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Autore	Born Philip G
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Sommario/riassunto	This thesis deals with the processes that create ordered assemblies from disordered nanoparticles. Ordered packings of nanoscale particles can exhibit unusual properties. This work investigates the self-assembly of such particles, a process widely employed for the generation of ordered structures, but not yet well understood. In situ methods are used to observe the assembly of sub-micron polymer lattices and sub-10 nm gold particles into crystalline monolayers and aggregates.On the basis of these results, the book develops new models that describe the competition between different influences, such as thermal agitation and directional forces. It suggests necessary criteria that lead to the emergence of order.