# Publisher Correction: The evolution of multiferroics

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In the key for Figure 1, the legend for the upper right element in the key should read  $R^{3+}$ , where R = Sc, Y, In or Dy-Lu.

The caption for Figure 1b should read: geometrically driven ferroelectricity in hexagonal (h-) RMnO<sub>3</sub> emerges from a tilt and deformation of MnO<sub>5</sub> bipyramids, which displace the R ions as indicated by the arrows.

The material mentioned in the caption for Figure 1d should read (o-) TbMnO<sub>3</sub>.

In the caption for Figure 2, the reference for the transition from a spiral order to a collinear antiferromagnetic order in orthorhombic TbMnO<sub>3</sub> under pressure should be reference 42.

On page 6, Figure 3a should be called out in the second paragraph, after "establishing a rigid coupling between the antiferromagnetic order parameter of the multiferroic constituent".

On page 8, in the second paragraph of the "Non-equilibrium dynamics" section the composition for the material should read LuFe<sub>2</sub>O<sub>4</sub>.

On page 9, right column, the symmetry group for h-RMnO<sub>3</sub> should read P6 $_3c'm'$ .

On page 10, in the section "Electromagnons" the second figure callout should be to Figure 1d.

In the caption for Figure 6, the sentence before last should read: the excitations in parts b-d represent electromagnons.

In the section "Nonreciprocal directional dichroism" the reference for unidirectional propagation in CuB<sub>2</sub>O<sub>4</sub> in magnetic fields should be Ref. 141, whereas the reference for nonreciprocal directional dichroism in gratings should be Ref. 135.

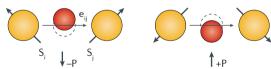
https://doi.org/10.1038/s41578-019-0081-8 | Published online 17 January 2019

## **Corrected figure**

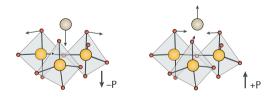
# a Lone pair mechanism

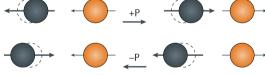
### d Spin-driven mechanisms

Inverse Dzyaloshinskii-Moriya interaction

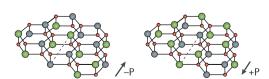


## Exchange striction Geometric ferroelectricity





c Charge ordering



Spin-dependent p-d hybridization

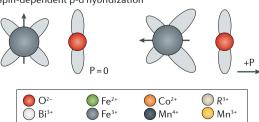


Fig. 1