and a sonobuoy management and control system. The ASW capability "is being developed for the SeaGuardian configuration of the MQ-9B SkyGuardian, which can carry up to four SDS pods under its wings." The SeaGuardian "is intended to perform as a stand-alone maritime patrol asset or to act with traditional maritime patrol aircraft as part of a manned-unmanned team." Ω

A team of researchers at the University of Pennsylvania has "levitated two small plastic plates using the energy from LEDs inside a vacuum chamber." The disks, made of Mylar and coated on the bottom with carbon nanotubes, float after the bottom is heated with the light. Ω

USAF began the process of retiring B-1 Lancers "for parts." Selected B-1s are in route to the "Boneyard" at press time. Ω



Dresden municipal airship hangar, cyanotype, 1913.

A Brief History of the Streamlined Airship Hangar

By Dr. Roland Fuhrmann

Giant streamlined airship hangars in the US, preserved from the 1930s, are still impressive today. Their design without edges seems to be natural and timeless, close to science fiction. How did they come about?

The common airship hangar design was so-called 'barn-like', also in the US. That first changed when Karl Arnstein (1887-1974) and his engineers from the Luftschiffbau Zeppelin (LZ), emigrated to Akron, Ohio. His companion Wolfgang Klemperer (1893-1965) in particular, a former fluid mechanic at LZ, brought the idea of a new smooth hangar design to the US. Klemperer, who was born in Dresden and studied there, was very familiar with the Dresden municipal airship hangar (built 1913, demolished 1921). This misunderstood hangar design was very ahead of its time. The advantage of aerodynamics to prevent vortex was not yet known, especially not for buildings such as hangars. In 1928, when Arnstein started the planning for the Airdock in order to build the new rigid airships for the U.S. Navy in unprecedented size, this aerodynamic advantage was state of the art. The future of airships was promising, and costly airship hangar designs were not a problem. With the Dresden hangar as role model Arnstein asked for plans, photos and arguments for this unusual design which he called "un-American." Based on the knowledge and the construction plans from Dresden, the Airdock in Akron could be planned quickly and in a technically advanced manner. The success of this engineering masterpiece spread and influenced the airship hangar design worldwide. The 'cocoon design' then became the "Standard Airship Hangar" of the U.S. Navy, but came to an end with the War Production Board.

The Airdock influence was visible everywhere, even in the Soviet Union of the 1930s. For their planned 'Lenin airship fleet' they wanted to build a nationwide series of streamlined airship hangars. Unfortunately, not a single one was completed. Arnstein's streamline wave rolled back to Germany. For their new generation of inter-war passenger Zeppelins, Germans needed a series of new hangars. They didn't abandon the barn-like form, but combined it with revolving cylindrical shell doors. The hangar floor plans were similar to the Airdock's in Akron. The last and currently largest hangar in the 'cocoon design' was built in 2000 in Germany as an airship dock for CargoLifter, which went bankrupt three years later.

Meanwhile, the creator of this new design was completely forgotten: civil engineer Ernst Meier (1868-1934) in Berlin. His innovative work was discovered incidentally during the research for my book (details, page 2) and honoured for the first time. (Con't next page)



German civil engineer Ernst Meier (1868-1934)
Inventor of the later so-called aerodynamic airship hangar design

Schematic representation of the construction history of aerodynamic airship hangar designs with orange peel doors, its development and transmission



Municipal airship hangar in Dresden, Germany
built 1913, demolished 1921 according to the Treaty of Versailles
Archetype of the aerodynamic airship hangar design



Gable view of the Dresden hangar



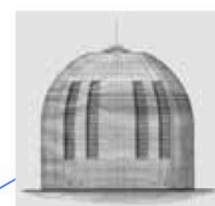
Identical in construction to Dresden,
but smaller military airship hangars
of the German Imperial Army in
Liegnitz and Posen, both built 1913,
demolished 1921 and 1946.
(now Legnica and Poznań in Poland)

First adaptation and recognition as an aerodynamically optimal streamline-design
A turning point in airship hangar design

Hybrid design in the inter-war period in Germany:
Barn-shaped airship hangars with aerodynamically rounded gable doors made of cylinder segments on a rail circle



GHH and Seibert Saarbrücken, airship dock
of LZ in Friedrichshafen, built 1929/30,
destroyed by Allied bombing in 1944 in WW2



Seibert Saarbrücken
design for a passenger airship
hangar in Rio de Janeiro, 1933



GHH and Seibert Saarbrücken, airship
hangar of LZ in Löwental, built 1930/31, d. 1943



GHH, passenger airship
hangar in Rio de Janeiro, Brazil
built 1934-36



Seibert Saarbrücken, two passenger airship
hangars in Frankfurt am Main, built 1935/36
and 1937/38, blown up and demolished 1940



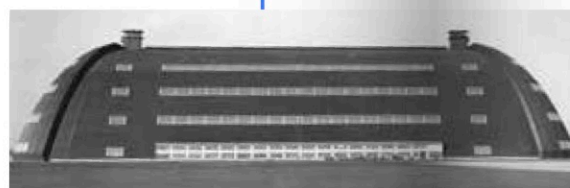
SIAT and Ove Arup, CargoLifter airship dock in
Brand, Germany, built 1998-2000, since 2003 'Tropical Islands' aqua park



Goodyear-Zeppelin Corp. (Karl Arnstein et al.) and Wilbur
Watson & Associates, Airdock in Akron/OH, built 1929/30



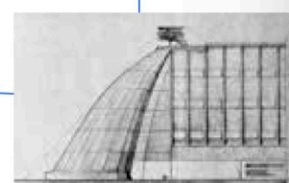
U.S. Navy, Hangar One, NAS Moffett Field,
Sunnyvale/CA, built 1931-33, roof dismantled 2010-12



U.S. Navy, Standard Airship Hangar, built 1941/42 in South Weymouth/MA
(demolished 1966) and in Weeksville, Elizabeth City/NC



Ammann & Whitney, deployable
dome-like roof of the 'Civic
Auditorium' in Pittsburgh/PA
built 1958-61, demolished 2012



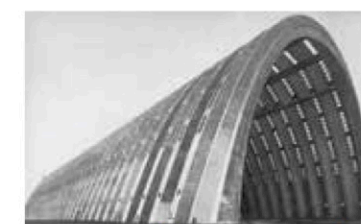
Charles S. Whitney,
airship hangar design in concrete
with orange peel doors, 1944



U.S. Navy, airship hangar with autonomous movable
gable domes, Houma/LA, 1943/44, demolished 1948/49



G&S and R&S, airship hangar design for the NAS Lakehurst/NJ, 1956



Eugène Freyssinet, two concrete airship hangars in Orly near Paris, built
1921-23, destroyed by Allied bombing in 1944, during WW2

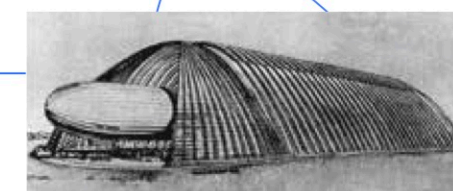
Soviet airship hangar designs
in competition for the
Dirischablestroy airship yard in
Dolgoprudny near Moscow, 1934



I. G. Ljudkovskij and B. Ja. Slezinger
airship hangar design, 'Сборный'



Winning design, 'Гто-34'



Alfonso Peña Boeuf, design for a passenger
airship hangar in Seville, Spain
1928 without any gable doors
1935 larger and with orange peel doors
(Foundation work abandoned at the outbreak of the
Spanish Civil War in 1936.)



NIAI, airship dock design in wood/concrete, Soviet Union, 1932/35



N. N. Filippow et al., airship hangar design in wood
Soviet Union, 1935

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