and finally

$$P'(x) = a_1 + 2a_2x + \cdots + (n-1)a_{n-1}x^{n-2} + \epsilon_1(x)x^{n-2},$$

which is the asymptotic development sought. Also it results easily from the fact that $P'(x)$ approaches a_1 as x goes to zero that the derivative at the origin exists and is equal to a_1.

It is interesting to notice that a single differentiation has lost us two terms of the development of $P(x)$.* However, if $P(x)$ has an infinite asymptotic development, it is clear that $P'(x)$ will also have an infinite development, and in fact that the development of $P(x)$ can be differentiated formally any number of times.

The above proof applies, of course, to other domains than sectors; for instance, we might use the horn angle obtained by an inversion relative to the origin, and a reflection across the real axis of the infinite strip between any two parallel lines.

Lastly, it is important to notice that we have also established above the differentiability in the complex domain of asymptotic developments in descending powers of the variable.

COLUMBIA UNIVERSITY.

DARBOUX'S CONTRIBUTION TO GEOMETRY.

BY PROFESSOR L. P. EISENHART.

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GASTON DARBOUX was born in 1842 at Nîmes, a place of interest to mathematicians because here from 1819 to 1831 Gergonne edited his *Annales,* and incidentally exerted a great influence on the development of geometry. At the age of eighteen Darboux went to Paris, in whose intellectual life he had a prominent part for fifty-seven years. As a student, first at the Ecole Polytechnique and then at the Ecole Normale, his unusual mathematical ability made him conspicuous. His

* The loss of the term $na_n x^{n-1}$ is only apparent. This can be shown by taking the radius of the circle of integration above equal to $k\,|\,y\,|$, where k is some number independent of y. I prefer the proof above because of its applicability to more general domains than sectors.