500,000 statistically-random dots

Brightest ~500,000 Galaxies in the Northern Hemisphere (1977; RA & DEC only)

2-D "lacework" pattern

CfA "Slice of the Universe" (1987; first 3-D view of the galaxy distribution)

Two Degree Field Galaxy Redshift Survey (2dFGRS); ~250,000 galaxies
Blow-up of a region of the 2dF pie slice

The Local Network of “Superclusters” and Voids (organization of the universe on the largest scale)

- Galaxies cluster together to form “groups” or “clusters” of galaxies
- Clusters of galaxies cluster together to form “superclusters” of galaxies
- Superclusters are still in the process of forming (not virialized)
- We belong to the Virgo Supercluster

Voids are regions of space where, for some reason, galaxies had a hard time forming

Each white dot in the picture represents a galaxy.

CDM Simulation (red = galaxy cluster location)

Luminosity Segregation

The 2dF Galaxy Redshift Survey
Luminosity dependence of galaxy clustering

![Graph showing luminosity segregation](image)
Cold, Warm & Hot Dark Matter Universes

CDM

WDM

HDM

Dark matter only simulations by Ben Moore (University of Zurich)

2dFGRS zcones vs. CDM

Galaxy Power Spectrum from SDSS (data points) compared to Lambda-CDM prediction (red line)