Title: Diversity in food culture: comparing availability of international cuisines in selected metropolitan cities

Author: Aleksandras Gutmanas

Date: Feb-Mar 2020

# Introduction

## Background

Most large cities are diverse places, whose populations include large numbers of migrants hailing from nearly everywhere on the planet and enriching their new environments. Perhaps the most tangible expression of such an enrichment is our ability to access a large variety of cuisines in a global metropolis like London or Paris, and even in smaller centres such as Stockholm and Vilnius. Having said that, diversity can often be limited by segregation, usually caused by a very natural desire for newcomers to settle in close proximity to their former compatriots, thus creating a familiar milieu in a new place of residence. The evidence of this natural segregation is ample in neighbourhood names, such as the ubiquitous *Chinatowns* and *Little Italies* in many North American cities, mostly established about a century ago. It is thus also possible for these diverse segments of population to co-exist in parallel spaces, without really interacting with each other. The questions of diversity and segregation have of course been discussed and debated in academic and political contexts, and I like to think of them as linked to the ideas of Mono-, Multi-, Inter- and Transculturality. For the purposes of this project, a simplified description of these theories will suffice, and a curious reader is referred to Benessaieh (2010) and Welsch (1999) for a more thorough discussion. Monoculturality refers to the idea that cultures can be likened to islands, completely self-sufficient and separate from each other, with only sporadic contacts between them coloured by indifference or suspicion if not outright hostility. In the context of food, one can think of 100% authentic traditional dish consumed by people who can also prepare it. Multiculturality describes a condition where cultures co-exist in close physical proximity (e.g., in the same city), but the contacts are limited to a bare minimum of mostly business-like transactions: that same authentic dish can now be occasionally consumed by “the others”. Interculturality still treats cultures as islands, distinct and separate from each other, but the contacts are numerous and varied, with frequent borrowing of ideas (or food ingredients in our case). And finally, Transculturality rejects the idea of cultures as islands, instead treating them as constantly changing streams with blurred boundaries. From the culinary aspect, this could be likened to a fusion dish.

## The problem

A lot of the discussion on matters of cultural diversity relies on opinions and anecdotal data. For example, a respected chef claims that Britain is more open to food from the rest of the world than other European countries (Slater, 2015). This may be true, but can we quantify it? If yes, how? In this project, I will leverage the venue information from the Foursquare API and cluster neighbourhoods in four European cities: London, Paris, Stockholm and Vilnius, with the intent to quantify the degree of general diversity (a proxy for Multiculturality), physical

proximity of restaurants offering different cuisines (a proxy for Interculturality) and will also count the number of fusion restaurants (a proxy for Transculturality). The particular choice of the cities is purely arbitrary at this stage, and is inspired by a personal curiosity: I know these cities fairly well, having visited them many times over the years.

### Stakeholders and potential interest

Beyond my personal curiosity and the purely academic interest in quantifying the degree to which cities are multi-, inter- or "transculinary", if I may be allowed to create a new word, there are other stakeholders for this analysis. For example, city councils and tourist agencies may replicate and use the findings to advertise their cities, a business person wishing to open a new restaurant could use the data to select a suitable location (e.g., gaining an appreciation of what food the local residents like), and tourists could learn at a glance what to expect when visiting a new city.

## Data

### Data sources

The project will rely on two main types of data. The first is the geographic data on each city, which I will obtain from the following sources: London neighbourhoods from http://insideairbnb.com/get-the-data.html, and London boroughs (municipalities) from https://skgrange.github.io/data.html; Paris boroughs (arrondissements) from https://www.data.gouv.fr/en/datasets/arrondissements-1/ and administrative neighbourhoods (quartiers administratifs) from https://opendata.paris.fr/explore/dataset/quartier_paris (I will also compare this with the AirBnB dataset); Stockholm neighbourhoods from http://insideairbnb.com/get-the-data.html and Vilnius subdistricts (seniūnijos) from https://github.com/seporaitis/lt-geojson/blob/master/geojson/subdistricts.geojson. In the case of Vilnius, the data actually comes for the entire country (Lithuania), but fortunately it can be filtered by municipality, available from the same source. In each case the data comes in the standard GeoJSON format, making it compatible with the Folium library for creating maps.

The second source of data will be venue locations and categories provided by the Foursquare API: https://developer.foursquare.com/docs/api/endpoints. I will primarily use the "explore" endpoint to obtain lists of venues, and will also need to process the category tree available from the "categories" endpoint.

### Data clean-up and preparation

For the geospatial data, I will require the coordinates of each neighbourhood's centre to use as latitude and longitude in Foursquare API queries. In some cases (e.g., Vilnius, Lithuania) only the actual neighbourhood borders are provided in the GeoJSON, so I will use the polygon.centroid method in python's shapely library to calculate the values of the centre of each neighbourhood.

For the venues data, the main problem will be to filter relevant categories (e.g., I will remove fast food chains and coffee houses such as Starbucks). On occasion I will also need to remap venue categories to a higher node in the category tree: for instance, I would reclassify an

Alsatian restaurant as French for the purposes of this analysis (even if Alsatians may object to this particular decision).

## Feature selection

Once the data clean-up is complete, each neighbourhood will become associated with a filtered list of venues, each labelled with a particular cuisine (e.g., Indian or French). I will transform these lists into a frequency table with each cuisine being a feature. This will allow me to cluster the neighbourhoods by their cuisine profiles. I will normalise each profile by the total number of venues used for each neighbourhood to account for the fact that residential neighbourhoods typically have fewer venues in total, as my question is about diversity, rather than availability.

I will also investigate if perhaps a clearer signal will emerge if for each city cuisines are grouped into two features, that could most concisely be described as "self", i.e., representing the national cuisine of the country (e.g., French in Paris) and "other", i.e., everything else.

## References

Benessaieh, A. (2010): 'Multiculturalism, Interculturality, Transculturality', in: Benessaieh, A. (ed.): Transcultural Americas/Amériques transculturelles. Ottawa: Ottawa University Press, pages 11-38.

Welsch, W. (1999) "Transculturality - The Puzzling Form of Cultures Today", in Featherstone, Mike; Scott Lash (eds.): Spaces of Culture: City, Nation, World. London: Sage, pages 194-213.

Slater, N. (2015) "Let's eat together: how immigration made British food great." The Guardian website: https://www.theguardian.com/global/2015/may/24/lets-eat-together-cooking-immigration-britain-food. Accessed on 22 Feb 2020