



Pl. 15. The Parthenon, seen from the South-East. Not the least reason why the beauty of the Parthenon (built in 447-438 B. C.) attains such heights is the fact that the architects Ictinus and Callicrates, whose work was, according to Plutarch, supervised by Phidias, applied to this building their quite advanced, and indeed remarkable, theoretical knowledge of optical phenomena and of perspective. The ancients themselves tell us that Phidias was familiar with optics and geometry. That the architects of the Parthenon had a knowledge of optical phenomena is shown, among other things, by the slight arching of the stylobate (the upper one of the three steps on which the columns stand). Such arching, which occurs also in other Doric temples, can be interpreted as a deliberately applied device to correct the optical illusion of a hollow. Less certain is the explanation of the sloping of the columns, (backward) and of the wall of the inner sanctuary (backward), the abacuses of the columns (forward), the architrave and the triglyphs (backward) the cornice and the acroteria (forward). Vitruvius, the Roman architect (*de Architectura* III, 5, 13), says that the inward incline of the temple columns and the leaning forward of the structural elements above the columns serve to counterbalance an optical illusion, which he explains mathematically.