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Janet Heine Barnett* (janet.barnett@csupueblo.edu), Department of Mathematics & Physics, Colorado State University - Pueblo, 2200 Bonforte Blvd, Pueblo, CO 81001-4901. *Gaston Darboux: monster-maker par excellence*. Preliminary report.

The drama of the rise of rigor in nineteenth century mathematical analysis has now been widely rehearsed. Notable within this saga is the appearance of functions with features so unexpected (e.g., everywhere continuous but nowhere differentiable) that contemporary critics described them as “bizarre,” “ridiculous,” “pathological,” and even “monsters.” Among those who played the part of a “monster-maker,” one of the most talented and influential was French mathematician Gaston Darboux (1842–1917).

In this talk, we survey Darboux’s mathematical and “backstage” contributions to the development of nineteenth century analysis. We review in particular his 1875 *Mémoire sur les fonctions discontinues*, focusing on Darboux’s discussion and proof of the result now known as “Darboux’s Theorem” (i.e., all derivatives have the intermediate value property). After meeting some of Darboux’s own favorite pet monsters, we examine the role that functions such as these played in setting the scene for the re-shaping of analysis during the latter part of nineteenth century. (Received September 06, 2014)