1176-37-217   **Vitaly Bergelson*** (`bergelson.1@osu.edu`), 231 W 18th Ave, Columbus OH 43210, Columbus, OH 43210-1101, COLUMBUS, OH 43210-1101. *Ergodic Theory: Interactions with Harmonic Analysis, Combinatorics, and Number Theory.*

Ergodic theory has a number of interesting and mutually enriching connections with Harmonic Analysis, Combinatorics and Number Theory. We will discuss some of the recents developments motivated by the problems of multiple recurrence and Sarnak's conjecture on Mobius disjointness and formulate some pertinent open problems. (Received January 23, 2022)