Deposition of Bi on Si(111) 7x7 undergoes an interesting formation from an amorphous wetting layer through ordered platelets to a homogeneous highly ordered Bi(111) film. Bismuth growth was monitored with RHEED and the evolution of the Fermi surfaces and electronic states within Bi-platelets was studied by angle resolved photoemission spectroscopy. For films <10Å the Fermi level emission is strongly localized around the normal direction but isotropic in the film plane. At a thickness of ~10Å a 2D-Fermi surface evolves which shows hexagonal symmetry. ARPES indicates the existence of discrete states associated with the confinement of electrons due to the platelet height and finite lateral dimensions. With increasing film thickness the confinement effects gradually diminish while the electronic structure evolves into that typical for bulk single crystalline Bi(111). The interim formation of a Bi allotrope with a puckered black phosphor structure as suggested by recent STM experiments will also be addressed.