A unified approach to the theory
of separately holomorphic mappings

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Abstract. We extend the theory of separately holomorphic mappings between complex analytic spaces. Our method is based on Poletsky theory of discs, Rosay theorem on holomorphic discs and our recent joint-work with Pflug on boundary cross theorems in dimension 1. It also relies on our new technique of conformal mappings and a generalization of Siciak's relative extremal function. Our approach illustrates the unified character: "From local information to global extensions". Moreover, it avoids systematically the use of the classical method of doubly orthogonal bases of Bergman type.