Aperiodic tilings, old and new - an overflight

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I briefly sketch the background and motivation for studying ordered aperiodic structures. I show a few examples of fivefold tilings relevant to metallic quasicrystals as well as some twelvefold tilings occurring mainly in soft matter. I present my own eightfold spacefilling structure interpreting the structure of the **MnSiAl** quasiperiodic phase in terms of covering by clusters. By comparison of the Golay-Rudin-Shapiro and Champernowne sequences I demonstrate that nonzero entropy does not imply stochasticity. Eventually I show our own multidimensional generalizations of the Paperfolding and Period Doubling sequences as well as the Chair Code, Brick and Crossed Cube tilings.