



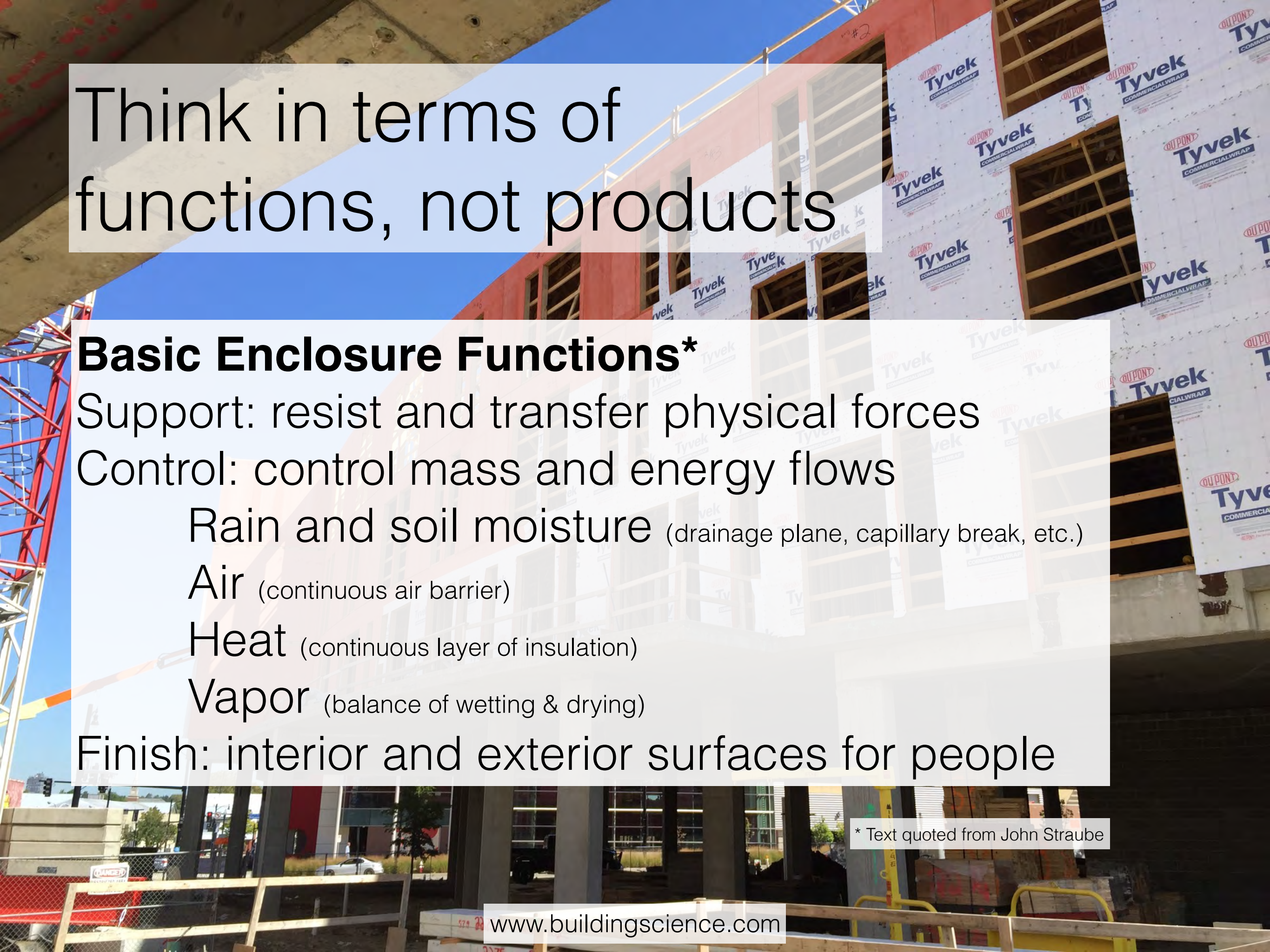
Building Science Fundamentals

Applications: Drained Claddings, Glazing, Balconies & Decks
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Out of the crooked timber of humanity no straight thing was ever made.

– Immanuel Kant



Think in terms of functions, not products

Basic Enclosure Functions*

Support: resist and transfer physical forces

Control: control mass and energy flows

Rain and soil moisture (drainage plane, capillary break, etc.)

Air (continuous air barrier)

Heat (continuous layer of insulation)

Vapor (balance of wetting & drying)

Finish: interior and exterior surfaces for people

* Text quoted from John Straube

Drained Claddings

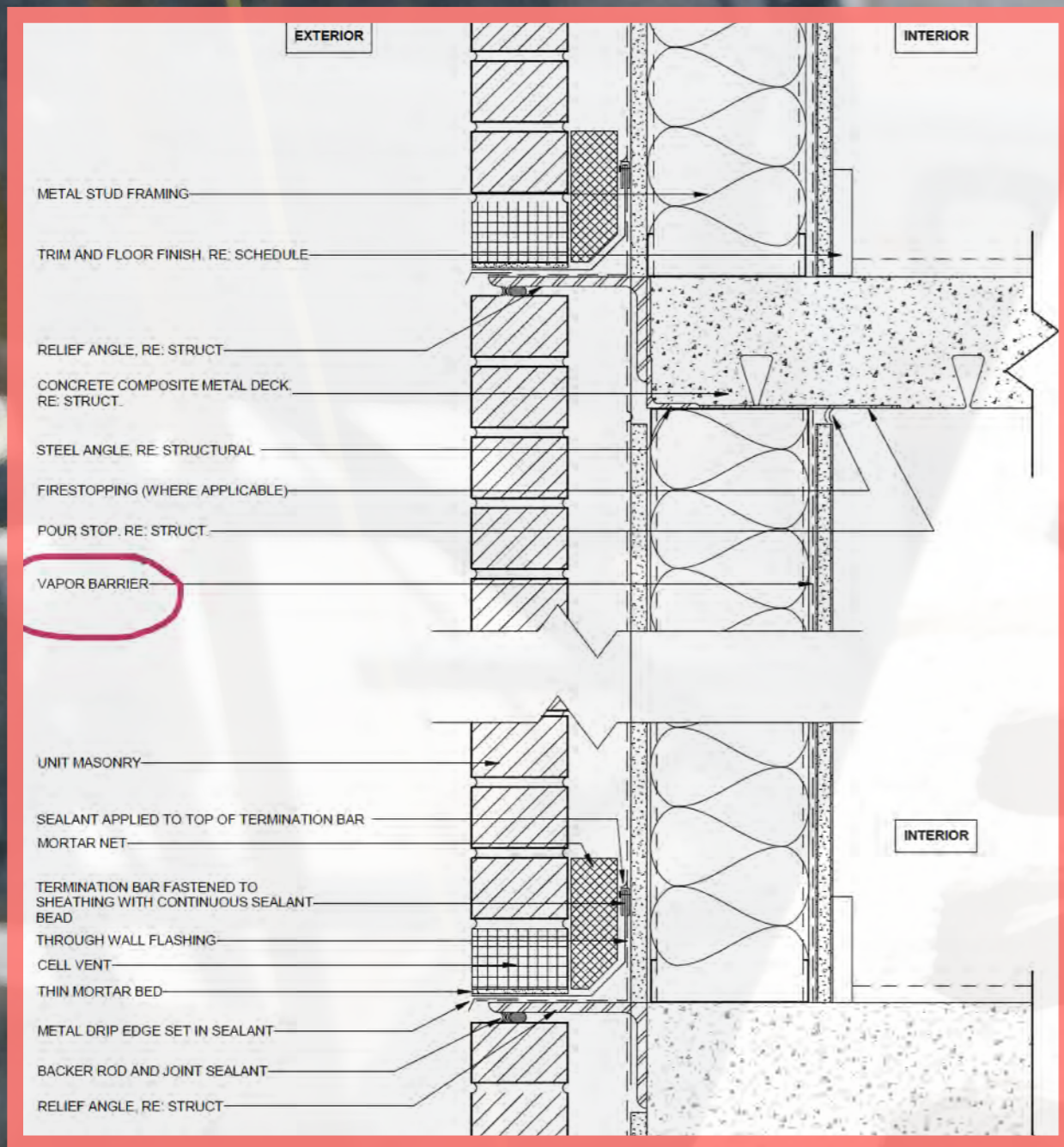


Cladding

Control
Layers

Structure





Most walls are not
the Perfect Wall

Drained Claddings and Drying Potential

Cladding Ventilation/Sheathing Ventilation

	Flow Rate	Gap	ACH
Wood Siding	0.1 cfm/sf	3/16"	20
Vinyl Siding	0.5 cfm/sf	3/16"	200
Brick Veneer	0.15 cfm/sf	1"	10
Stucco (vented)	0.1 cfm/sf	3/8"	10
Stucco (direct applied)	none	none	0
Sheathing flanking flow	0.05 cfm/sf	3/16"	10



Minding the gap...
watch the mortar droppings

Minding the gap...

with stucco & adhered stone



not minding the gap...



not minding the gap...



not minding the gap...



not minding the gap...





not minding the gap...

not minding the gap...



not minding
the gap...



not minding the gap...



not minding the gap...



not minding the gap...



not minding the gap...



(a quick aside...)



What's going on here?





Stucco over CMU to minimize
(eliminate?) control joints



Will it work?



install a drainage mat with
stucco and adhered stone
claddings on framed walls



install siding over furring / spacers

