



Advanced Massing

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Credit must go to Phil Read for much of this content



What's possible with massing?

– Analysis

- Spatial Analysis
- Surface/Volume Ratios
- Shadow Impact Studies
- Wind Flow Analysis
- Solar/Thermal Impact Studies
- System Iteration/Resolution



"SOMEHOW I WAS EXPECTING RATHER MORE FROM ITS ADVANCED ANALYSIS TECHNIQUES"

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Design

- Is a language
- Revit is just a tool
- Not just about geometry (Revit is not a 'form modeller')
- Rationalisation and design progress are critical



RALPH REALISED THE ENTIRE WORLD-WIDE DESIGN TEAM WAS ONLINE, WAITING FOR HIM TO BE CREATIVE

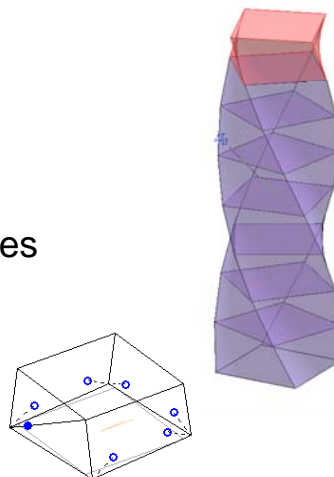
Limitations

- Only by force of will

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Techniques

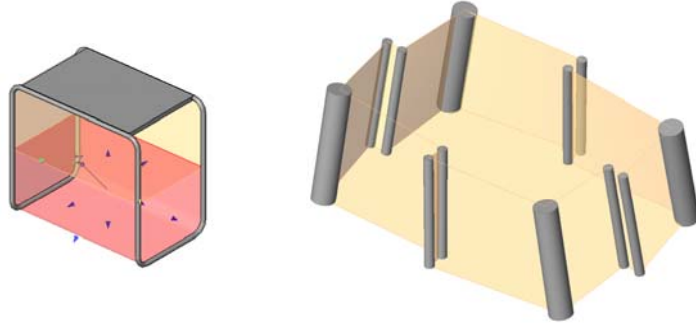
- In-place masses
 - Holistic Design
 - Once-off forms
- Component-based masses
 - Unitised Design
 - Repeated Elements
- Rationalisation of forms
 - Vertex Connection



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Examples

- Void driven geometry



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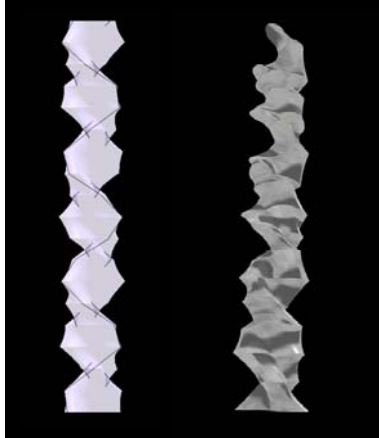
Examples

- Form-driven form
- Component-based parametric massing
- Conceptual studies

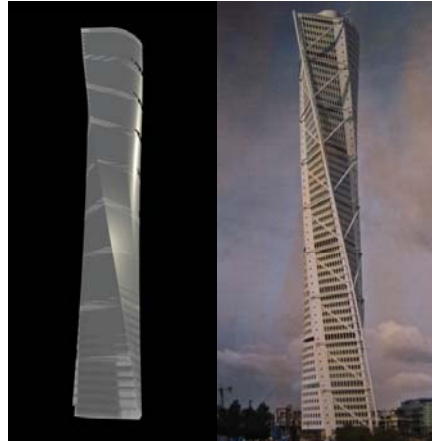


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Examples



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Recent Buildings



EP 07 Tower **EP 15 Tower**

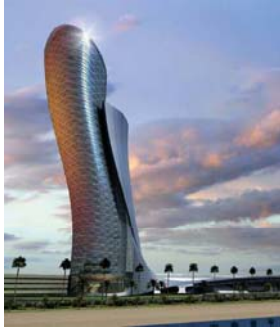
Adrian Smith + Gordon Gill

Twirling Tower

David Fisher Architect

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Recent Buildings



Abu Dhabi Convention Centre
RMJM Architects



Strata Tower, Al Raha Beach
Asymptote Architecture



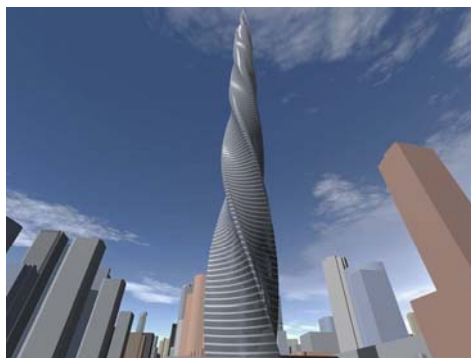
Burj Dubai
SOM / Adrian Smith

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Recent Buildings



Wave Tower, Dubai
A-CERO Architects



Chicago (Fordham) Spire, Chicago
Santiago Calatrava

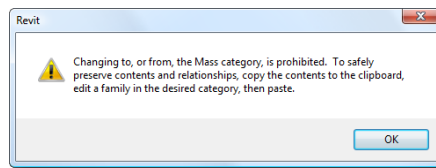
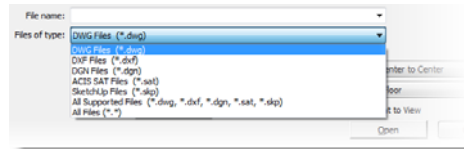
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Importing forms from other software

– Multiple file formats

– Purpose/Intention

- Masses only
- Not for intricate, small scale objects

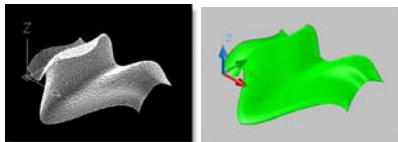
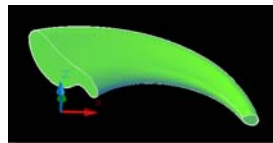


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Importing forms from other software

– Forms

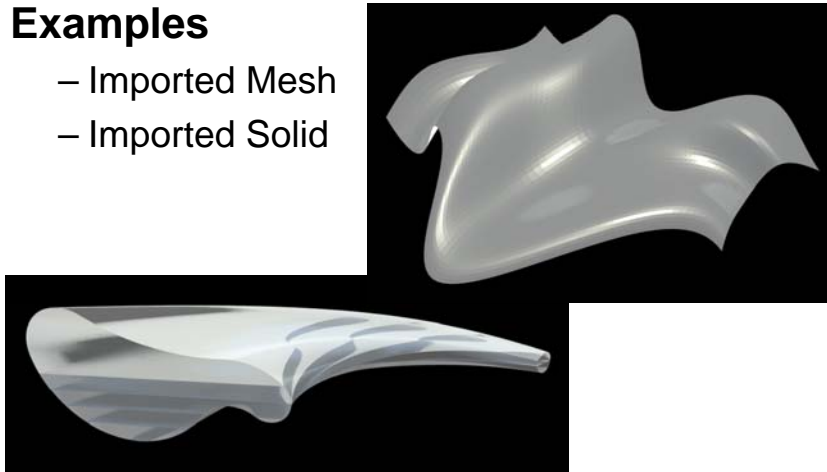
- Solids
- Meshes



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Examples

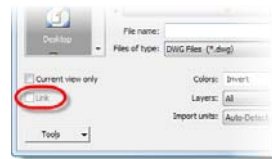
- Imported Mesh
- Imported Solid



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Importing forms from other software

- Start a mass or generic model
- File|Import/Link CAD file
- Can't link imported object
 - import only – since v2008
- Imported forms are static – i.e. non-editable
- Solids are best
- Meshes can be used, but with more limited computational data
 - no mass floors, volume or surface areas



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Importing forms from other software

- Beware high polygon counts
 - Editing complex solids can prove to be a 'thirsty' process
- Import into mass family with a default placement
- Keep placed family in secure location within project
- Re-import the solid as required – in-place changes effected
- Current workflow is restrictive and prescriptive
 - Can't 'update' geometry via links

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More on working with Rhino
Session 7, Friday 15.30 – 17.00
Sirius 2 Room
Presenter: Martin Taurer



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