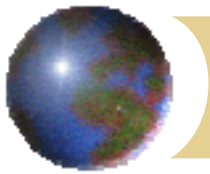


*Workshop on Mechanisms of Copper
Corrosion in Aqueous Environments –
Introductory Comments*

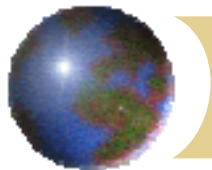
Prof. R.M. Latanision
Director (Emeritus)
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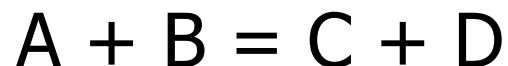
In this instance, the reaction of interest is ...



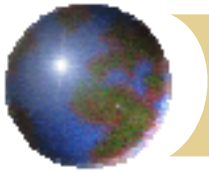
There are no known products in addition to H₂ for which a spontaneous reaction is predicted, but there is evidence that hydrogen is produced in some circumstances. A proposed hydrogenated copper oxide has been suggested as the product in question. This compound has not been identified in nature nor does it appear that there is there thermodynamic data for such a specie.



“Gibbs and God are never wrong.”



If the Gibbs free energy change is negative, the reaction proceeds as written; if it is positive, energy must be added to drive the reaction...but one must know with certainty the chemistry of the reactants and products in a reaction equation.



How can this be resolved?

- (1) The reactants and products in the subject reaction must be fully identified. The reactants define the experimental conditions.
- (2) If we assume that some spontaneous reaction does indeed occur to produce hydrogen and if we can fully identify the products in addition to hydrogen, Gibbs will confirm our findings.
- (3) Others should be able to confirm a spontaneous reaction.