This table results from a simple filling of the natural classification of the energy levels of the atoms.

It allows a direct reading of the electronic structure.

As an example, for element (S,16) we have $1s^2 2s^2 2p^6 3s^2 3p^4$.

As some energy levels are quite close, some elements may have one or two electrons "misplaced".

These exceptional elements are: Cr, Cu, Nb, Mo, Ru, Rh, Pd, Ag, La, Gd, Pt, Au, Ac, Th, Pa, U and Cm.