

A word...

Hippocampus

BY TIM WATERMAN

I need to get to my meeting by noon,' you tell the taxi driver as you settle yourself in the cab. 'I think I can do it,' says the driver, and immediately her mind is lighting up a vast range of possibilities as she calculates time of day and traffic flows, driving distances and possible short-cuts. She has no ordinary brain, either.

Like an athlete, she has worked out and built up her hippocampus; the sea-horse shaped area of the brain that is largely implicated in spatial understanding and memory. Through daily exercise, her hippocampus is pumped like a little bicep. It's full of complex spatial knowledge. Interestingly, those whose professions and educations require lots of rote memory (such as doctors) seem not to exhibit the same tendency to bulging hippocampi. It appears to be the spatial component of the memory involved in 'The Knowledge' that builds up the hippocampi.

I know of no equivalent study of the brains of designers, particularly of those engaged with complex spatial problems on the order of landscape; immensely scaled and complicated with the dynamics of culture, time, environment, and ecology. Cognitive neuroscientists have realised that we are capable of changing the very structure of our brains consciously, much as we are able to shape and modify our bodies, and I'm convinced that the brain of a highly educated and experienced landscape designer must be a very different organ to that of most mortals, and

indeed to that of many designers in general.

In the process of a landscape architectural education, many students feel as if their mental capacities are being stretched to breaking point by the difficulties of training their minds to comprehend the spatial simulation required for the envisioning of design scenarios. This is to be expected, as they are much like an athlete who discovers muscles previously undiscovered. It's the ache that follows exertion, but that leads to fitness and strength.

The mental process known as simulation is important to the designer. If a person is asked to imagine an activity, such as lifting a glass of beer and taking a sip (stay with me, now), then the neural pathways that are activated in the act of imagination are same as those that are employed in the actual experience. It stands to reason that we can train our imaginations and our brains for highly accurate simulation of this sort as well.

The spatial expertise that a landscape architect brings to design is more advanced than the taxi-driver's knowledge for yet another reason. The landscape architect is not only using their brain to envision an existing place, but they are also using their knowledge and experience of existing places to envision places that do not yet exist. They are casting into the future. This is where simulation is particularly important to design. It is the anterior function of design drawing.

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It includes the mental ability to simulate the occupation and the experience of inhabiting a site that is hypothetical or that is not yet built.

So a landscape architect may well have a sleekly muscled brain that is ideally adapted to dynamic large-scaled spatial imagination, simulation and knowledge, and the ability to vividly imagine possible futures. Why is all of this important? It suggests that there is a scientific argument in favour of employing landscape architects to design outdoor spaces because we possess the ideal neurophysiology for the task due to practice, education, and experience. Landscape architects. Fit for purpose. ●