962-52-646 **Imre Barany**, Mathematical Institute, Hungarian Academy of Sciences, POB 127 Budapest, Hungary, **Krystyna M Kuperberg*** (kuperkm@auburn.edu), Department of Mathematics, Auburn University, Auburn, AL 36849-5310, and **Tudor Zamfirescu**, Fachbereich Mathematik, Universitat Dortmund Dortmund, Germany. *The total curvature of a shortest path.*

The total curvature of a polygonal path $P = [v_0, v_1, \ldots, v_n]$ is defined as

$$t(P) = \sum_{i=1}^{n-1} \pi - \angle([v_{i-1}, v_i], [v_i, v_{i+1}]).$$

Let $\mathcal{K}$ be the set of all compact convex polyhedra in $\mathbb{R}^3$. Let $\mathcal{T} = \{t(P)\}$, where P is a shortest path joining two points in the boundary of a polyhedron $K \in \mathcal{K}$. It has been asked in [1] whether the set $\mathcal{T}$ is bounded. The subset of $\mathcal{T}$ consisting of all numbers $t(P)$ such that P is planar is bounded by 2π. An example showing that this bound does not hold for $\mathcal{T}$ will be presented. This work is to be included in a paper joint with I. Bárány and T. Zamfirescu.

[1] P. Argawal, S. Har-Peled, M. Sharir, K. Varadarajan, *Approximating shortest paths on a convex polytope in three dimensions*, J.A.C.Math. **44** (1997), 557-584. (Received September 18, 2000)