

HISTORY OF ARCHITECTURE

KAMAL_ELGABALAWY@YAHOO.COM

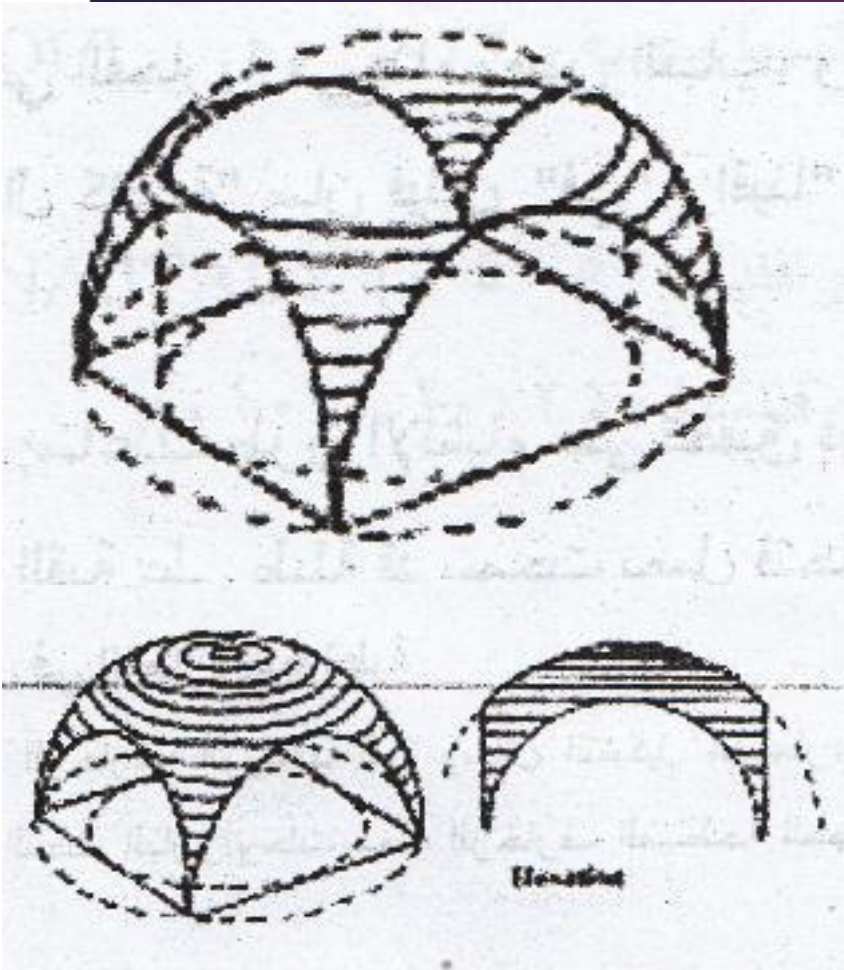
HISTORY OF ISLAMIC ARCHITECTURE

DR/ KAMAL MAHMOUD
ELGABALAWY

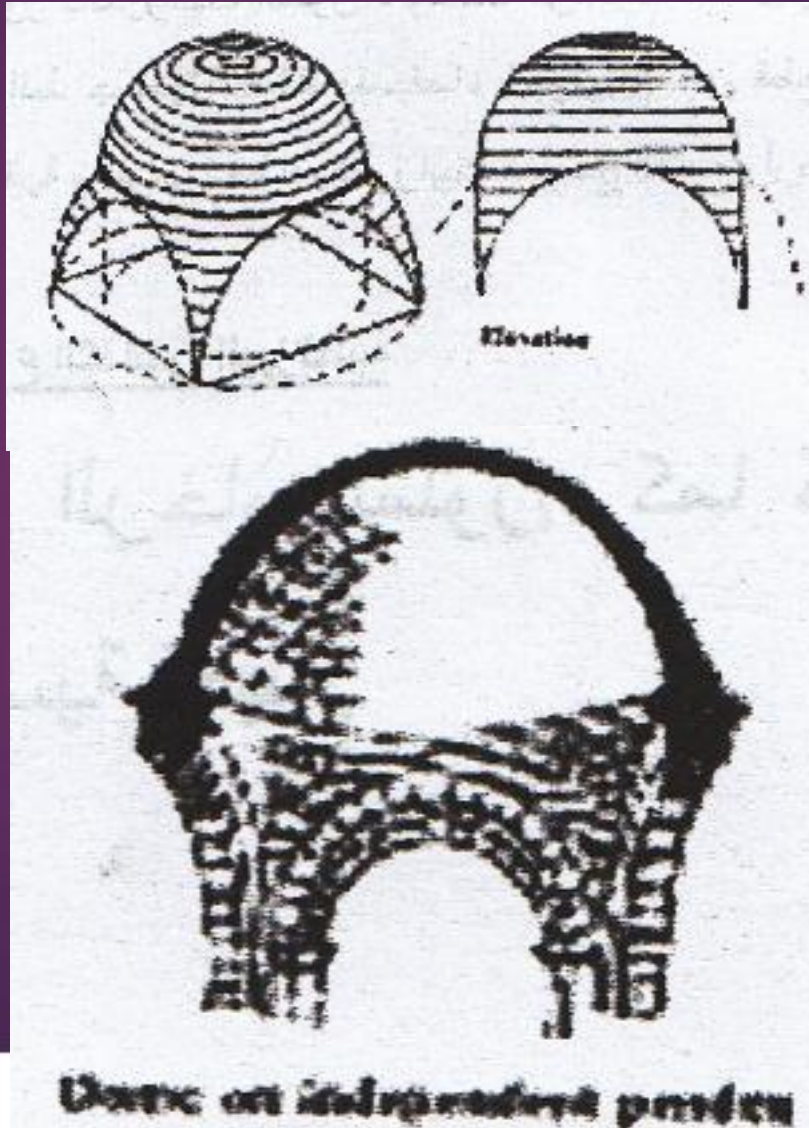
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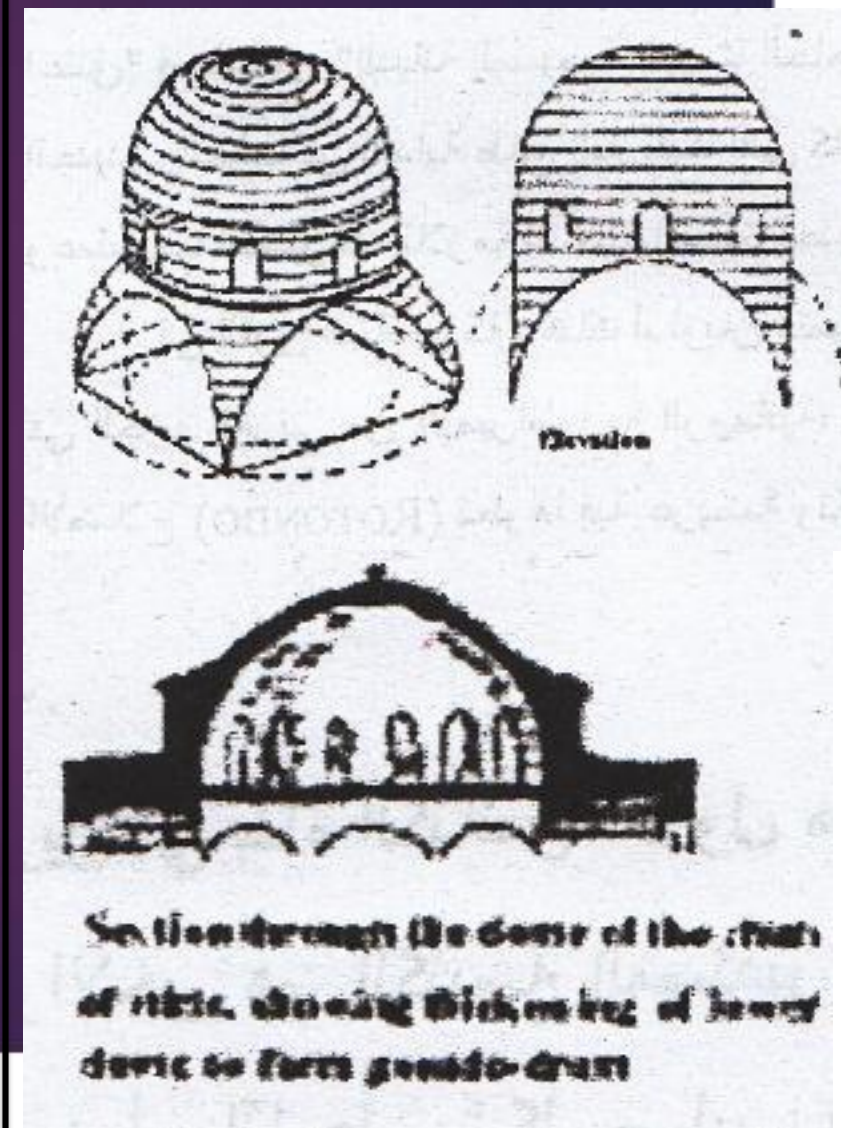
Simple Dome



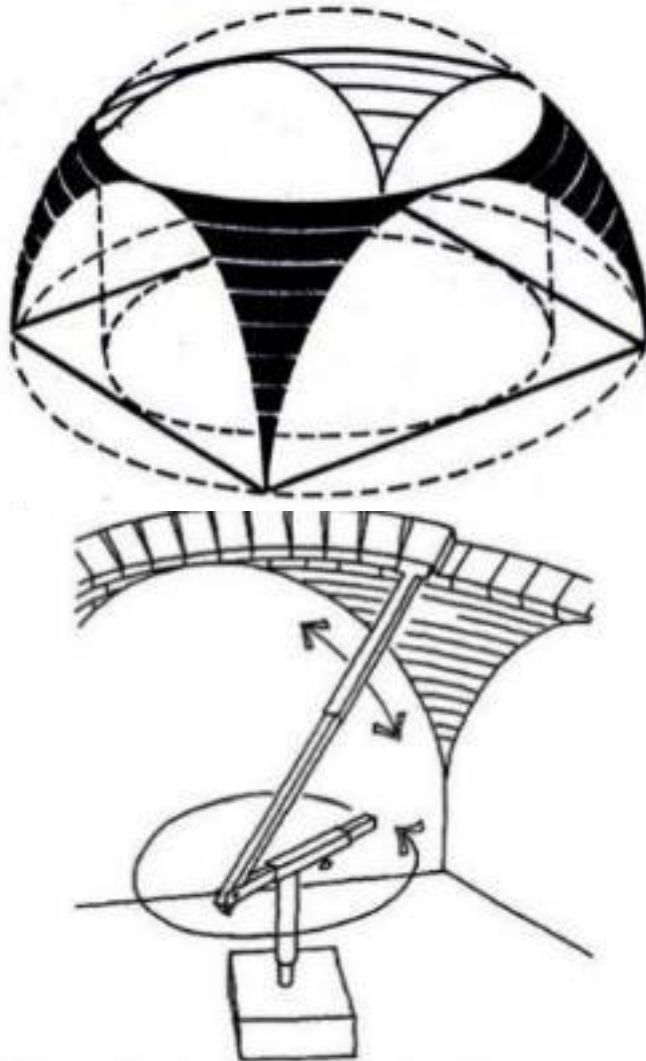
Dome supported on pendentive



Dome with drum

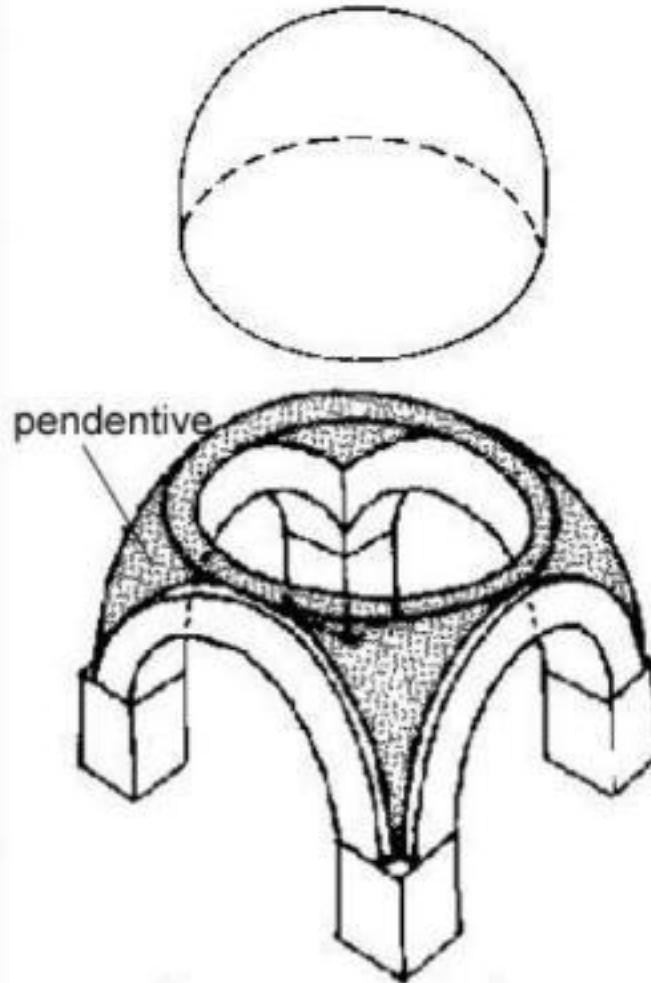


Simple Dome



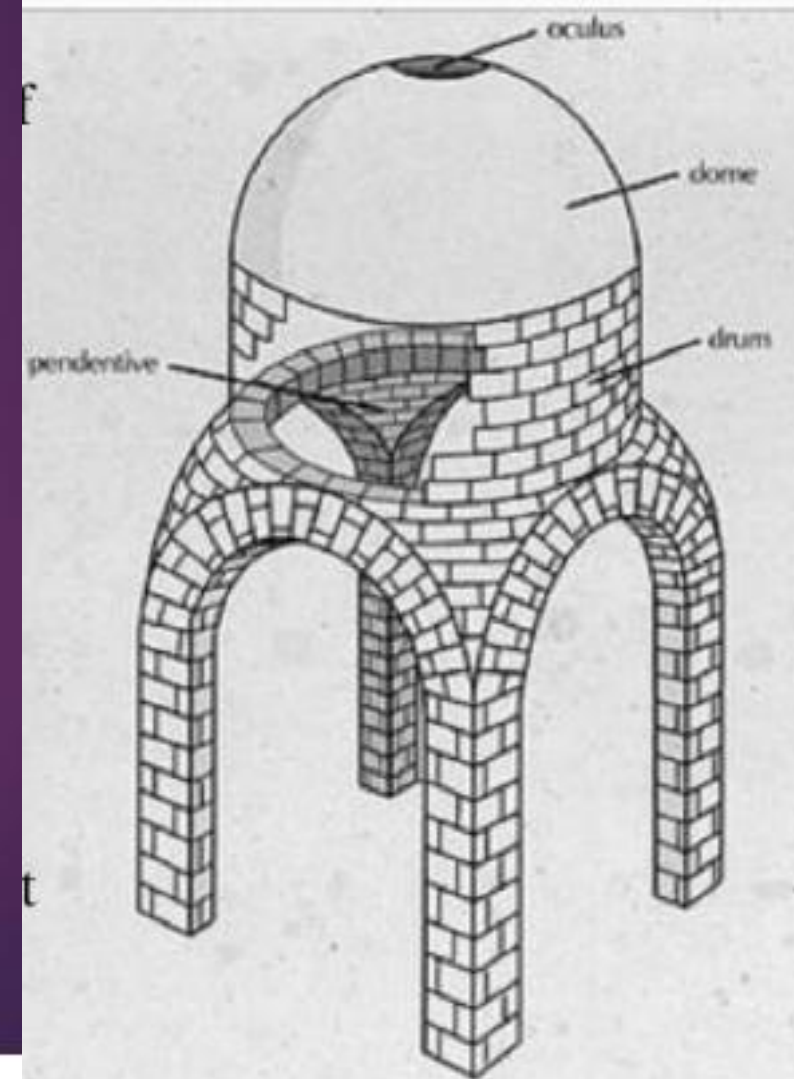
building of a dome on pendentives

Dome supported on pendentive



Dome supported on pendentives

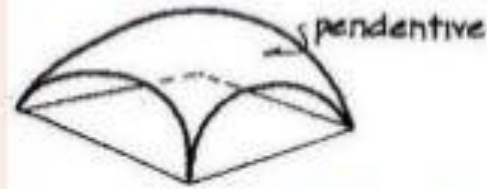
Dome supported on squinches



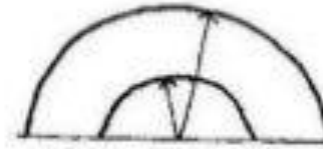
dome on pendentives

a. Simple

Pendentives and domes are part of the same sphere.

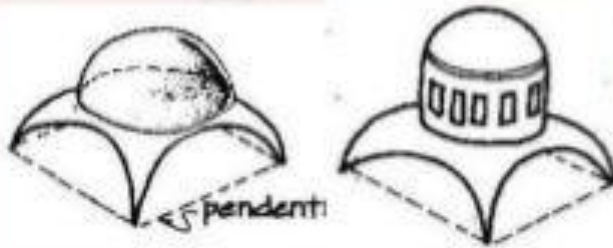


a. Simple



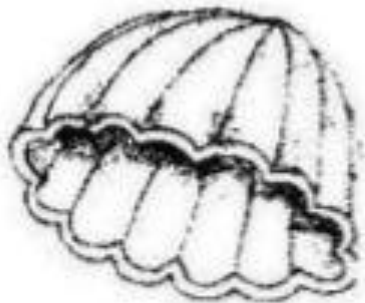
b. Compound

1. The dome is not part of the same sphere as the pendentives and domes rises independently upon them.
2. The dome is raised on a high drum pierced with windows.



b. Compound

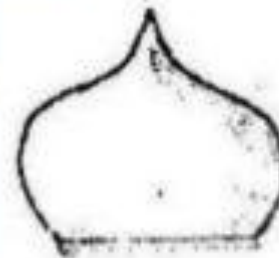
c. Special designs



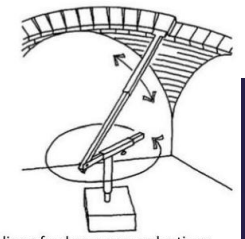
1. melon dome- dome with convolutions



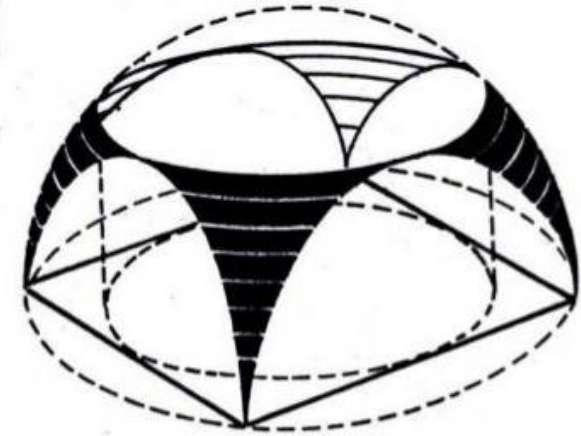
2. Serrated



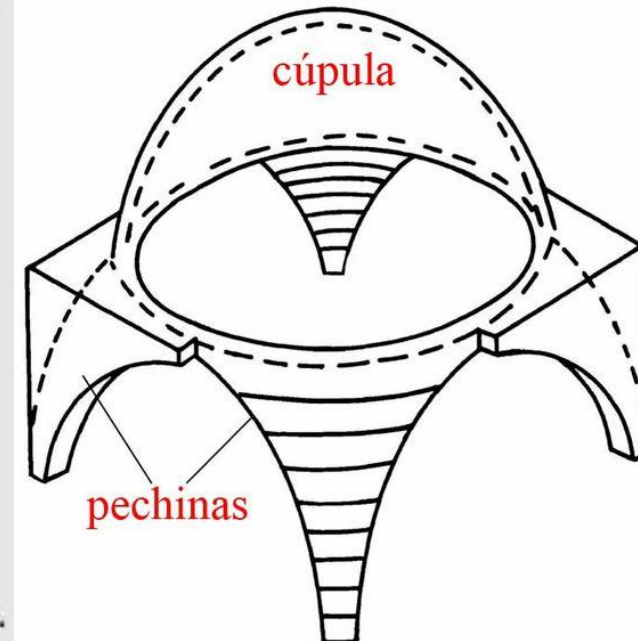
3. Onion or Bulbous sharp



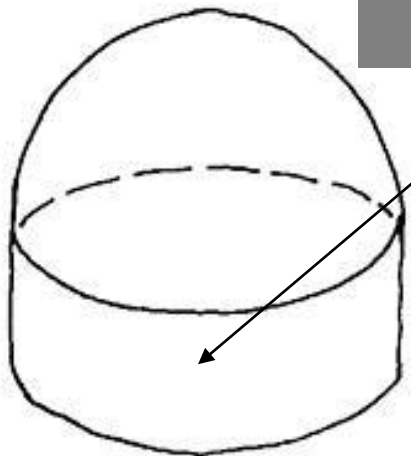
building of a dome on pendentives



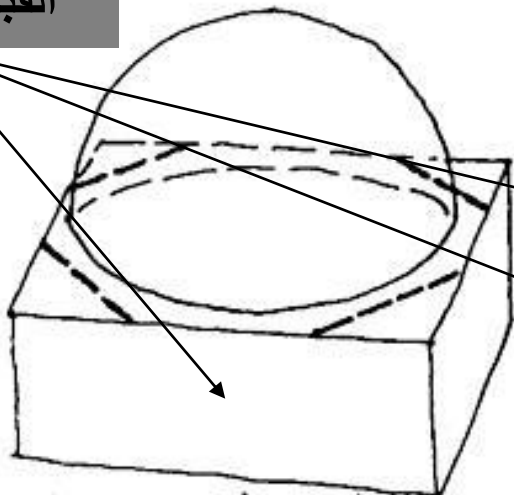
the p



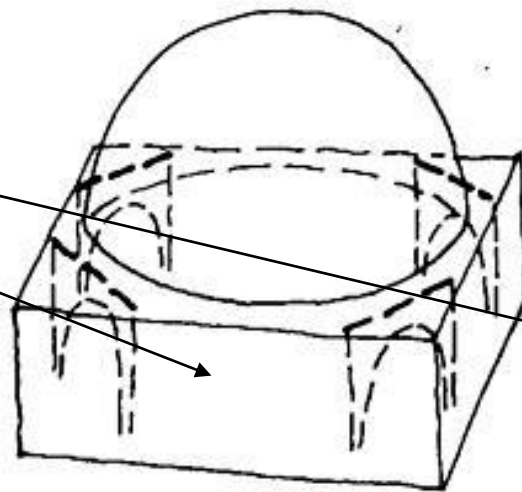
القبة على رقبة



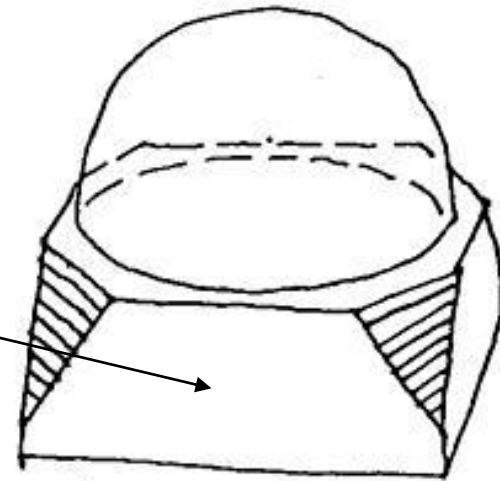
a dome over a circular space
raises no structural problem -
only the problem that it
restricts the plan form.



a dome can be put over
a square space if the
corners are bridged -
a chubby solution -

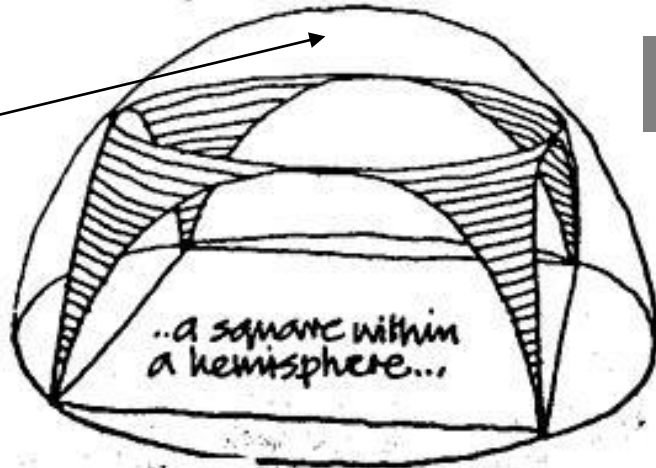


... by putting 'squinch'
arches over the corners..



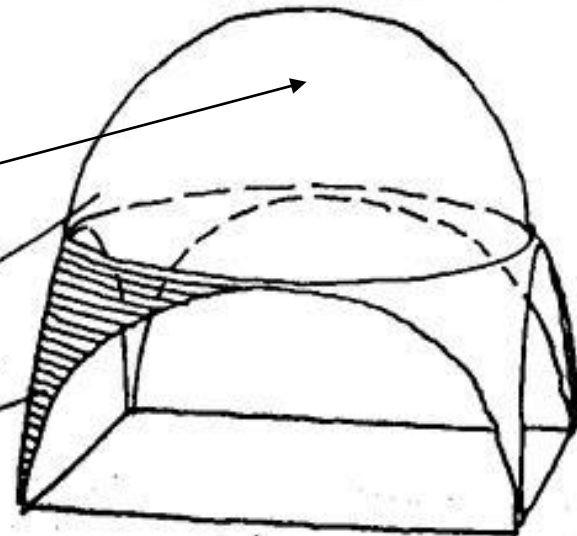
... or by corbeling-out.

القبة البسيطة



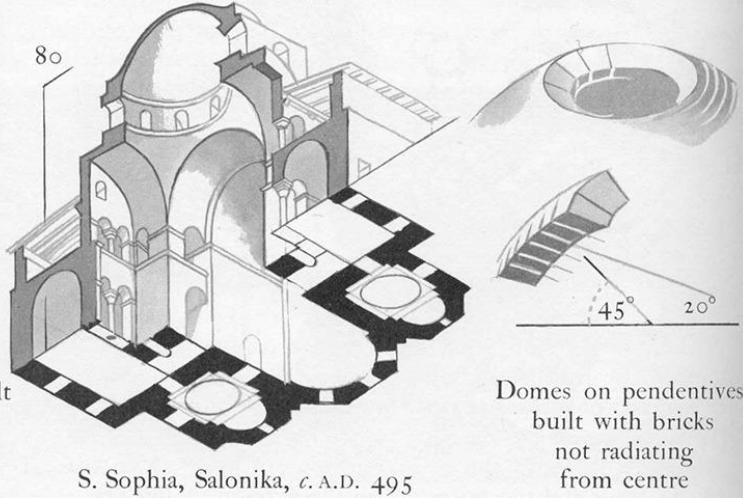
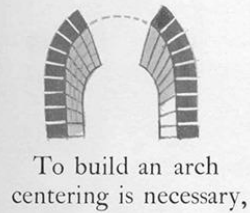
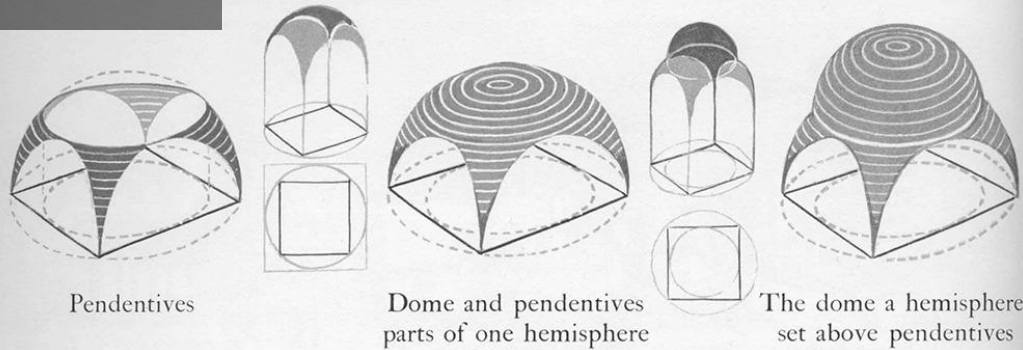
... a square within
a hemisphere...

القبة المركبة

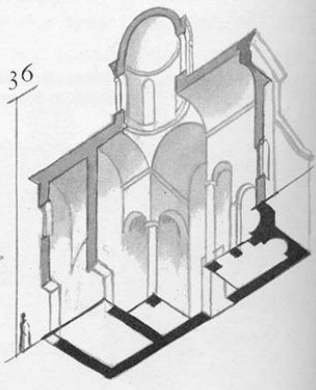
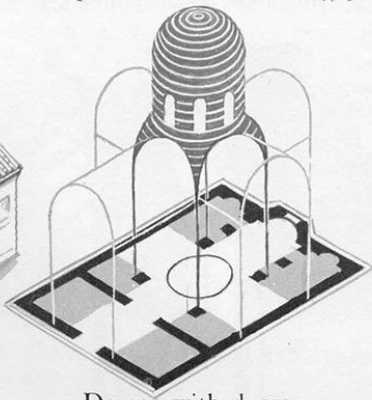


... on top of which the
dome is placed. The
plasticity of the
pendentive is very
appropriate to brick
construction

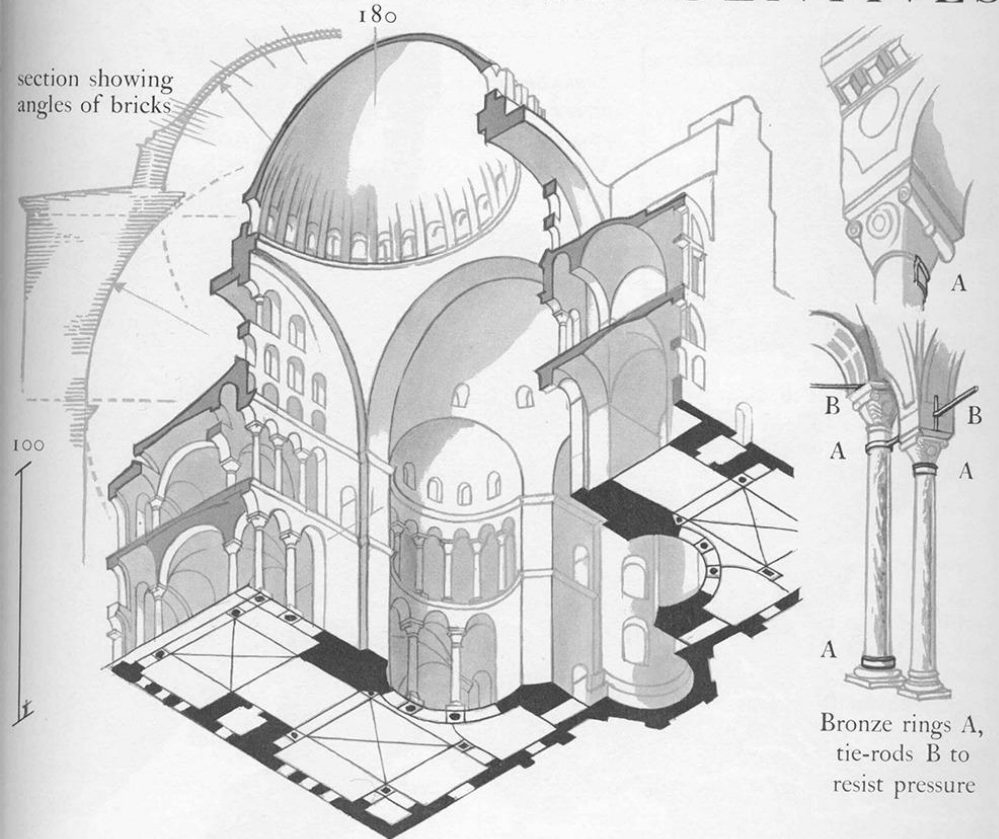
DOME



Metropole Athens, A.D. 1250

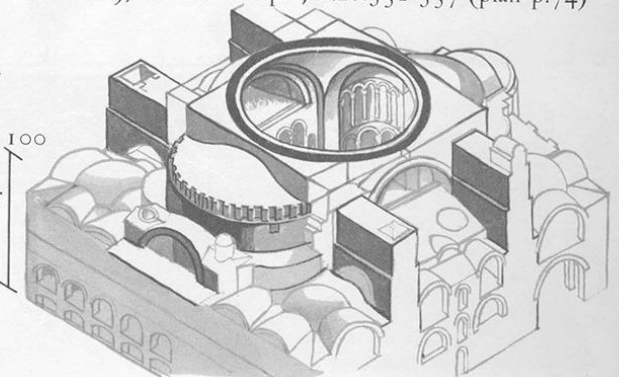


DOMES ON PENDENTIVES



S. Sophia (Hagia Sophia = divine wisdom), Constantinople, A.D. 532-537 (plan p.74)

Built for Justinian by two Greek architects, Anthemius of Tralles and Isidorus of Miletus. Built of brick; the dome probably erected without centering, with bricks about 24-27 inches square and 2 inches thick laid in deep mortar and covered with $\frac{1}{4}$ inch lead; the dome supported on 4 piers, the thrust being taken by 2 semi-domes and 4 massive buttresses; the interior lined throughout in coloured marbles and mosaics





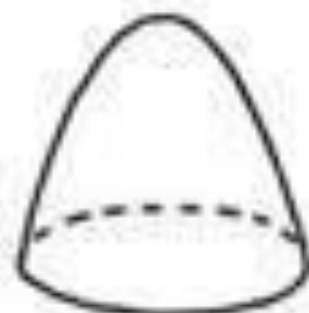
Pointed



Hemispherical



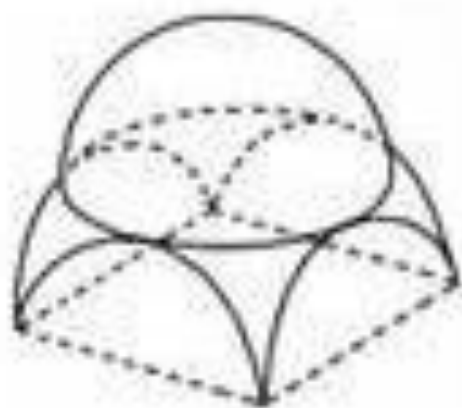
Segmental



Catenary



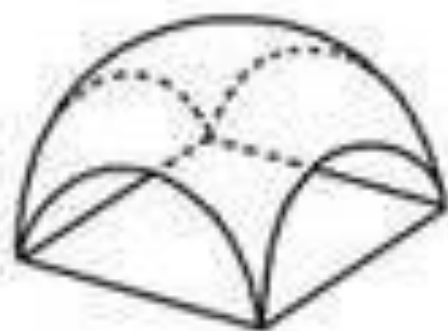
Faceted



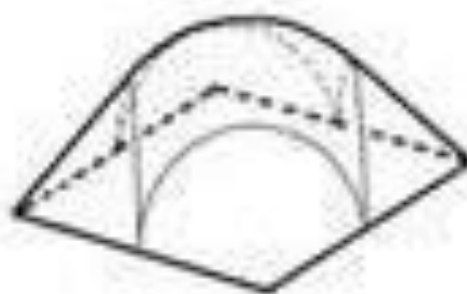
Hemispherical
on pendentives



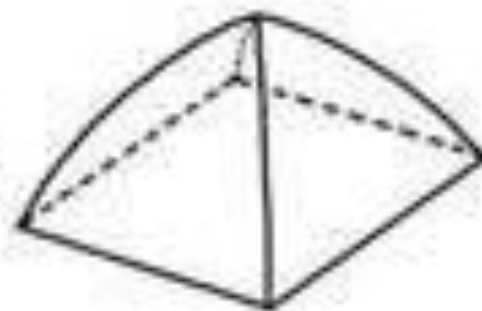
Hemispherical
on squinches



On pendentives



On squinches



Cloister dome

DOMES

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THANK YOU

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