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In Grothendieck's theory of dessins d'enfants, embeddings of bipartite graphs in surfaces are used to characterise those projective algebraic curves which are defined over the field of algebraic numbers. Of particular interest are the regular embeddings, those with the greatest symmetry. Building on earlier collaborative work with Du, Kwak, Nedela and Skoviera in special cases, and using results of Hall, Huppert, Ito and Wielandt on factorisations of finite groups, the regular embeddings of complete bipartite graphs have now been classified, together with their automorphism groups. These include the well-known Fermat curves, together with many non-abelian generalisations of these curves. Work with Coste, Streit and Wolfart has, in many cases, determined the minimal fields of definition, the Galois orbits, and in a few cases explicit defining equations for these curves. (Received February 26, 2007)