Erratum

The paper entitled "Pattern Partitioning for Enhanced Proximity-Effect Corrections in Electron-Beam Lithography," by Mihir Parikh and Donald E. Schreiber, *IBM Journal of Research and Development* Volume 24, Number 5 (September 1980), pp. 530–536, contains an error on p. 532: In Figure 3 on that page, the photographs (a) and (c) for Region C were unintentionally transposed.

The opposite side of this notice is the original page as it should have appeared. Additional (unbound) copies of the replacement page can be ordered by telephone from the Editor (914-686-5688) or the Publications Manager (914-686-5585), by requesting Publication Order Number G322-9997 at any IBM Branch Office, or by writing to the address below.

The *Journal* regrets the error.

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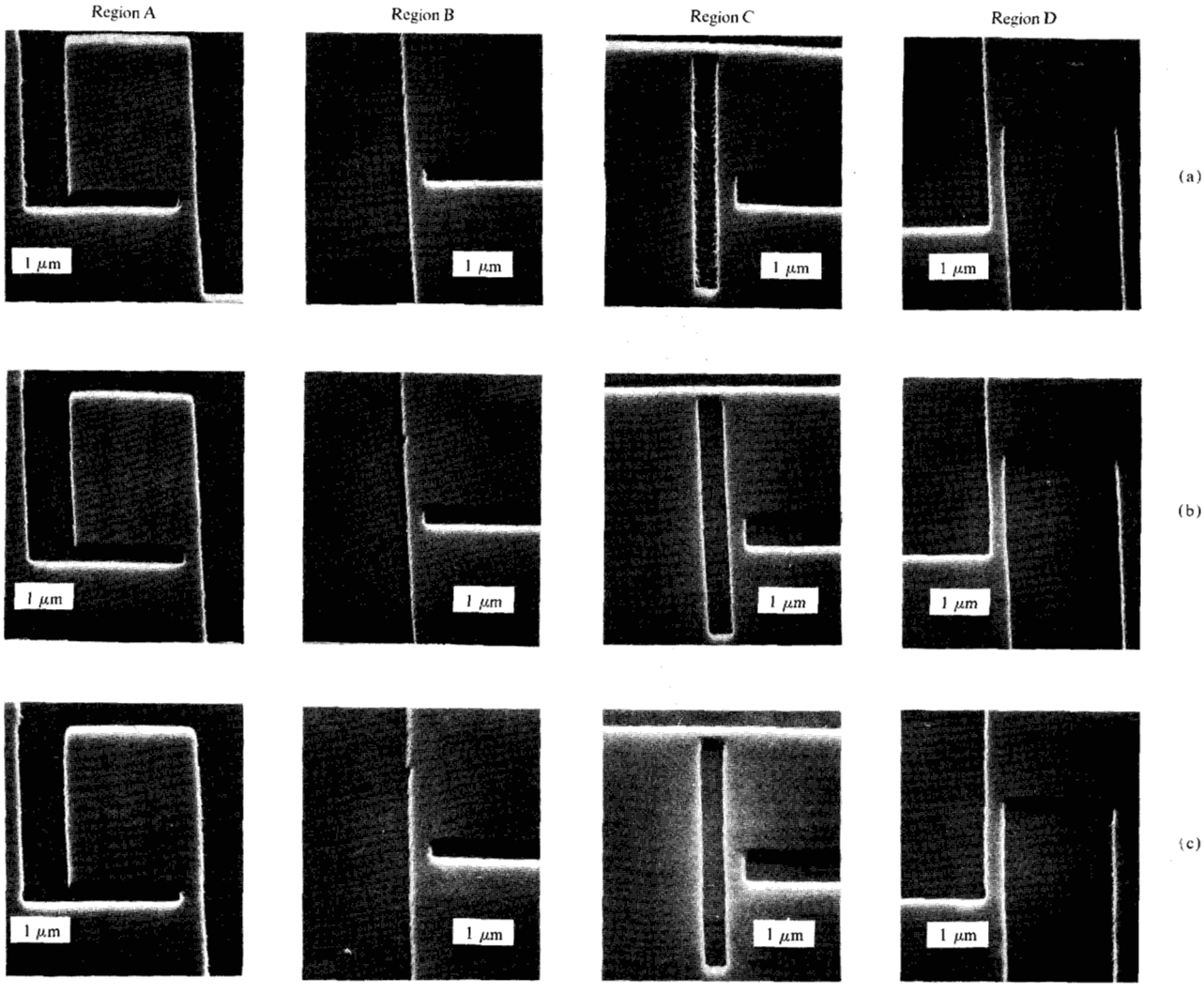

Figure 3 Scanning electron micrographs (SEMs) of the four regions noted in Fig. 2 under three different conditions: (a) Uncorrected pattern. (b) Corrected pattern with eight rectangles, each exposed with relative incident electron exposures as noted in Fig. 2. (c) Corrected partitioned pattern with 21 rectangles, each exposed with relative exposures as noted in Fig. 5b. See text for discussions on the micrographs. Note in all cases that the micrographs have been taken with a tilt of $\approx 50^{\circ}$, leading to an apparent foreshortening along the y axis.

through the use of the self-consistent algorithm can be summarized as follows. Proximity corrections are attempted on a given pattern (*e.g.*, the eight rectangles in Fig. 2). The quality of corrections attainable with the given pattern is then assessed on the basis of an algorithm (discussed below). If the pattern quality fails to satisfy certain criteria, the pattern is subdivided *as needed*. Finally, proximity correction is reattempted on this partitioned pattern. In principle, this procedure can be repeated until the pattern quality criteria are satisfied or until it becomes impossible to further subdivide the pattern on the basis of physical limitations of the e-beam machine.

The algorithm for assessing pattern quality and for subsequent pattern partitioning was described briefly in Ref. [5]. The algorithm first defines "sample" points and "associated" areas. Figure 5(a) shows one definition of sample points used for the pattern in Fig. 2. While the density and relative location of the sample points are inputs to the algorithm, some constraints need to be imposed to prevent sample points from being too close (or the associated areas too small) when compared to either the beam diameter of the e-beam machine or the extent of forward scattering β_f of the proximity function [1]. Generally we use, for 1-μm lithography, nominal sample point spacings of ≈ 6 μm (or less), each with a nominal associ-