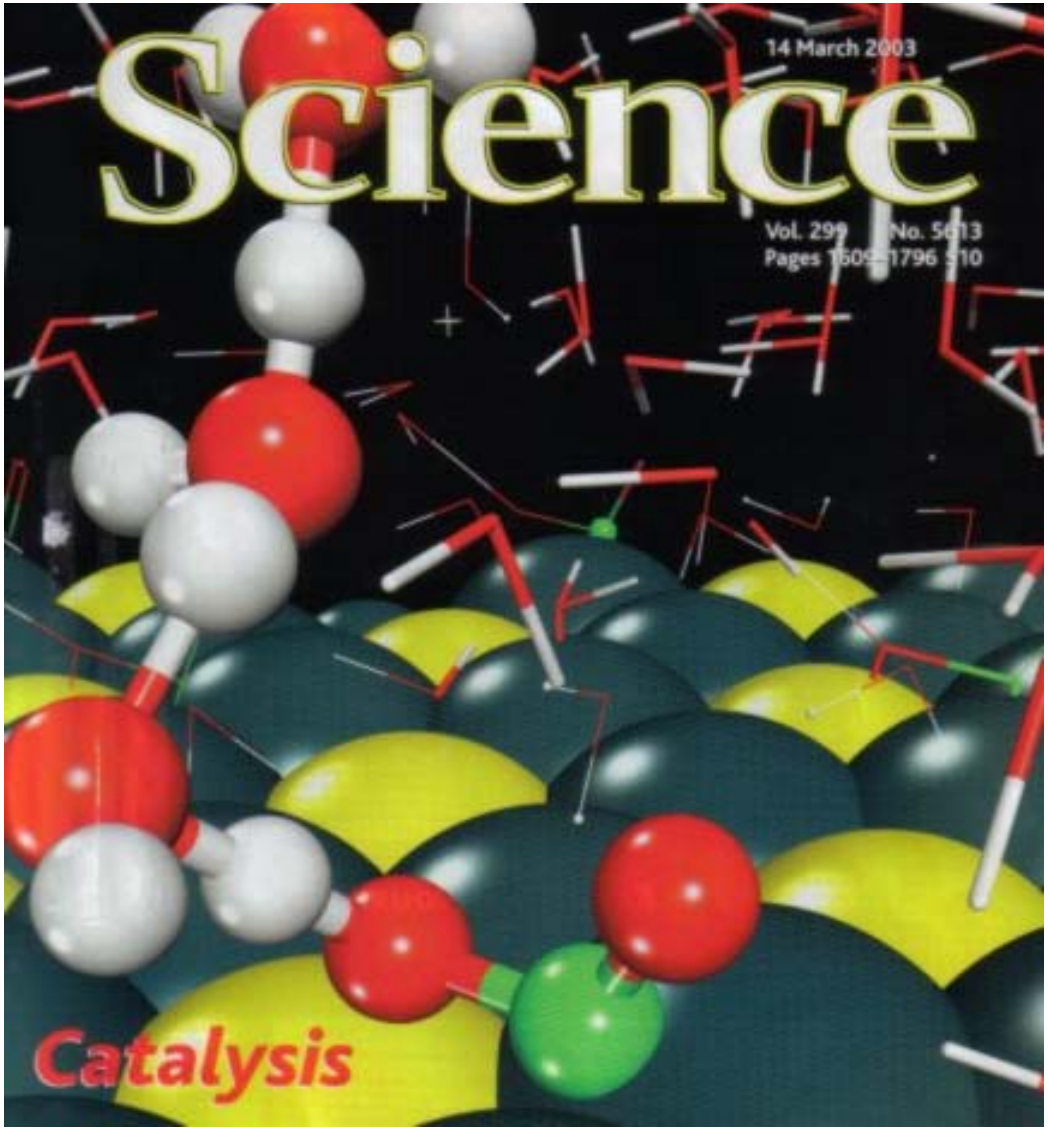
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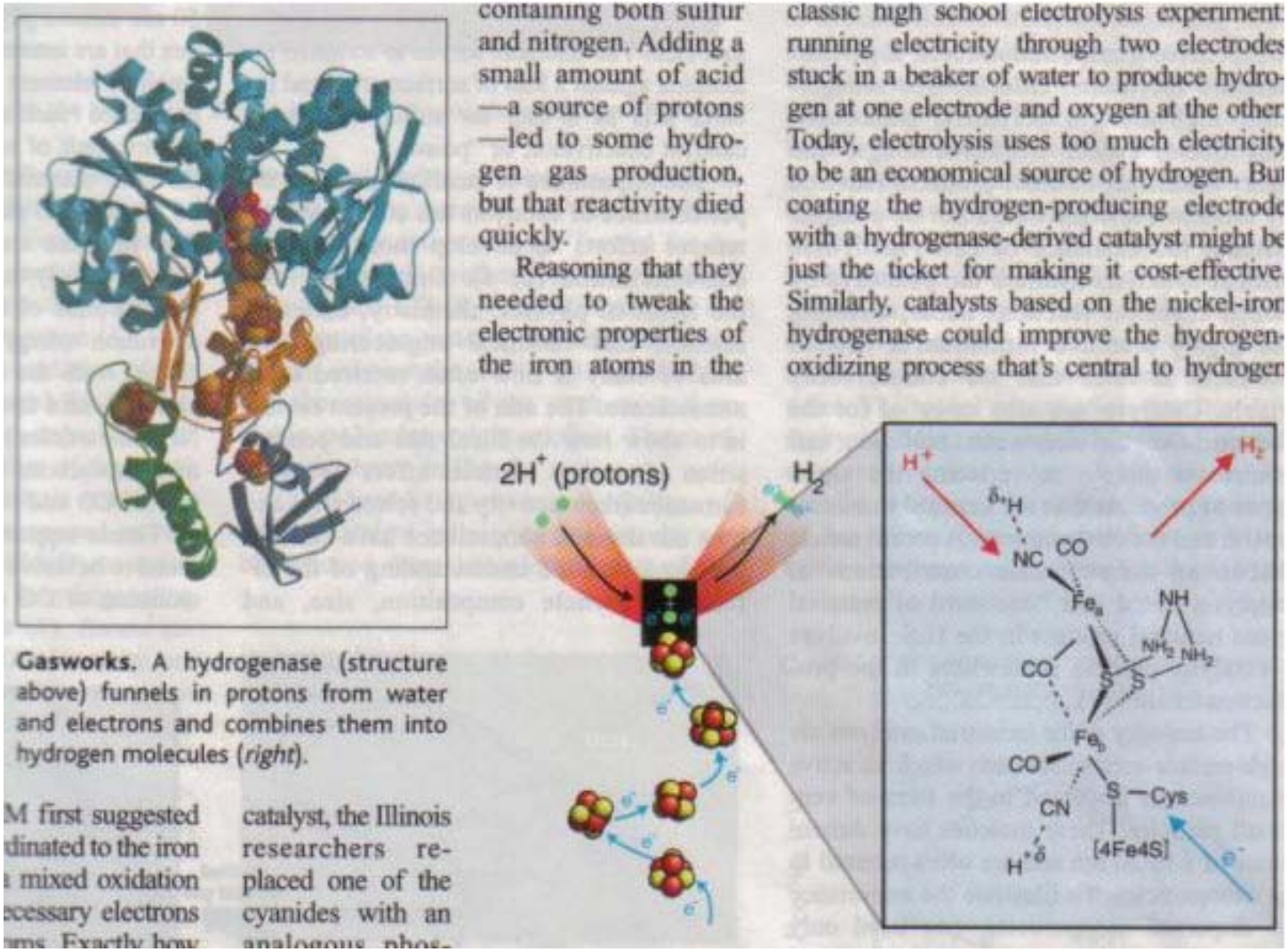


J. Alper, "Water Splitting Goes Au Naturel", Science, 299, 1686-1687 (2003).

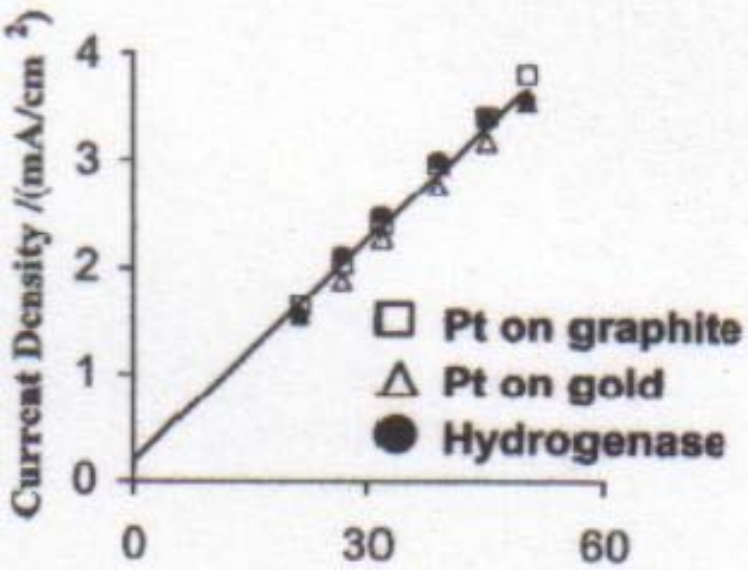


**Fig. 1** Levich plots for hydrogen oxidation currents from hydrogenase and platinum at +0.242 V *vs.* SHE, 45 °C and pH 7 under 1 atm hydrogen. The line of best fit is from the hydrogenase data. Platinum currents are from chronoamperometric experiments in which the potential was held at +0.242 V *vs.* SHE and the rotation rate varied. Hydrogenase currents are from cyclic voltammetry experiments at 1 V $s^{-1}$, since maintaining the film at an oxidative potential over extended periods inactivates the enzyme.[9]

A.K. Jones, E. Sillery, S.P.J. Albracht, and F.A. Armstrong, "Direct comparison of the electrocatalytic Oxidation of hydrogen by an enzyme and a platinum catalyst", Chem. Commun., 866-867 (2002).

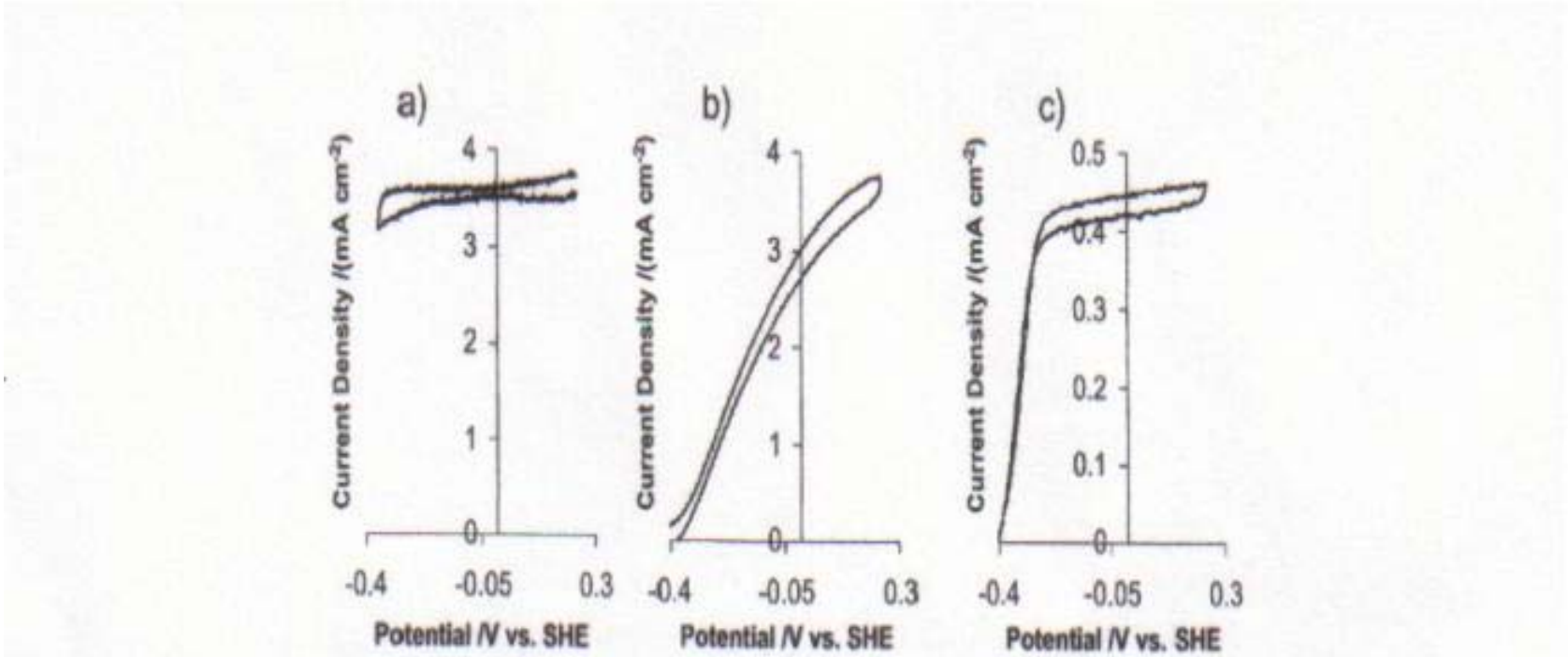


**Fig. 2** Potential dependence of hydrogen oxidation currents for platinized gold and hydrogenase/PGE rotating-disk electrodes at pH 7, 45 °C, rotation speed 2500 rpm. (a) Platinized gold; 1 atm hydrogen, 1 V $s^{-1}$. (b) Hydrogenase; 1 atm hydrogen, 1 V $s^{-1}$. (c) Hydrogenase; 0.1 atm hydrogen, 0.1 V $s^{-1}$.

A.K. Jones, E. Sillery, S.P.J. Albracht, and F.A. Armstrong, "Direct comparison of the electrocatalytic Oxidation of hydrogen by an enzyme and a platinum catalyst", Chem. Commun., 866-867 (2002).