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Valentin Buciumas* (buciumas@stanford.edu). *The free fermionic bialgebra.*

We begin by reviewing the Faddeev-Reshetikhin-Takhtajan (FRT) construction that uses a solution to the Yang-Baxter equation to build a coquasitriangular bialgebra and its relation to a reconstruction theorem for braided categories. We then apply the reconstruction theorem to the parametrized solution of the Yang-Baxter equation corresponding to the quantum group $U_q(\widehat{\mathfrak{sl}}_2)$ and to another solution with parameter group $SL(2, \mathbb{C}) \times GL(1, \mathbb{C})$ that doesn't come from any known quantum group. Finally, we describe the representation theory of the newly built objects. (Received February 12, 2016)