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We set up a Quantum Master Equation for open-closed string theory and show that the corresponding moduli spaces give rise to a solution, a generating function for their fundamental chains. The equation encodes the topological structure of the compactification of the moduli space of bordered Riemann surfaces. We also discuss the structure of a Quantum Master Equation for the Gromov-Witten potential, i.e., the generating function of the moduli space of maps of Riemann surfaces to a target space. (Received May 17, 2006)