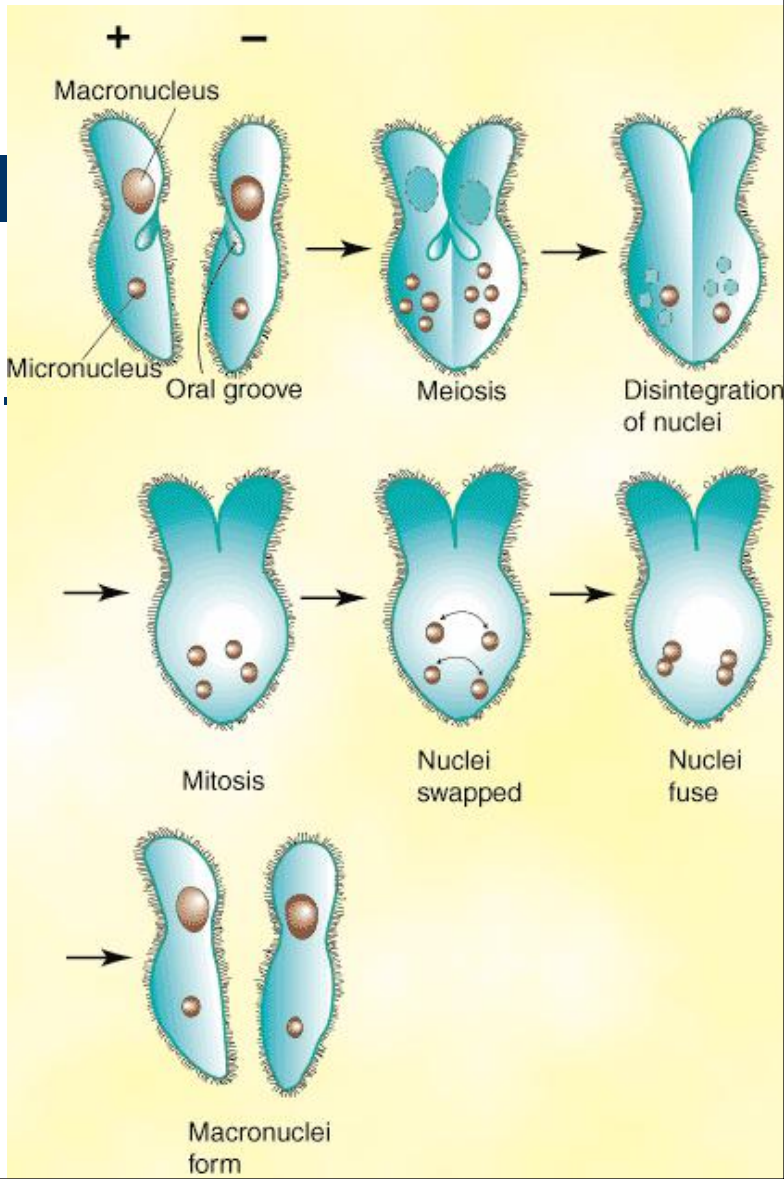
Paramecium Conjugation

* Reminder *

- **Diploid** = full set of chromosomes, one from each parent. (2N) - mitosis
- **Haploid** = ½ set of chromosomes. (N) - meiosis

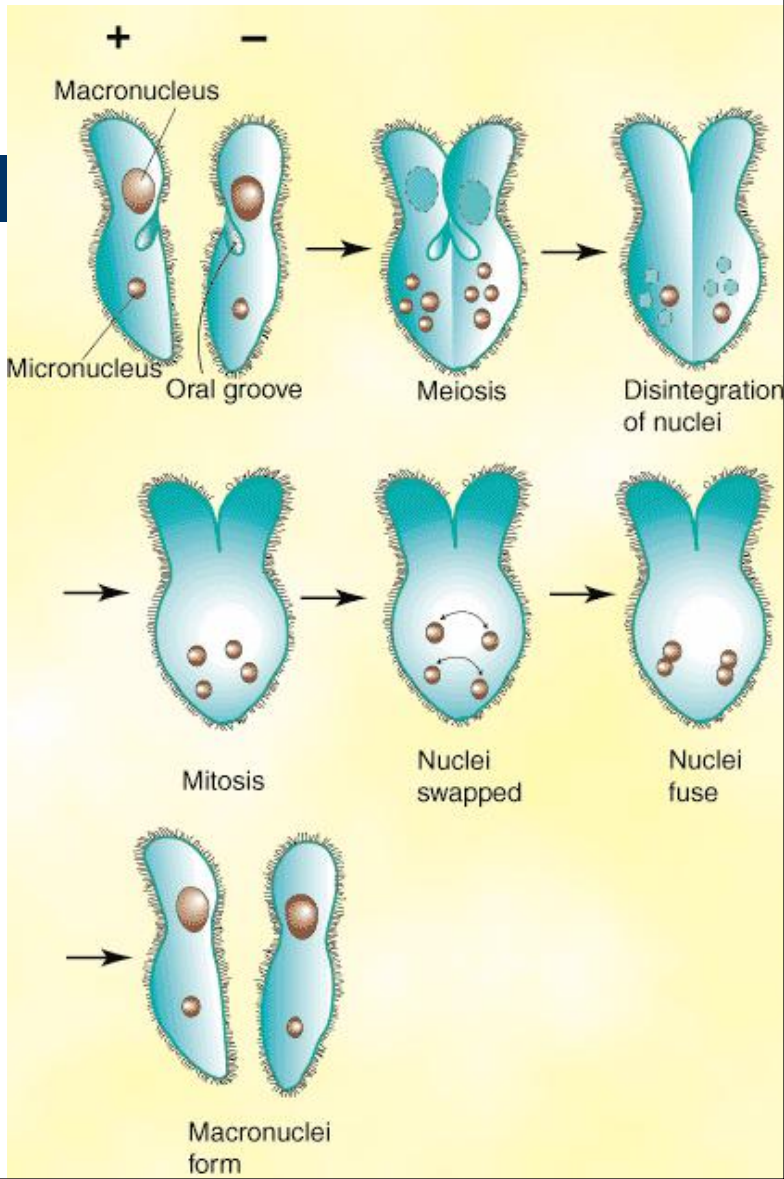
Step 1:

- Two paramecia attach together along their length.
- Each has 1 (2N) micronucleus and 1 macronucleus.



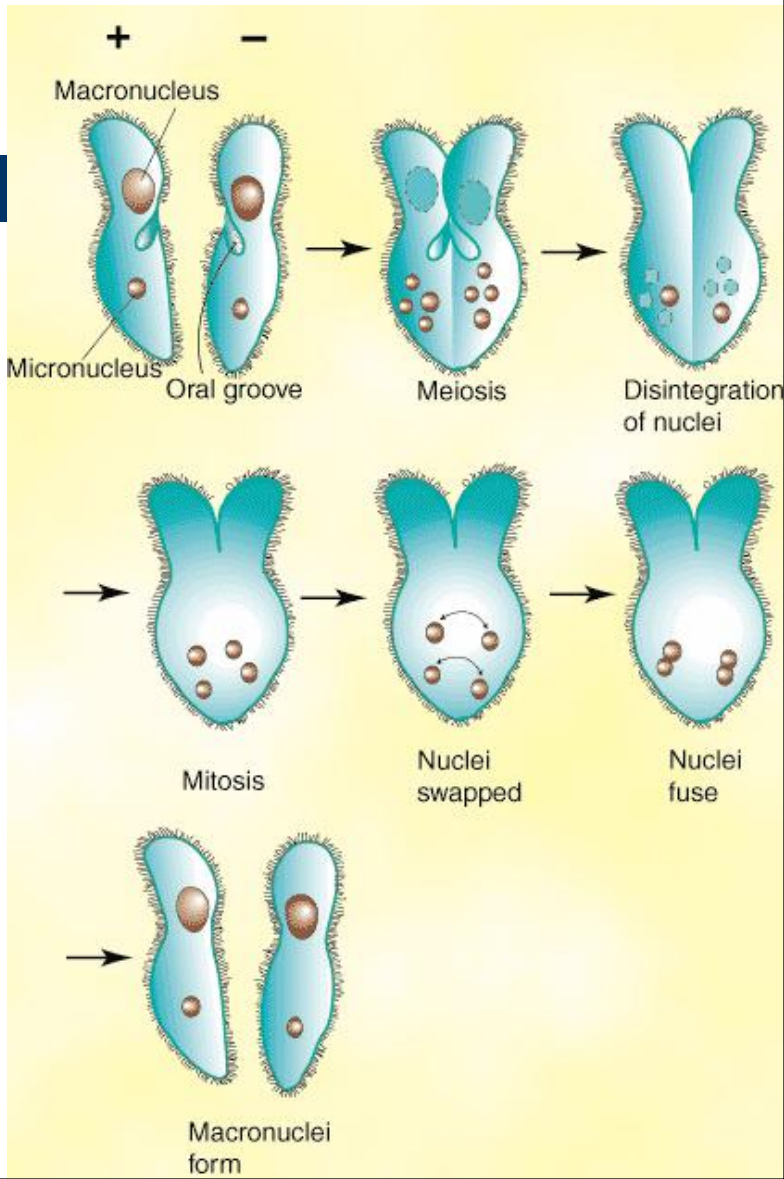
Step 2:

- The macronuclei disintegrate and the diploid (2N) micronuclei undergo meiosis to form 4 (N) micronuclei.



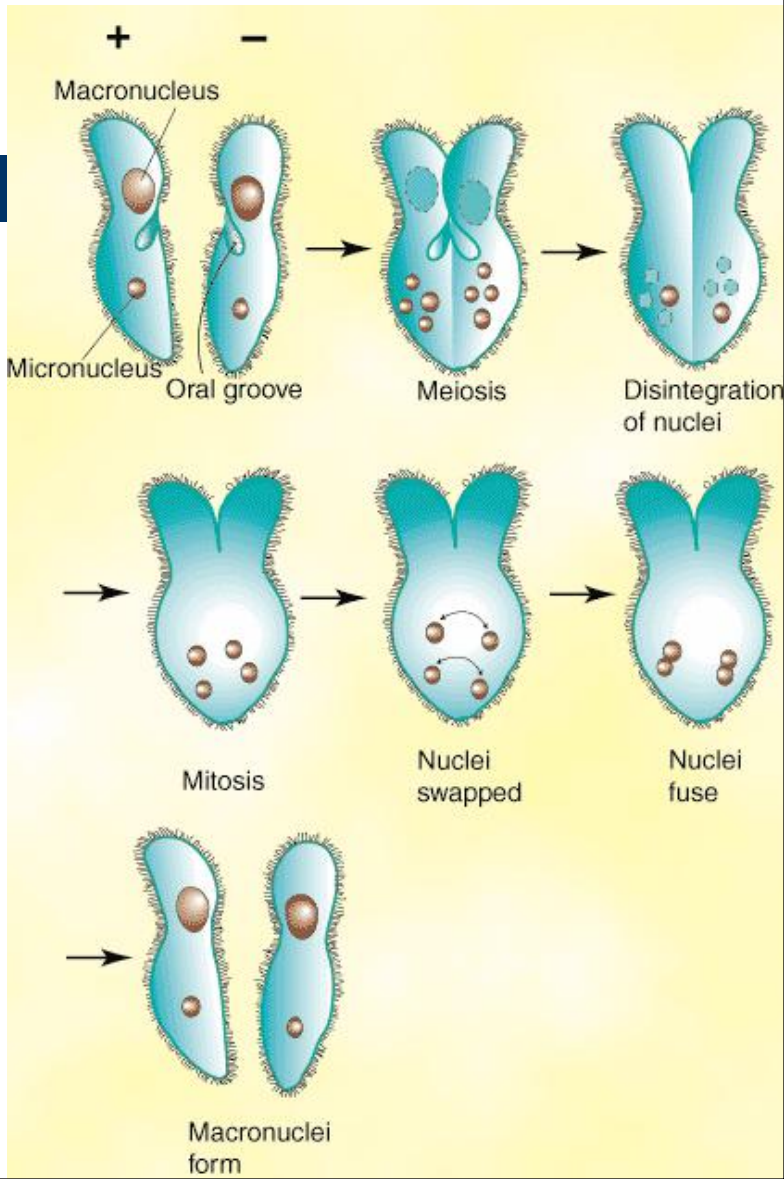
Step 3:

- Three of the four micronuclei disintegrate. Only one remains.



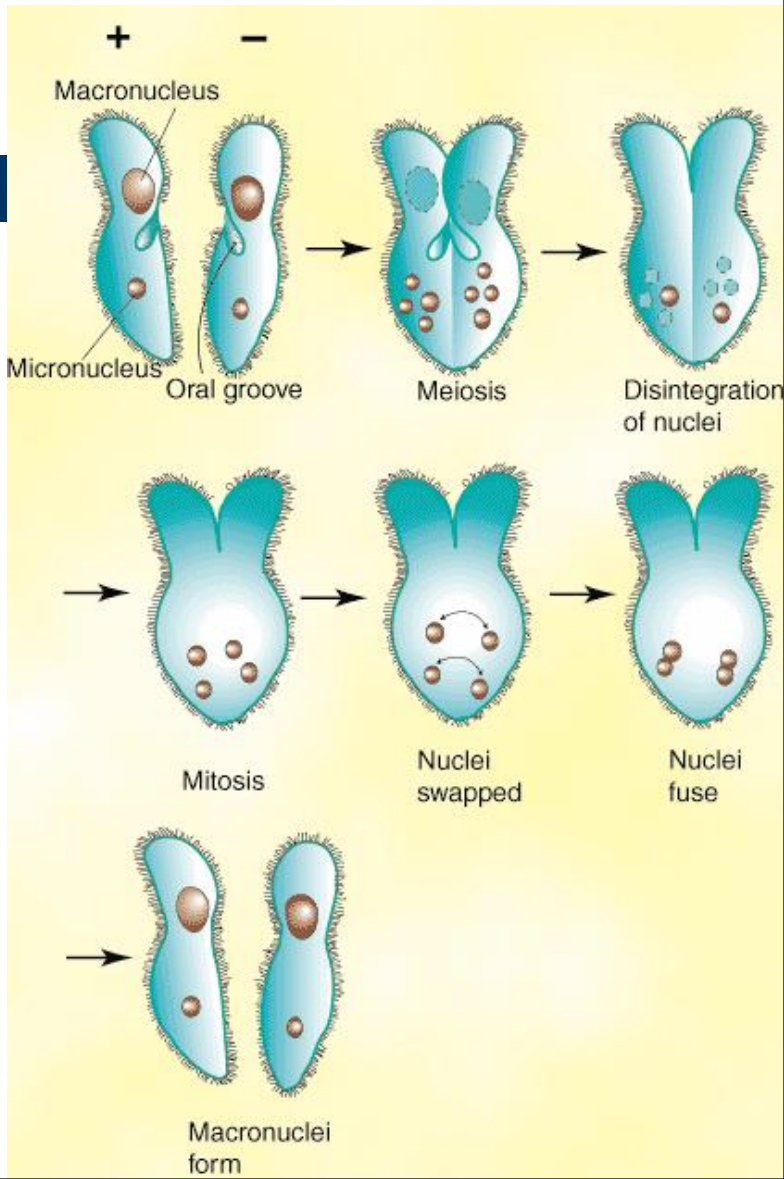
Step 4:

- The remaining micronucleus divides by mitosis to form two (N) micronuclei that are identical to each other.



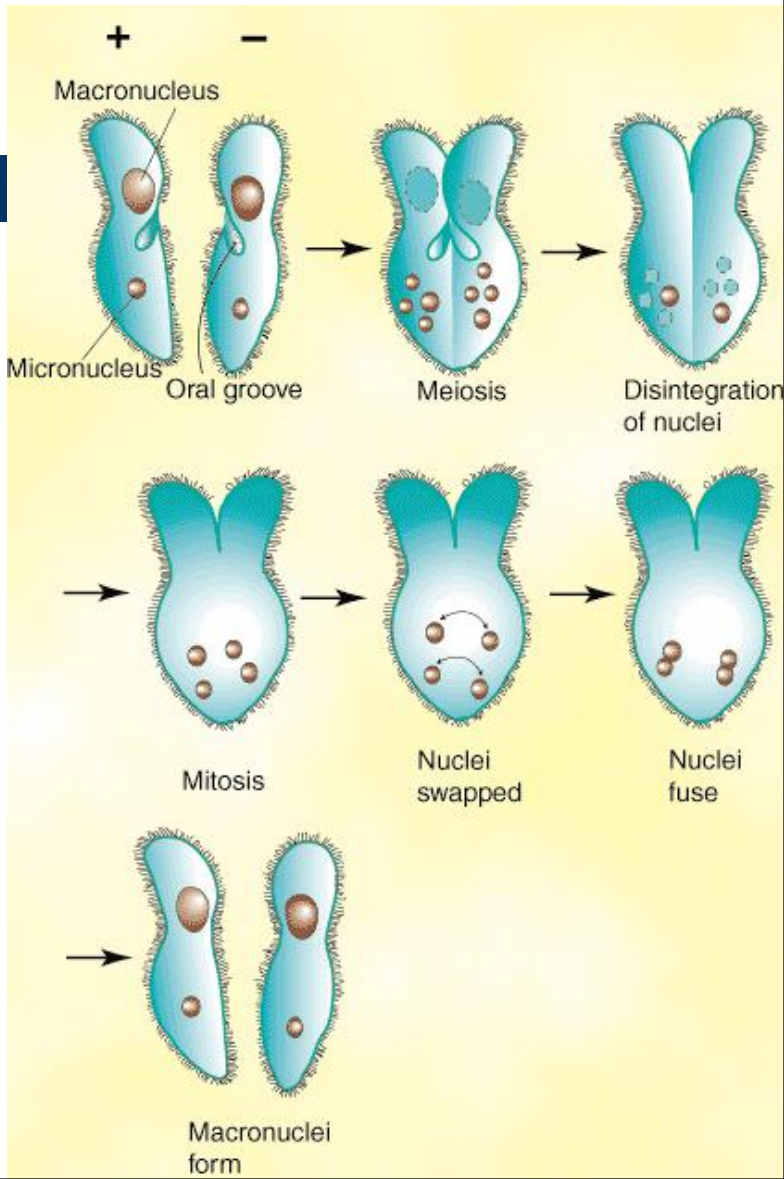
Step 5:

- The paremecia trade one of the two micronuclei.
- They now have one old and one new micronucleus.



Step 6:

- The (N) micronuclei fuse to form one (2N) micronucleus.
- N + N = 2N



Step 7:

- The macronucleus if formed from the (2N) micronucleus.
- Paramecia separate from each other.
- They are both now genetically identical to each other, but they both have new genetic material.