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**Yulan Qing\*** (yulan.qing@gmail.com), **Kasra Rafi** (rafi@math.toronto.edu) and **Giulio Tiozzo** (tiozzo@math.utoronto.ca). *Boundaries of non-positively curved groups and spaces.*

To every Gromov hyperbolic space  $X$  one can associate a space at infinity called the Gromov boundary of  $X$ . This boundary is a fundamental tool for studying hyperbolic groups and hyperbolic 3-manifolds. As shown by Gromov, quasi-isometries of hyperbolic metric spaces induce homeomorphisms on their boundaries, thus giving rise to a well-defined notion of the boundary of a hyperbolic group. However, the visual boundary of a CAT(0) space is in general not well-defined. For any sublinear function, we consider a subset of the visual boundary called the sublinearly Morse boundary and show that it is a QI-invariant. In the case of Right-angled Artin group, we show that the Poisson boundary of random walks on groups is naturally identified with the  $(\sqrt{t \log t})$ -boundary. If time permits we will discuss recent new development of the sublinearly Morse boundary. (Received January 10, 2020)