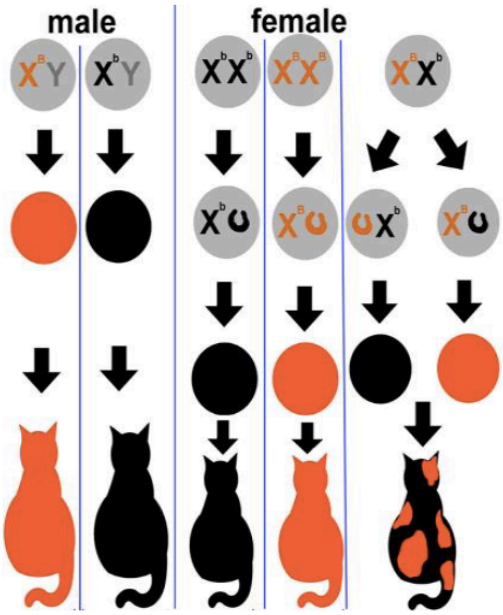

In cats, one of the several genes controlling fur colour is located on the X chromosome, and this gene has 2 alleles: orange fur is coded for by the X^B and the black fur is X^b.
Only one of the X chromosomes is ever expressed (due to lyonization), which means that an animal inheriting one copy of each gene: genotype X^BX^b should have orange fur but a female cat heterozygous at that locus will be a patchwork of orange and black – *calio cat.*
Hence, in a patch of skin in which the B is inactivated, that patch of fur will be black and the patch of skin in which the X chromosome carrying the b allele is inactivated, it will be orange.

6. Other biological influences on the epigenome include:
   - Cells can signal to their neighbours through **direct contact**.
     - These signals are aimed with *precision*, like a handshake. Signalling through direct contact is especially important during early embryonic development, for example, during early nervous system formation.

   - Some cells **release factors** that are taken in by nearby cells (or even by themselves).
     - This kind of signalling is like tossing a *ball*. Many cells of the nervous system work this way, as do blood clotting signals.

   - **Hormone signals** ae released in one part of the body, then they travel through the blood system to affect multiple cell types.
     - Hormones are *like radio signals*. They are broadcast widely, and any cells that are tuned in can pick them up. Sex hormones and stress hormones work this way.

   - **Environmental factors** also reach the epigenome through cell signalling.
     - Some signals are *direct* – things we eat are broken down and circulate through the body.
     - Some are *indirect* – stress triggers an array of signals that move from cell to cell through the release of brain chemicals and hormones.

7. Furthermore, there is **structural adaption** of chromosomal regions, in order to register, signal and perpetuate the altered activity state of DNA.
8. There exist proteins that can read, write or erase these structural changes.