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Some Distortion Inequalities Associated with the Fractional Derivatives of Analytic and Univalent Functions

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Abstract: For the classes ***S*** and ***K*** of (normalized) univalent and convex analytic functions, respectively, a number of authors conjectured interesting extensions of certain known distortion inequalities in terms of a fractional derivative operator. While examining and investigating the validity of these conjectures, many subsequent works considered various generalizations of the distortion inequalities relevant to each of these conjectures. The main object of this paper is to give a direct proof of one of the known facts that these conjectures are false. Several further distortion inequalities involving fractional derivatives are also presented.