Posterior parietal cortex…

as a representation of egocentric space (Stein, 1992)

1) Primary cortical representations of sensory input and motor output are spatially distorted.
2) Receptive surfaces are always being moved.
3) The different primary sensory and motor maps all use different coordinate systems.

One way to solve these problems would be to transform everything into a uniform, egocentric coordinate system. But this would require retransformation into the output coordinates. Stein suggests that what is required is not an explicit topographic map but a "distributed system of rules for information processing that can be used to transform signals from one coordinate system into another".

PPC = superior parietal lobule (area 5 & 7) + inferior parietal lobule (areas 39, the supramarginal gyrus, & 40, the angular gyrus), divided by the intraparietal sulcus.

Superior parietal lobule. Lesions: impaired complex somaesthetic judgement. Astereognosis: can't recognise objects by touch. Amorphosynthesis: can't build up accurate body image. Asomatognosia: denying existence of part of the body.

Inferior parietal lobule. Lesions: Balint's syndrome (fixate attention on one object, can't redirect). Left hemineglect following right PPC lesion. The space such patients ignore does not move with their eyes, but tends to centred on a point passing through the centre of the body or the head – the egocentre. R=spatial, L=temporal (speaking, logic, calculation – sequencing events in time acurately).

No evidence for a topographic map or a common sensorimotor coordinate system. Small RHS lesions do not cause "space scotomata", but result in general inaccuracy in localizing objects on the LHS. Spatial RFs are very large.

Stein thinks that the redirection of attention in the PPC may select the sensorimotor association algorithms that convert sensory input (e.g. retinal) into motor output (e.g. oculomotor).