

Hemoglobin

Cooperative binding is a self-reinforcing process.
The addition of each oxygen molecule changes the shape of the carrier
Making the affinity for binding another grow.
Alpha helices of protein enveloping iron in heterocyclic rings,
Straining with conformational change,
Giving the fourth O₂ three hundred times the affinity of the first.

Infused in the lungs — capillaries in six hundred million cauliflower alveoli,
The outermost tips of the respiratory tree —
The relaxed metalloprotein takes oxygen in along a sigmoidal curve.

Taut in the tissues, O₂ unbinds.
Two hundred and fifty million carrier molecules per lentil-shaped cell
(Five million in a drop of blood)
Feeding the electron transport chain in the cellular respiration of all tissues.

Mitochondrial symbiotes turning sugar into usable energy.
Oxygen from photosynthesis accepts the final electrons —
Plant air turning plant sugar into nucleoside triphosphates —
Powering animal minds and muscles.

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