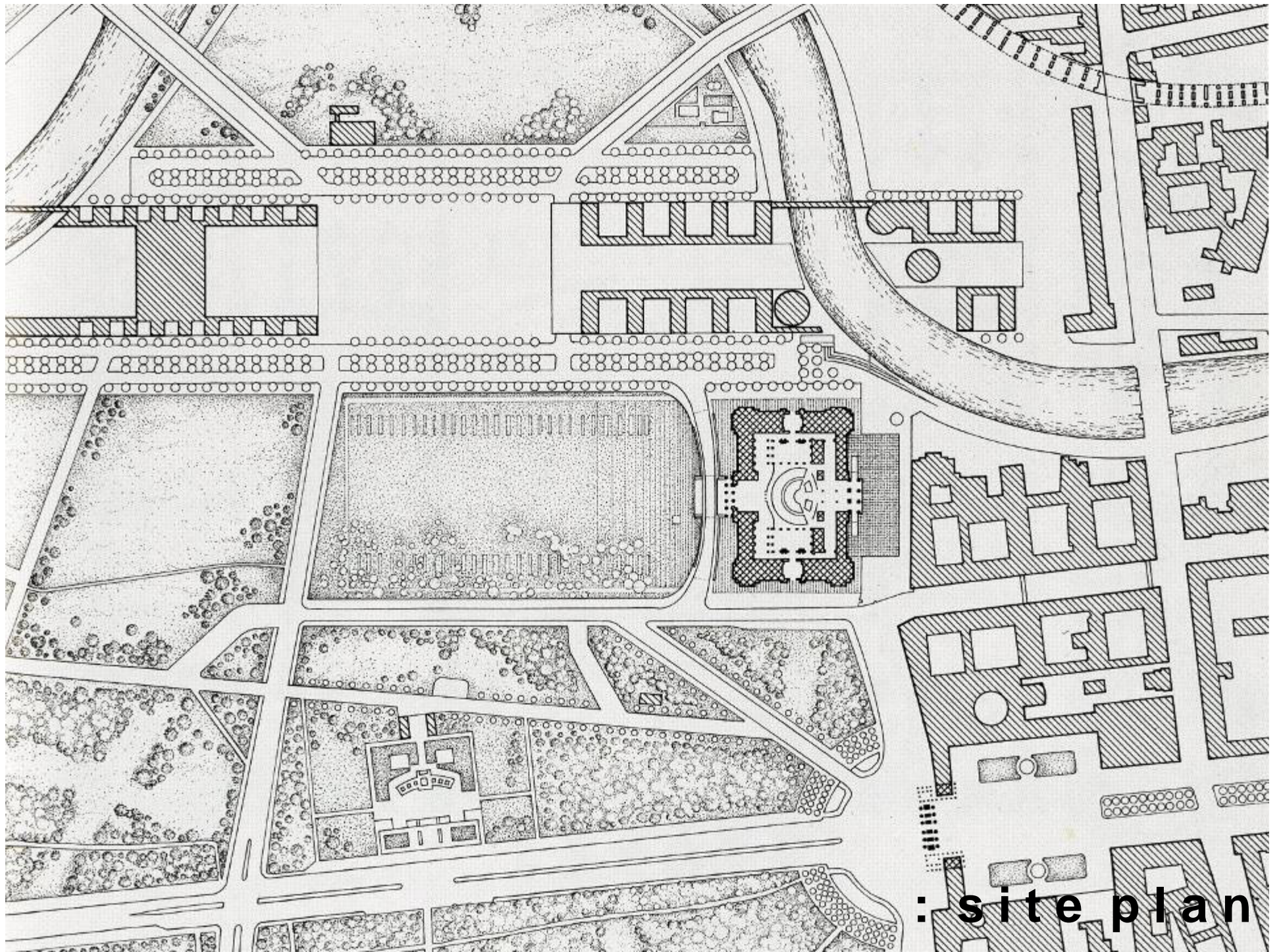


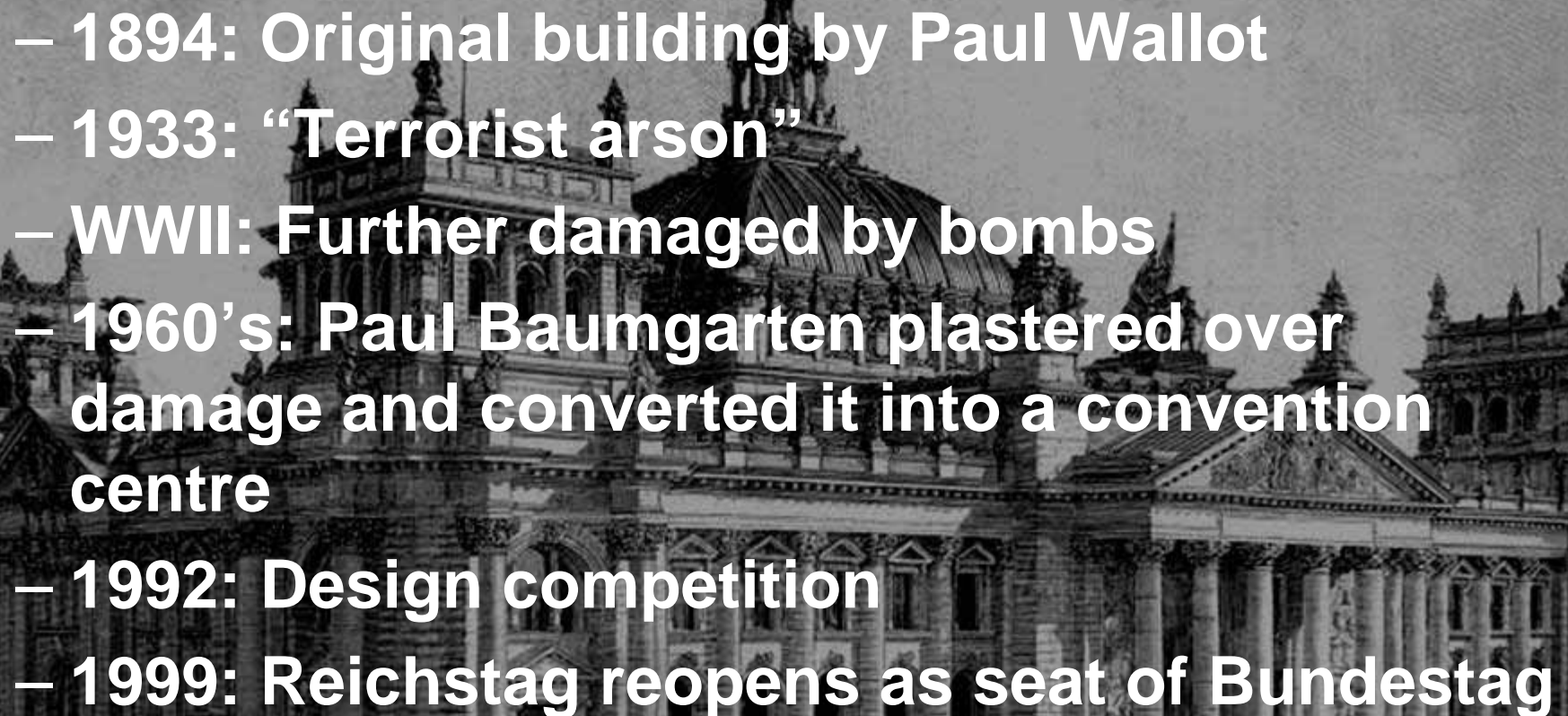
reichstag dome.
sir norman foster.
nineteen ninety nine



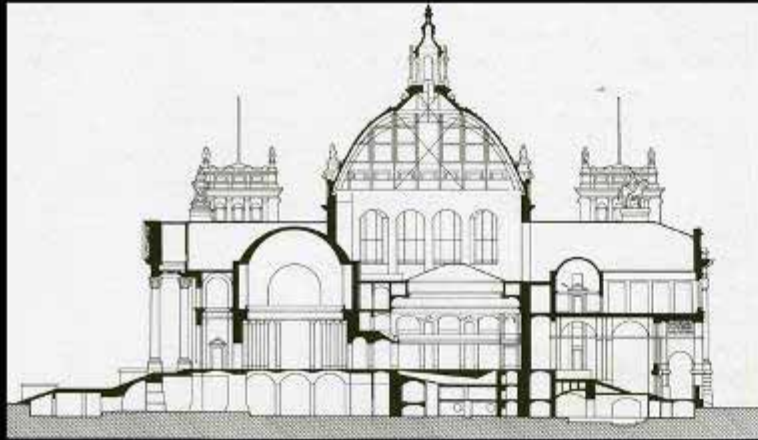
brooke corey.pamela da graca.megan gaydou
amanda geserick.bradley keene.douglas mullen



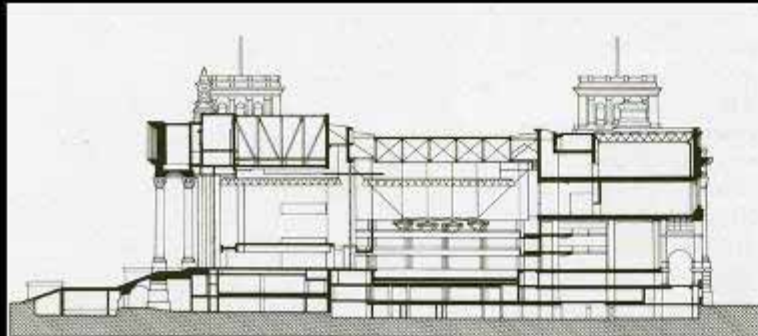
: site plan

- 
- 1894: Original building by Paul Wallot
 - 1933: “Terrorist arson”
 - WWII: Further damaged by bombs
 - 1960’s: Paul Baumgarten plastered over damage and converted it into a convention centre
 - 1992: Design competition
 - 1999: Reichstag reopens as seat of Bundestag

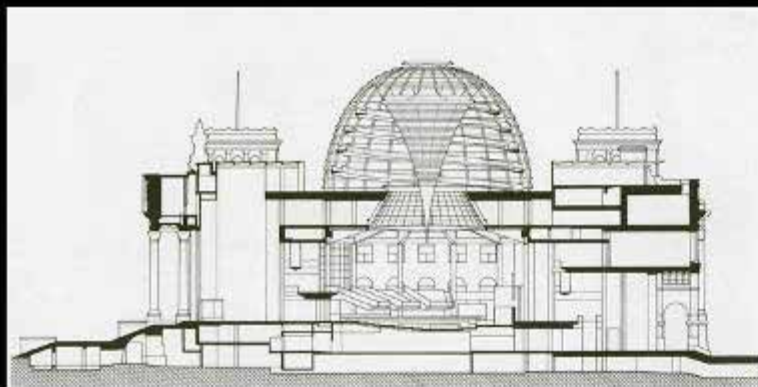
: history



1894.wallot



1971.baumgarten



1999.foster

: morphology

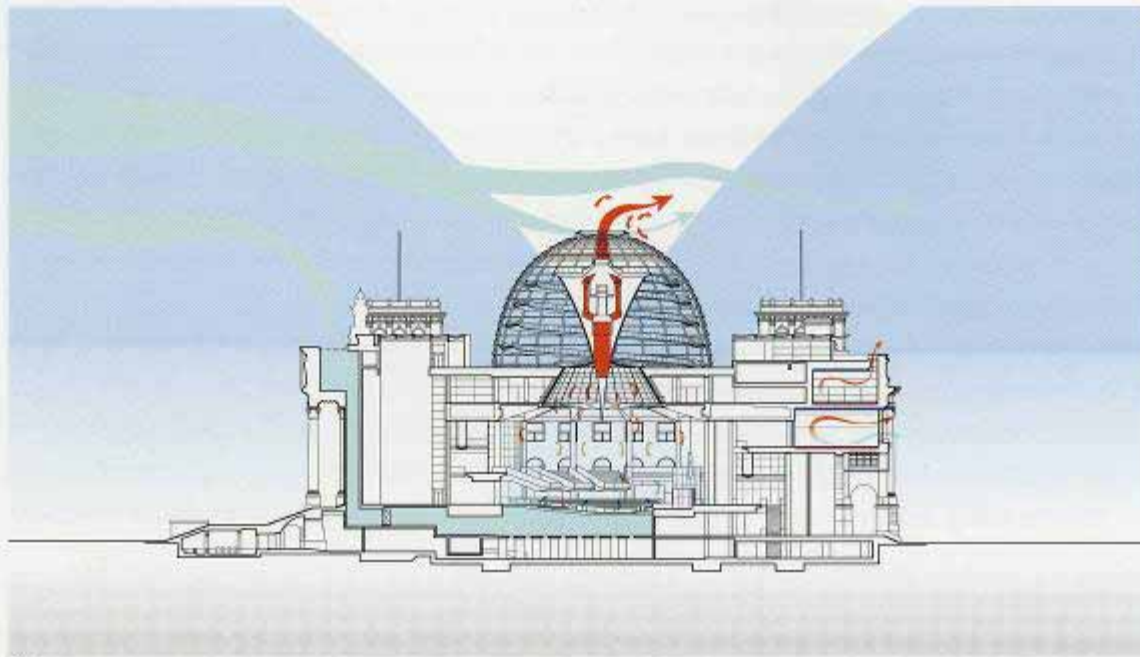


- Importance of the Bundestag as a democratic forum
- Maximize public accessibility to the workings of government
- Sensitivity to the importance of history
- Rigorous environmental sustainability



: f o u r p r i n c i p l e s





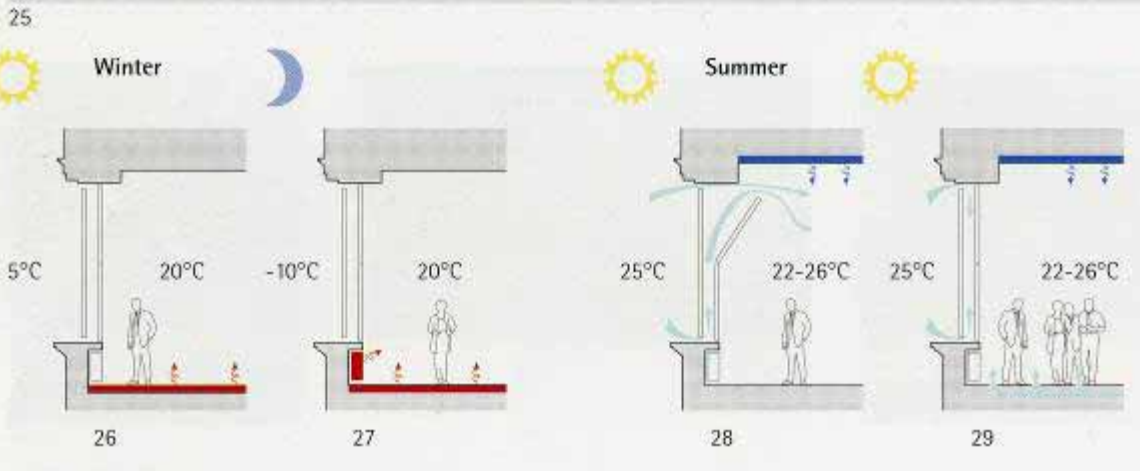
-prevailing western winds are drawn into the building and transferred through the chamber floor (reducing drafts and noise); warm air rises through the cone

-winter heating via under floor system of pipes with hot water

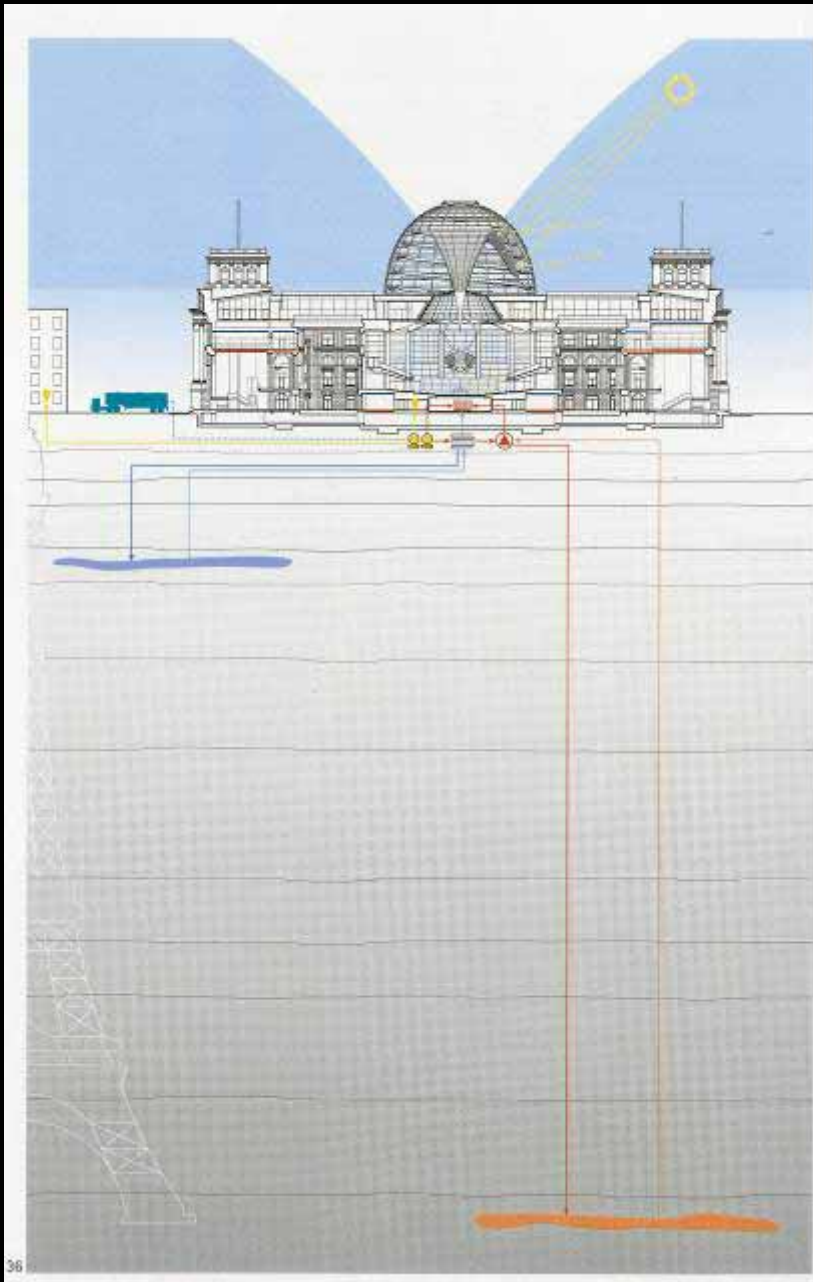
-summer cooling provided by chilled ceilings; ventilation controlled by operable windows

-great thermal mass of building provides passive form of temperature control

-100 solar modules with pv cells generate 40 kW; enough to power rotating shading device in cupola; indirect light is then reflected by mirrored cone into interior chamber



: environmental systems



-ground-level power plant provides energy to other parliamentary areas

-heating and cooling plant powered by vegetable oil derived from date palms and sunflower seeds (as efficient as tradition fuel, but 94% decrease in CO₂ emissions)

-heat produced by plant is stored in natural aquifers; hot water is used for heating during the winter

-chilled water is stored and pumped through ceilings during summer

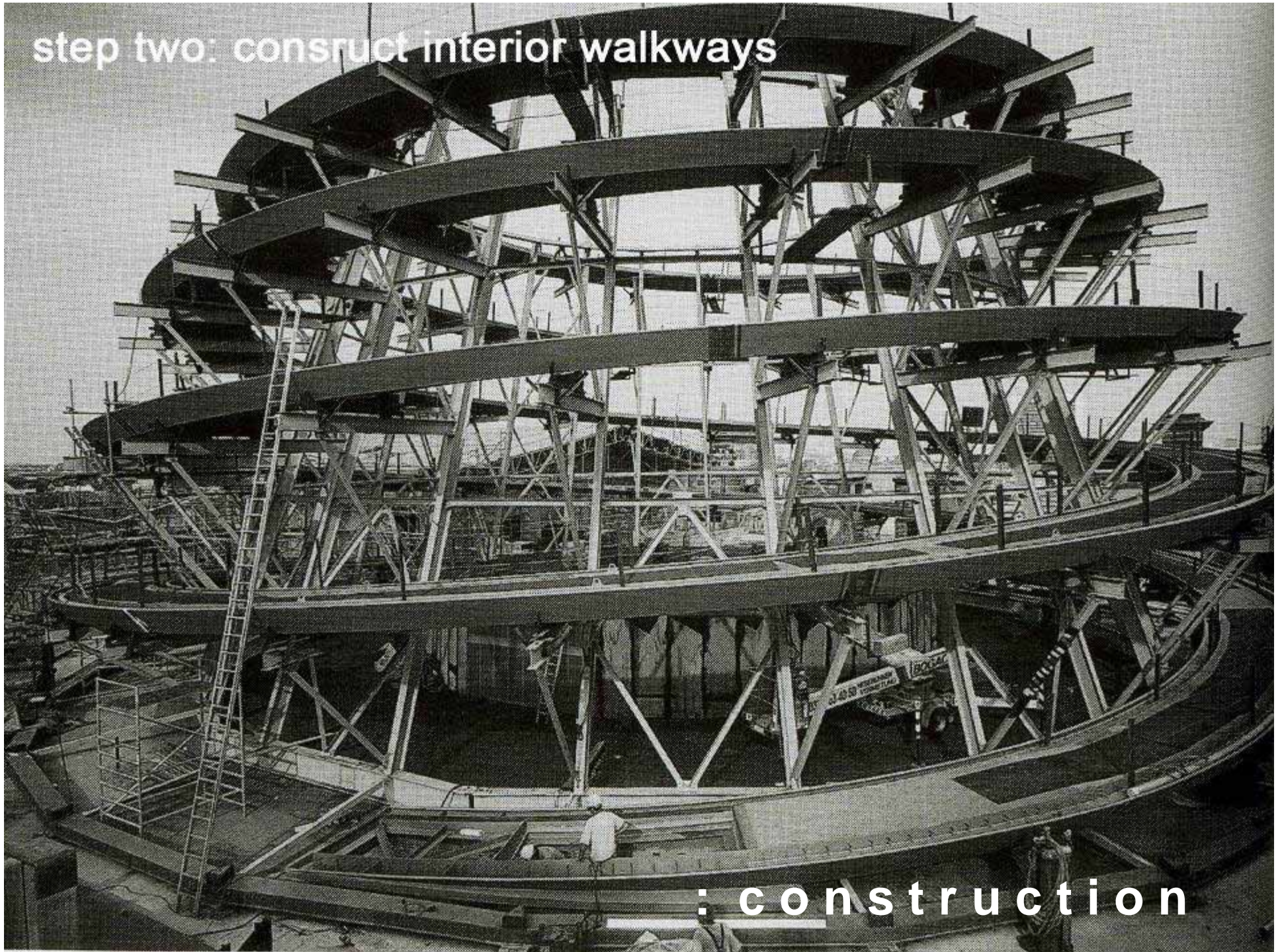
: e n v i r o n m e n t a l s y s t e m s

step one: construct scaffolding



: construction

step two: construct interior walkways



: construction

step three: construct outer ribs of dome

: construction



step four: construct horizontal rings of dome

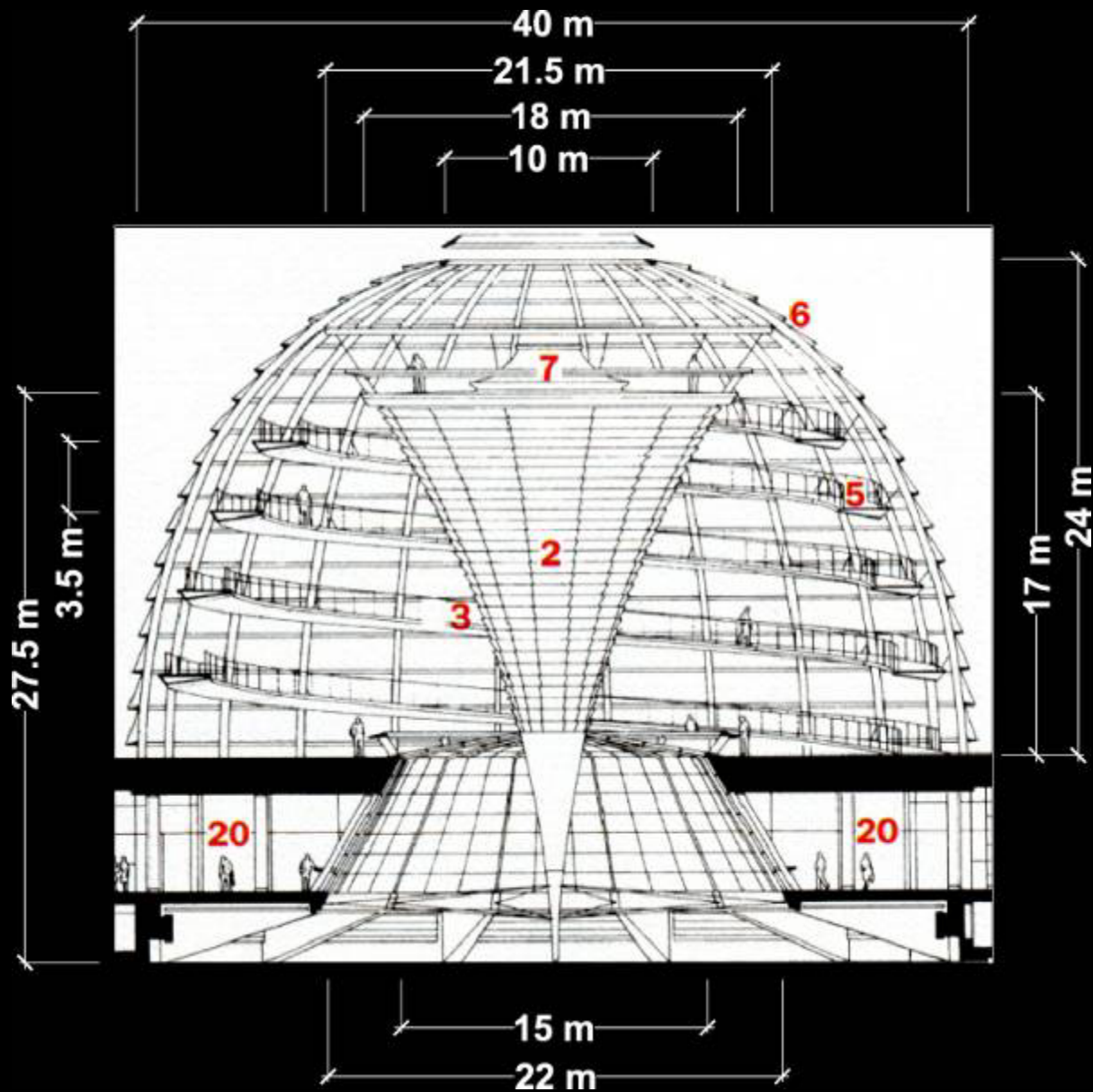


: construction

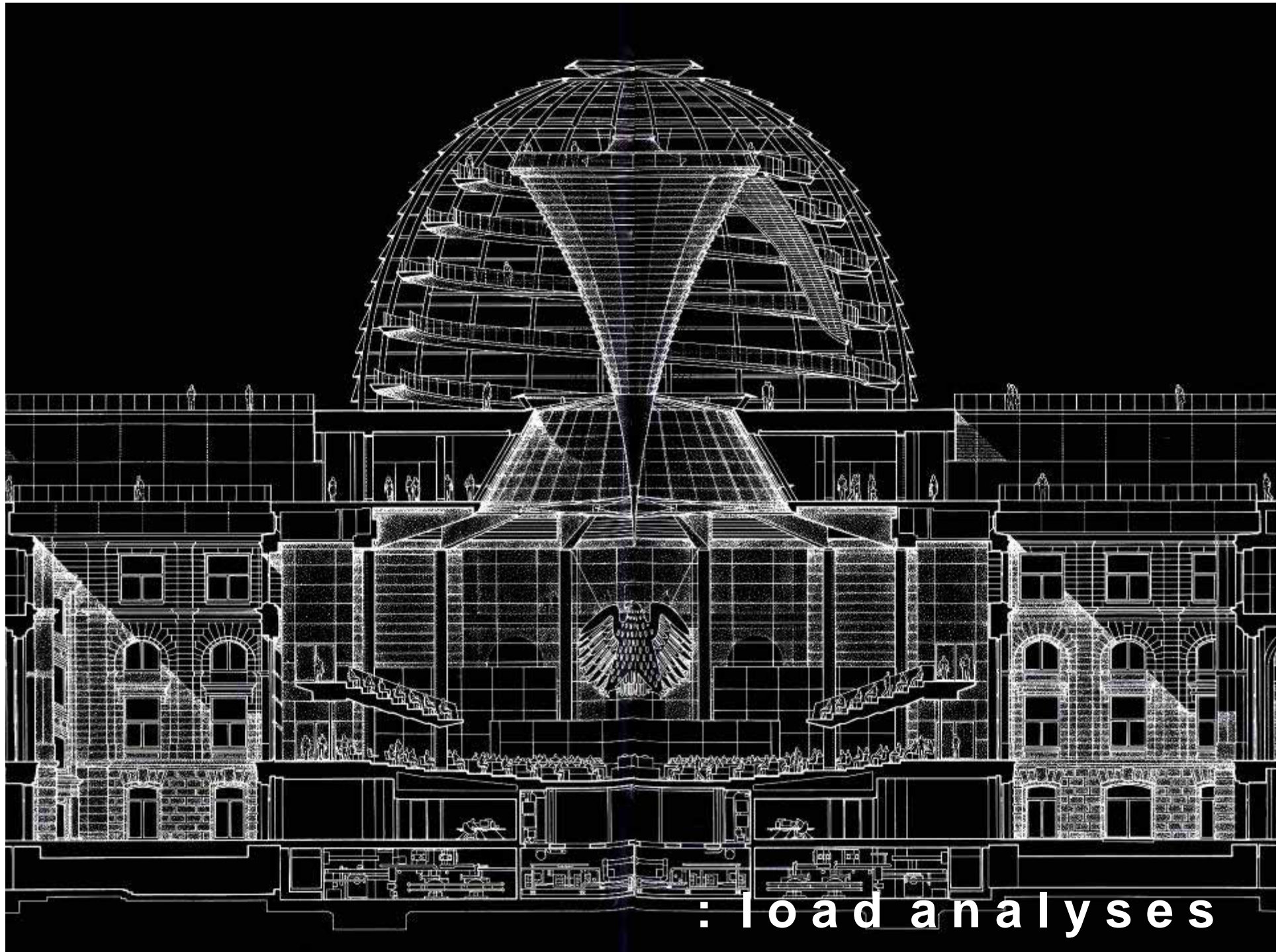
step five: construct "cone" hanging from ribs

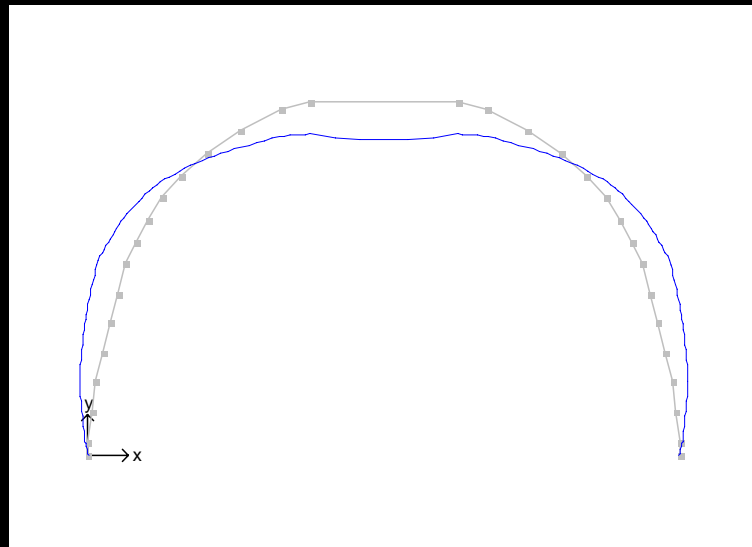
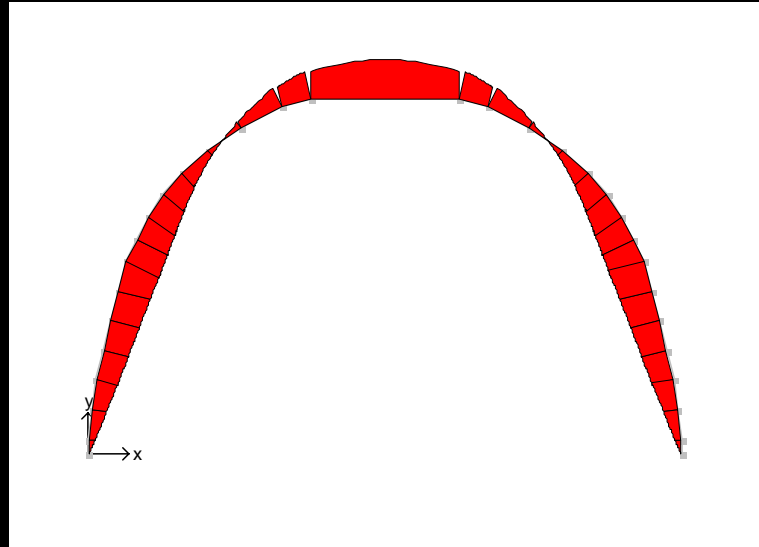
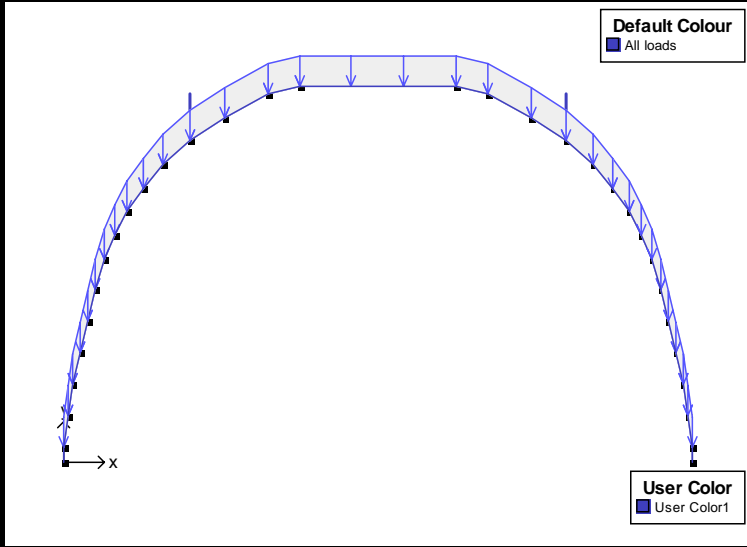


: construction

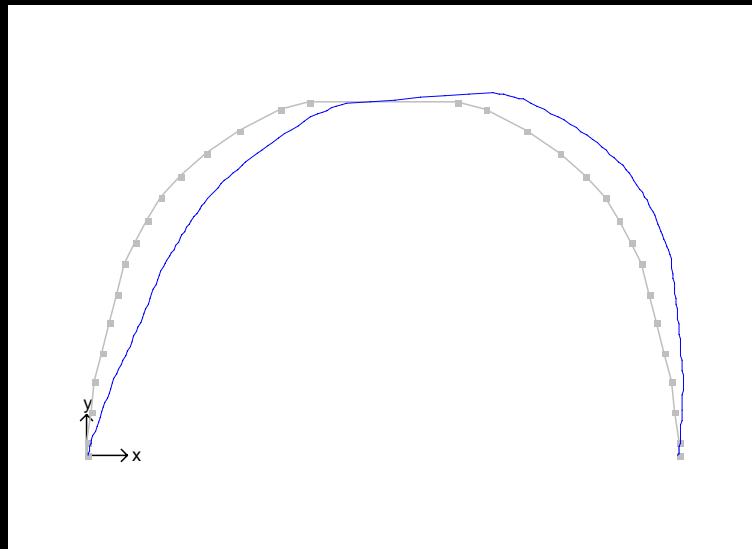
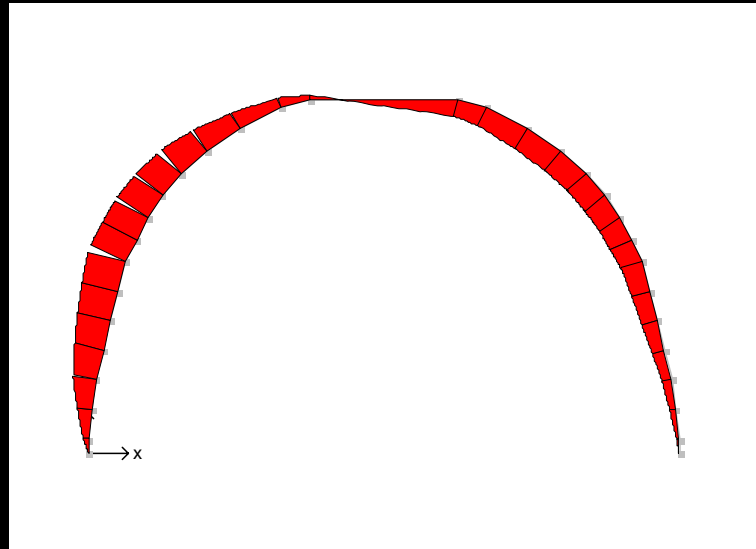
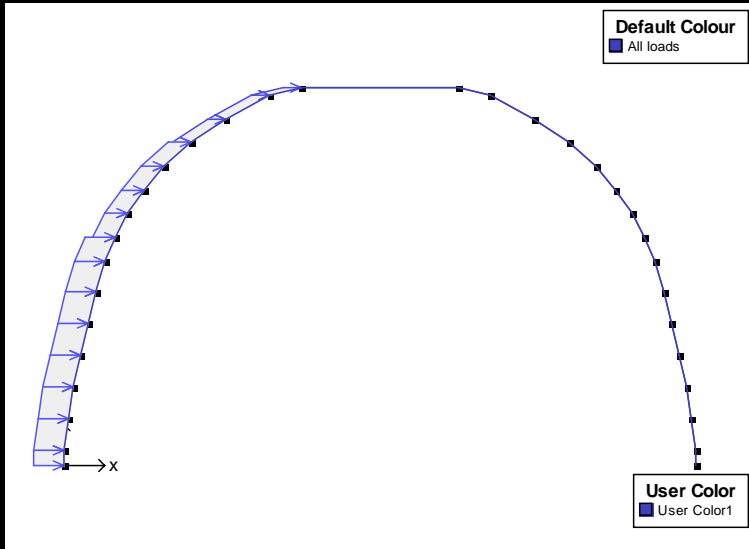


: proportions

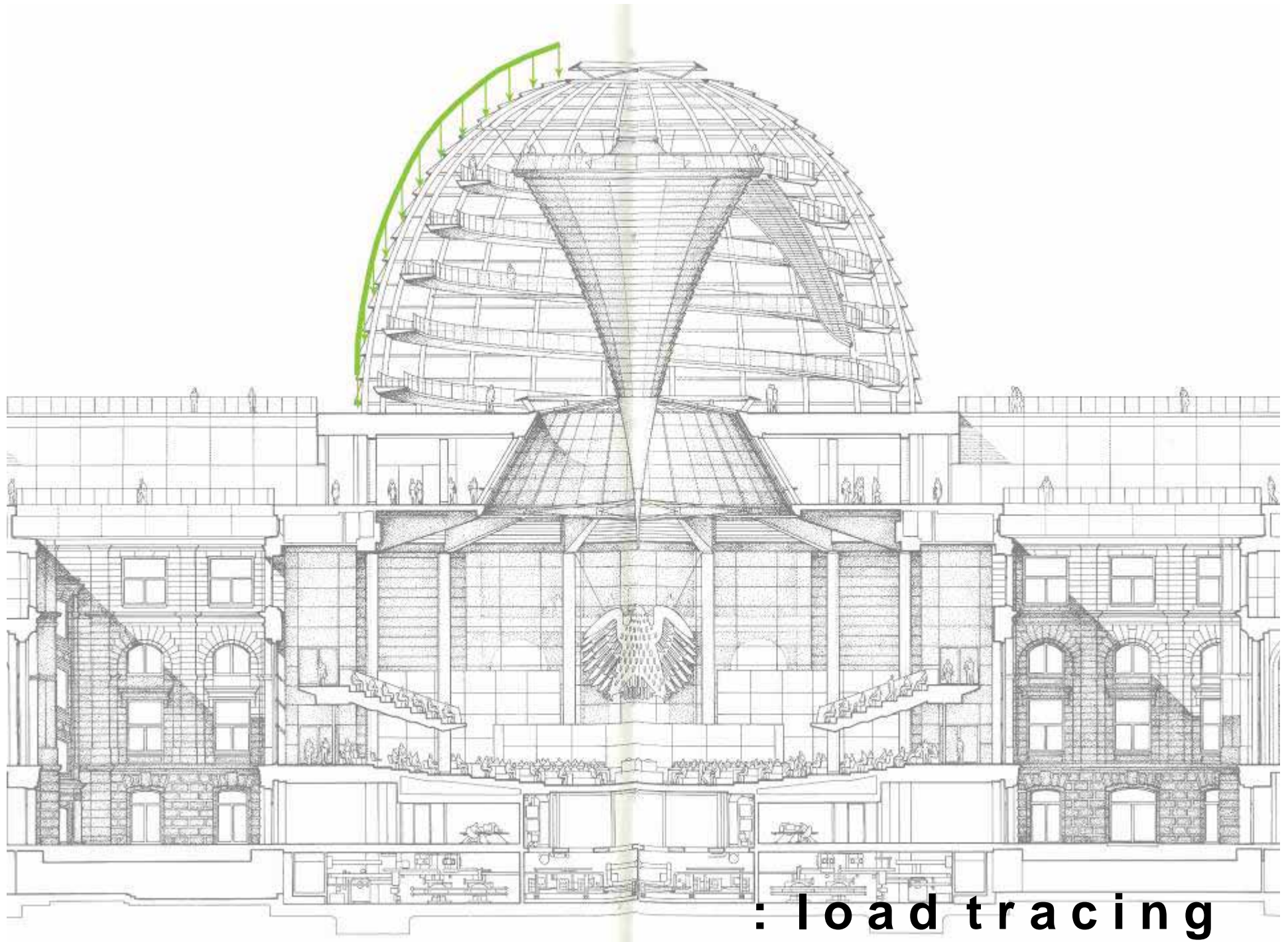




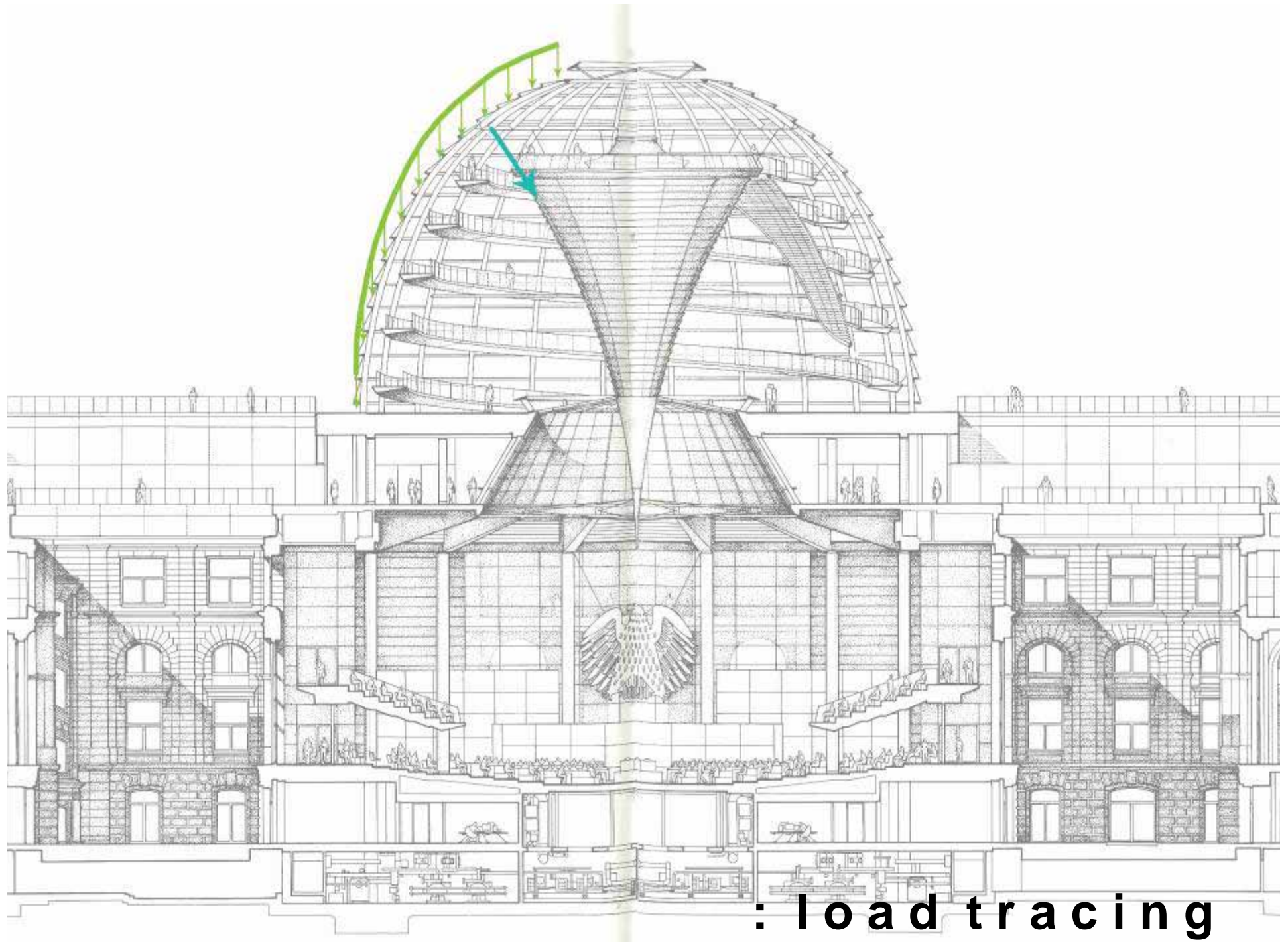
: dead load



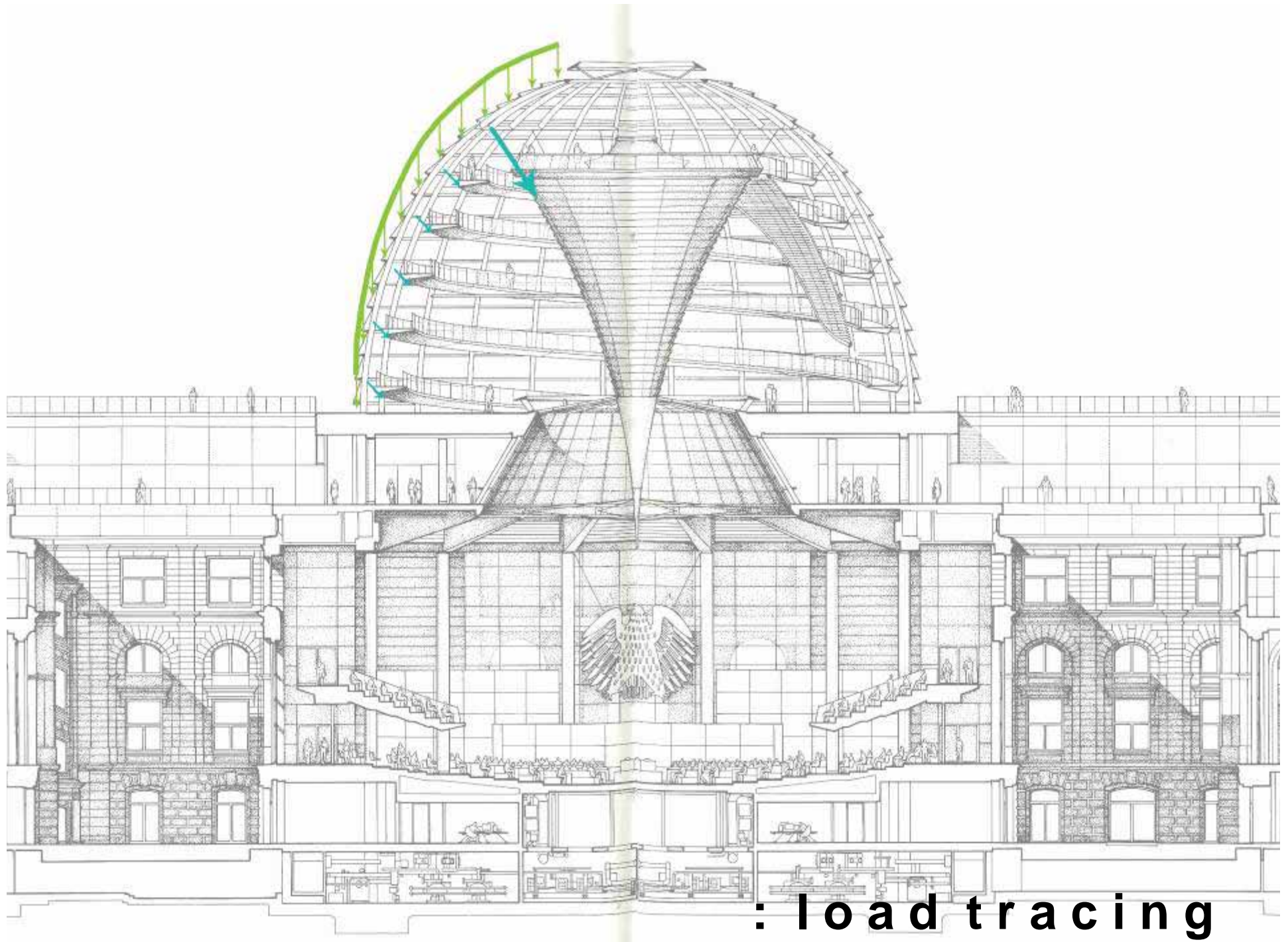
: wind load



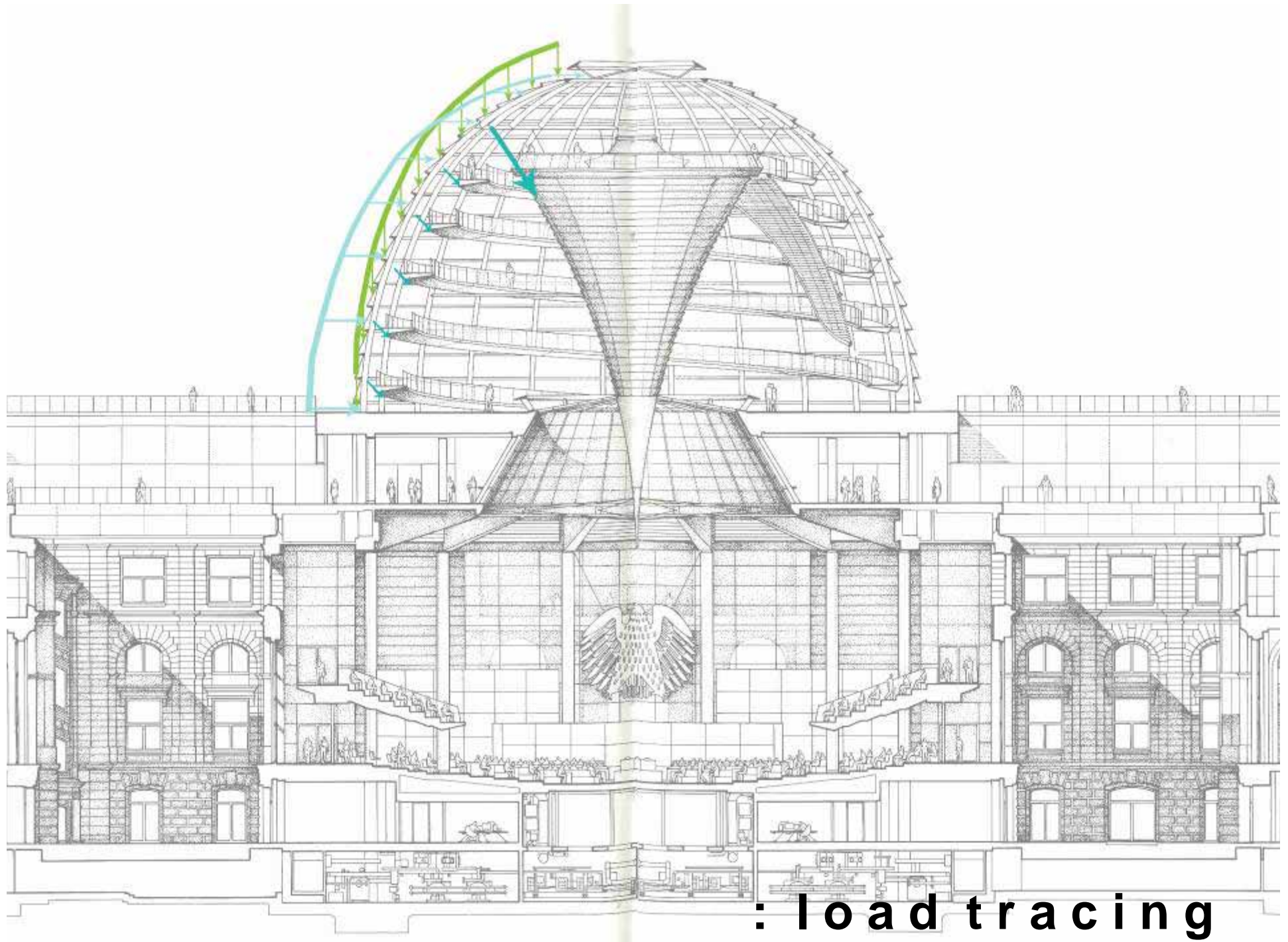
: load tracing



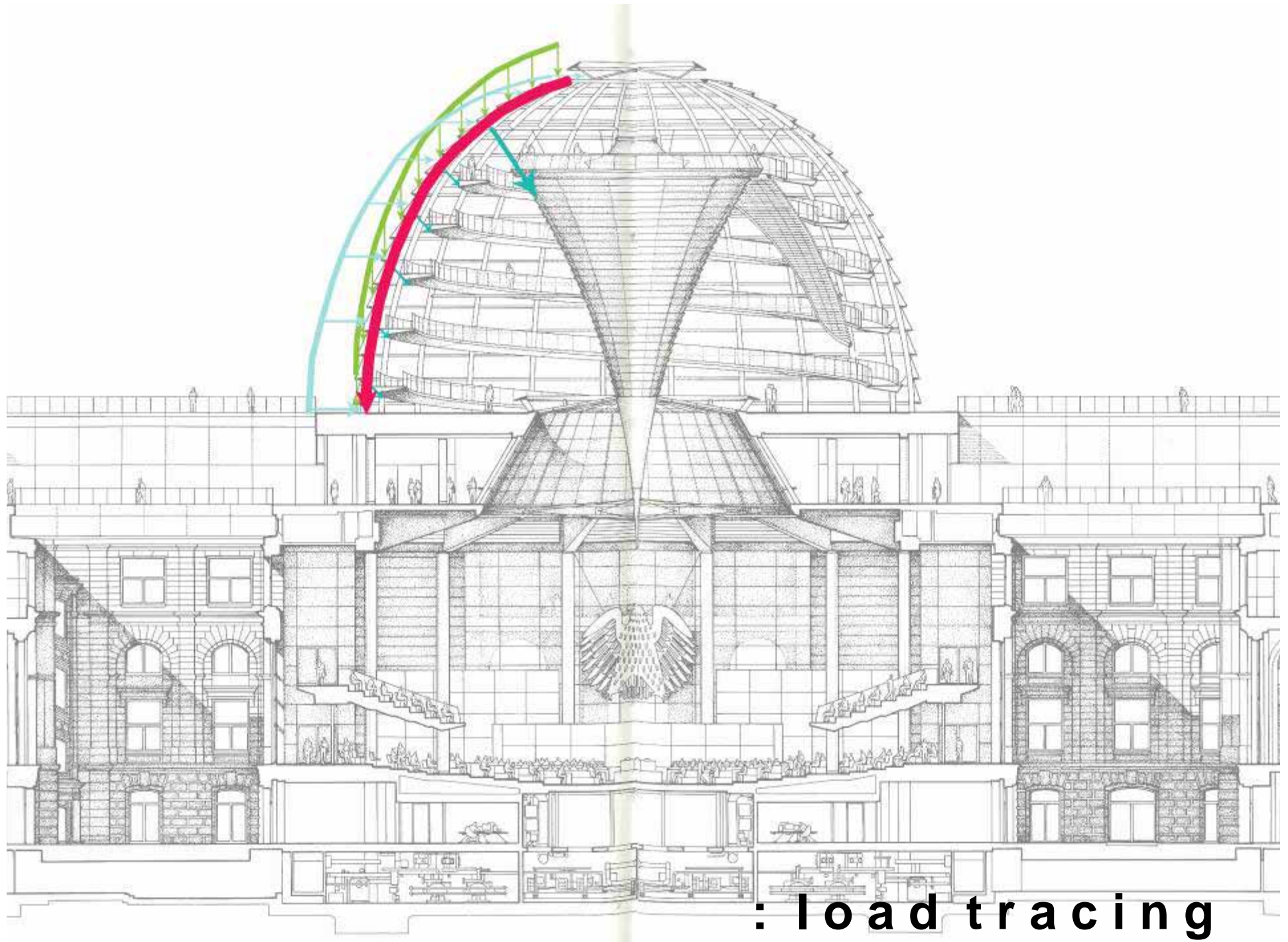
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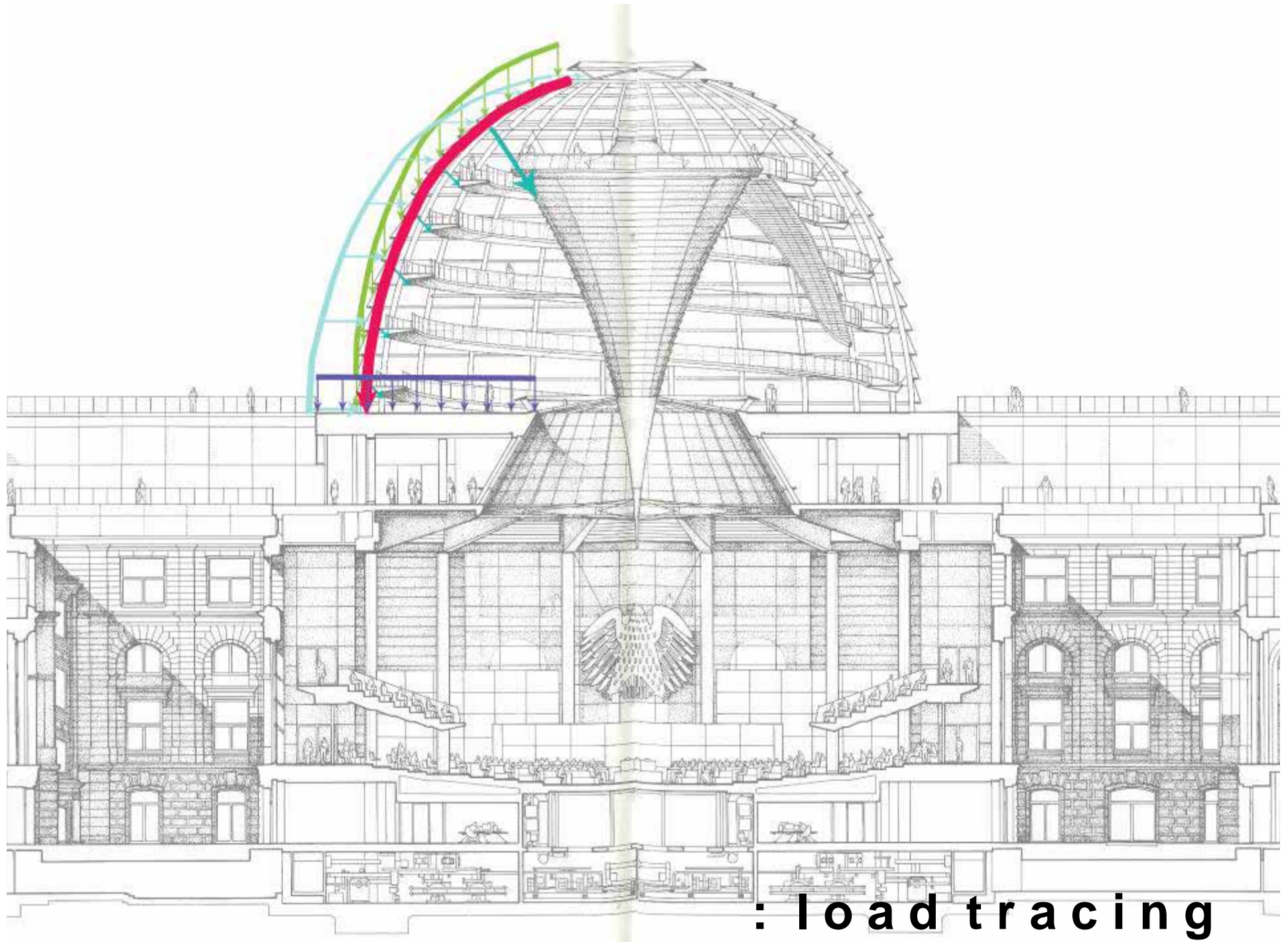
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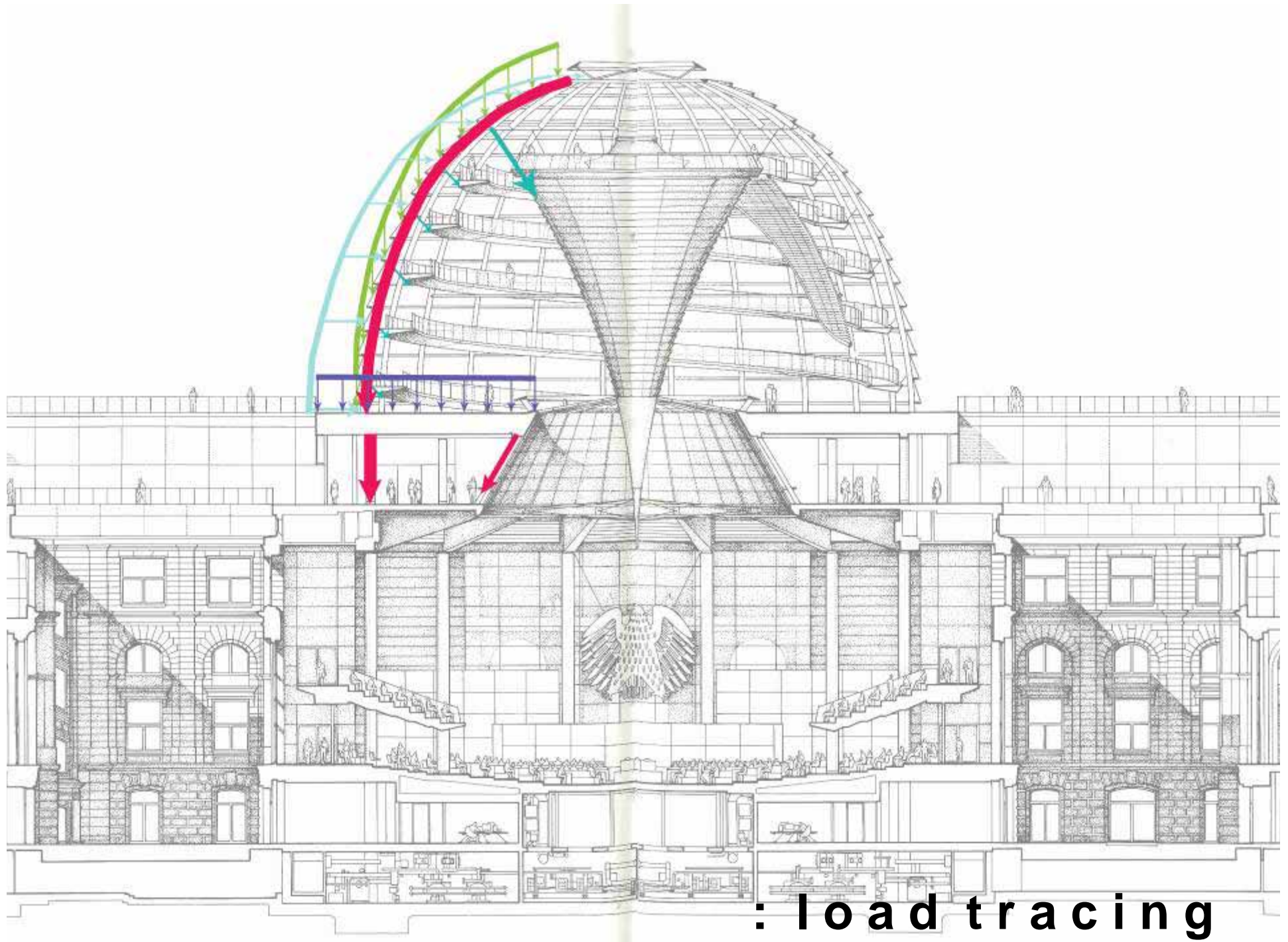
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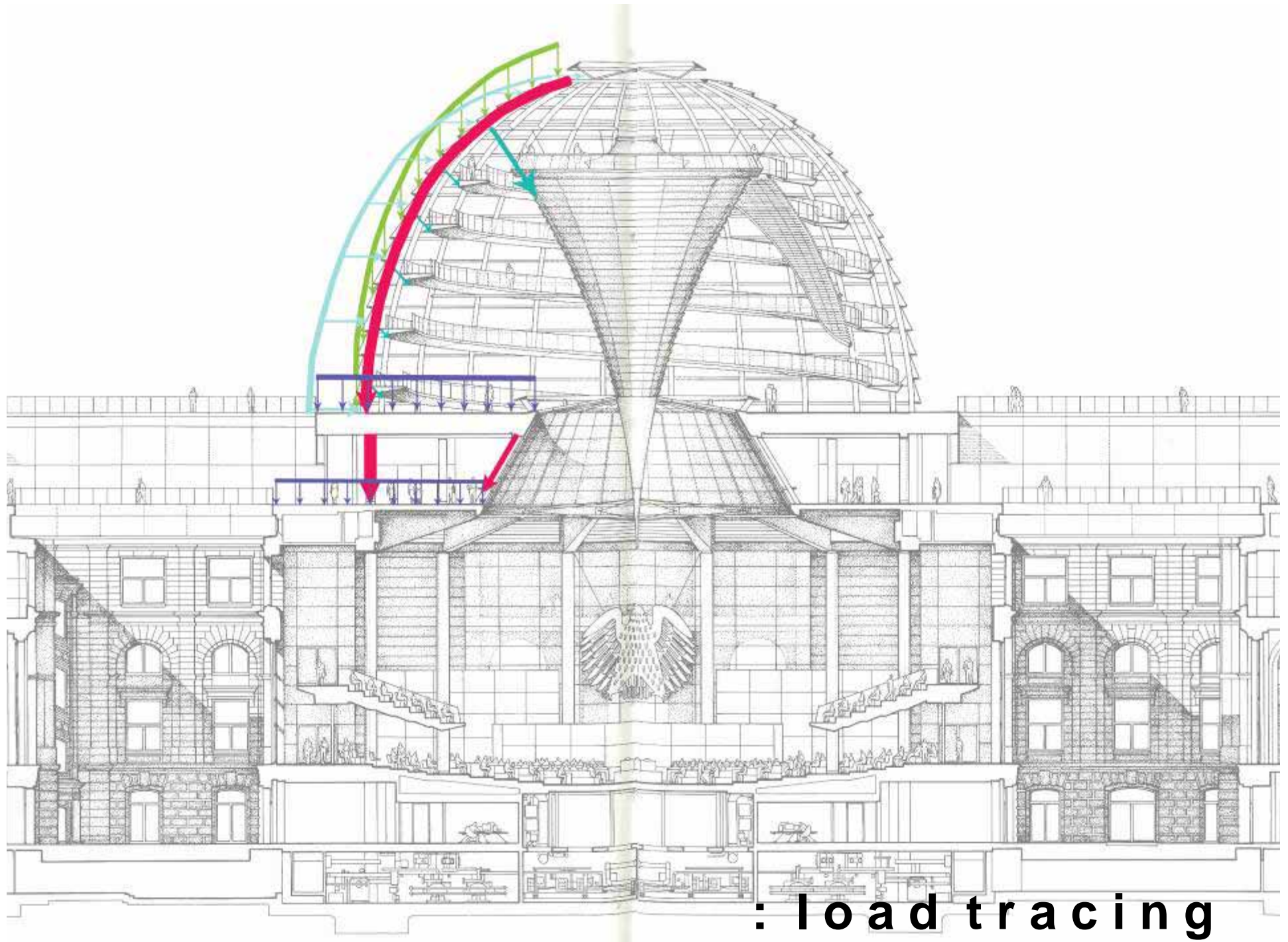
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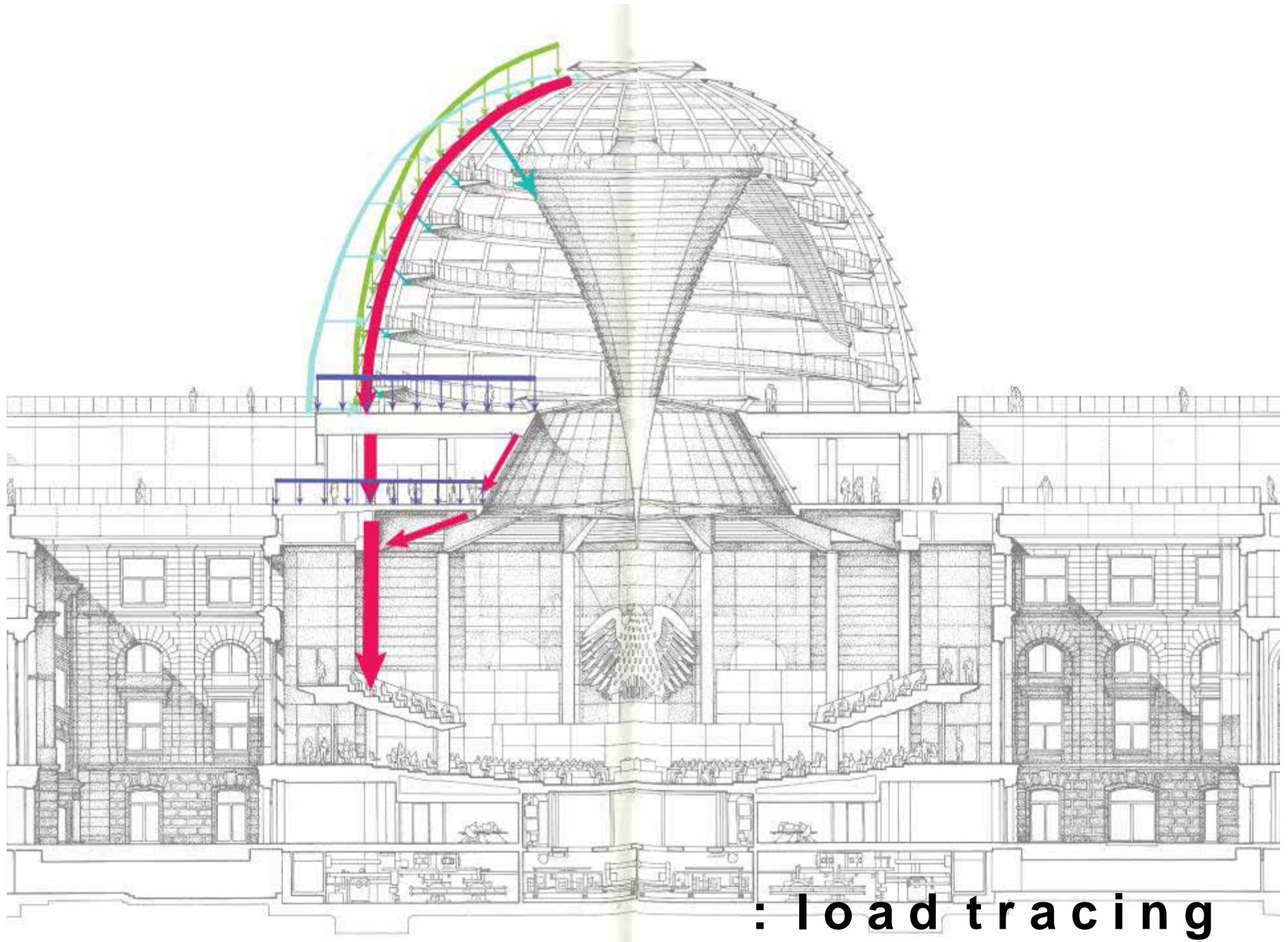
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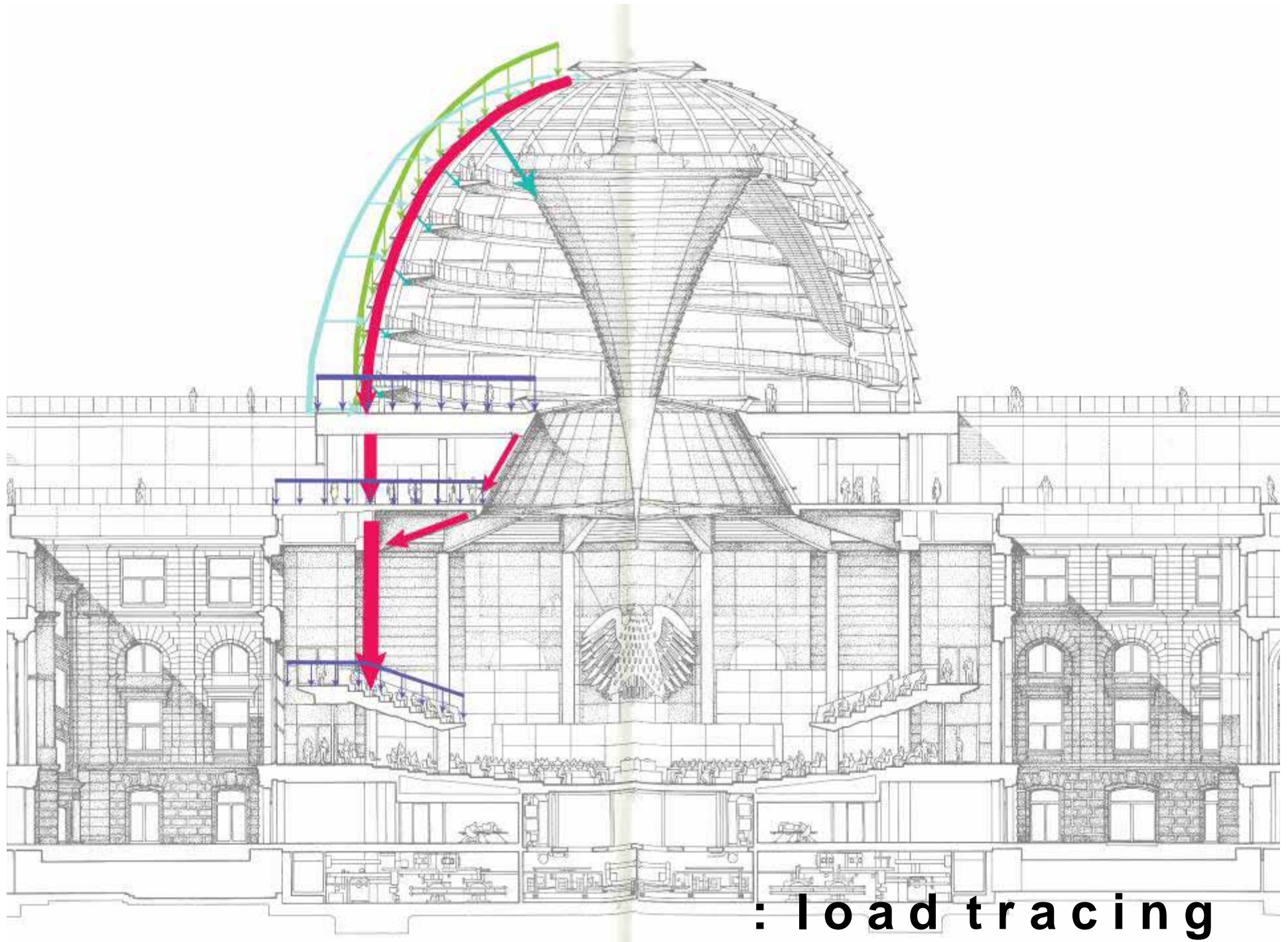
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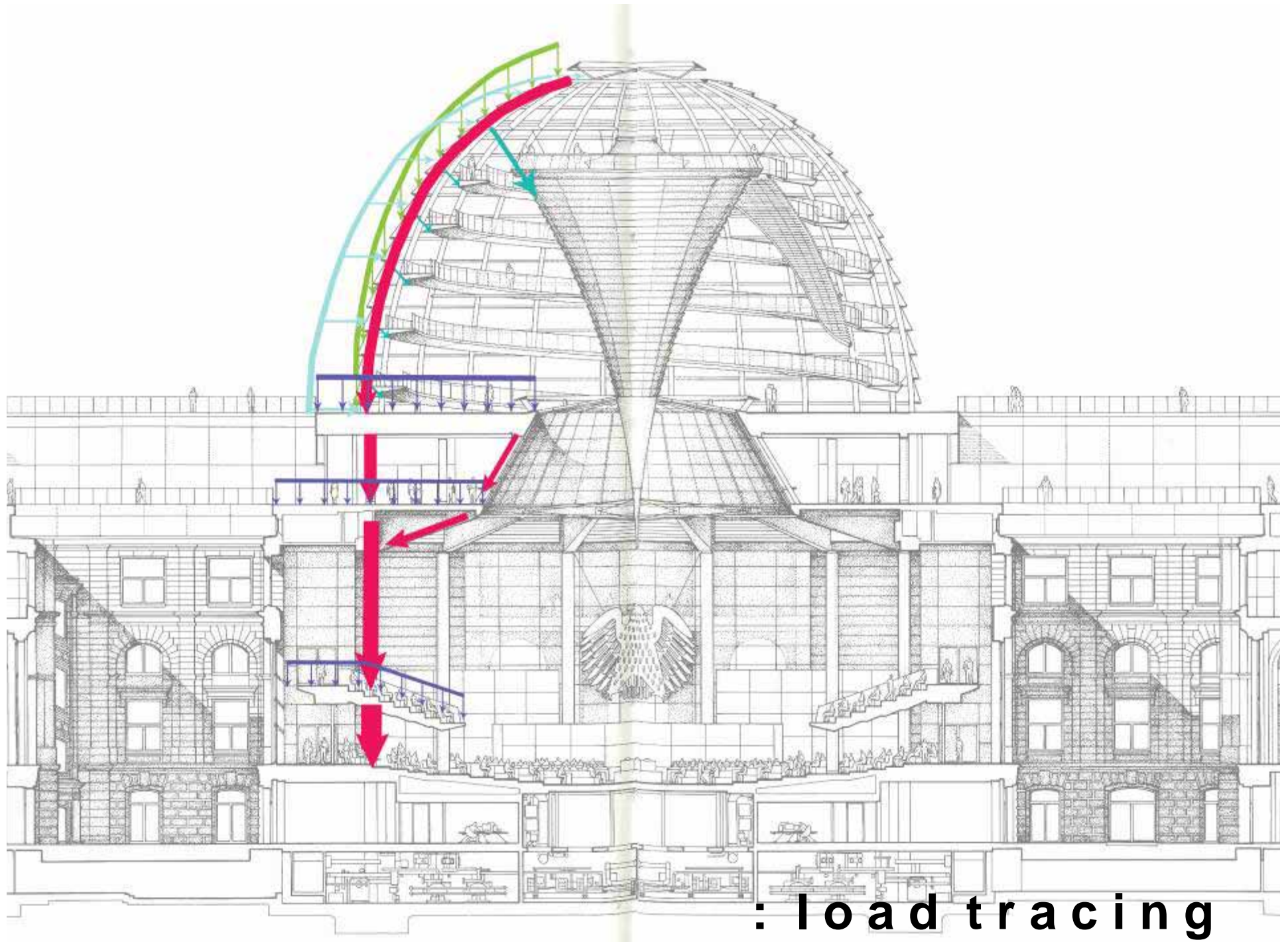
: load tracing



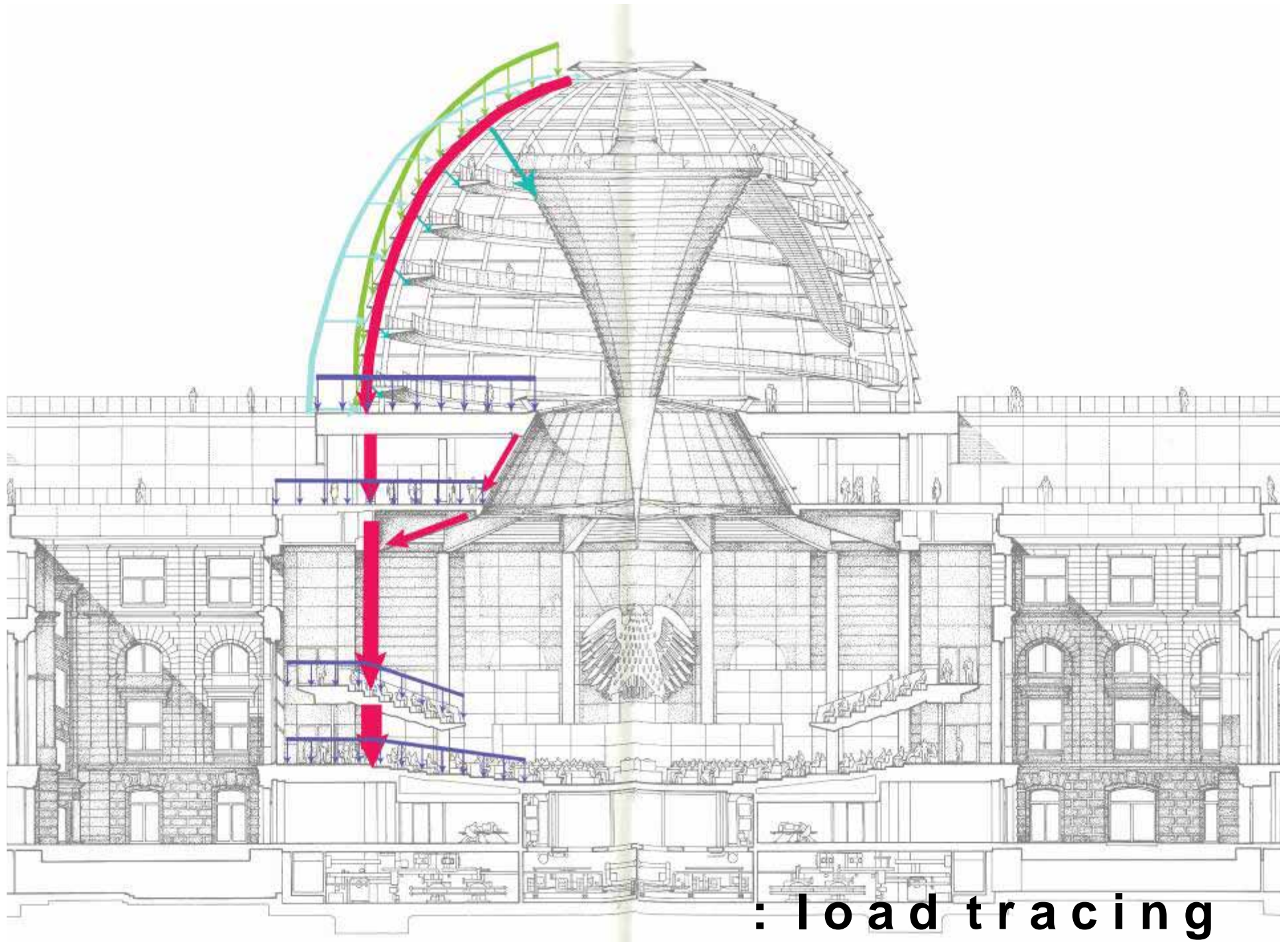
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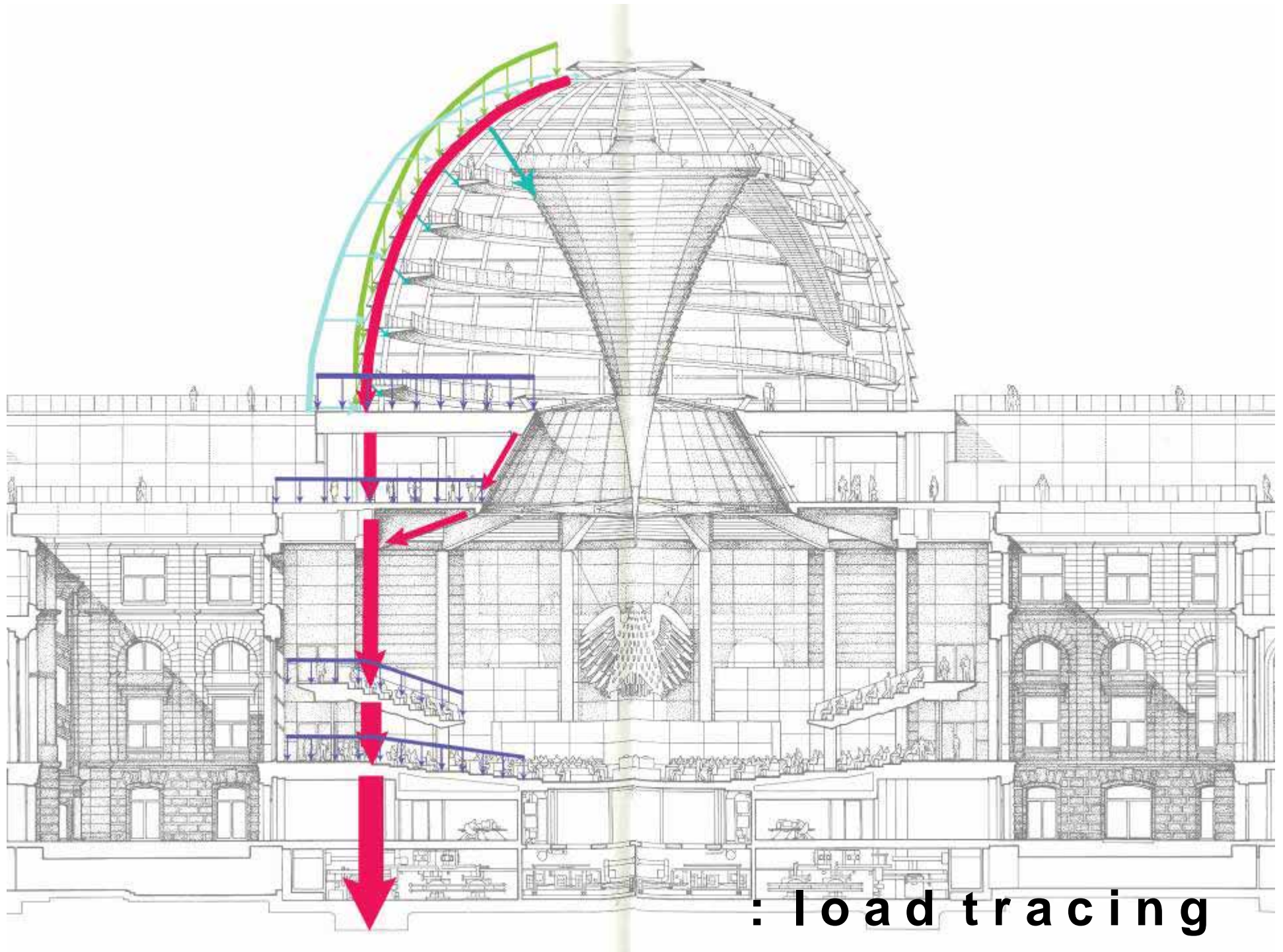
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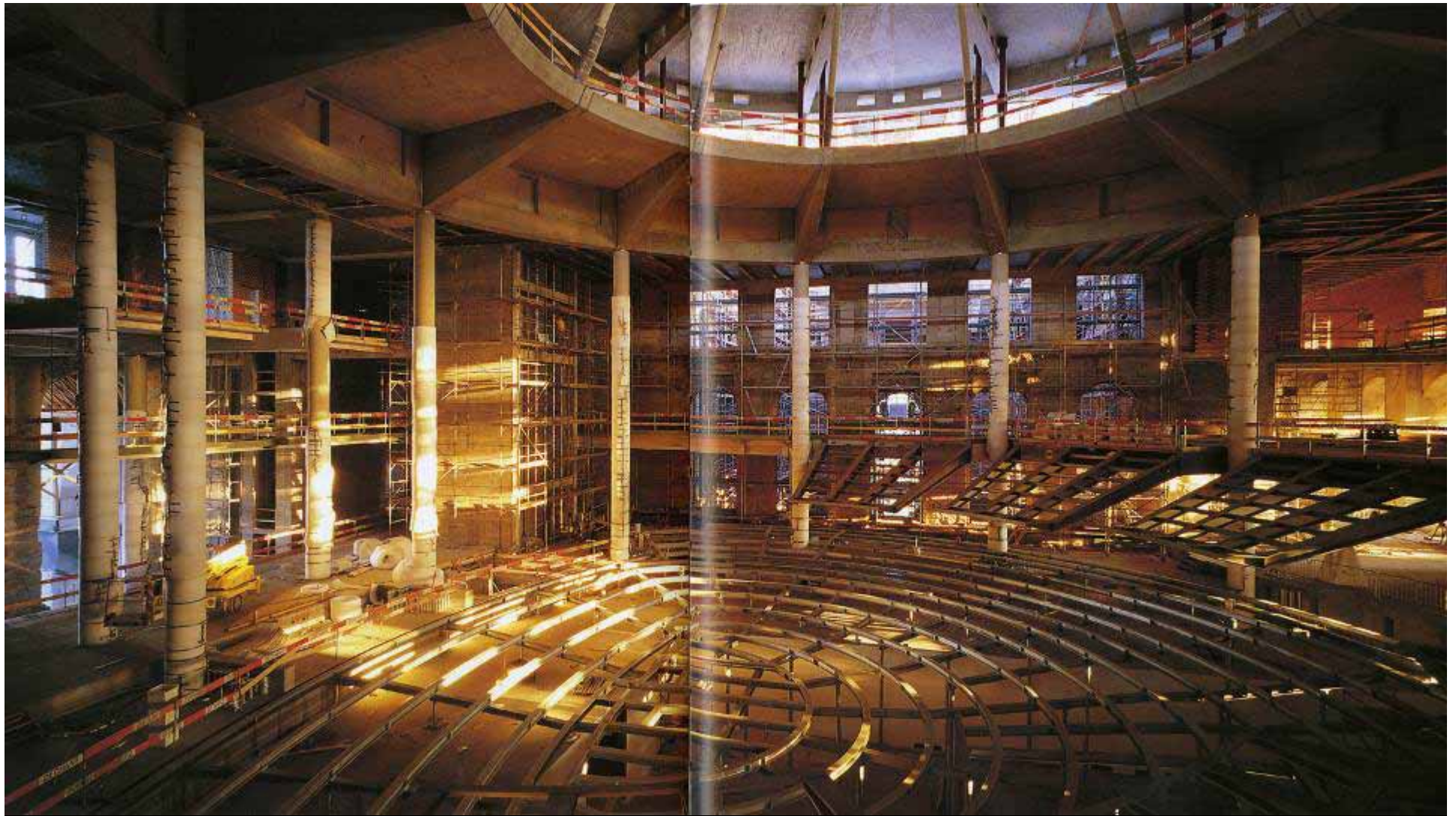
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: load tracing



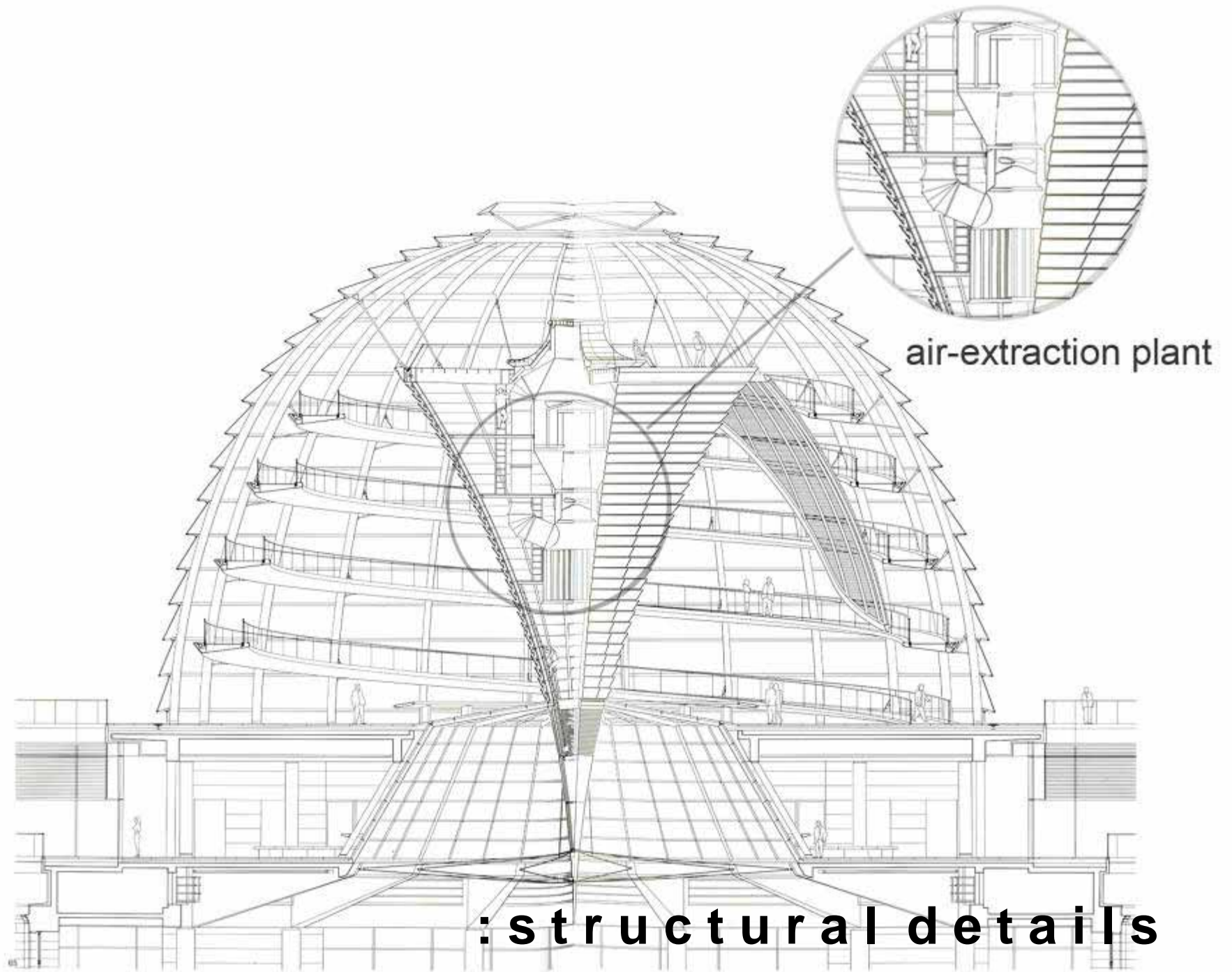
: load tracing



: obvious structure



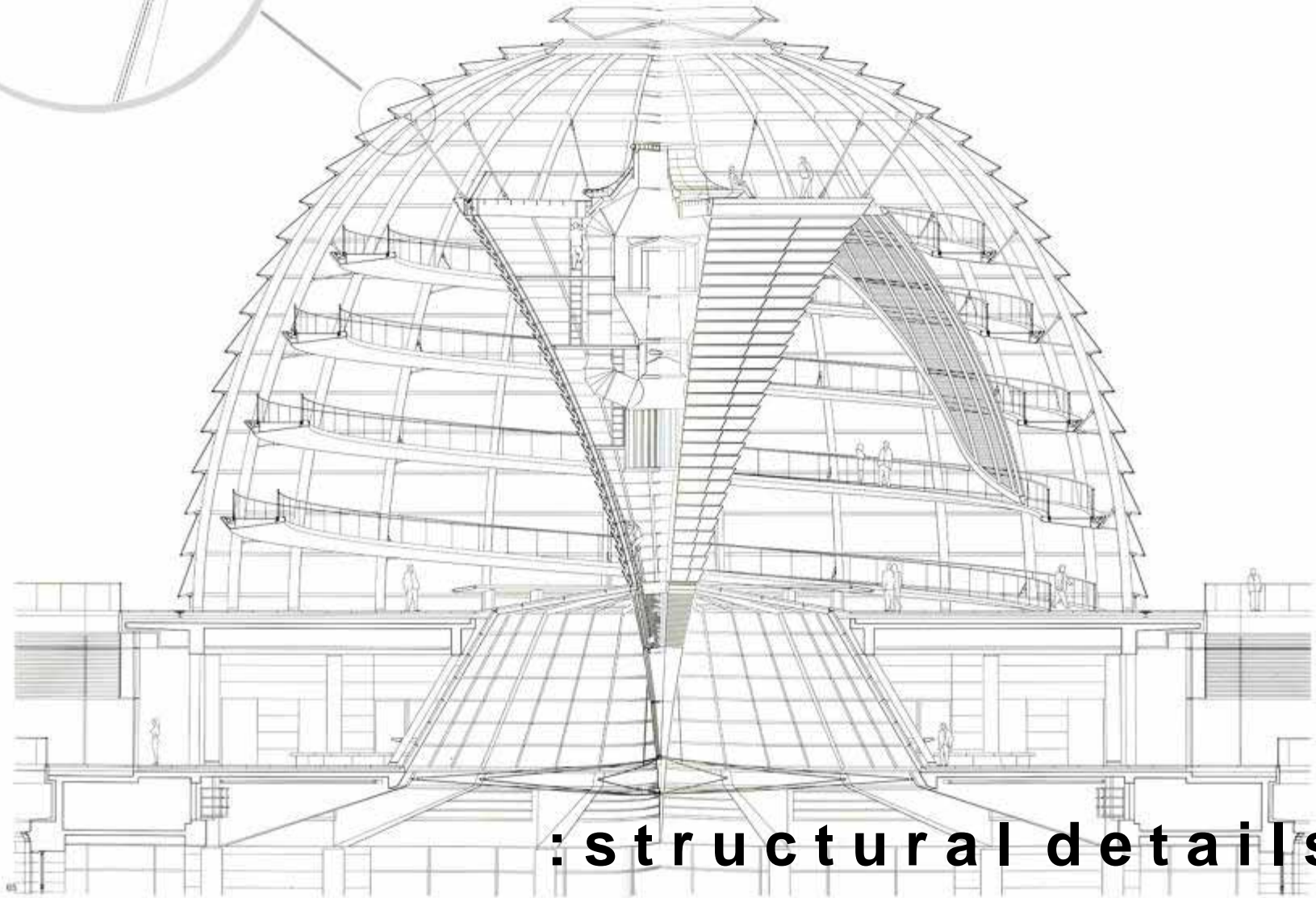
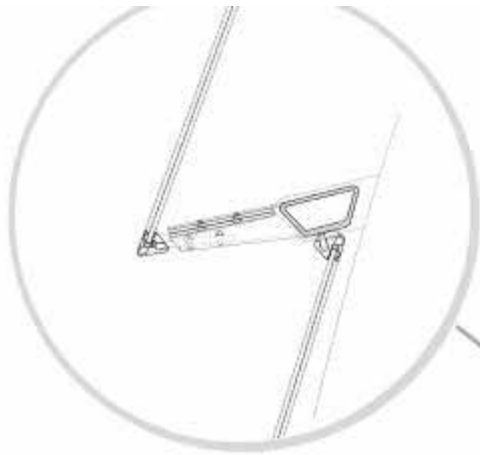
: finished interior



air-extraction plant

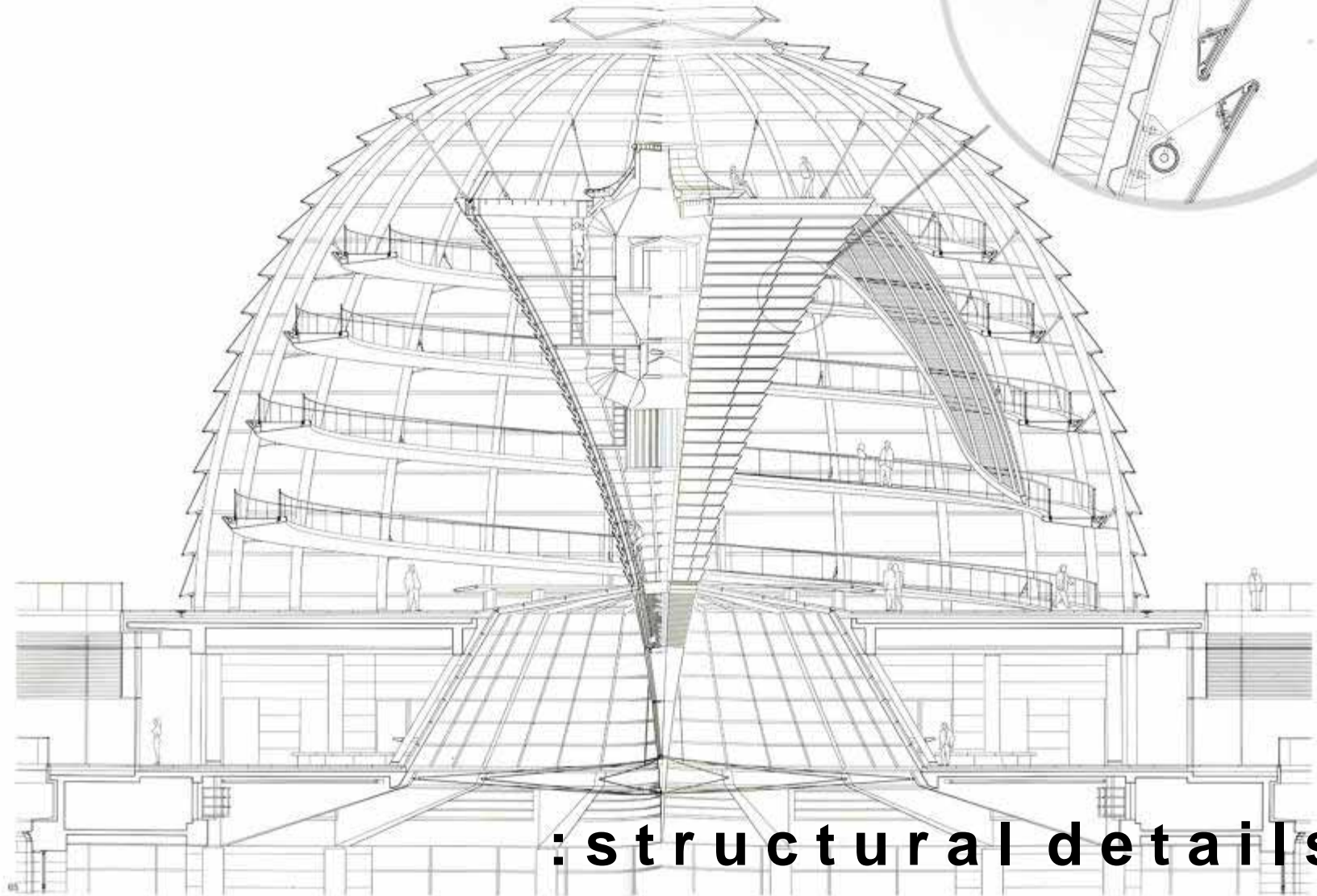
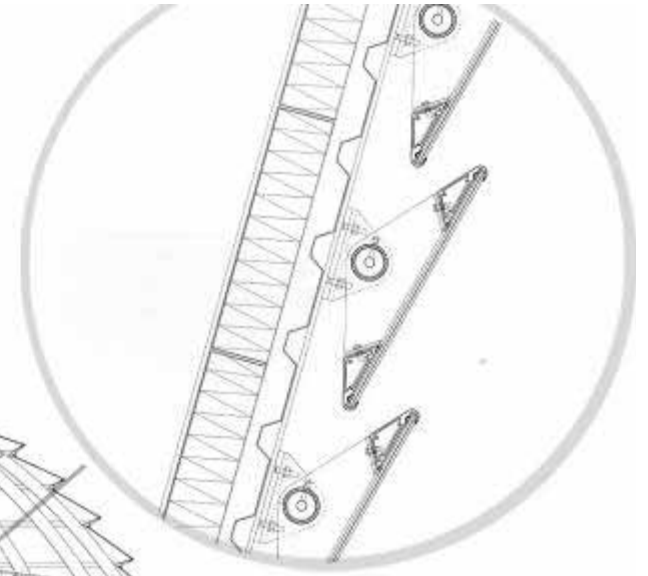
: structural details

faceted glazing of two laminated sheets of glass,
secured with extruded aluminum bars

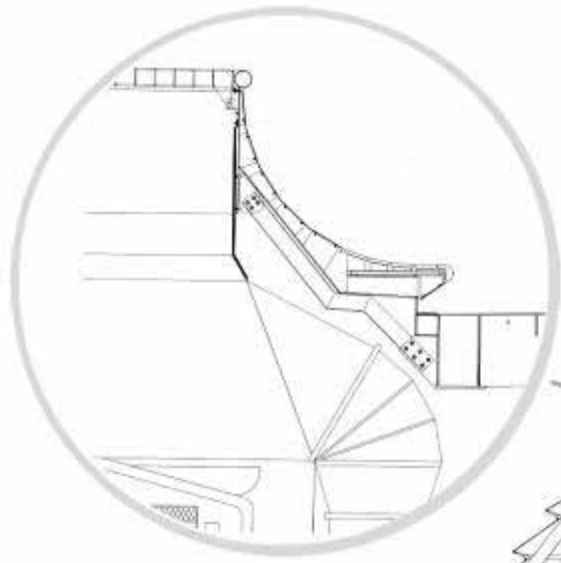


: structural details

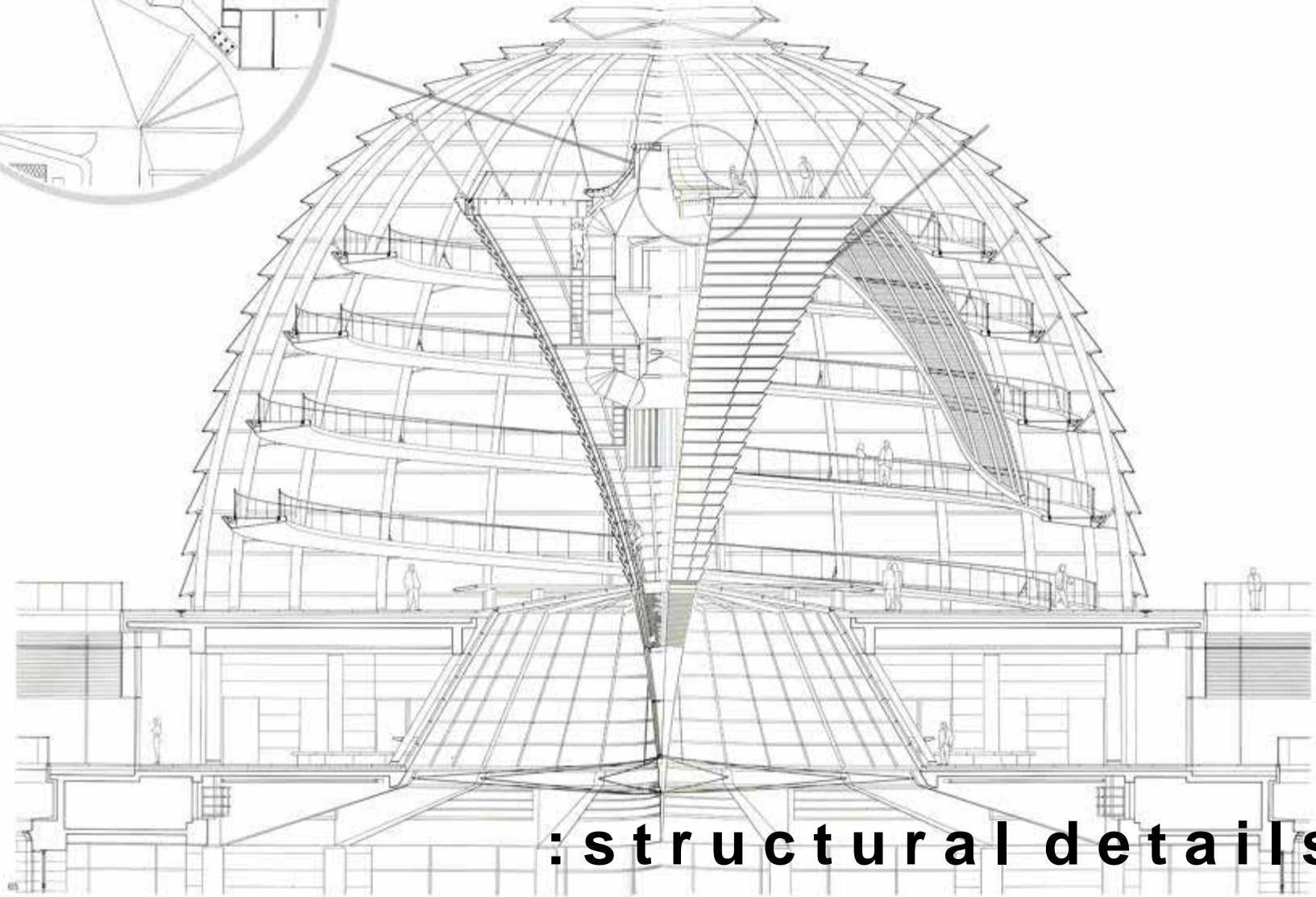
detailed mirror assembly;
each pivots individually



: structural details

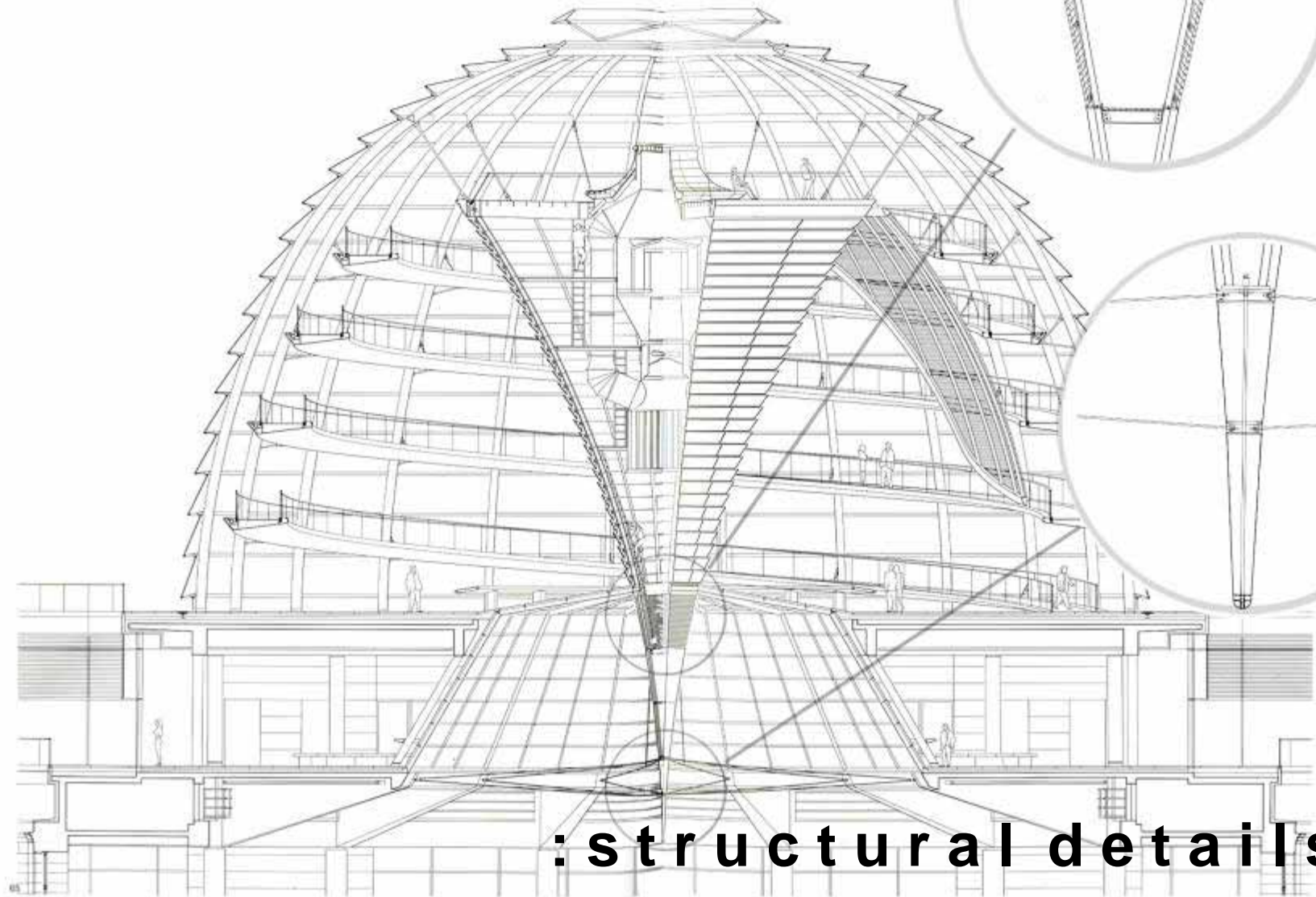


section through cone at
viewing-platform level



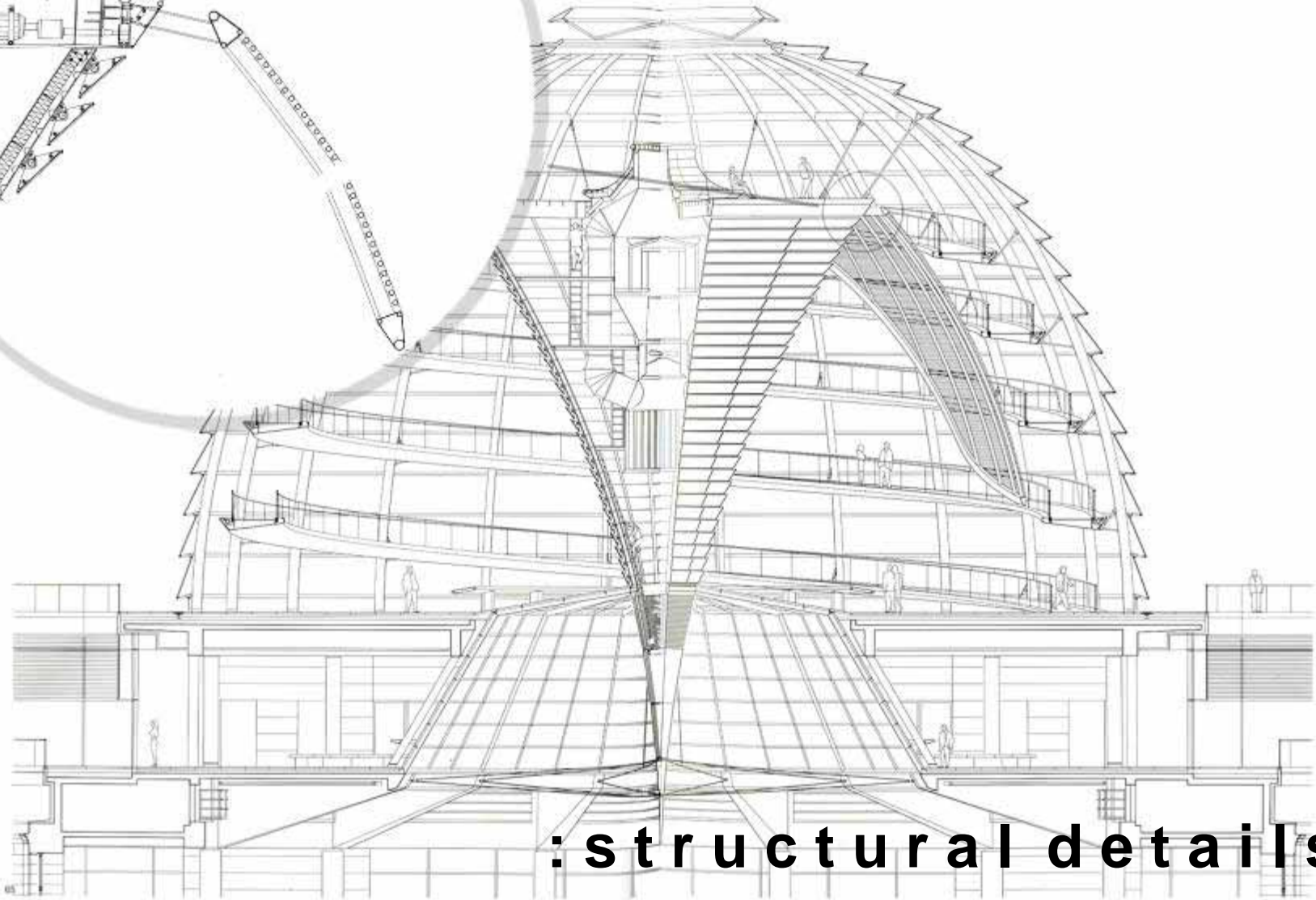
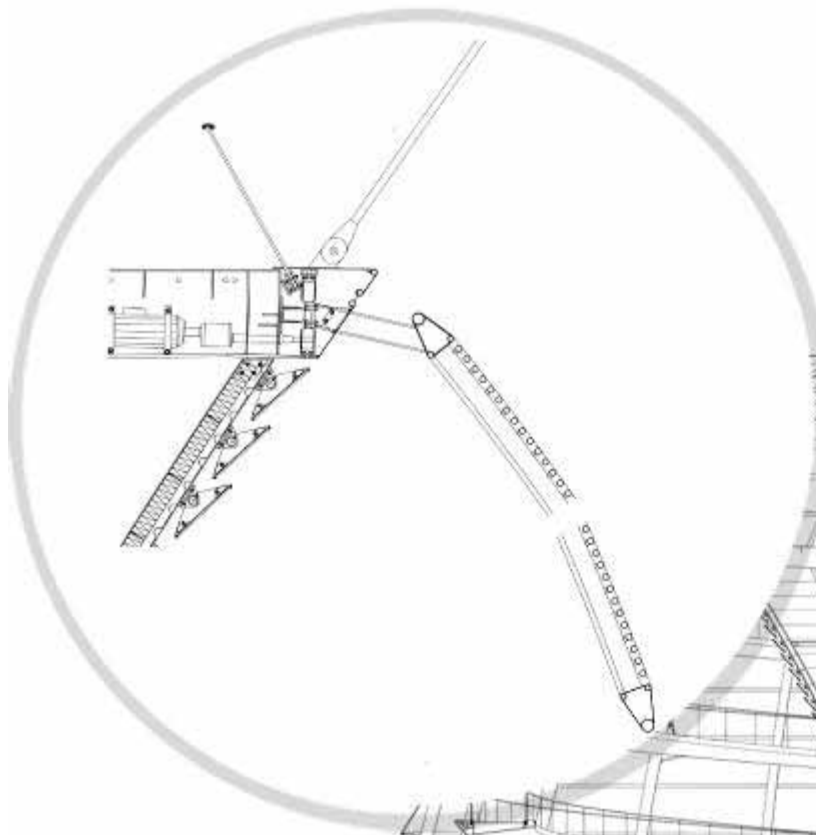
: structural details

section through cone at
chamber-soffit level &
cone bracing



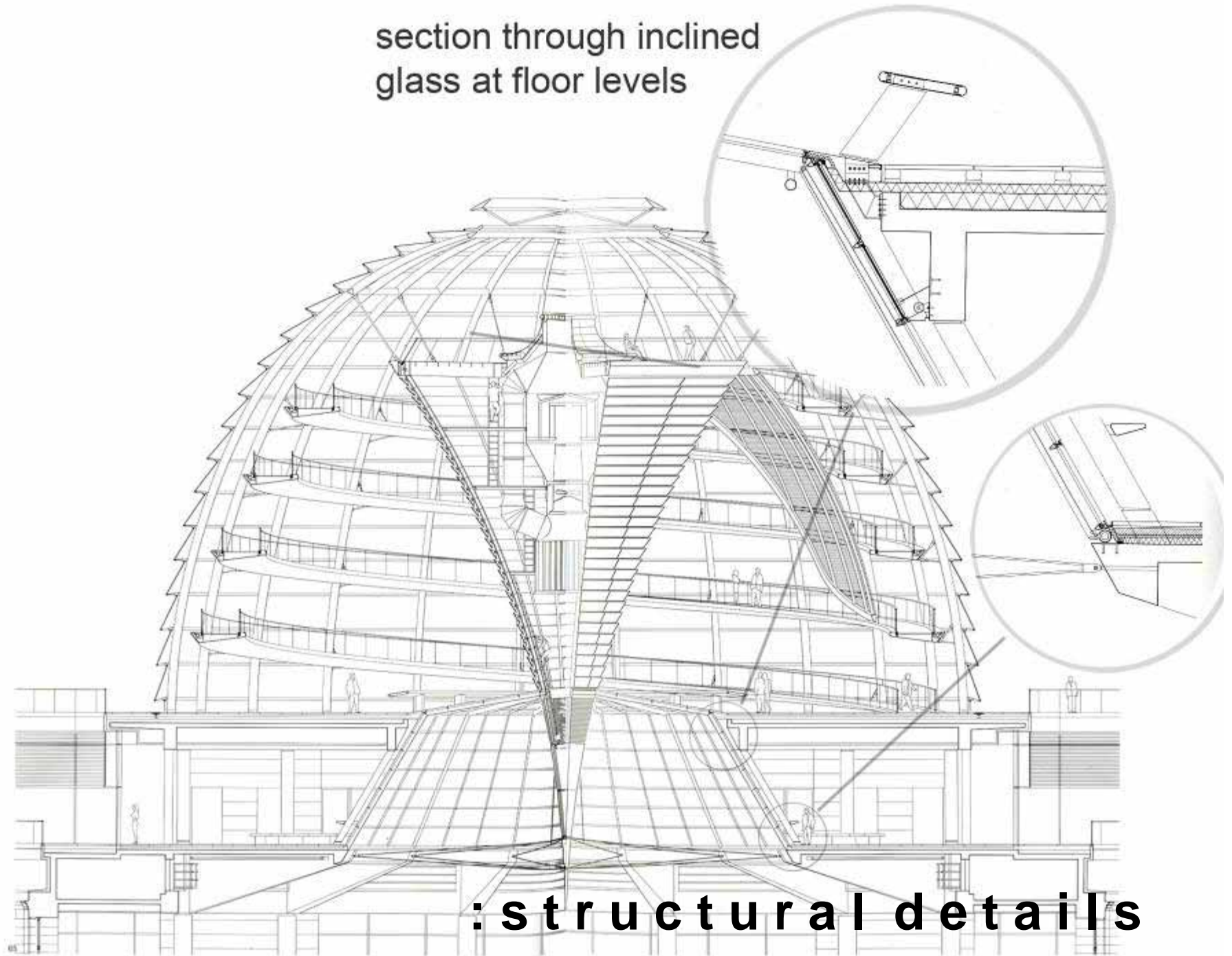
: structural details

sun-shade connection
detail

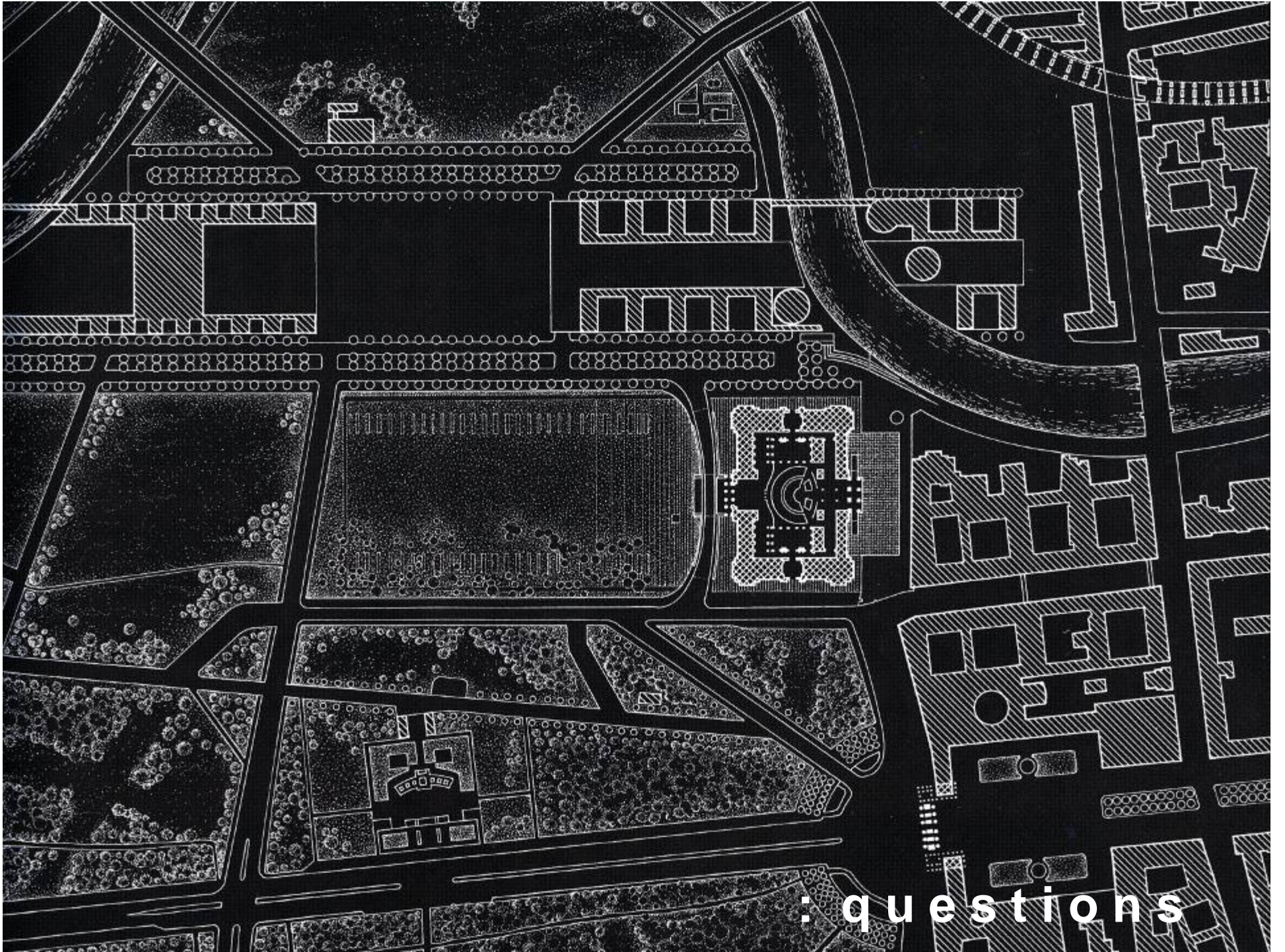


: structural details

section through inclined
glass at floor levels



: structural details



: questions



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reichstag dome. sir norman foster. nineteen ninety nine
brooke corey. pamela da graca. megan gaydou. amanda geserick. bradley keene. douglas mullen