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Sommario/riassunto	<p>The microstructures of both martensite and bainite, although sharing some common features, depict a plethora of subtle differences that made them unique when studied in further detail. Tailoring the final properties of a microstructure based on one or the other as well as in combination with others and exploring more sophisticated concepts, such as Q&P and nanostructured bainite, are the topics which are the focus of research around the world. In understanding the key microstructural parameters controlling the final properties as well as definition of adequate process parameters to attain the desired microstructures requires that a proper understanding of the mechanism ruling their transformation and a detailed characterization first be achieved. The development of new and powerful scientific techniques and equipment (EBSD, APT, HRTEM, etc.) allow us to gain fundamental insights that help to establish some of the principles by which those microstructures are known. The developments accompanying such findings lead to further developments and intensive research providing the required metallurgical support.</p>