1086-VB-2394     **Dragan Jankovic*** (`draganj@cameron.edu`), Cameron University, Department of Mathematical Sciences, 2800 W Gore Blvd., Lawton, OK 73505. *New Curves from Old via Tangents.* Preliminary report.

Let $f(x)$ and $g(x)$ be smooth real functions on an interval $(a, b)$ with $g'(x) \neq 0$. It is a simple exercise to show that the tangent lines to the curves in the family $f(x) + kg(x)$ ($k$ is a real number) at $x = t$ are concurrent and that the point of intersection lies on the curve $x = x - \frac{g(t)}{g'(t)}$, $y = f(t) - \frac{f'(t)g(t)}{g'(t)}$, where $t$ varies in $(a, b)$. Some well known curves are produced by this construction. For instance, $g(x) = x - \frac{1}{x}$, $(0 < x < 1)$, and $f(x) = -\ln(x)$ generate the tractrix, while $g(x) = \tan(\frac{x}{2})$ $(0 < x < \pi)$ and $f(x) = -x\tan(\frac{x}{2})$ generate the cycloid. (Received September 25, 2012)