2015 II: Q2 MHD

(a.) Confinement of a toroidal, axisymmetric field needs a toroidal plasma current to produce a poloidal magnetic field, this mitigates the fatal $E \wedge B$ drift which is a result of ∇B. WASHING MACHINE.

(b.) Rotational transform: $q = \dfrac{r}{R} \dfrac{B_T}{B_p}$

$\hookrightarrow$ measure of how tightly wound the fields are.

(c.) Stellarators create a rotational transform without a toroidal current by generating B_p with external coils arranged in a way to cleverly solve the Grad - Shafranov Equation.

I.e.

 toroidal coils

$+$
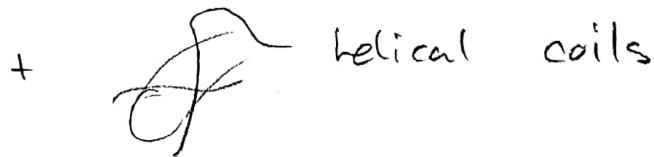
 helical coils

or just really complicated coils

so that B_p both exist. B_T