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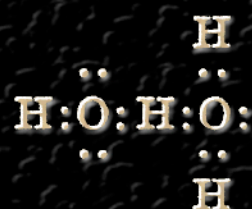
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POLARITY AND IONIZATION FROM THE STANDPOINT OF THE LEWIS THEORY OF VALENCE.

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Let us compare again the compounds ammonia, water and hydrogen chloride. Ammonia adds a hydrogen readily but has little tendency to give one up. Hydrogen chloride, on the other hand, shows just the opposite tendencies. Water occupies an intermediate position and shows tendencies both to add and give up hydrogen, which are nearly balanced. Then, in terms of the Lewis theory, a free pair of electrons on one water molecule might be able to exert sufficient force on a hydrogen held by a pair of electrons on another water molecule to bind the two molecules together. Structurally this may be represented as



Such combination need not be limited to the formation of double or triple molecules. Indeed the liquid may be made up of large aggregates of molecules, continually breaking up and reforming under the influence of thermal agitation.

Such an explanation amounts to saying that the hydrogen nucleus held between 2 octets constitutes a weak "bond."¹ Ammonium hydroxide



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