Journal of Mathematical Research & Exposition
Vol.13, No.2, May 1993

A Note on Paper "On a Class of Univalent Functions" *

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Let T be the class of functions of the form $f(z) = z + \sum_{n=2}^{\infty} a_n z^n$ which are analytic in the unit disc $U = \{z : |z| < 1\}$. A function $f(z) \in T$ is said to be a member of the class $R(a,b)$ if and only if it satisfies

$$f'(z) \prec \frac{1+az}{1+bz}, z \in U,$$

where "$\prec$" stands for subordination and $-1 \leq b < a \leq 1$.

The class $R(a,b)$ was introduced by Goel and Mehrok [1] in 1983. In that article, Goel and Mehrok have established sharp results for coefficient estimates, a distortion theorem, a radius of convexity, the arc-length and the area of the image curve, etc. for the class $R(a,b)$.

Recently, Aouf and Owa [2] considered the class $R(\alpha, \beta, A, B)$ of functions $f(z) \in T$, satisfying for all $z \in U$ the condition

$$\left|\frac{f'(z)-1}{Bf'(z) - [B + (A-B)(1-\alpha)]}\right| < \beta$$

for some $\alpha, \beta (0 \leq \alpha < 1, 0 < \beta \leq 1)$ and $-1 \leq A < B \leq 1, 0 < B \leq 1$.

In [2], Aouf and Owa obtained a sharp coefficient estimate, a distortion theorem and a radius of convexity for $f(z) \in R(\alpha, \beta, A, B)$. Unfortunately, however, we find that none of the results are new. In fact, if we set $a = -\beta[B + (A-B)(1-\alpha)]$ and $b = -\beta B$, then it is easy to see that $R(\alpha, \beta, A, B) \equiv R(a,b)$, where $-1 \leq b < a \leq 1$ and $-1 \leq b < 0$.

Thus the main results of [2] follow as special cases from Theorem 3.1, Theorem 4.1 and Theorem 7.1 of [1].

References

[1] R.M. Goel and B.S. Mehrok, *A subclass of univalent functions,* J. Austral. Math. Soc. (Series A), **35**(1983), 1-17.

[2] M.K. Aouf and S. Owa, *On a class of univalent functions,* J. Math. Research and Exposition, **11**(1991), 193-201.

*Received Sep. 23 1991.