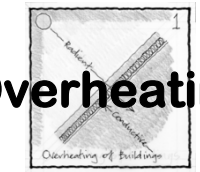
GBE

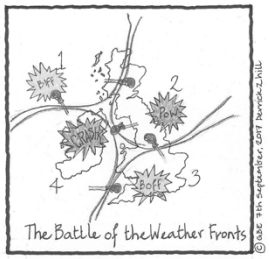
Overheating



GBE Issue Paper CPD

GBE

Weather fronts keep UK mild

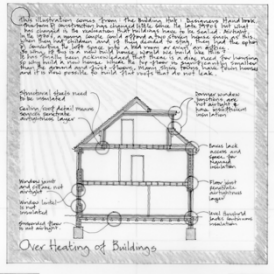


GBE

House+Attic

20th century construction

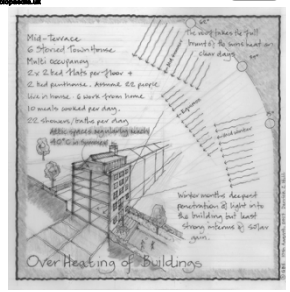
Has its fair share of problems



GBE

Top floors and south facing rooms get sunny and overheat

Not just through the glass



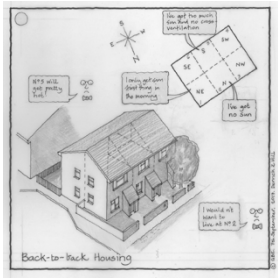
GBE

Back to back

19th Century design relic

What is it still doing here in the 21st C?

Fiduciary Rules?



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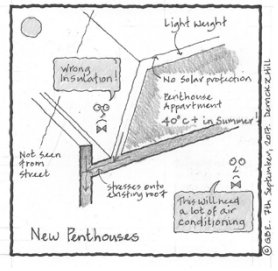
Planners insist on top floor additions set-back

Lightweight construction with wrong insulation needs air-con



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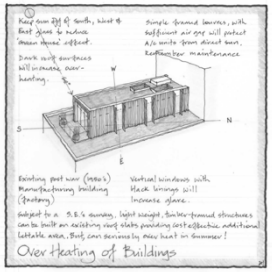
Roof Top extensions

Usually overheat

Try as hard as you like with bits and pieces



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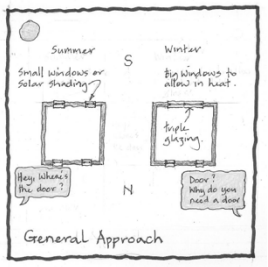
Winter: Small windows to the north, big windows to the south

Summer: Small windows to the south or solar shading needed



GBE

South facing for winter solar gains

And summer overheating?

GBE

100% Glass facades

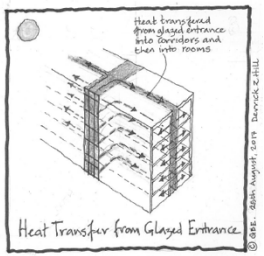
20th century construction

Fuel poverty (cooling) or wellbeing might stop it

GBE

Glazed communal stairs and corridors serving apartments student accommodation

Everything overheats



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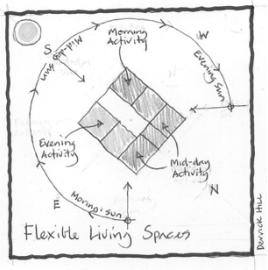
The sun moves around the building

In big buildings you can move away from the heat to cooler parts on extreme days



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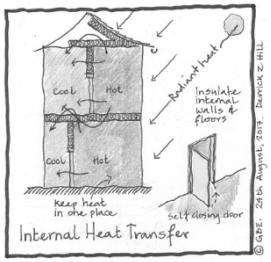
Keep heat in its place of arrival

Maintain safe refuge on the cooler side

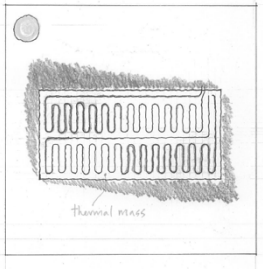
Insulate internally

Close doors



GBE

Hot floor slabs fitted with under floor heating pipes can move heat to the colder parts



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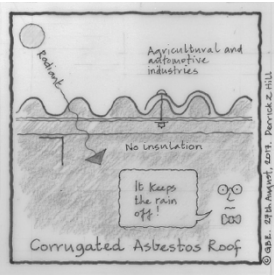
Thin lightweight coverings offer no protection from solar radiation heat gains



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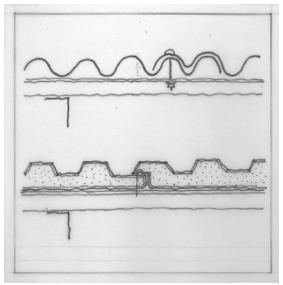
Profiled Metal roof cladding

No insulation or sandwich panel

Both ineffective against solar gains



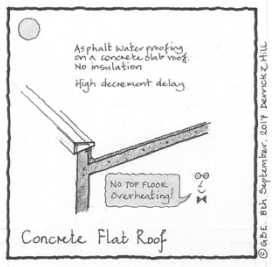
GBE

Concrete and Asphalt Flat Roof

No Insulation

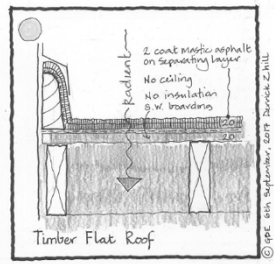
High Decrement Delay

No overheating



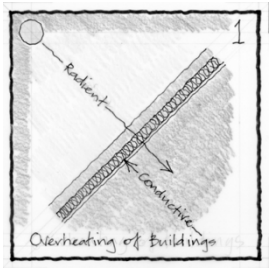
GBE

Old timber and asphalt roofs keep you roasting in summer



Radiant verses Conductive heat flows

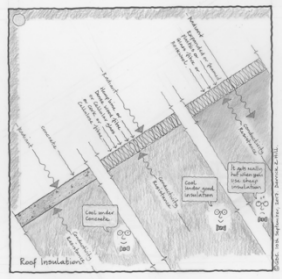
Insulation needs to resist both or overheating occurs



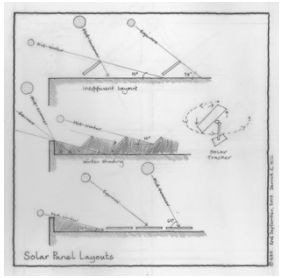
Wrong, right and no insulation

Some work some do not

Choose carefully



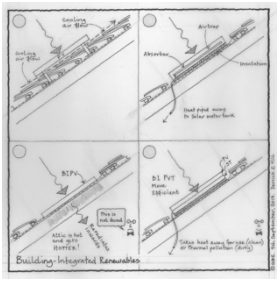
Solar panel layout



Building Integrated Renewables

Is it really a good idea?

I don't think so

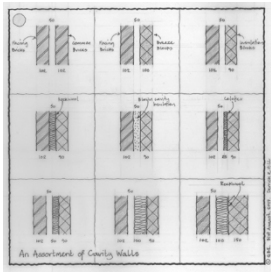


Cavity masonry walls

20th century construction

Its on its last legs

1919-20??



An Assortment Of Cavity Walls

- Since its forced introduction and demise of the solid brick wall in 1919 the cavity wall has served a purpose.
- It kept the weather out
- I stopped the suns radiant heat
- As regulations started to stop us wasting heat, insulation was introduced into the cavity with varying levels of success
- But for the 21st century its on its last legs
- 300 mm of full fill cavity wall insulation is at the upper limit
- Lintels and Cavity tray DPCs are struggling to keep up

This Presentation on GBE:

- Find this file on GBE website at:
- http://GreenBuildingEcyclopaedia.uk/?P=15750
- It will continue to be added to over the next year

Feedback

- These files are created by generalists with a big dollop of green flavour
- These files are updated from time to time
- We are not experts so from time to time these file may get out of date or may be wrong.
- If you feel that we have got it wrong please let us know so we can put it right

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