

“The Brunel Legacy”

Mr Keith Hickman

Bristol Industrial Archaeology Society

Joint annual lecture with the Cirencester Archaeological and Historical Society

Mr Hickman gave the capacity audience a brief background to the early life of Isambard Kingdom Brunel. His father, himself an eminent engineer, planned his son's future as an engineer including ensuring that, even as a teenager, he was sent to France to receive the best possible technical education. This was the foundation of a career that enabled him to achieve success in a wide range of engineering fields.

To illustrate Brunel's achievements in the field of bridge-building, Mr Hickman used examples of railway bridges, where he championed the elliptical shape, essential for his wide-gauge railway with the Maidenhead Bridge being the best example. He also pioneered work with riveted wrought iron and balloon-frame bridges. However he did not live to see the completion of perhaps his most famous bridge i.e. the Clifton Suspension Bridge, which in its day, was by far the longest span bridge of its type.

Brunel surveyed the original Great Western Railway line from Paddington to Bristol and he set the architectural style for at least half of its 117 miles.

Although his wide-gauge concept was never adopted elsewhere, the line is exceptional and is still used for high-speed trials and remains one of the only main lines not to be electrified. It is perhaps fitting that the GWR, including the SS Great Britain is currently being considered for international heritage status.

In the field of sea transport, Brunel pioneered work on the use of the screw propeller, the use of paddles and steam and riveted iron hulls in ships such as the SS Great Britain, the Great Western and, the largest of all, the Great Eastern. However he did not live to see the completion of the latter.

Mr Hickman concluded by explaining that many of Brunel's perceived failures e.g. the gas engine, the Great Eastern and the attempt to use compressed air for rail transport, pointed the way for future developments in such areas as pressure vessel design.

Given on Wednesday 14 March at the Royal Agricultural College