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FOCUS AREA:

*Construction Management and
Production*

**PRODUCTION FOR A
CONSUMER-
ORIENTED HOUSING
INDUSTRY**

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PRODUCTION FOR A CONSUMER-ORIENTED HOUSING INDUSTRY

The main point I want to make is:

The housing industry should learn to produce housing in response to individual consumer demands.

It should do so at least as effectively as the automobile industry does, to compete for the same household budget, at various levels of affordability.

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We've learned over the years that:

- *Housing is more than bricks, studs, pipes and wires – processes are key.*
- *Housing is not only about science, engineering and architecture – logistics, business, IT, regulation and marketing are also important.*
- *While meeting local regulatory and political constraints, builders use products from around the world designed to fit in a wide range of sites.*

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We've also learned that:

- *Housing is more than a professional activity. Consumers are key.*
- *Finally housing is not static – witness the massive expenditures on remodeling, adaptation, expansion and reconfiguration. We must build for both permanence and change.*
- *Housing must fit into its local context – we can't apply the same architectural style, foundation design or solar orientation everywhere.*

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These lessons suggest new directions for research in housing construction and production.

I'd like to suggest that these new directions will require technical and organizational research and innovation in two decision-making arenas that are terribly entangled at the present time:

The arena of public oversight

The arena of consumer preferences

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Housing – of any kind, at any price point – is always situated at the intersection of these two arenas of influence and control.

To construct, maintain and improve the stock – a single house or a development - action must be taken in both arenas.

Without individual action, we have uniform barracks that no one wants; without public action, we have uncontrolled development that the public rejects.

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To assure optimum effectiveness in housing production and to reduce conflict, these two arenas need to be clearly distinguished.

Then, they need to be supported by two distinct but closely related production processes.



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These two processes represent two kinds of markets, not unlike the commercial office market, where “base buildings” are “fitted-out” to meet occupant preferences.

Because markets operate with incentives and rules, studies of the mechanisms on which these two markets could optimally operate when clearly distinguished is essential.

But to study the potential of these two distinct markets to solve knotty problems, the two arenas must be “disentangled”. Once separated, methods of coordination can be developed.



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This is somewhat akin to the system of roads and vehicles on them. Each part of the transportation system is autonomous, yet they work together.

On the one hand is an asset – roads - whose performance is evaluated over time and in terms of how they support individual choice.

On the other hand, we have vehicles - “individual” or personal possessions - using the roads and directly related to the consumer market.

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Given the different rules under which these two arenas would work when they are clearly separated, we need research in new construction and production methods in both:

The decision arena controlled by local political forces



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and the decision arena supporting individual consumer choice.



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The decision arena driven by political forces pushes us to organize and produce for the long term and to meet “general” conditions and performance criteria, under the approval of public bodies.

This process, in general, cannot listen to individual consumer preferences.

But it does set the constraints and the “capacity” within which individual preferences can be expressed.

In technical and spatial terms, this can be called the **BASE BUILDING or **SERVICED SHELL** of a house.**

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The decision arena supporting consumer choice is interested in optimum variety for each individual household, at a range of price points or affordability.

This market of individual households wants maximum freedom to decide, within the constraints and “capacities” offered.

We can call this part of the house the **FIT-OUT** or **INFILL**. It's everything needed to make a serviced shell habitable for the specific household.

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When the two markets are not clearly “disentangled” – technically and organizationally – as is the case today, both are inhibited.

Entanglement causes frequent and predictable conflict.

When housing production does not distinguish these two decision processes and their respective production and management operations, we cannot achieve optimum production effectiveness or drive innovation forward.

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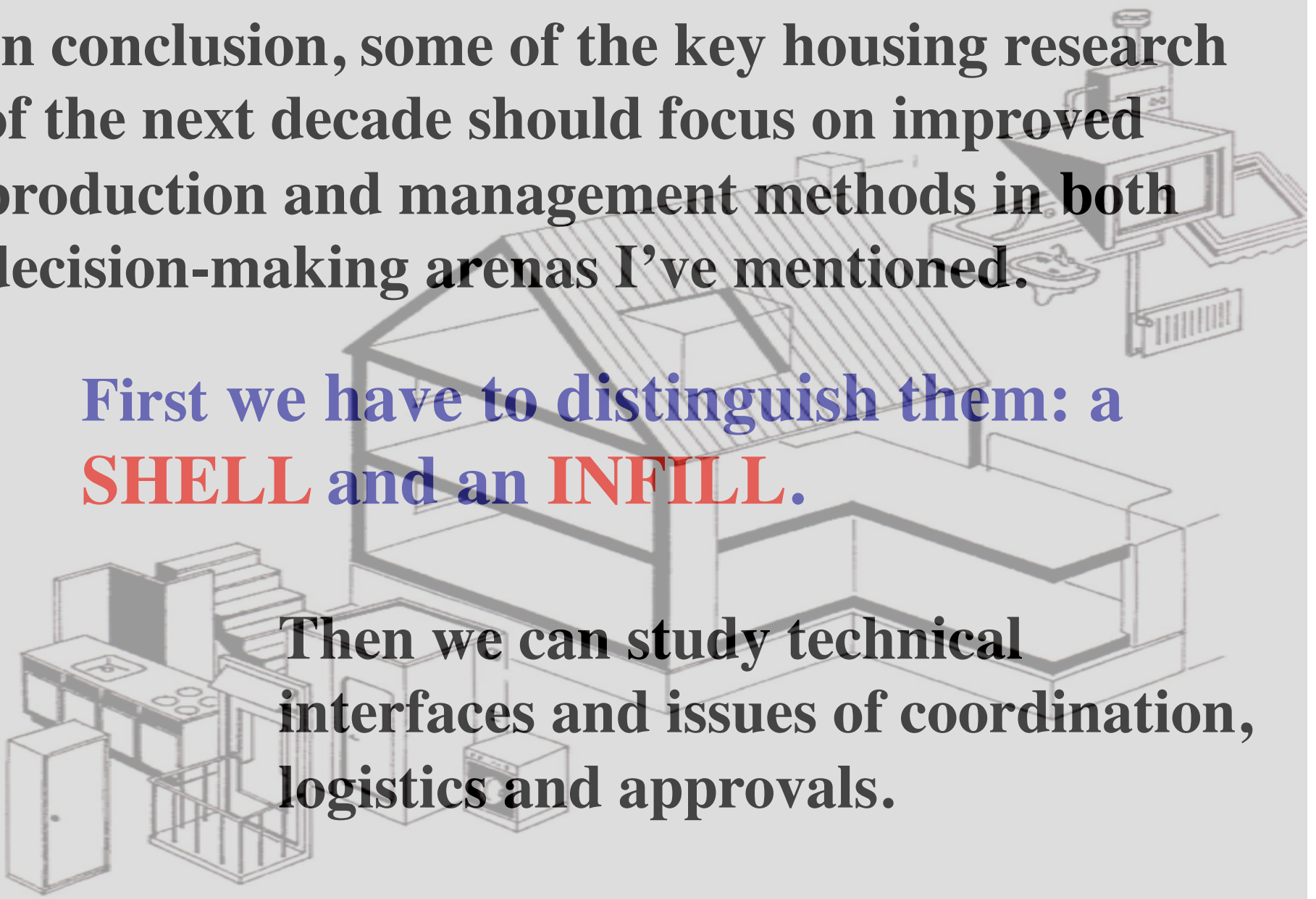
This is my reading of the innovation literature in housing production in the United States, from the General Panel House of Wachsmann and Gropius, to Operation Breakthrough, to today.

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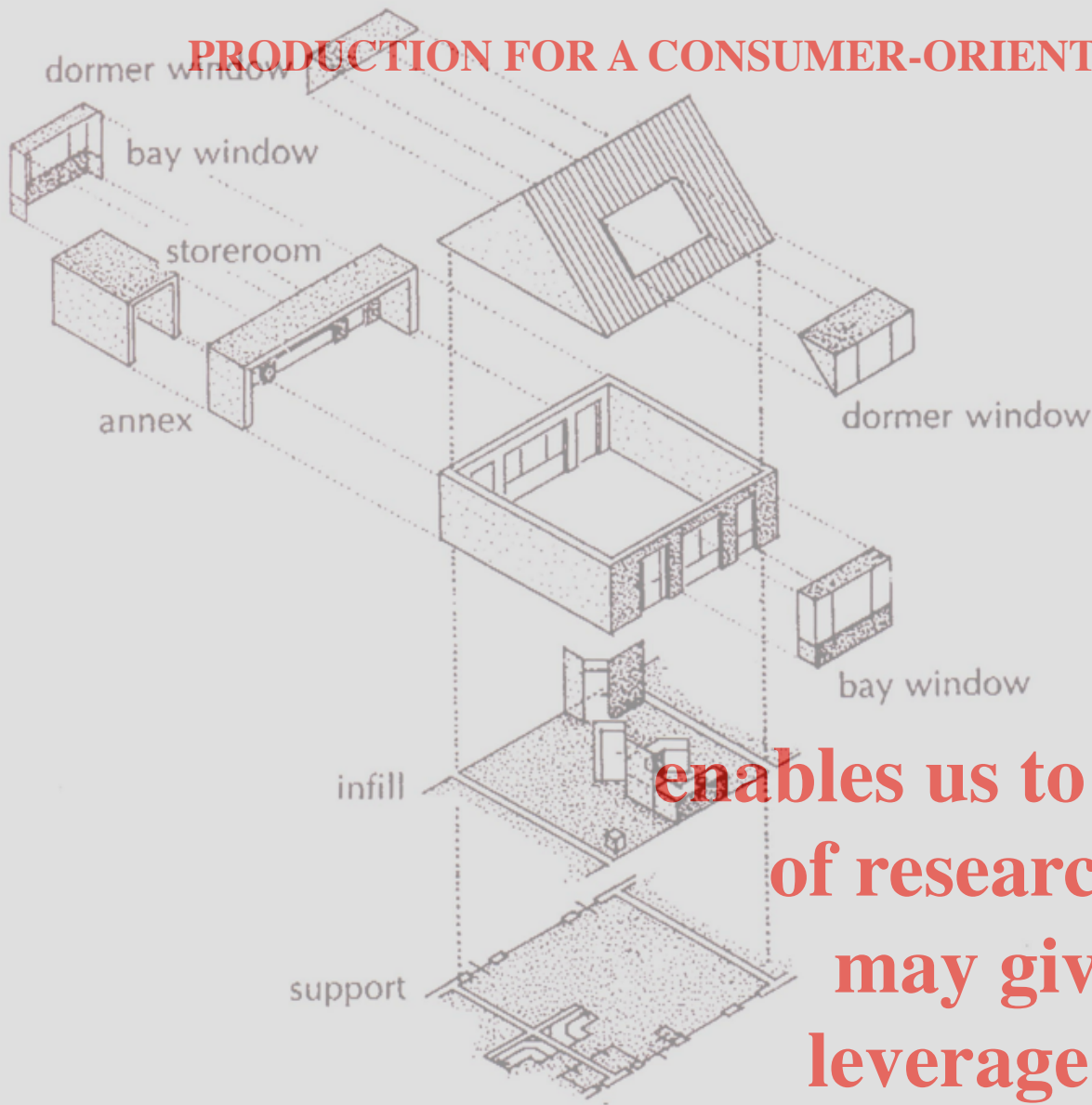
In conclusion, some of the key housing research of the next decade should focus on improved production and management methods in both decision-making arenas I've mentioned.

First we have to distinguish them: a **SHELL** and an **INFILL**.

Then we can study technical interfaces and issues of coordination, logistics and approvals.



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**Seeing housing
production in
this new way –
*operating in
two arenas of
action***

**enables us to define a set
of research questions that
may give us new ways to
leverage innovation.**

Disconnection support and infill **I think we're ready! Thank you!**