

## IN MEMORIAM

### HEINZ ISLER

**Shell Builder and Structural Artist**  
**26 July 1926 - 20 June 2009**



The passing of Heinz Isler on 20 June 2009, just before his 83<sup>rd</sup> birthday, following a stroke earlier in the year, has taken from us the last of the great reinforced concrete shell builders of the 20th century and one of IASS's best known, respected and long-serving members. Present at the first IASS Congress, in Madrid, in September 1959, sadly he was not to see the 50th anniversary. At the time of his decease he was an Honorary Member, receiving this honour in 1994, and a member of the Advisory Board. Over the years he had been a long-standing and active member of the Executive Council, was one of just 13 recipients (to date) of the prestigious Torroja Medal (1996), and a Tsuboi Award winner, in 1993, for his IASS Journal paper "Generating Shell Shapes by Experiments". He was also a founding member of the Structural Morphology Group – IASS Working Group 15 – being present at its very first meeting, held in a bar in Copenhagen during the Annual Symposium in 1991.

In 1983 Heinz Isler received an honorary doctorate from ETH Zürich and a honorary chair at the University of Karlsruhe. During his professional career of over 50 years he received many awards for his electrifying shell forms, the most recent being the Fédération International du Béton (fib) Freyssinet Medal, awarded in 2006.

Born in Zollikon, near Zürich, Heinz Isler showed talent as an artist whilst at school and his first love was art. Nevertheless, his father advised him to acquire a professional qualification in engineering before embarking on his potentially more precarious chosen career. During his studies at the ETH in Zürich Heinz chose to study thin reinforced concrete shells as his dissertation subject. On graduation, he assisted Professor Pierre Lardy and became fully aware of the value of using scale models to explore the behaviour of structures. Still wishing to pursue a career as a painter, he subsequently took a job in Burgdorf, near Bern, to earn money to study art, having been accepted as a student at the Academy in Munich.

Fate intervened and his first project, a concert hall roof at Langental (1954/5), was to start him on the path as shell builder, which he was to pursue until the end of his life. The roof's form, designed and constructed as an innovative reinforced concrete shell, was loosely based on the shape of the plumped up pillow on his bed, which he had noted on returning to his lodgings late one evening whilst struggling with the roof design.

A key event in Heinz Isler's long association with IASS was his presentation at the first IASS congress. At the time he was a relatively young man, just thirty-three years old, yet his paper given in front of more established shell builders, Eduardo Torroja, Nicholas Esquillan and Ove Arup among them, challenged the established practice. Until that

time the majority of thin reinforced concrete shells had taken the form of surfaces that could be easily described mathematically. Heinz Isler, however, presented three alternative methods: shaping using earth mounds; inflated membranes; and hanging cloths, which potentially allowed the design of an infinite spectrum of new forms. He showed 39 possible shell shapes, with a tantalising “etc.” indicating what might yet be imagined. His proposals so astounded that eminent audience that they provoked a heated and extended discussion reported at length in the IASS Bulletin.

His inflated membrane method led him to develop a standard “bubble” shell that was utilised in hundreds of examples, up to 58.8 metres in span, mainly for commercial and industrial buildings. However, his reputation as an exceptional and inspirational structural artist was earned primarily from the slender shells he shaped by inverting the form of a hanging cloth or membrane. The elegance and structural purity of forms such as the two 31.6 metre span triangular plan canopies of the filling station roof at Deitingen, near Bern, constructed in 1968, gained the respect and admiration of architects as well as engineers. When in 1999 their demolition and replacement with a standard steel canopy was threatened, a campaign for their retention was supported by eminent Swiss architects including Mario Botta and the twin shells were relieved.



Heinz Isler has left a legacy of approximately 1400 elegant yet economical shell forms across Europe. He continued to build his shells into the 1990s long after reinforced concrete shells became unfashionable, at least in developed countries where steel became the material of choice for medium span roof structures. Nevertheless, it is unfortunate that Heinz did not endure to take advantage of the new aesthetic style of free form in architecture and the reviving interest in shells as a means of achieving them for 21<sup>st</sup> century structures.

Heinz Isler was a fascinating personality with great charisma. He combined a mixture of characteristics which seldom come together: an incredible creativity and almost childlike enthusiasm on the one hand and an impressive precision on the other, as often attributed to the Swiss. Where the quality of manufacturing for his shell structures was concerned he did not make any compromise. This mixture made him a unique person acknowledged by both engineers as well as architects. His inspiring lectures, many of them keynote, have filled halls and won the audience all over the world. In particular young people were excited.

What guided Heinz Isler? He was an observer of nature; he lived in and with nature; he exploited the rules of nature for his designs and manufacturing processes. This was the key for his success.

Heinz Isler will be remembered by fellow IASS members, of course, for his magnificent, dazzling and innovative shells but also for his unbounded enthusiasm, love of life and nature, kindness and generosity – as will be remembered by all who visited him at his office. The last few years of his life were devoted to caring for his wife Maria, following her own stroke in 2004. As many of us will recall, over the years Maria was always at his side at IASS events and, having given up her own career as a doctor, contributed so much to the smooth running of the Isler studio in Lyssachschachen.

The presence of both Heinz and Maria at future IASS events will be sadly missed.



*Michael Balz, David Billington, John Chilton (Chair) and Ekkehard Ramm, IASS Heinz Isler Memorial Committee*