N=1, we only have one distribution with three different variables x,y,z that are drawn in three intersecting circles.

* Marginal entropy of an atom: joint entropy of the x,y,z of an atom.
* Mutual information: entropy/area shared by x,y,z.
* Total correlation: difference between the sum of the marginal entropy of all dimensions and the joint entropy of the atom. It counts the mutual information twice because once you know one, that gives you information about the other two, so it’s double amount of information. If the total correlation increases, the joint entropy decreases and so the maximum information it can share with other distributions decreases as well.

N=2, 3-variable distributions

* Mutual information: entropy shared by the 2 distributions. It can be shown that it decreases if Ax is related with both By and Bz, so it is not suitable for us.
* Total correlation: difference between the sum of the marginal entropies of all dimensions in both atoms and the joint entropy of both atoms.
* Total intercorrelation: total amount of information shared between the two atoms through any n-body correlation that contains at least one dimension from each atom. It is the total correlation of both minus the part of the total correlation of atom A once we know B and minus the total correlation of B once we know A.