1073-54-62 **Harold Bennett** and **Dennis Burke***, Department of Mathematics, Miami University, Oxford, OH 45056, and **David Lutzer**. *Choban operators in GO spaces.*

A space X is a *Choban space* if there is a continuous $h : X \times X \to X$ satisfying: (a) there is $e \in X$ with $h(x, x) = e$ for all $x \in X$, and (b) for each $x \in X$, h maps $\{x\} \times X$ onto X in a one-to-one way. Such h would be called a *Choban operator*. As observed by Arhangel'skii, every topological group $(G, *)$ is a Choban space by using the operator h defined as $h(a, b) = a * b^{-1}$. One quickly sees that $\mathbb{R}$, $\mathbb{R} \setminus \{0\}$, $\mathbb{Q}$, $\mathbb{P}$ (irrationals), the Cantor set and the open interval $(0, 1)$ are Choban spaces. The closed interval $[0, 1]$ is not a Choban space.

Within the class of GO spaces the existence of a Choban operator on a space imposes some conditions on the topology of the space. A GO space X with a Choban operator is hereditarily paracompact. A first countable LOTS with a Choban operator is metrizable. This uses a result in general spaces which says that if a space X has a Choban operator and has countable pseudo-character at the special point e then X has a G_δ-diagonal.

Other interesting examples include the Sorgenfrey line $\mathbb{S}$ and the Michael line $\mathbb{M}$. Both are Choban spaces. (Received July 25, 2011)