**TECHNOLOGY AND PHYSICS**

Wrought or malleable iron has been around since medieval times but was mainly used for utensils or ornamentation. It was only with the refinement of the puddling process in the 1790s that wrought iron began to have the strength (and fell to a price) where it could be considered as a structural material. For greenhouses this new material had great advantages. Hitherto greenhouses had either been stone buildings with large windows or else wood or cast iron framed. Both the latter required thick glazing bars, excluding much light, and only permitted flat surfaces. The new wrought iron lengths seemed to be very strong even when very slender, and it could be shaped or curved without snapping. Suddenly all sorts of new possibilities arose. As far as gardeners were concerned, they wanted curves.

Part of this new requirement was undoubtedly aesthetic; these buildings looked more elegant. Much more important, however, was the proposition put forward by a Scottish scientist, Sir John MacKenzie, in a paper of 1815. He said that the maximum heat transference from the sun through glass occurred when the sun was at a 90 degrees angle. However as every day the sun was at a different point in the sky, a flat surface could not be an efficient heat transfer mechanism. Rather the ideal greenhouse would be a sphere.

A sphere, it was agreed, was somewhat impractical. But the curved greenhouse played perfectly to the early nineteenth century obsession with “improvement”, doing things better. Here was the efficient use of solar power with all the attendant savings on coal generated heat.

No one grasped the unfolding possibilities more swiftly than John Claudius Loudon. He had served his horticultural apprenticeship in a Scottish nursery specialising in pineries and so even as a young man was familiar the hothouse challenges. Having made a great deal of money from his garden design business, he decided to go on a grand tour of Europe when travel became possible after Napoleon’s defeat in 1813. He went to St Petersburg. There he was greatly impressed by the massive greenhouses of the aristocracy used to produce strawberries February, but as a good Scottish Presbyterian, he was even more appalled by the extravagance and waste of the whole process.

When he got back to London, the first thing he learnt was that the city broker to whom he had entrusted his fortune (£10,000