1063-46-155Dan-Virgil Voiculescu* (dvv@math.berkeley.edu), Department of Mathematics UC Berkeley,
Berkeley, CA 94720. Aspects of the free Riemann sphere. Preliminary report.

Passing from complex numbers to a non-commutative algebra of scalars, which also no longer commute with the variables, the appropriate extension of the Riemann sphere is the free Riemann sphere. This work is motivated by free probability and related spectral questions. (Received August 14, 2010)