CITIES IN A CHANGING WORLD: QUESTIONS OF CULTURE, CLIMATE AND DESIGN

• Paper / Proposal Title:
To Congregate or to Disperse? Structural Analysis for Data-Light Identification of Social Interaction in Public Spaces

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• Abstract (300 words):
Cities have the unique capability to bring together individuals with diverse backgrounds, while public spaces within the city can provide neutral ground for planned and unplanned interactions and activities. Public spaces with certain characteristics that play host to social interaction hence become places of significance as they cater to the basic human need of being part of the larger community. However, with ever-changing urban landscape and new variety of programs emerging, how could we identify these public spaces of high social interaction efficiently? More importantly, as urban policies may need to change instantly, for example, due to the current global pandemic, instead of extensive data-crunching, could there be a data-light process to quickly highlight these potential social nodes to aid planners in swift implementation of new policies or programs?

This paper aims to investigate the motivation, methodology and validation of a study based on structural analysis of public spaces, which culminates in an analytical tool to be implemented in the City Application and Visual Interface (CAVI) digital platform developed by Électricité de France. The methodology behind this analytical tool involves
an analysis of degree centrality, applied to the residential town of Toa Payoh in Singapore, to distinguish public spaces that are more likely to play host to social interaction. 697 precinct facilities for public use within an area of 2.38km² were used to create a public space network. Nodes of high centrality in the network were identified as precinct facilities that encourage individuals to converge for social interaction.

Based on our analysis, 57 local maxima of degree centrality were identified as likely to play host to social interaction. Through field observations, 50 of the 57 identified precinct facilities were found to host social interaction in real life. The presence or absence of social interaction could be further explained by the design, usage and proximity of these precinct facilities.

The proposed planning process supported by data-light urban analytical tool can be applied efficiently to identify places of high-centrality and the contextual factors that facilitate social interaction. Such design tool is useful both during normal time for urban planners to develop effective and attractive public spaces that draw users, as well as during critical period such as the current global pandemic, to support policies that aim to disperse large crowd and encourage social distancing behavior among citizens.

• Author(s) Biography (200 words each):

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