

39. Holley, Medison, Zachan and many others determined the base sequence of transfer-RNA molecules specific for different amino acids.

40. Marshall Nirenberg used synthetic nucleotides as messenger molecules to identify the coded base sequences for each of the amino acids.

→ As a result a final and accurate list of the base sequence in m-RNA that code for each amino acid was calibrated.

41. Jones Jacob Berzelius (1835) → Swedish → Recognised the importance of catalyst in controlling ~~biochemical~~ process & suggested that bio-chemical process may be controlled in this way. Catalyst diastase from Potato which effect hydrolysis of starch. Later on many catalyst were isolated, purified and identified. Chemical nature of these are unknown. Until 1926 Bio-catalyst or Enzymes were ~~known~~ unknown.

42. James B. Sumner (1887-1955) - Cornell University was 1st to crystallize Urease from the extracts of Jack bean & its ^{protein} nature. ⇒ Established as "Father of Modern Enzymology".

43. Richard Willstatter against it. He kin Enzymes are low-molecular weight compound & Protein is just a contaminant.

44. John H. Northrop and Kunitz → Crystallized a series of Gastric and Pancreatic Enzymes & confirmed that enzymes ^{are protein}.

45. Stein, Moore, Max Perutz, John C. Kendrew and David C. Phillips → Worked in the field of Enzyme.

46. Francis Jacob & Jacques Monod; 1961 → Proposed a theory
Concept of gene
structure and regulation.

47. Jacob & Monod with Jean-Pierre Changeaux
gave a theory to explain the molecular
aspects of regulation of catalytic activities of
enzymes.

It laid foundation of a New Field → Study of Biological Regulation.
48. 1970 → Recombinant DNA Technology
create a revolution in the field of microbiology
→ A new Branch Biotechnology emerged.

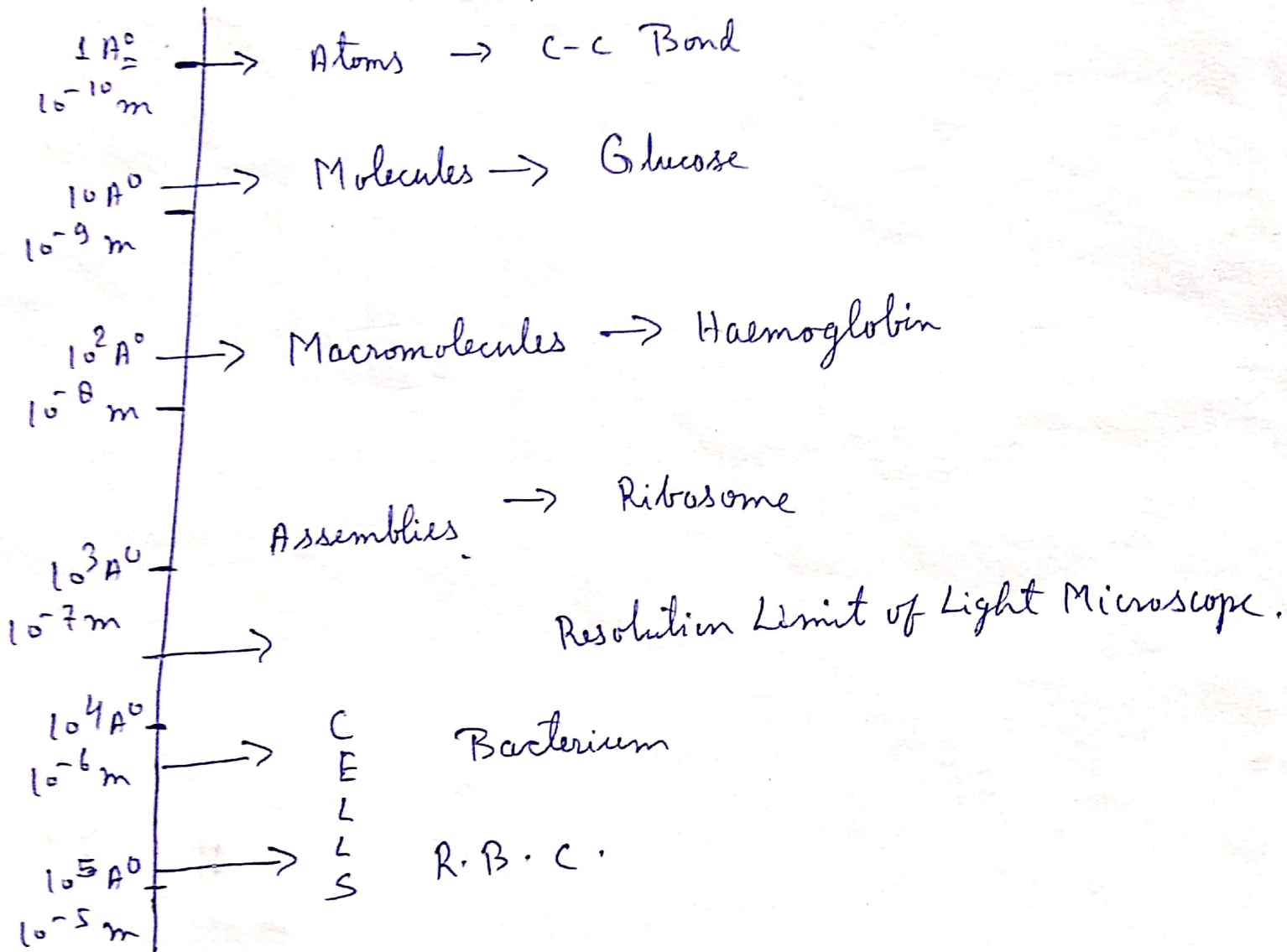
49. Biotechnological process now make it possible
and study the structure & functions
to recognize, isolate, the eukaryotic gene

50. Now the era of Biotechnology,
Biochemistry still occupy a central position.

51. About 125 Years ago → Hoppe-Seyler established
a journal for physiological chemistry

These two findings gave scientific concept
of Control of Genetic and Metabolic Function
of Organism

1. Biochemistry deals with many hidden secrets of life.
2. Various biological compounds are considered.
3. Å \rightarrow Angstrom in Regard of Anders J. Angstrom (1814-1874),
He was a Spectroscopist



Å \rightarrow is used for lengths shorter than 100 Å .
 nm or μm for longer dimensions.