Preface to Structural Systems of the Million Program Era

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One quarter of Sweden’s existing housing stock was built during the post war and late modernist period of 1965-74. In many ways, this time period was the culmination of Sweden as a welfare state with an outspoken ambition to serve its citizens from cradle to grave. Over one million units of housing were built during this ten year span which predictably became known as The Million Program Era. In order to achieve this level of production the processes were policy driven, highly rationalized and predominantly industrialized. Positivistic planning prevailed and prefabrication came into the fore. Further, it was a period of an almost complete and utopian alignment of political interests, policy making, production models, planning ideals, and implementation of architectural research and education. In contrast to these rapid and deterministic processes, it was also a decade where experimentation excelled and the distance between research and the profession was extremely short. Ideas could be tested immediately and at a grand scale. One example of this is that Igor Dergalin was concurrently both Professor of Urban Planning at KTH and head of planning of several large scale housing suburbs such as Tensta and Skärholmen in the municipality of Stockholm.
Of these one million units, approximately one third were single family dwellings, one third multifamily housing with three stories or less, and one third were high rise multifamily housing with four stories or more. Most of the multifamily housing and a majority of the single family dwellings were planned and built in larger urban conglomerates on virgin ground outside of, but dependent on, the city centers. They were conceived as commuter suburbs with small commercial centers to serve daily needs and the majority work places were to be located elsewhere. These Million Program Era areas were autonomous and only tenuously connected to existing infrastructure, usually dependent on a single highway or rail connector. There was also an underlying idea of completeness and low maintenance that affected everything from material handling to prospects of future growth; the areas were not built for and have not been altered to handle the rapid changes in society that have occurred.

The Million Program Era multifamily housing areas are now beset by a fourfold set of forces which call for change. Firstly, housing is affected by the social transformation of Sweden from a welfare state with homogenous nuclear families to a globalized society with a multiplicity of demands and needs. The residents of the Million Program Era areas are not who they were originally designed for. This rapid demographic shift causes friction with the built
environment and is usually centered on the issues of segregation and integration. However, the social questions are much larger than any single housing area and also involve the state and definition of Swedishness.

Secondly, the technical systems of the multifamily housing are in need of long term routine maintenance. Roofing materials, piping, ventilation, doors and windows, elevators, and balconies need to be replaced or repaired in order not to cause irreversible damage to the buildings. With estimates ranging from SEK 250 to 1000 million to renovate up to five hundred thousand apartments many companies and contractors are mobilizing and getting involved. These large scale technical issues are mainly the concern of the owners and builders.

Thirdly, energy cost and consumption issues are forcing stakeholders to rethink how the Million Program Era apartments can contribute to a more sustainable built environment. The vast majority of the multifamily houses were built to be dependent on an unlimited supply of cheap electricity and were completed before the first global oil crisis of 1973-74 brought limited resources to our attention. An EU-directive to cut 20% of energy consumption by 2020 and 50% by 2050 has become the strongest force on a national level to develop new green technologies, super-insulate exterior walls, install heat exchange units on exhaust air (and soon gray and spill water), promote behavioral change, and exchange old appliances.
Lastly, historical preservation issues are growing as a counter-force to the physical changes brought about by the first three forces. Million Program Era areas which have become representative of the post war period are gaining recognition and are rapidly being classified to prevent loss of their unique historical qualities.

Each one of these forces is in itself not new; however, this is the first time they are all present at the same instance and affect such a large portion of the housing stock. The situation is further problematized by the fact that there are no new national initiatives or incentives for investment, no consensus on renovation techniques, a growing awareness of the need to involve tenants and their perspective, and a global recession causing fiscal woes for the owners.

The apartments designed during the Million Program Era have been lauded for their layouts melding the functionalist ethos with the production processes of the day. They were larger, had better day lighting conditions, were cleaner, and closer to nature than the average urban apartments of the mid 20th century. Half of the new apartments had three rooms and a spacious kitchen while Sweden's inner city apartments had a single small room (sometimes two), was dark, run down, and lacked basic modern amenities such as central heating, shower, cooking, and washing facilities. Residents who moved into the post war housing areas were grateful for the improved standard and heightened quality
of living they received. Unfortunately, this positive post
war trend of raising the living standard for all citizens of the
welfare state was replaced by an early 70’s critique of the
monotony and anonymous character of the housing areas.
Reporter Olle Bengtzon pointed out that the residents of
Tensta were victims of a deficient built environment. It is
still this image of a subpar built environment that prevails
today. Almost all efforts aimed at improving the large scale
Million Program Era areas have been targeting the image
of the area (i.e. monotony, drabness, concrete facades, poor
landscaping, etc) and very few have looked at improving the
apartment layouts or size distribution in relation to changing
demographics.

Through a series of elective seminar courses at the KTH
School of Architecture, we have been able to address these
issues from a different perspective. We have been focusing
on the structural systems of multifamily housing from the
Million Program Era in order to fill a knowledge gap regarding
their potential for change. If and how they can be altered
to fit contemporary society rests on how well we can understand
their original structural intentions and the changing
needs of today’s residents. This inside-out method runs
counter to many projects occurring around Sweden where
problems are to be solved from the outside-in, rarerly affecting
the apartment. Our goal has been to understand
some of the inherent differences in the buildings that make
up a quarter of Sweden’s housing stock. We have, for example, re-discovered that there were at least sixteen different prefabricated structural systems in use in Sweden in 1968. Each one of these systems can be altered in an individual manner even though the apartments they contain are remarkably similar. We have also found out that Tensta’s 5600 apartments were built by twenty two different contractors. Given this diversity of builders in just one of the many Million Program Era areas and the numerous prefabricated structural systems in use at the time, we aspire to uncover differences between buildings, differences between areas within Sweden, and promote the rediscovery of the structural potential of the Million Program Era housing areas.

A great many thanks are due to all the masters level students who have invested their time into this seminar course. They have been busy contacting municipal and private housing companies, searching obscure archives, calling retired builders, and following weak trails in search of drawings and photographs of the areas that we have selected.

The original drawings, models and intentions are quickly fading into history for a number of reasons: the smaller contractors were bought up by larger conglomerates, the people involved are retired or passed away, the negative reputation the Million Program Era has stigmatized the value of the material, and so on. As half of the students were Erasmus exchange students, we paired them with a Swedish speaking student and assigned them a couple of areas
to investigate. This compilation of material on twenty five
of the Million Program Era areas is thus a first step in closing
the knowledge gap that exists. We have, since this first
inventory, continued the research by selecting twelve of the
areas for closer study and built both 1:20 scale physical and
digital models of six of these structural systems. These six
wooden models were then the basis for a series of proposals
of how these specific buildings could be altered by working
with knowledge of their structural systems. These studies
will be presented in future publications and exhibits.

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