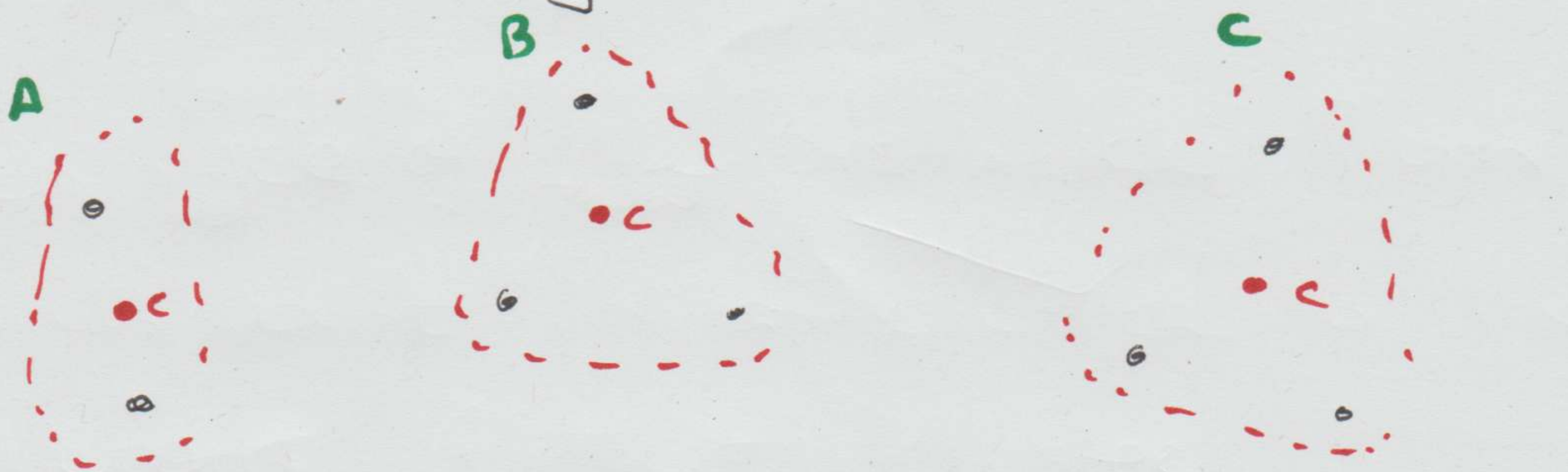


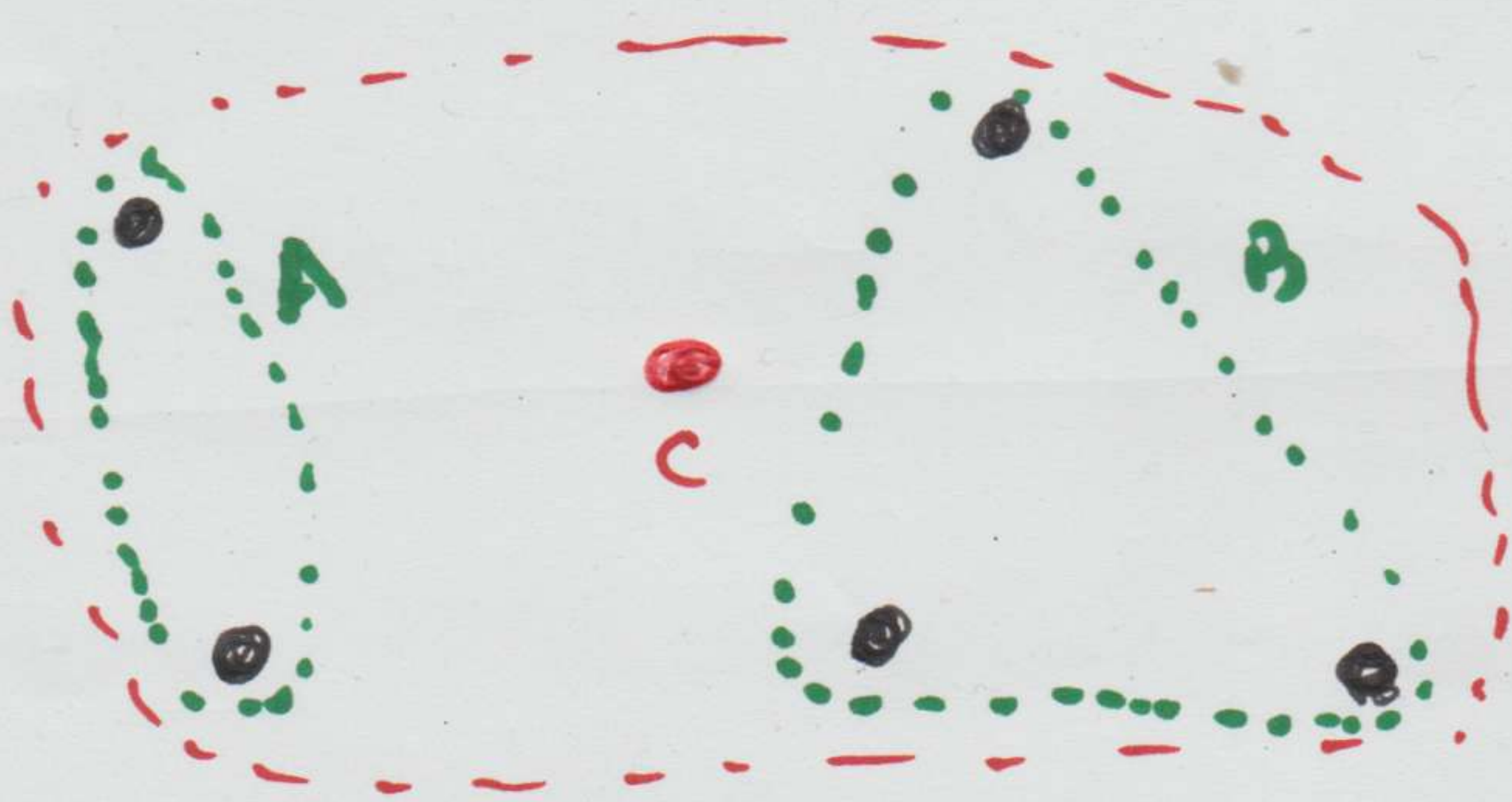
WARDS LINKAGE



must Decide to Join A TO B or
TO Join B TO C.

N.B: All Three clusters have their own
within-cluster VARIANCE.

If we Join A TO B a new cluster
is create, with A new centroid
And new within cluster VARIANCE.



The within cluster VARIANCE is the equivalent
of the VARIANCE of the Distances from the
Centroid to each of the Five cases
(points) in the joined cluster A, B.

We therefore calculate W_{AB}

We can also calculate W_{BC} in a similar fashion (and W_{BO} , W_{BE} etc)

The next linkage step is based on the lowest value of W .

* If $W_{AB} < W_{BC}$ then A and B are joined at next stage.

* If $W_{BC} < W_{AC}$ then A and C are joined at next stage.

At a practical level this comparison is carried out simultaneously for all clusters.

What is presented here is the fundamental step.