Abandoned quarries represent very important habitats for ecology and conservational biology: they have a potential to become refuges of species diversity in present landscape, strongly disturbed by humans. Natural value of these localities increases in case the localities are left for natural development and spontaneous succession, or if they are managed with the aim to obtain a natural community. To be able to do such a management is necessary to understand the mechanisms of succession as much as possible. In the theoretical part of my thesis I deal with factors, which can affect the course of succession in different ways, especially with climate, soil conditions, seed dispersal and interactions among plants and between plants and animals. This thesis is a theoretical basis for a research in quarry Čeřinka in the Czech Karst Protected Landscape Area. Dispersal abilities of species from the surrounding communities, changes in abiotic conditions at the localities and changes in species composition will be studied. The results of these studies should contribute to our understandings of primary succession in abandoned quarries and I am going to deal with them in my future diploma thesis.