## Cumulative Volume Model



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Figure 3. Late Archean (or early Proterozoic) Matachewan dykes and suggested very early Huronian spreading. Passive-margin Thessalon and Copper Cliff volcanics which may be related to the failed-arm Matachewan swarm are shown as solid patches.



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FIGURE 3.—Geologic map of minette intrusion 25 km northnortheast of Ship Rock. Host rock is the Mancos Shale. Intrusive forms include 30 dike segments. a plug. and two small breccia bodies or buds.



FIGURE 29.—Idealized three-dimensional form of a segmented dike. Segmentation is due to rotation of least principal stress axis during upward propagation.



Fig. 2. Distribution of volcanoes in the Michoacán-Guanajuato Volcanic Field. The area is the same as the inset of Fig. 1. Circles indicate all volcanic centers: cinder cones, lava domes, maars, tuff rings, shield volcanoes with a summit cone, or lava flows which are not associated with cones. The position of estimated vents are used for locating the lava flows.



FIGURE 10. STRUCTURAL FEATURES MAP. -- The dotted curve encloses 75% of the eruptive centers in the field. Cone distribution appears random with few exceptions. Numbers refer to alignments described in Fig. 11.



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Figure 2. Sketch map of the Uinkaret volcanic field (after Hamiolin, 1970). Cones in this field are clearly aligned in chains essentially parallel to the traces of major normal faults. An east-west directed minimum horizontal compression in the crustal stress field explains both the orientations of the cone chains and of the faults. No other field in this study shows the same degree of crustal stress control of magma rise.

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BRUCE M. CROWE







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Figure 1. Examples of some spatial distributions. Number of points in each distribution is similar. A: Poisson distribution. B: Neyman-Scott distribution. C: Seven-level recursive Poisson distribution. D: Distribution of 4775 preciousmetal deposits.



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no. of vents 5000 aspect ratio 2.0 S.D. vents 12000 m intersections 18 frequency 0.00360



no. of dikes 5000 dike azimuth 45

intersections 38 frequency 0.00760



Vent intersection frequency vs. field size

S.D.

♦ vent freq

## Dike intersection frequency vs. field size



S.D.

◊ dike freq

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## WATER-TABLE CHANGE | VOLCANO

