The Structure: Works of Mahendra Raj explores the oeuvre of Mahendra Raj's sixty prolific years of practice as a structural engineer. His unusually inventive and intuitive work reveals bold and pioneering engineering solutions for buildings in exposed concrete over the years. Most of his structures are now artefacts that narrate the energetic period of nation building in post-Independence India.

Some of Raj's buildings are unique, one of their kind, in India and the world, for instance, the Hall of Nations and Industries with their large-span cast-in-situ space frame and the Hindon River Mills with a series of bowstring arches in concrete. His practice also boasts of heroic structures built in the '60s and '70s such as the large folded-plate cantilevered structure in concrete for the Municipal Stadium in Ahmedabad, the folded-plate frame for Tagore Hall, the transfer girders that realised the architects' needs for the New Great Insurance Co building and Akbar Hotel—all pioneering constructions in India. The '80s saw further innovative structures such as the zig-zag columns stabilised by corridors in the NCDC office and the use of Vierendeel trusses in the STC office building to create cantilevered large-span cascading forms.

The book presents 28 structures through a rich collection of over 100 archival drawings and nearly 400 photographs along with contributions from architects, engineers and academics from around the world.

Mahendra Raj, (born 1924), graduated as a civil engineer from the Punjab College of Engineering and Technology, Lahore, in 1946 after which he joined the Punjab Public Works Department's Building and Roads wing. In 1952 he was introduced to structural design as an Assistant and later, as an Executive Engineer working on the buildings of Le Corbusier in Chandigarh, which inspired him to pursue further studies from the University of Minnesota, USA, in structures in 1956. He then moved to New York and worked at Ammann & Whitney Consulting Engineers until 1959 where he was associated with several innovative structures such as the Illinois Field House, Mohawk Airlines hangar, the Swissair hangar in New York and the US Embassy in Dublin. He also won the Boese Fellowship at Columbia University, New York, where he earned a Civil Engineering degree in 1959.

Raj returned to India and set up a consultancy in Bombay in 1960. A decade later he shifted his practice to Delhi. He has to his design credit a number of large-span structures which when built, were the largest of their kind in the country and sometimes one of their kind globally. He also designed the first high-rise in India, the Usha Kiran in Bombay. Much of his work was with leading international and Indian architects such as Le Corbusier, Minoru Yamasaki, Louis Kahn, AP Kanvinde, Charles Correa, BV Doshi, JA Stein, Shiv Nath Prasad, Kuldip Singh and Raj Rewal.

During the course of his professional career he has won many awards and honours. The Institution of Engineers (India) presented him with the Architectural Engineering Design Award in 1990; the Association of Consulting Civil Engineers presented him with the Acce Gourav Award in 1991; and he was the first engineer to be awarded The Chairman's Award 1995 instituted by JK Cement Works for the Architect of the Year. Over the last two decades he has received Lifetime Achievement Awards and Scrolls of Honour by the Indian Concrete Institute (2001), the Institution of Engineers (India) (2001), the Consulting Engineers Association of India (2009) and the Institute for Steel Development & Growth (2014). The Structural Engineers World Congress-India honoured him with the Sundaram Medal in 2013.

In service to his profession, Raj has led the Indian Concrete Institute, the Association of Consulting Engineers India (ACEI) and the Indian Association of Structural Engineers as their President. As Vice Chairman he has served the Consultancy Development Centre and is currently serving the Engineering Council of India in addition to membership and advisory roles at several important government and non-government committees. Through these positions he has worked for the cause of consultancy and the framing of a proposed Engineer's Bill in India.