Columbia University, GSAPP/ A4003: Core Studio 3, Fall 2013: Housing Studio
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Our research will consider the following encounters:

1_CALORIES versus MILES
The urban food desert, all too easily found near our Harlem site, is a zone in which the nutrient-to-calorie ratio of foods available within a certain pedestrian travel radius falls below a critical number. The food desert is also described by land use patterns and economic cycles that shift food commerce to convenience stores, drugstores, and liquor stores, and away from supermarkets, greenmarkets, and groceries.

2_CALORIES versus WATTS
A calorie is a unit of physical energy, not a measure of chemical content or biological nutrition. A watt, that familiar unit for the rate of exchange of electrical energy, is energetically equivalent to the consumption of 859.85 calories per hour. We will consider that our housing proposals should generate both calories and watts. We will critically research contemporary methods of on-site food production and on-site energy generation in urban settings. We will re-evaluate the twenty-year old technological utopia of vertical farming, and the forty-year old utopian ecology of community gardening and urban homesteading.

3_CALORIES versus DOLLARS
A dollar is a unit of capital exchange. In most American cities, a dollar buys 1200 calories of potato chips, 875 calories of soda, 250 calories of vegetables, or 170 calories of fresh fruit. The US Department of Agriculture (USDA) suggests a diet of 2000 calories a day. One index of the relative resource-access of urban neighborhoods and housing complexes is the energy use required for transport between a residence and the nearest fresh produce supply. A complex environmental, social, financial and physiological economy exists between dollars, watts, calories, and indices of personal nutrition.

2_27 MINUTES versus 300 SQUARE FEET
A 2009 Hollywood film, *Julie and Julia* dramatizes a 2001 blog by a woman who reinvents her life by spending a year meticulously cooking all 524 meals from the canonical cookbook of 1963, Julia Childs' *Mastering the Art of French Cooking*. In 2011, a blog records a college student's actual experience of watching all of *Julie and Julia* every day for one year—completing a blog about a movie about a book about a blog about a book about food and domestic space. Since 1963, the average median amount of time spent cooking in an American home has decreased from as much as two hours, to 27 minutes. Plus 4 minutes cleaning up. Meanwhile, TV shows about cooking have never been more popular, and the median square footage of an American kitchen has doubled to some 300 square feet.

3_ECOLOGY versus TECHNOLOGY
Agriculture is technology. The large-scale factory farm or feedlot of American agribusiness, like the large-scale urban housing typology, asserts irresistible economies of scale in the relationship between infrastructure and architecture. Repetition and spatial concentration of technology, machinery, circulation and other building elements enables a hyper-efficient relationship between infrastructure and architectural space that is impossible to achieve in multiple smaller domestically-scaled buildings. These ideas of hyper-efficiency are what housing brings to the critical discussion of sustainability: how does an architecture source, distribute, and eject energetic resources and material commodities? And how does architecture address or ignore existing grids and flows?

Our student teams will each be assigned exclusive areas of focus based on the divisions of the USDA Food Pyramid: Grains; Vegetables; Fruit; Dairy; Meats; Fats and Sugars. This year, we will pay special attention to the objects and operations of industrially-scaled agriculture: large-scale irrigation systems, large-scale harvesting systems, and large-scale feed lot and slaughter systems, which students will consider adaptively reusing in their housing proposals.

Rather than rejecting the machinery of these systems in favour of a nostalgic pastoral vision, how can we radicalize, recontextualize, and instrumentalize the relationship between mechanical, social, and biological systems that they present? How might we co-opt, complicate and corrupt the seemingly neutral or spatial repetitions and infrastructural concentrations that are the defining architectural characteristic of large-scale urban housing?