Current computational theories for human-robot collaboration specify the structure of collaborative activities, but are weak on the underlying processes that generate and maintain these structures. We argue that emotions are crucial to these underlying processes and have developed a new computational theory, called Affective Motivational Collaboration Theory, that combines emotion-based processes, such as appraisal and coping, with collaboration processes, such as planning, in a single unified framework. To illustrate the application of this new theory, we present detailed computational walkthroughs contrasting the behavior of an emotionally aware robot with an emotionally ignorant robot in the same situations. These walkthroughs are the starting point for our implementation of the theory.