What might be your thought to justify that DNA structured hypothesis by levene was incorrect?

Levene laid the groundwork which have been quite useful during the process of investigation of structure of DNA. He gave tetranucleotide hypothesis and proposed that each deoxyribose ring which had a specific nitrogenous base attached to it and are linked to each other by phosphate groups and form a tetranucleotide. Levene’s work was obviously remarkable but there were many reasons which lead to questions regarding its validity.

1. He said these repeating tetramer are arranged in the form of a cuboid. This meant that only few nitrogenous bases would face towards outside which would reduce possibility of hydrogen bond formation among nucleotides. Therefore, all nucleotides won’t get chance to get bonded to other nucleotides. And this would result in instability in structure of DNA.

2. He believed that nucleotides were linked in same order, this restricted DNA merely to a tetranucleotide structure and gave a portrayal of no much importance. He himself declared that DNA been such simple molecule could not store genetic information. He always favoured protein to be a carrier of genetic information instead of DNA.

3. During his assumption about DNA being a tetranucleotide molecule he ignored chances of it to be a pentanucleotide or hexanucleotide or a polynucleotide molecule. Polymeric nature could have been tested by checking molecular weights. A tetranucleotide unit would have quite less molecular weight when compared to actual structure of DNA, so major differences could have been observed.

4. He proposed that in a tetranucleotide structure of DNA equal number of nitrogenous bases would be present which restricted explanation regarding large variation shown by it.

All these reasons lead to downfall of Levene’s tetranucleotide hypothesis and gave a brief idea about actual and correct structure of DNA.