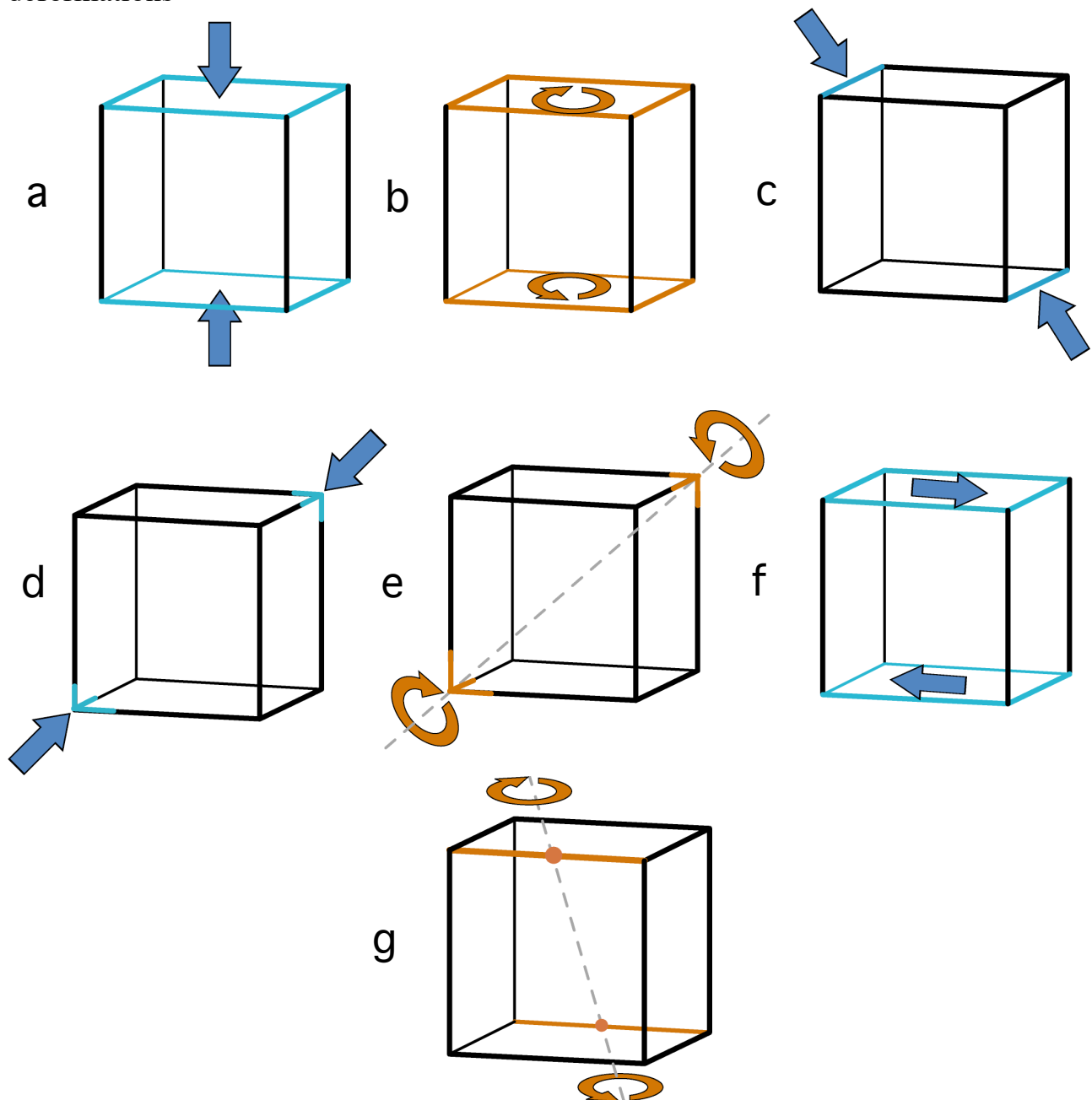# What are the possible deformations of the cube and their corresponding symmetries?

Below are a few possible deformations resulting from compressions and shear deformations

The symmetry of the undeformed cube is $m\bar{3}m$ or more completely $4/m\bar{3}2/m$ and the resulting deformations give the following point groups

a	b	c	d	e	f	g
$4/mmm$	422	mmm	$\bar{3}m$	32	$2/m$	222

It is interesting to note that all those symmetry groups are subgroups of $m\bar{3}m$.