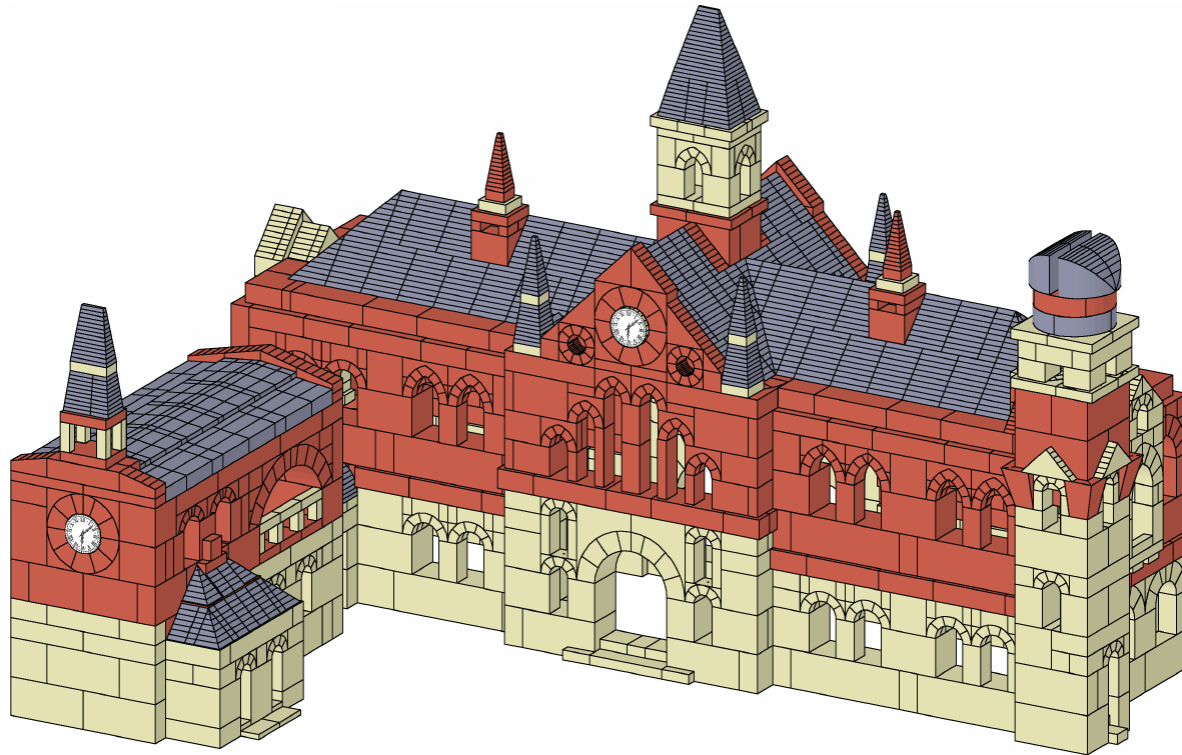


The CVA design committee

Baukunst im Kleinen (BiK)

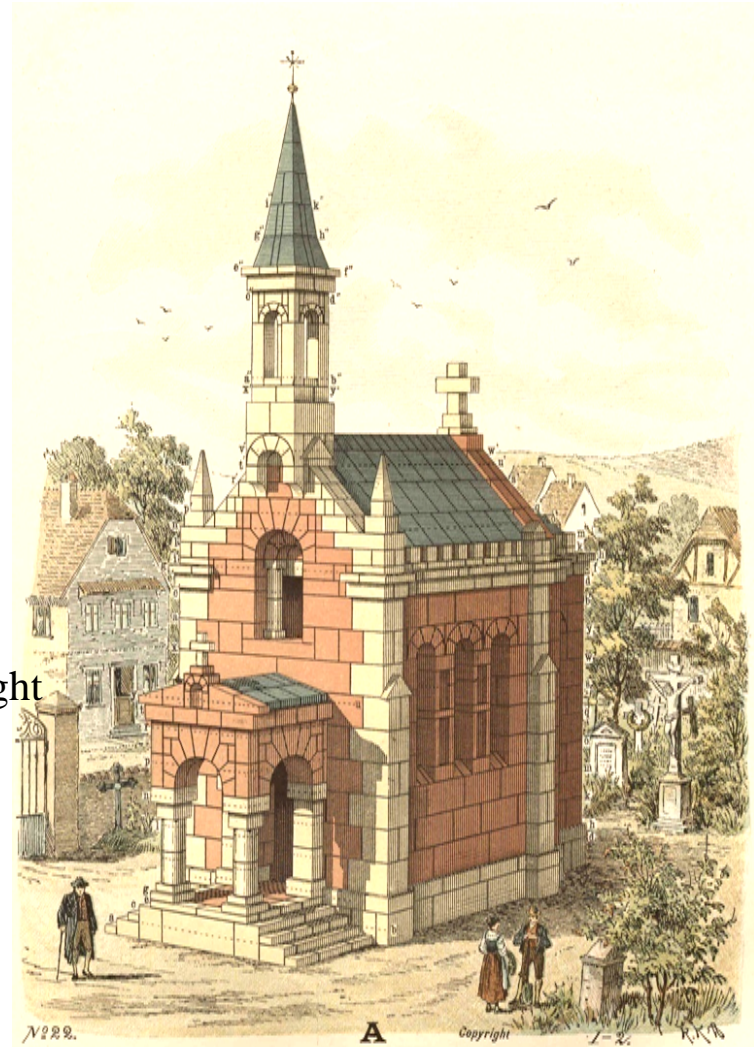


Martin van Beuzekom, George Bielen, Fred Hartjes,
Guus van Kessel and Annie Pasteuning

CVA meeting
Hilversum, April 25, 2009

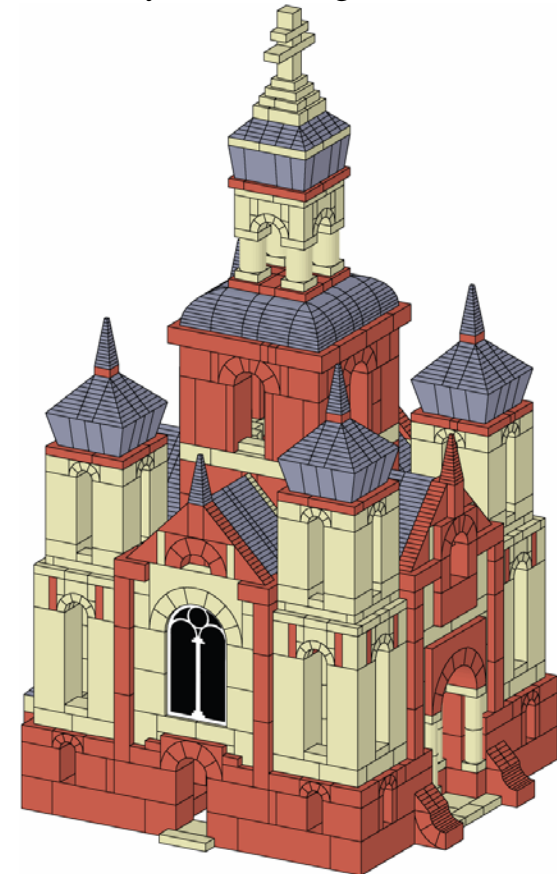
Why making new NF designs?

- ◆ Designs are the “software” of the Anker system
- ◆ Existing: Richter’s NF designs
 - Normally ~20 – 10 designs per NF step
 - Often attractive
 - Clearly drawn including nice background
 - (almost) no errors
 - Already 110 - 120 y old
- ◆ Anker stones designed for end 19th century buildings
 - Neo-styles with often baroque detailing
 - Less suited for modern buildings with long straight lines
- ◆ Can we add something sensible to this?
- ◆ Some of us think they can
 - Designing a building very time consuming
 - Coming to something that is architecturally sound
 - Optimizing for the available stone set



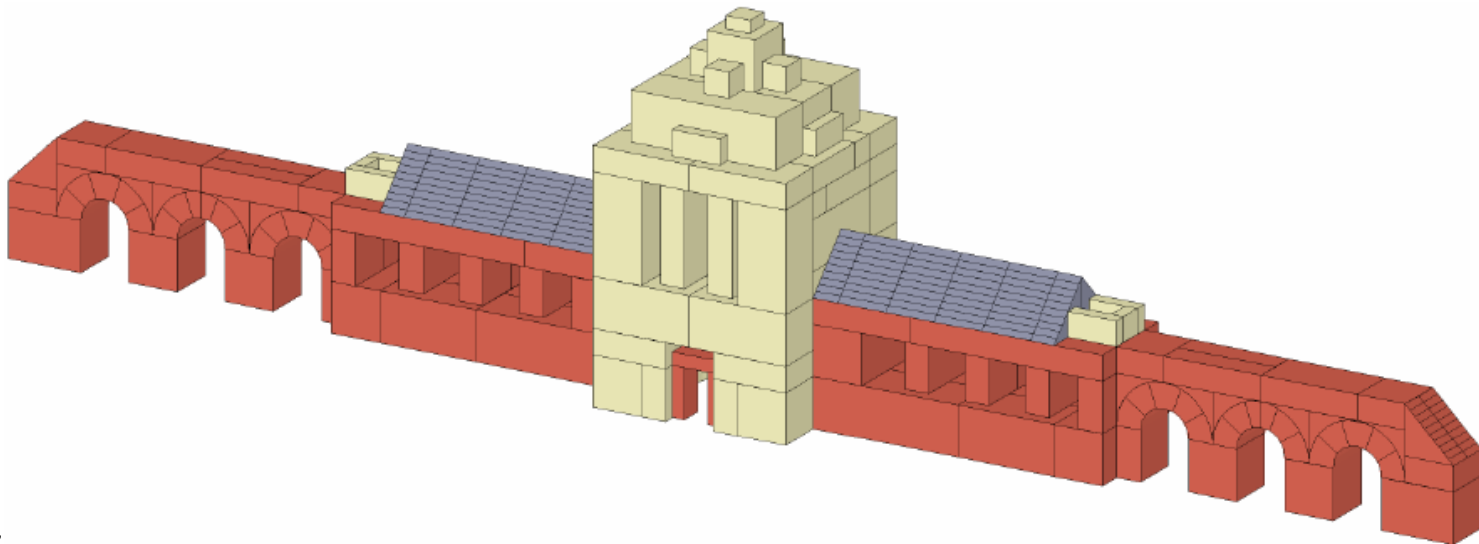
Motivation

- ◆ Producing additional designs for buyers of the new stone sets from the Anker factory
- ◆ => designs should be accessible for newcomers
 - Only commercially available components
 - No antique materials or odd things
 - Exception small items from Rob Buis like railings, small bridges etc (easily available against limited costs)
- ◆ Presently: → only NF designs from NF24 until NF32
 - NF34 as soon as NF32B is available from Anker factory
- ◆ Now only for single NF set, no double sets
 - NF24 and higher offer sufficient opportunities by themselves
 - Not many people have double high level NF sets



How did the review committee start?

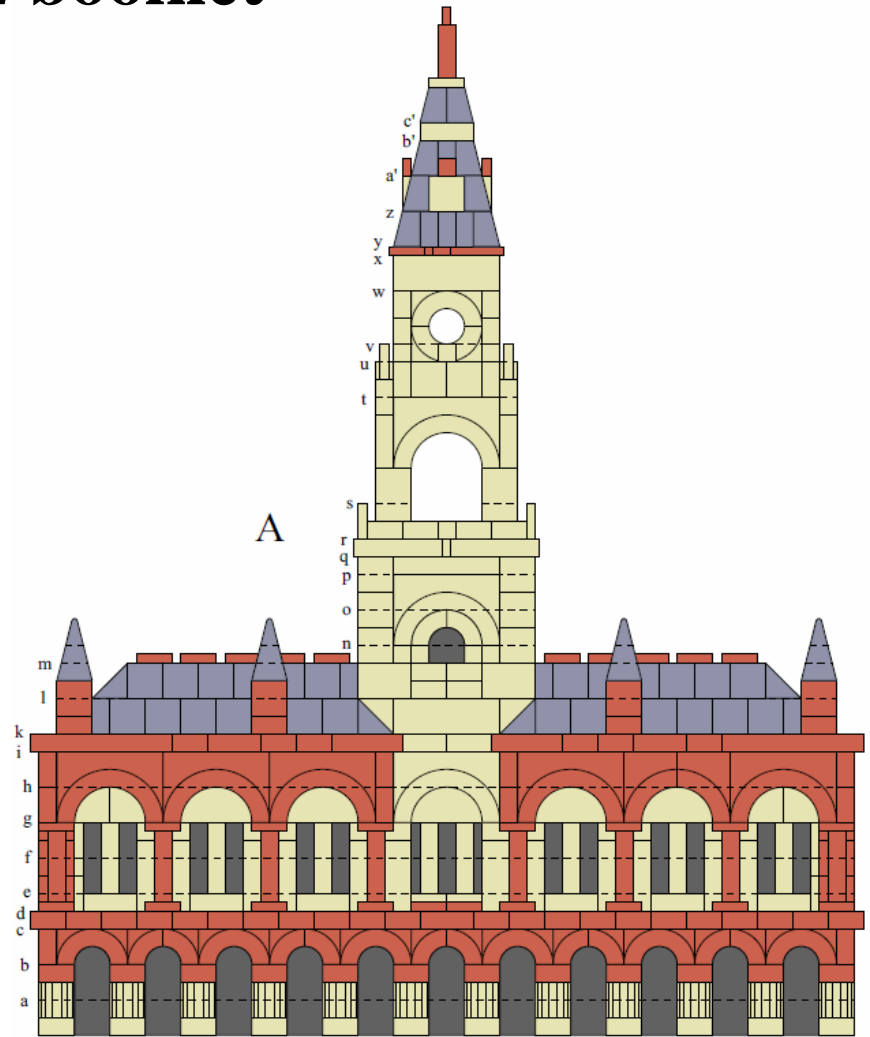
- ◆ CVA contest for designs based on an existing building
 - 1993 Koppelpoort Amersfoort (NL)
 - 1995 Huize Ruurlo (castle) (NL)
 - ~1996 American public building (George Hardy)
- ◆ 1995 start new Anker factory with box NF6, 6A, 8A
 - Later 10A, 12A (1999),
- ◆ ~ 1997 – 1998 first new designs issued for these new small sets
 - Free subject for specific NF sets, **not** according to certain buildings
 - NOT a contest: **no prices etc**
 - Double and triple sets permitted (2xNF12 etc)



The “second” NF12 booklet



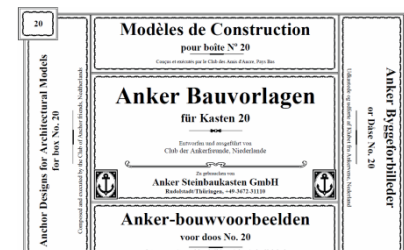
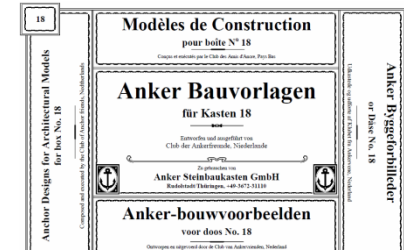
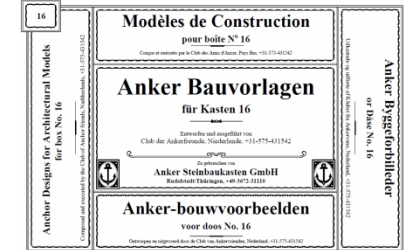
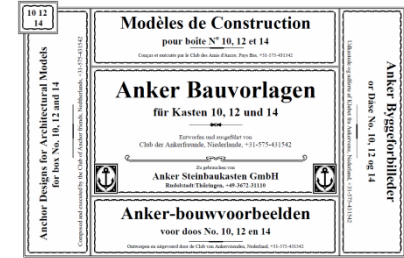
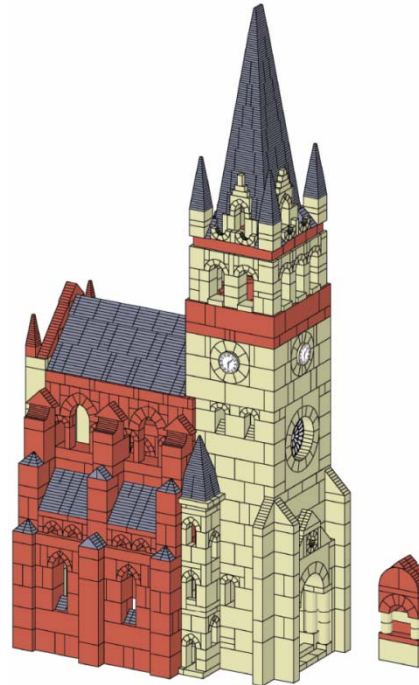
- ◆ April 2001 ‘second’ NF12 booklet printed by CVA
- 16 designs
- Often in 2D (gables + cross sections), several in 3D
- Designers at that moment: Dieter Wellmann, Fred Schlipf and Wolfgang Fichtner
- Drafting second NF12 booklet by Joop Perlot and Leo Coffeng



*Rathaus 2xNF12
Wellmann*

Start CVA design committee

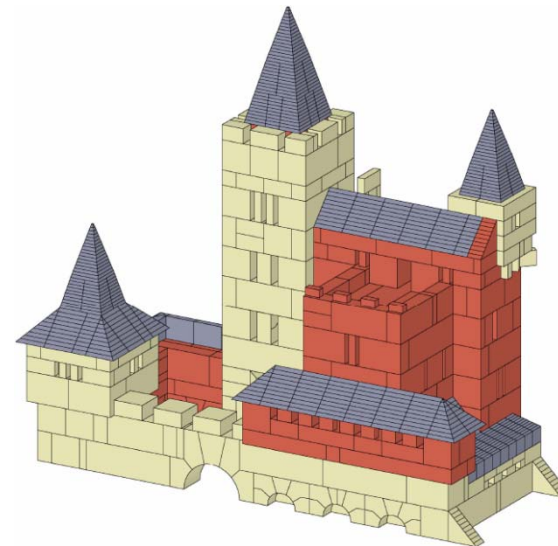
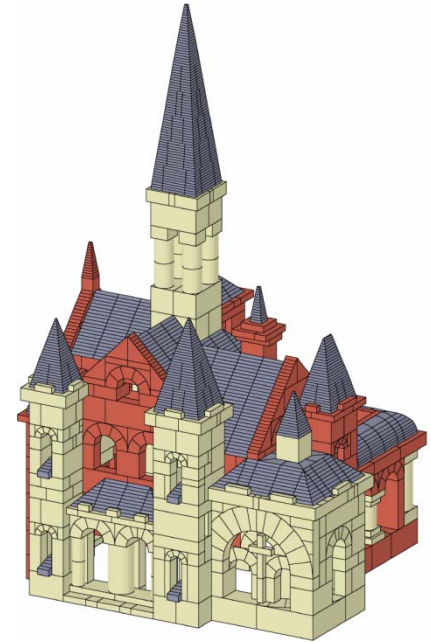
- ◆ 2001: erection review committee of 5 people (chair Annie Pasteuning) starting with NF6 and 8 designs
- ◆ Drafting by Burkhard Schulz using 3D drafting system AnkerCAD
- ◆ Publication of five booklets (<http://www.ankerstein.ch>)
 - 2003: NF6, 8
 - 21 designs
 - 2003: NF10, 12, 14
 - 16 designs
 - 2004: NF16
 - 22 designs
 - 2005: NF18
 - 11 designs
 - 2007: NF20
 - 9 designs
 - In progress: NF22
 - 8 designs expected
- ◆ Designers
 - Gerhart Bruckmann, Eckhard Fischer, Rolf Fritsche, Falk Gundel, Fred Hartjes, Fred Schlipf and Dieter Wellmann



Other designs for downloading

- ◆ <http://www.ankerstein.ch> (owned by Andrea Mazzocco) also offers a vast inventory of all kinds of other designs, mostly added by Burkhard Schulz

1. Unbekannte Entwürfe (60x)
 - 2 anonymous, the rest not
2. Eigenentwürfe (collected by Wolfgang Reinhardt) (90x)
3. CVA
 - Unknown Lufsky designs (VEB era)
 - NS12, 14, 16 (7x, unpublished)
 - NS14 (6x)
 - NS12 (3x)
 - NF6 - 20 designs (95x)
4. Meyer-Margreth (1x)



Rules of the CVA design committee

Reglement voor de CVA bouwcommissie

Fred Hartjes

23-11-2008

1. Functie van de CVA bouwcommissie

De bouwcommissie onderzoekt of een ingezonden Anker ontwerp geschikt is om te worden opgenomen in de CVA catalogus van nieuwe ontwerpen

2. Leden van de bouwcommissie

- De bouwcommissie bestaat uit tenminste drie leden waarvan een voorzitter
- Alleen leden van de CVA kunnen lid zijn van de bouwcommissie
- Een lid mag zelf ook ontwerpen indienen. Dit lid wordt echter uitgesloten van de beoordelingsprocedure van het ontwerp.

3. Correspondentie

De externe correspondentie loopt via de voorzitter. De voorzitter verzamelt de ingezonden ontwerpen en verdeelt ze onder de leden. Hij communiceert met de ontwerper en zendt de goedgekeurde ontwerpen door voor opname in de CVA catalogus.

4. Beoordeling van een ingezonden ontwerp

Door tenminste twee leden van de bouwcommissie. Op grond van hun beoordelingen komt de commissie tot een gemeenschappelijk rapport.

5. Criteria beoordeling

- Kan het ontwerp gebouwd worden met de stenenset waarvoor het bedoeld is? Alleen ontwerpen voor stenensets uit NF6 tm NF34 worden toegelaten in de uitvoering die wordt geleverd door Anker Steinbaukasten GmbH. Het is echter wel toegestaan kleine toevoegingen te gebruiken met gemakkelijk verkrijgbare replica metaaldelen van de GKBr-, VE- of DS serie (klein bruggetje, balustrade van een balkon of een hekje van brugrellingen).
- Wordt minimaal 75% van het totaal gewicht van de bedoelde stenenset functioneel gebruikt? Van deze regel kan in bepaalde gevallen worden afgeweken, bijvoorbeeld als er veel dakstenen overblijven bij een gebouw met uitsluitend platte daken.
- Is het bouwwerk voldoende stabiel? Er mag geen lijm of dubbelzijdig tape voor nodig zijn. Uitzonderd specialiteiten zoals een fragiele lantaarn. Papier of karton om ongelijkheden van de stenen op te vangen is wel toegestaan.

- Kan het ontwerp met normale inspanning worden gebouwd zonder extreme eisen te stellen aan de motoriek van de bouwer?
- Zijn er fouten, onnauwkeurigheden of onduidelijkheden in het ontwerp?
- Is het ontwerp esthetisch voldoende bevredigend?

6. Overleg

De commissie overlegt in een bijeenkomst of schriftelijk of per telefoon om tot een definitieve beoordeling van het ontwerp te komen. Aan dit overleg moeten tenminste drie leden deelnemen. De voorzitter vat het besprokene samen in een definitieve beoordeling en zendt die aan de ontwerper en aan het CVA archief.

7. Procedure na definitieve beoordeling

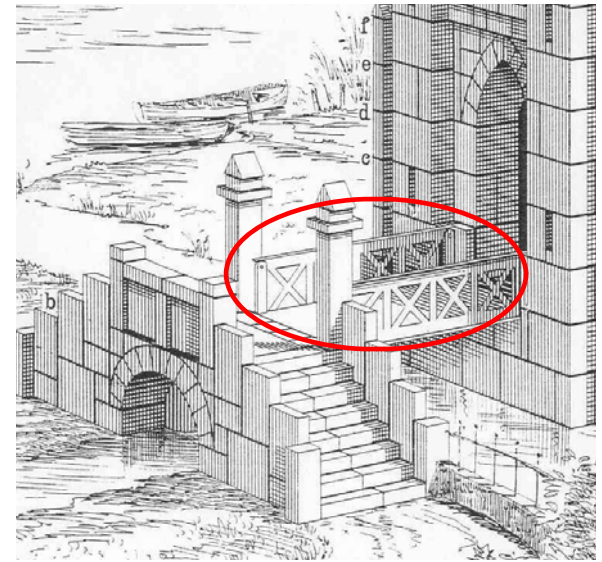
De definitieve beoordeling resulteert in een van de volgende acties:

- Ontwerp wordt ongewijzigd doorgezonden voor opname in de catalogus
- Ontwerp wordt na geringe wijzigingen door de commissie en met instemming van de ontwerper doorgezonden voor opname in de catalogus
- Ontwerp wordt teruggezonden naar de ontwerper met het verzoek bepaalde wijzigingen aan te brengen
- Ontwerp wordt met opgave van redenen teruggezonden naar de ontwerper als ongeschikt voor opname in de catalogus.

Only designs for NF sets accepted

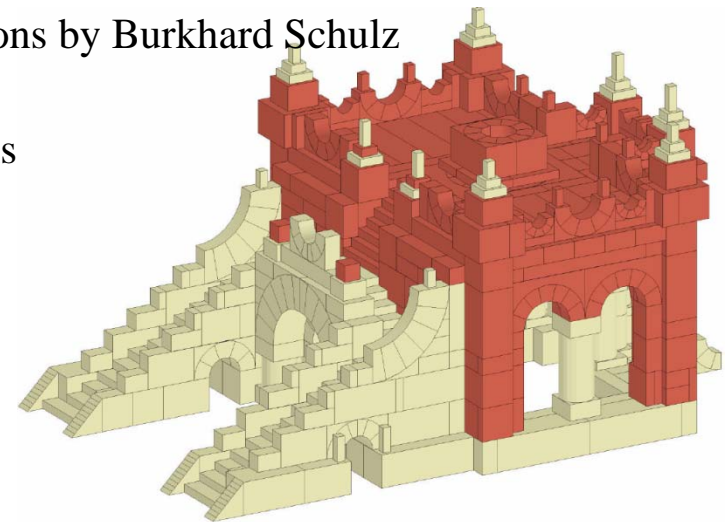
- ◆ Designs for NF24 close by July 1, 2009
- ◆ Designs for NF26 close by July 1, 2010
- ◆ No ~~DS, NR, NS, Burgenbau, Landhaus,~~
- ◆ No ~~replica stones by Ankerfriends~~

- ◆ Minor amounts of nickel parts allowed
 - Small bridge
 - Railings as balcony edge or garden gate
- ◆ Mosaic: like Richter
 - Nice if you have it, but one can do without
 - Mosaic sets not produced anymore by the Anker factory



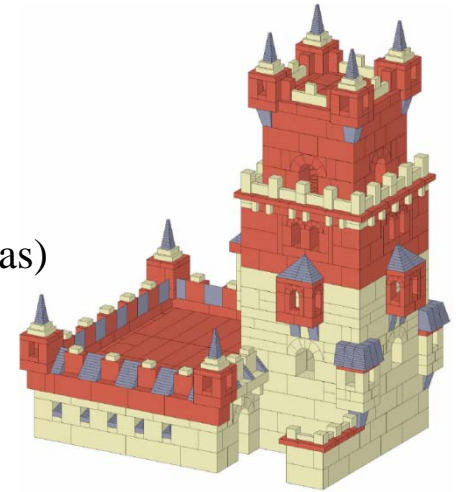
BiK members and reviewing

- ◆ BiK members
 - At least 3, should be CVA member
 - Presently 5 members (Martin van Beuzekom, George Bielen, Fred Hartjes (chairman), Guus van Kessel and Annie Pasteuning)
- ◆ Review of a design
 - By at least two BiK members
 - A member is excluded from reviewing his own design
- ◆ Final review
 - The general outcome of the individual reviews
- ◆ Review result: four possibilities
 1. Approve for the CVA catalogue “as it is”
 2. Approve for the catalogue with minor modifications by Burkhard Schulz
 - After consulting the designer
 3. Return to the designer for important modifications
 4. Reject and return to the designer



6 design criteria

1. Can it be build using the intended NF set?
2. Are at least 75% of the stones functionally used?
 - Normally ~12% goes into unused specialities (towerstones, bananas)
3. Is the design sufficiently stable?
 - No glue or double sticking tape except in very minor quantities
4. Can it be build without extreme demands on dexterity of the builder?
 - We acknowledge that the famous “Ankerhand” might be required
 - But erecting an Anker building should remain a pleasure, not a headache or frustration
5. Are there errors in the design?
6. Is the building aesthetically sound?



Example of a review form

Beoordelingsformulier van de CVA bouwcommissie

Naam gebouw

Landhuis NF24

Ontwerper

George Bielen

Datum

30-12-2008

Beoordelaar

Fred Hartjes

1. Kan het ontwerp gebouwd worden met de stenenset waarvoor het bedoeld is?

ja

2. Wat is het gewicht van de overblijvende stenen?

3770 g (10.0%)

3. Is het bouwwerk voldoende stabiel?

ja

4. Kan het ontwerp met normale inspanning worden gebouwd zonder extreme eisen te stellen aan de motoriek van de bouwer?

Ja.

Er moet wel redelijk nauwkeurig worden gebouwd om te voorkomen dat het gebouw een rommelig uiterlijk krijgt

5. Zijn er fouten, onnauwkeurigheden of onduidelijkheden in het ontwerp? Geef hier aan voor welke laag je welke stenen tekort komt.

Laag 12: 263r moet zijn 262r

Laag 19: vervang 2x 81r door 1x 72r (pilaartje rechts)

Laag 22: ivm de stabiliteit tijdens het bouwen: verwissel tweemaal 3g met 10g; verwissel 1r met 4 r die in het verlengde van de rij van 3g en 10g liggen; plaats de 110 r bogen met de opening naar boven

1

Laag 22: voeg een 10g toe tussen de 2 x 29g

Laag 24: er zijn 2x 208b te kort, vervang deze door 3x 210b en 2x 211b

Laag 26: er zijn 8x 216b te weinig, vervang deze door 4x 215b

6. Is het ontwerp esthetisch voldoende bevredigend?

Ja.

Een forse villa in classicistische stijl met achttiende-eeuwse uitstraling en een strenge symmetrie. De muren met de inspringende gele hoekstenen zijn voor een groot gedeelte in halve steen uitgevoerd wat het geheel een aantrekkelijk uiterlijk geeft. Geprononceerde gele omlijstingen. Het gebouw is met veel zorg ontworpen en goed gestructureerd.

7. Eventuele opmerkingen, toelichting

8. Wat is de eindconclusie (een van de vier vakjes aankruisen)?

- a. Ongewijzigd doorsturen naar Burkhard
- b. Doorsturen naar Burkhard met het verzoek tot kleine wijzigingen (na goedkeuring ontwerper)
- c. Terugsturen naar de ontwerper met het verzoek wijzigingen uit te voeren
- d. Terugsturen naar de ontwerper als zijnde ongeschikt voor opname in de CVA catalogus

2

Example of final review

Final review of the CVA design review committee

Name building

Landhuis nr 47

Intended for

NF26

Designer

George Bielen

Review date

24-1-2009

Reviewed by

Annie Pasteuning, Fred Hartjes

1. Can the design be built using the intended stone set?

Yes

2. Which weight fraction of stones is not used?

10.0%

3. Is the design sufficiently stable?

Yes

4. Can the design be built without exceptional effort? The need of the proverbial "anchor hand" is allowed.

Yes. However, one should work quite accurate to avoid a messy appearance.

5. In the following layers these errors have been traced.

Layer 12: 263r should be 262r

Layer 19: replace 2x 81r by 1x 72r (right hand pillars)

Layer 22: to improve the stability during building: replace the 2x 3y with 10y; replace the 1r with 4r that are aligned to the row by 3y and 10y; position the 110r arches with the aperture upwards

Layer 22: add a 10y between the 2x 29y

1

Layer 24: there is a shortage of 2x 208b, replace them by 3x 210b and 2x 211b

Layer 26: 8x 216b are missing, replace them by 4x 215b

6. Is the design aesthetically sufficiently satisfying?

Yes. A stout villa in classisistic style with an eighteenth century appearance and a strict symmetry in a balanced structure. Nice spreading of red and yellow. The walls with the indented yellow corner stones are mostly executed in half high stones giving the building an attractive appearance. Pronounced yellow window frames. Nicely corresponding roof.

7. Remarks, commentary

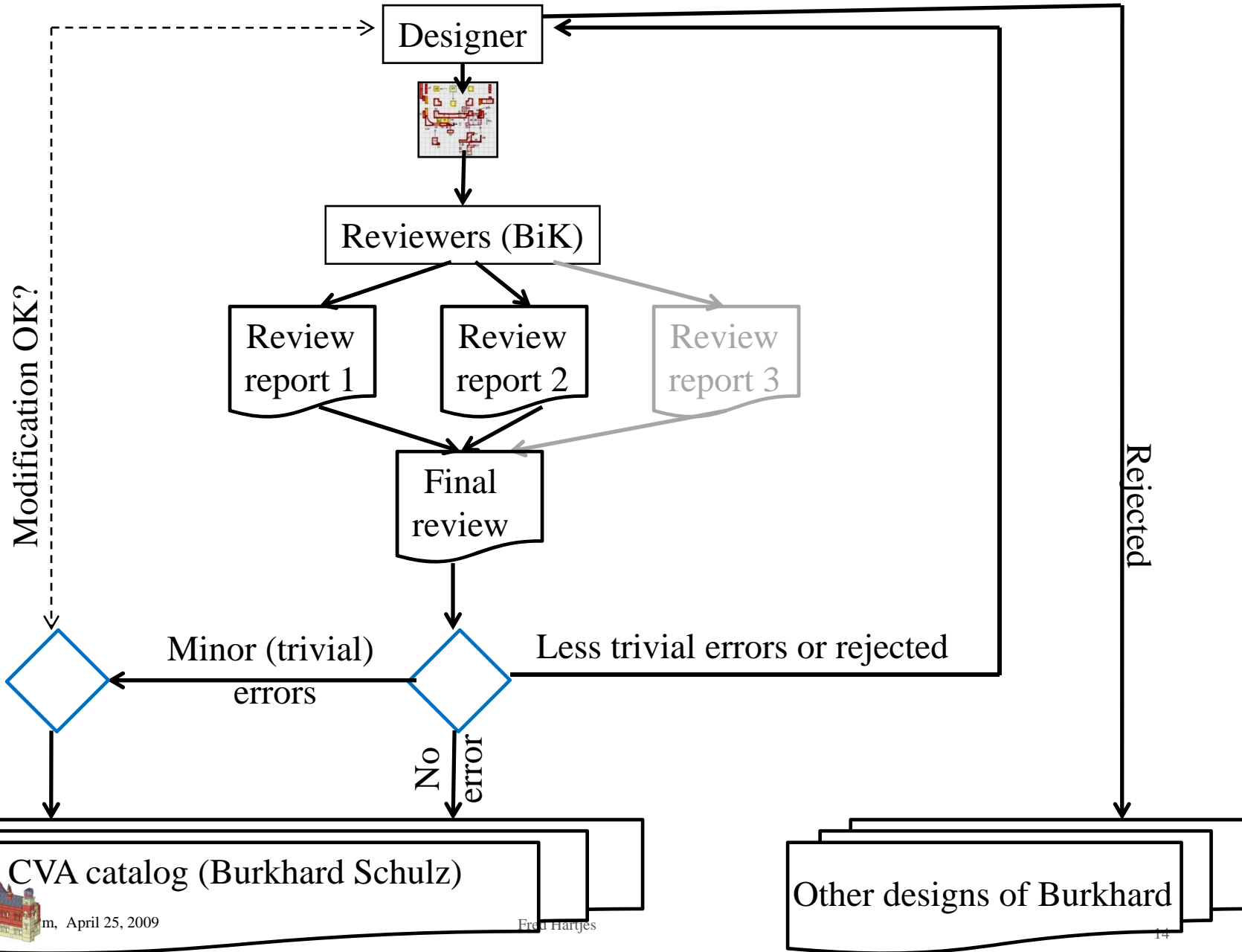
Inspired on the house 'Beerschoten' situated between de Bilt and Zeist (Netherlands)

8. Final conclusion

- a. Include into the CVA catalogue as it is: send to Burkhard
- b. Include into the CVA catalogue after minor modifications by Burkhard (approved by the designer)
- c. Return to the designer for major modifications
- d. Return to the designer as not suited for the CVA catalog

2

Reviewing schedule



Which NF stone sets?

New Anker factory vs Richter's

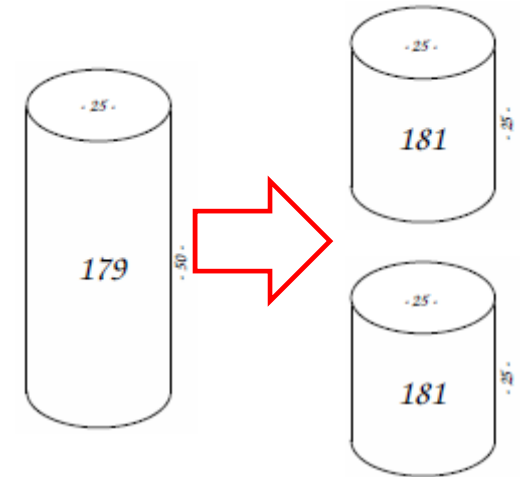
- ◆ Designs should aim for the **new stone sets** from the Anker factory

- Richter's antique stones are not freely available for everybody

- ◆ Taking into account the differences with Richter's NF sets

- Columns 179 => 2 x 181; 192 => 2 x 196

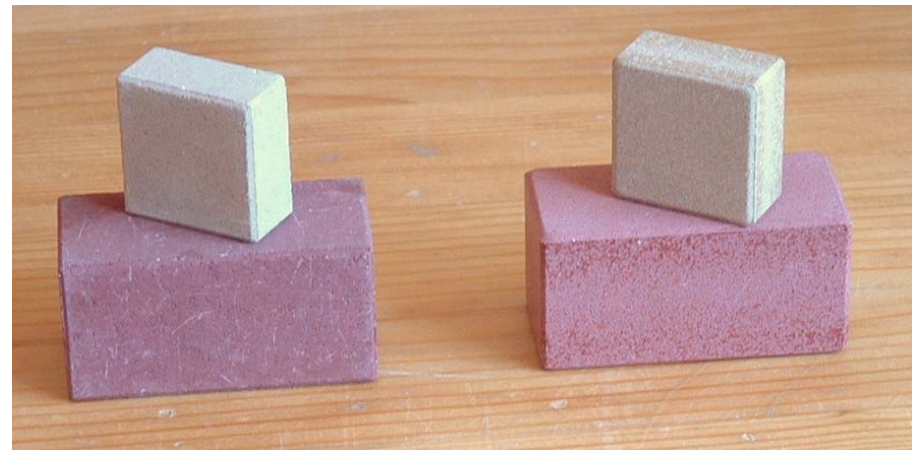
- Wooden beams for 23, 24, 25



- ◆ New stones

- Appearance bit less attractive

- But have **other advantages**



Old (Richter's) stones vs new stones

Old

New

New stones more accurate dimensioned

- ◆ Best material for constructing complicated buildings



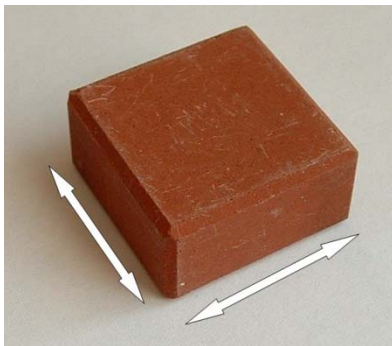
Illustration of the accuracy of old and new stones

- ◆ Using accurate calliper
- ◆ Small samples (~ 20 stones, statistically not conclusive)
- ◆ Old stones: My own stones collected in the past 15 years from various sources
 - All 19r
 - Class I - II
- ◆ New stones: as produced by Anker factory over the last ~10 years
 - Mostly 19 (red + yellow)

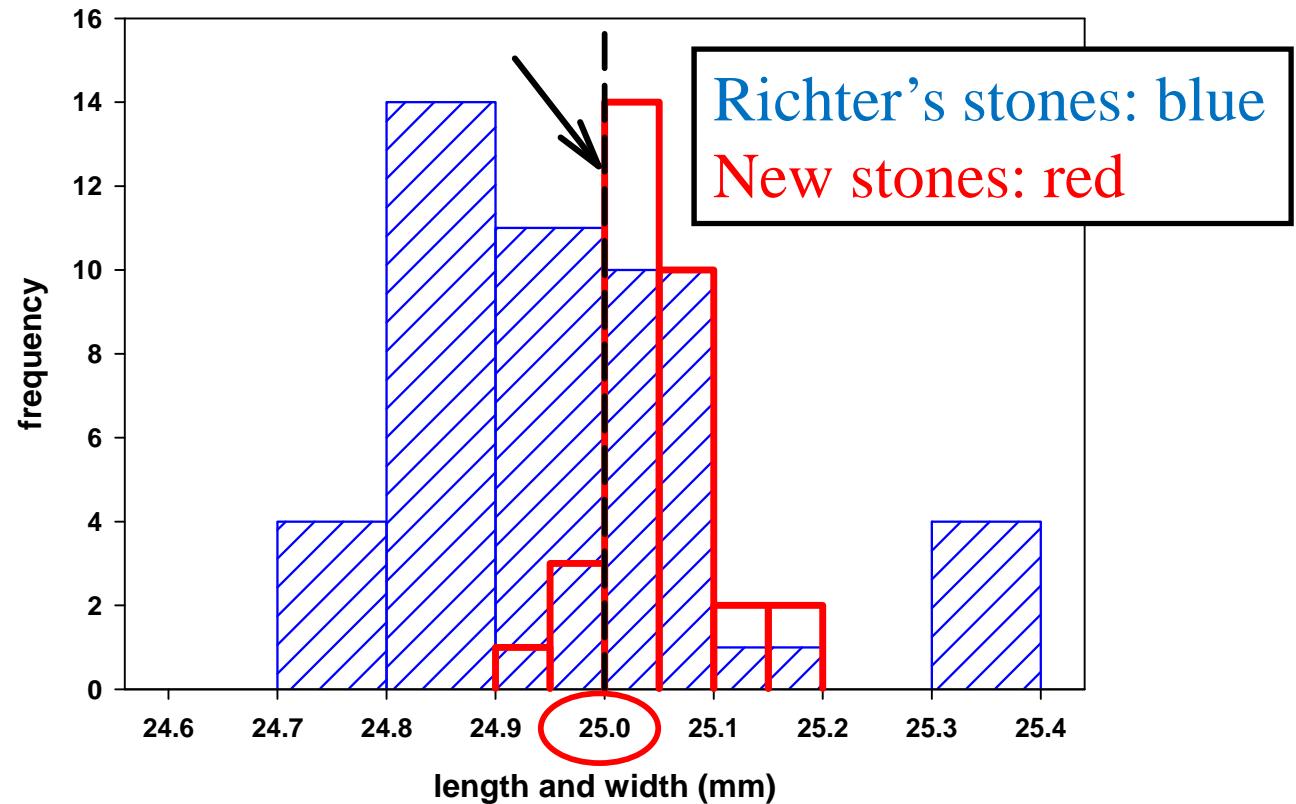


Old (Richter's) stones vs new stones

- ◆ Length and width defined by dimensions of mould
- ◆ Old stones within $\sim \pm 0.3$ mm
- ◆ New stones within $\sim \pm 0.15$ mm

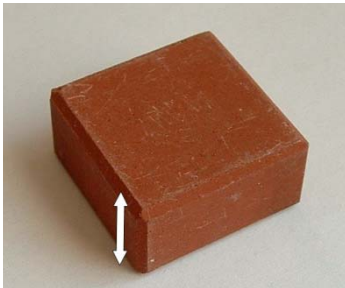


Dimensions of stone 19 (length and width)

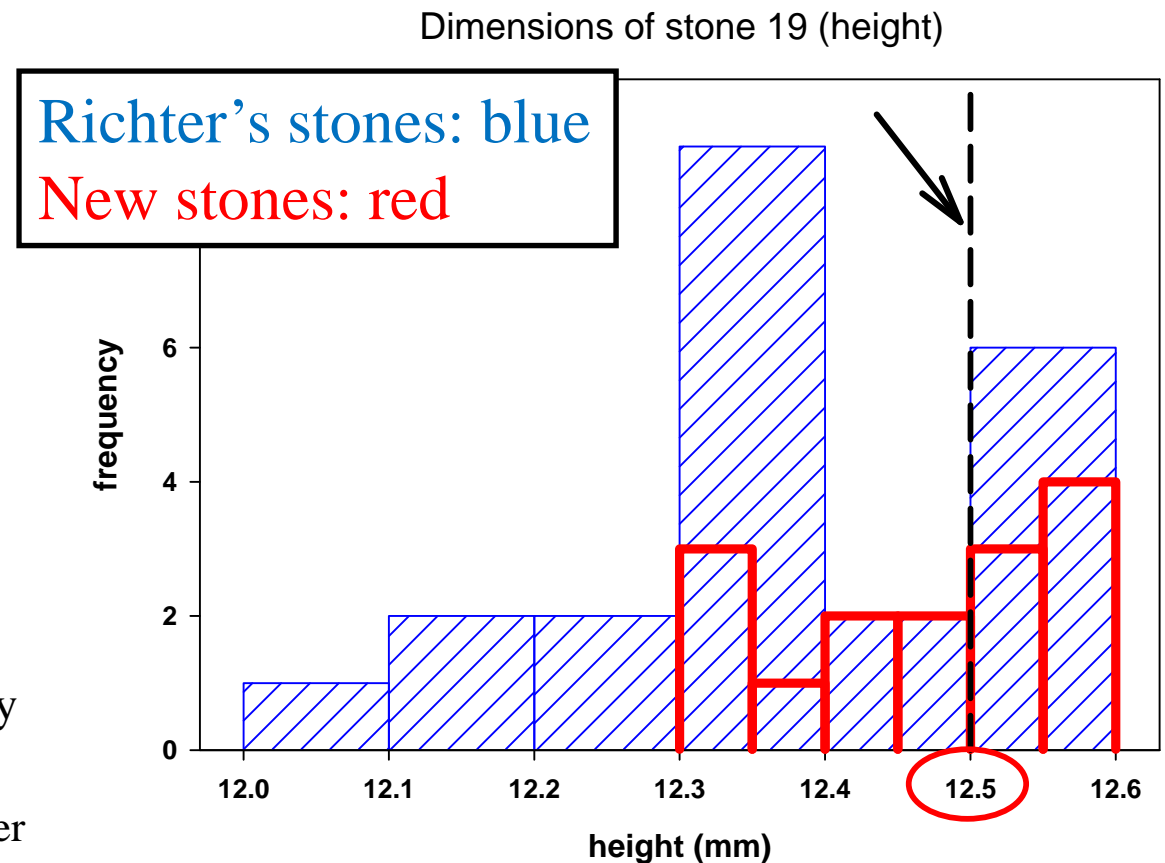


Old (Richter's) stones vs new stones

- ◆ Height is more hard to produce accurately
 - Depending on applied amount of material and pressure

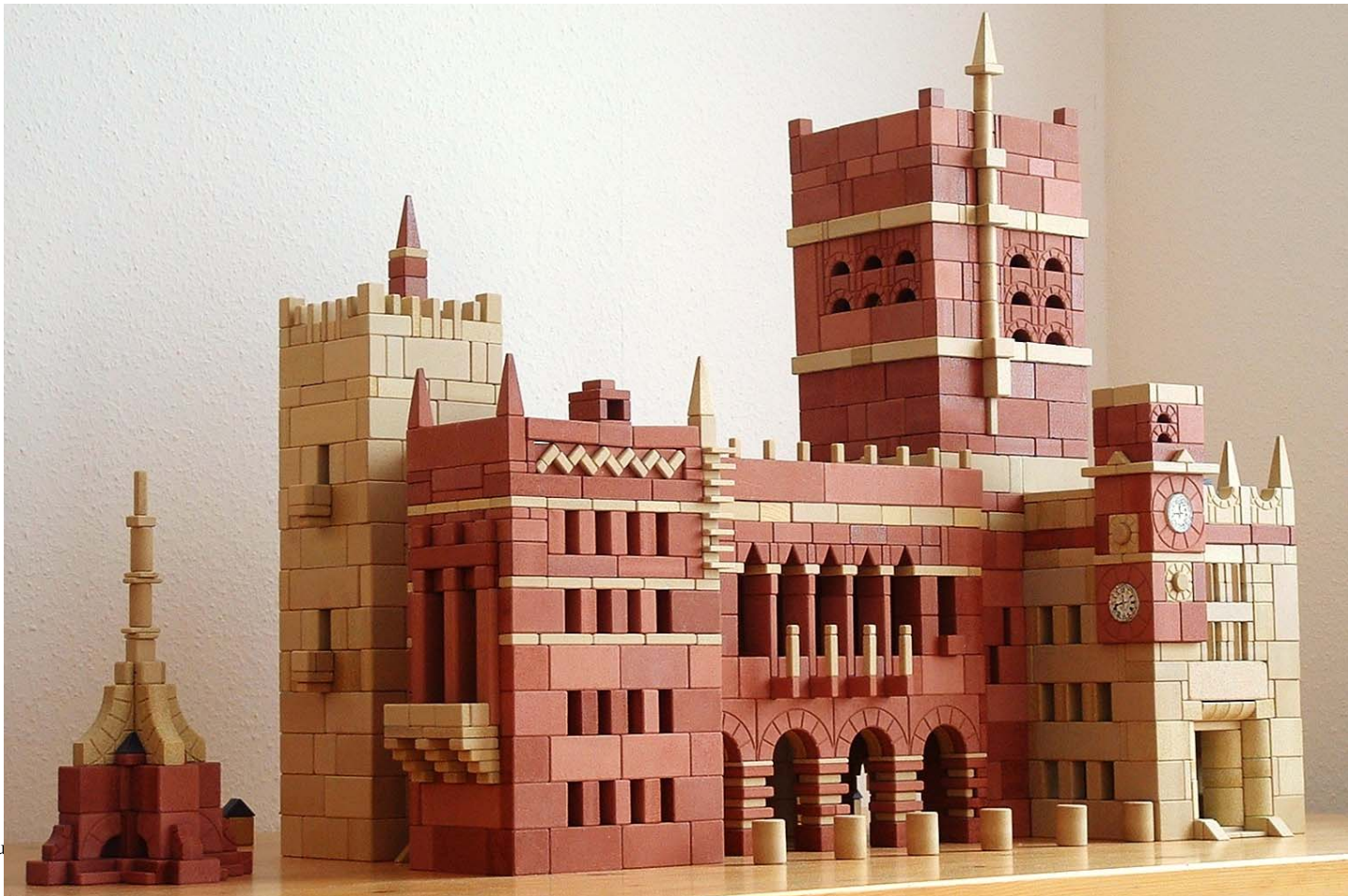


- ◆ New stones: bit tendency being undersized
 - +/- 0.15 mm, but larger average deviation
- ◆ Old stones: clear tendency being undersized
 - +0.1/- 0.5 mm, but larger average deviation



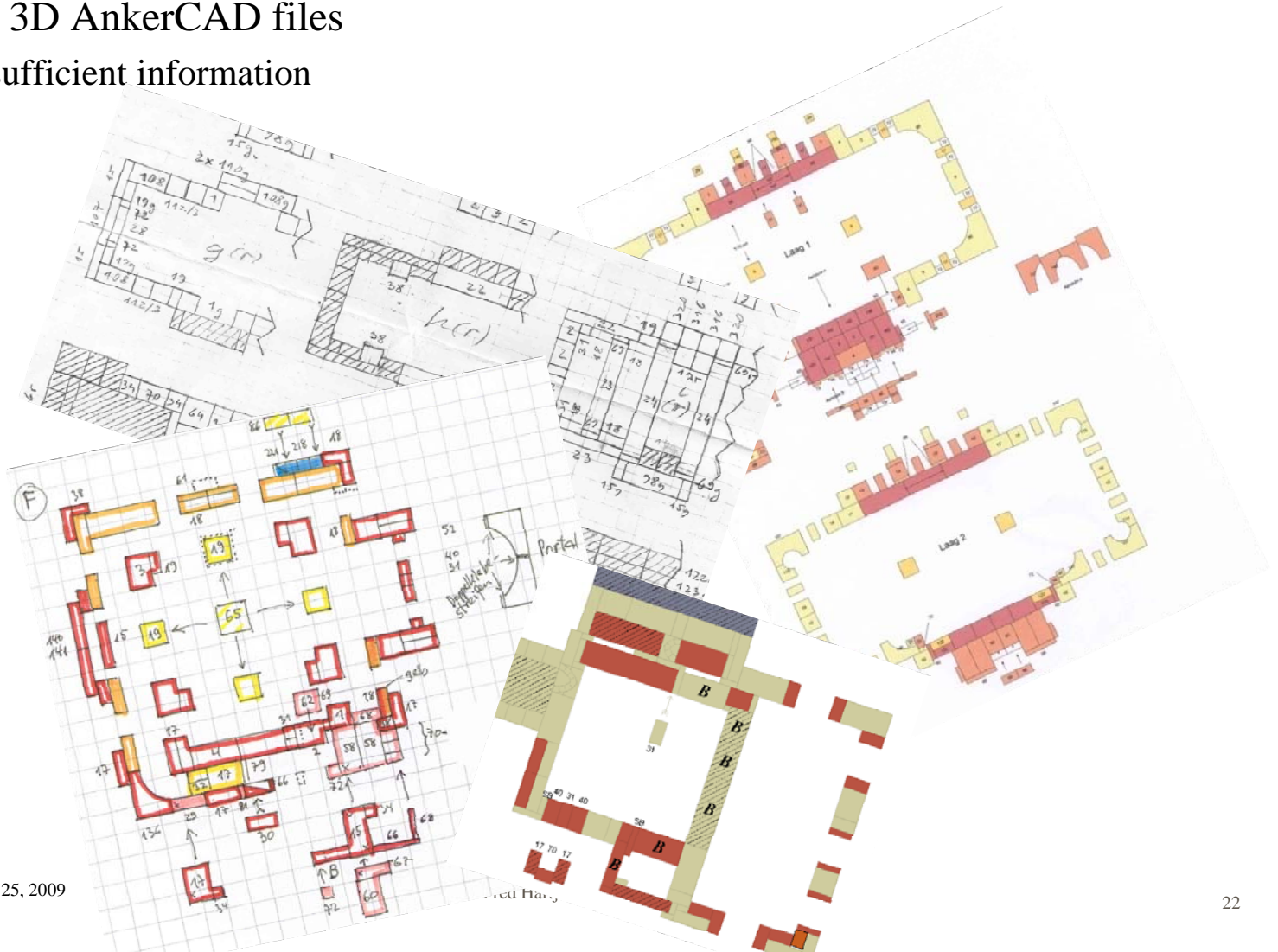
New designs better using new stones

- ◆ Many new designs are quite hard to achieve with old stones



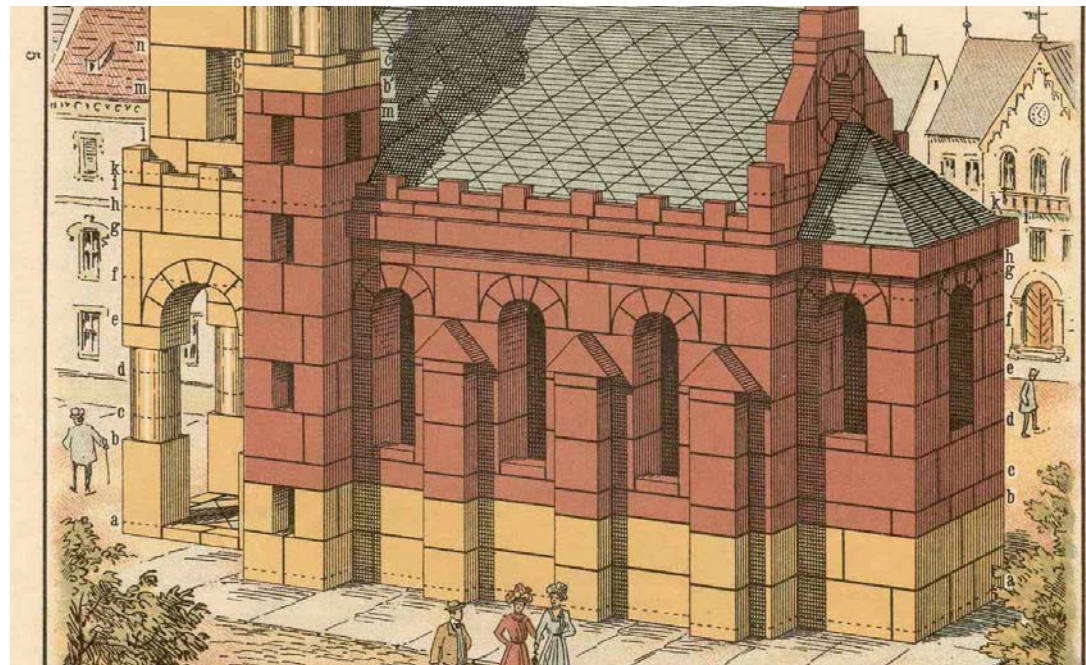
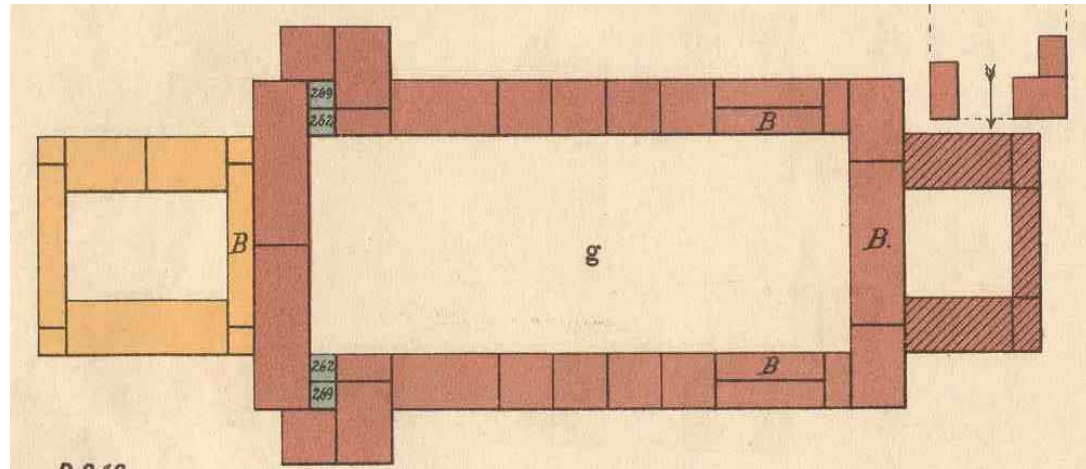
How should designers draw the designs?

- ◆ BiK asking no specific format for contributions
- ◆ Designers may use every method as long as the reviewers can easily follow it
- ◆ Not **only** 3D AnkerCAD files
 - Not sufficient information



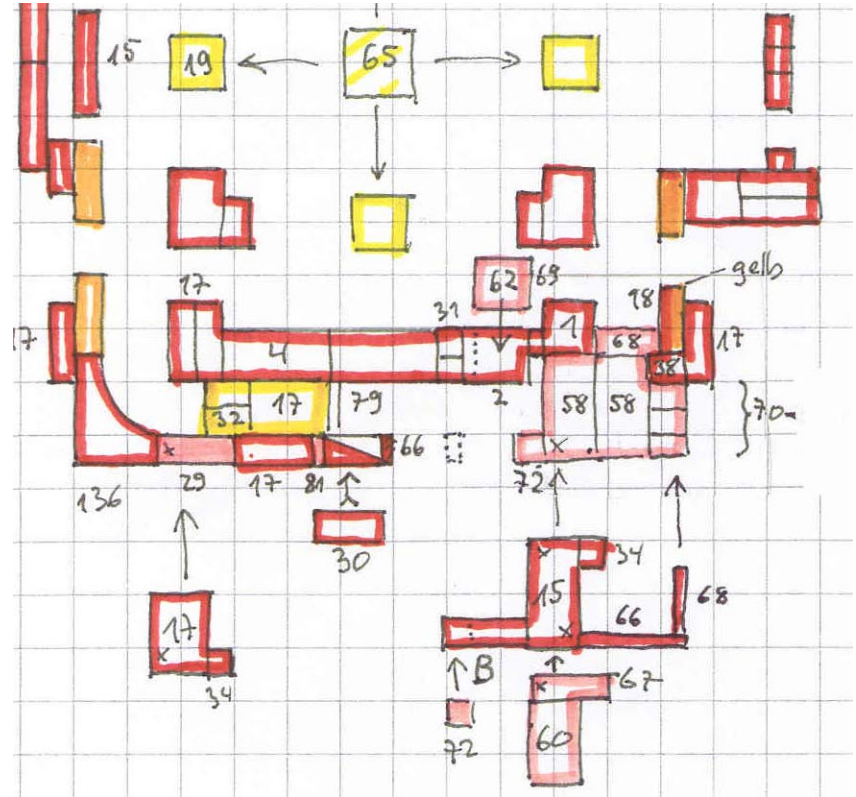
Richter's way of drafting

- ◆ Relying on high quality 3D images
- ◆ Cross sections only when really needed
 - Obvious layers omitted
- ◆ NOT indicating things that can be seen on the 3D images
 - Teaching children to link the cross section to the 3D image
 - Geometric understanding
 - Educational aspect
- ◆ Using 3 colours
 - Yellow, red, blue
- ◆ Cross sections on **exact** level
- ◆ No indication stone thickness
- ◆ Protruding stones shaded
- ◆ Basically NO stone numbers
- ◆ Stones may be drawn more than once



Wellmann

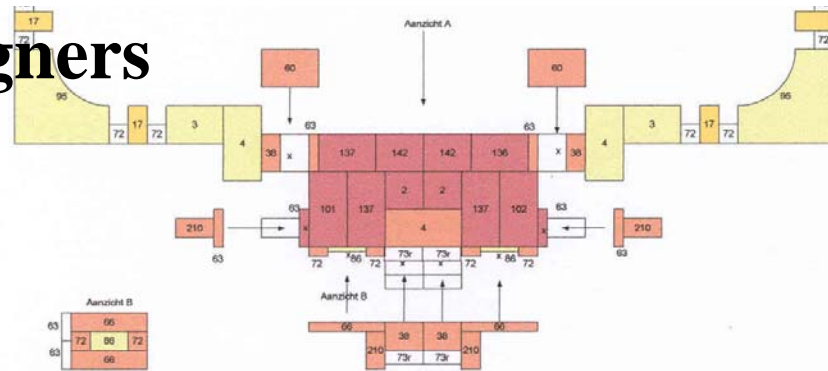
- ◆ No 3D drawings but photographs
 - Not always correct in some details
- ◆ => relying strongly on **layers**
- ◆ **Layers, no cross sections**
 - Stones are **not** at same height
- ◆ All layers drawn
- ◆ Using several colours
 - Light and dark yellow
 - Light and dark red
- ◆ Stone number once for each stone type
- ◆ Each stone shown only once



Other designers

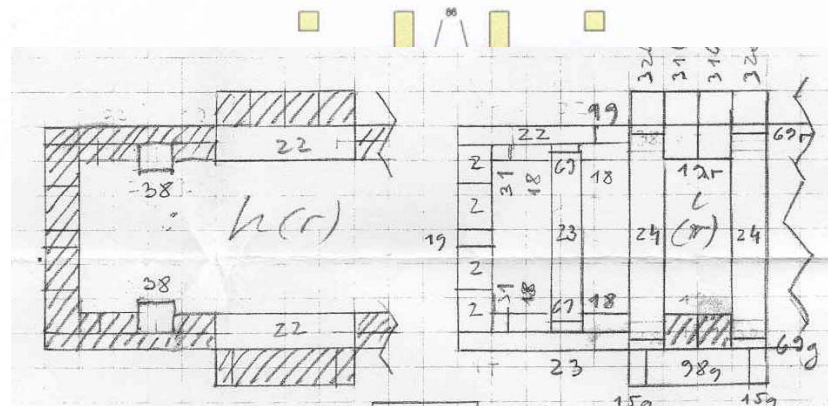
◆ Bielen

- Like Wellmann
- Layers instead of cross sections
- Multiple colours
- Stone numbers on every stone
- Stones may be drawn more than once
 - But then stone number omitted



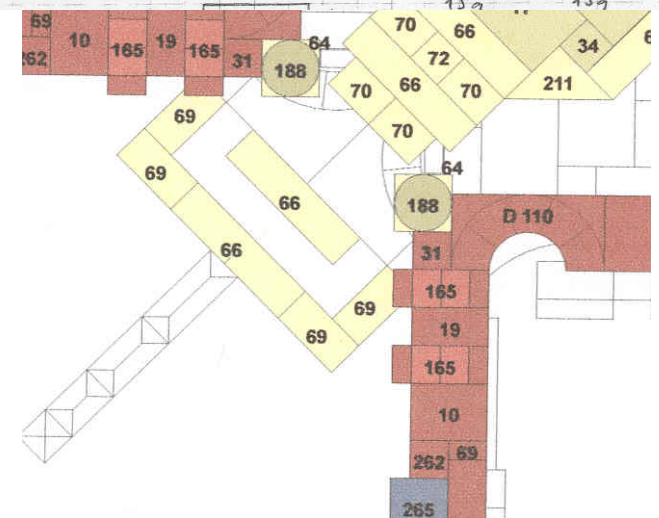
◆ Bruckmann

- Real cross sections
- Black/white with colour indication
- No photographs but gable views



◆ Gundel

- Like Bielen
- Distinguishing 3 stone thicknesses



Way of drawing is often affecting new designs

- ◆ Layers rather than cross sections => horizontal linking is less pronounced
- ◆ Long vertical stones often used
- ◆ Gives beautiful vertical lining of the building

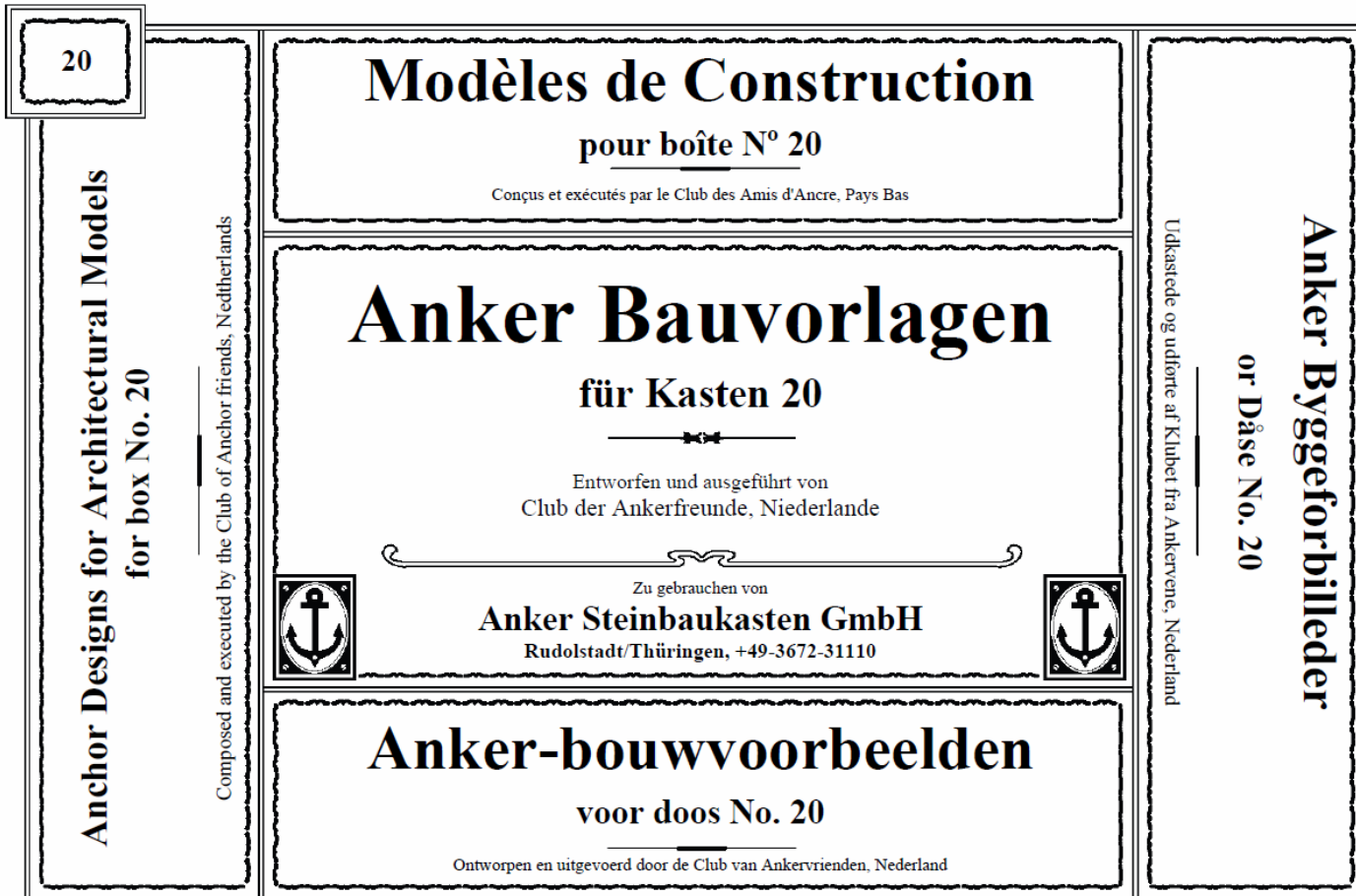
- ◆ But less coherence
 - might cause instability
- ◆ => new stones are recommended

- ◆ Example: “Villa in classicistische stijl” of George Bielen (NF30)



The final product

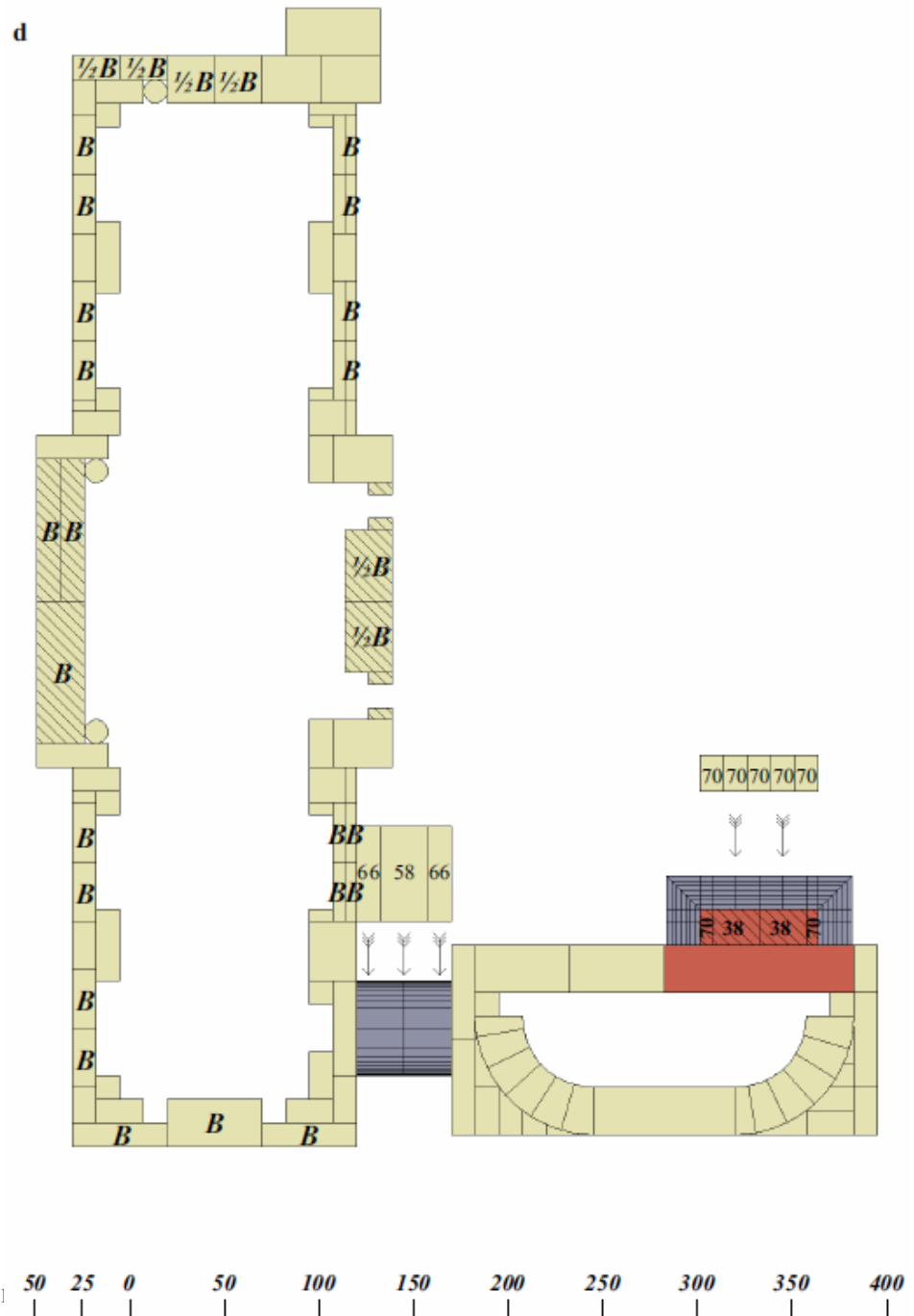
- ◆ Booklet with new designs
- ◆ Produced by Burkhard Schulz
- ◆ To download from <http://www.ankerstein.ch>



NF 20 2007

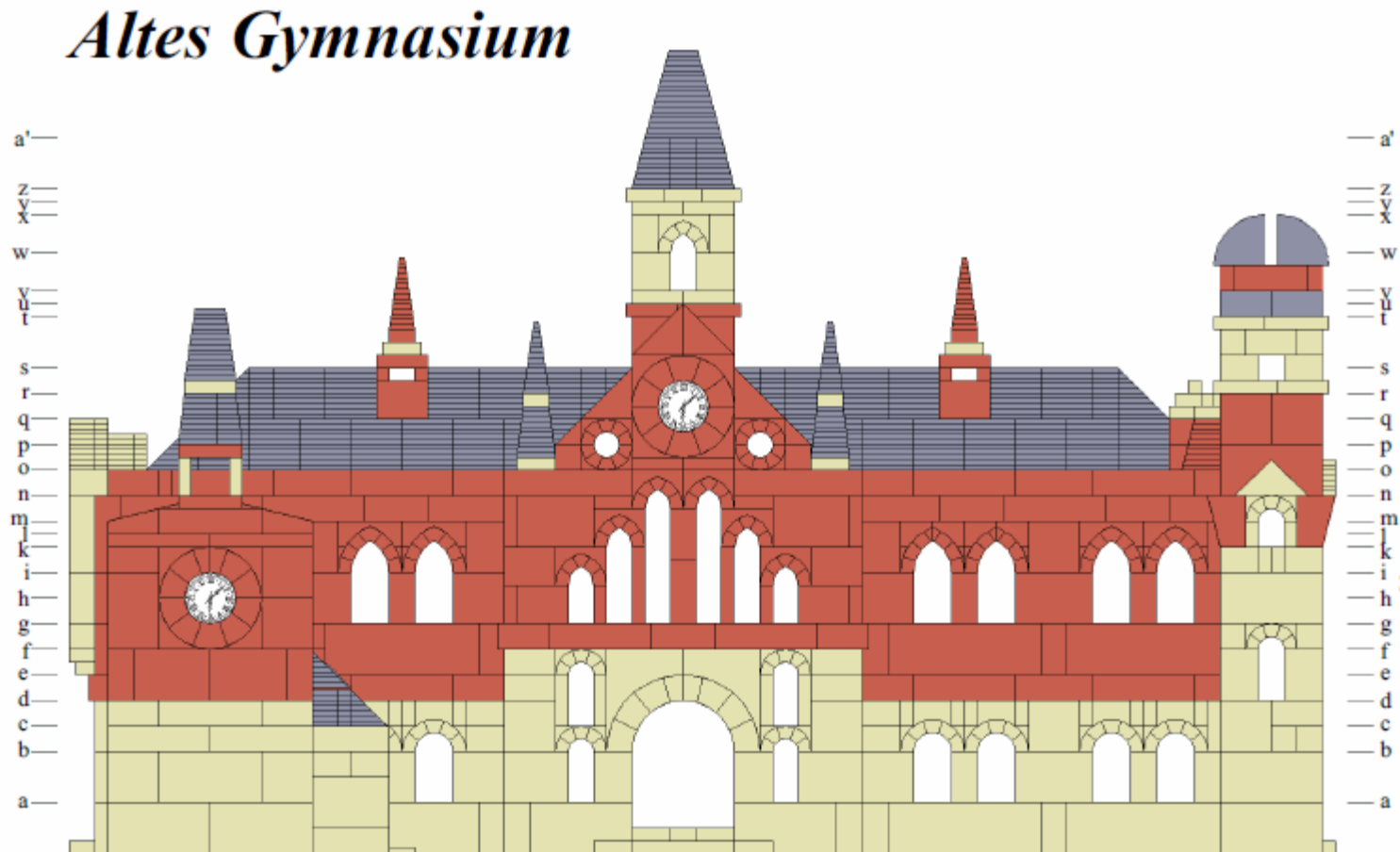
Burkhard's way of drawing

- ◆ Basically following Richter
 - But more clear, easier
 - Indicating details that were also visible from the 3D drawings
 - Arches **always** indicated
 - **All** cross sections drawn
 - Omitting “educational” aspect
- ◆ Both high quality 3D images and gable views
- ◆ Using single colours
- ◆ Cross sections on **exact** level



Burkhard's way (gable view)

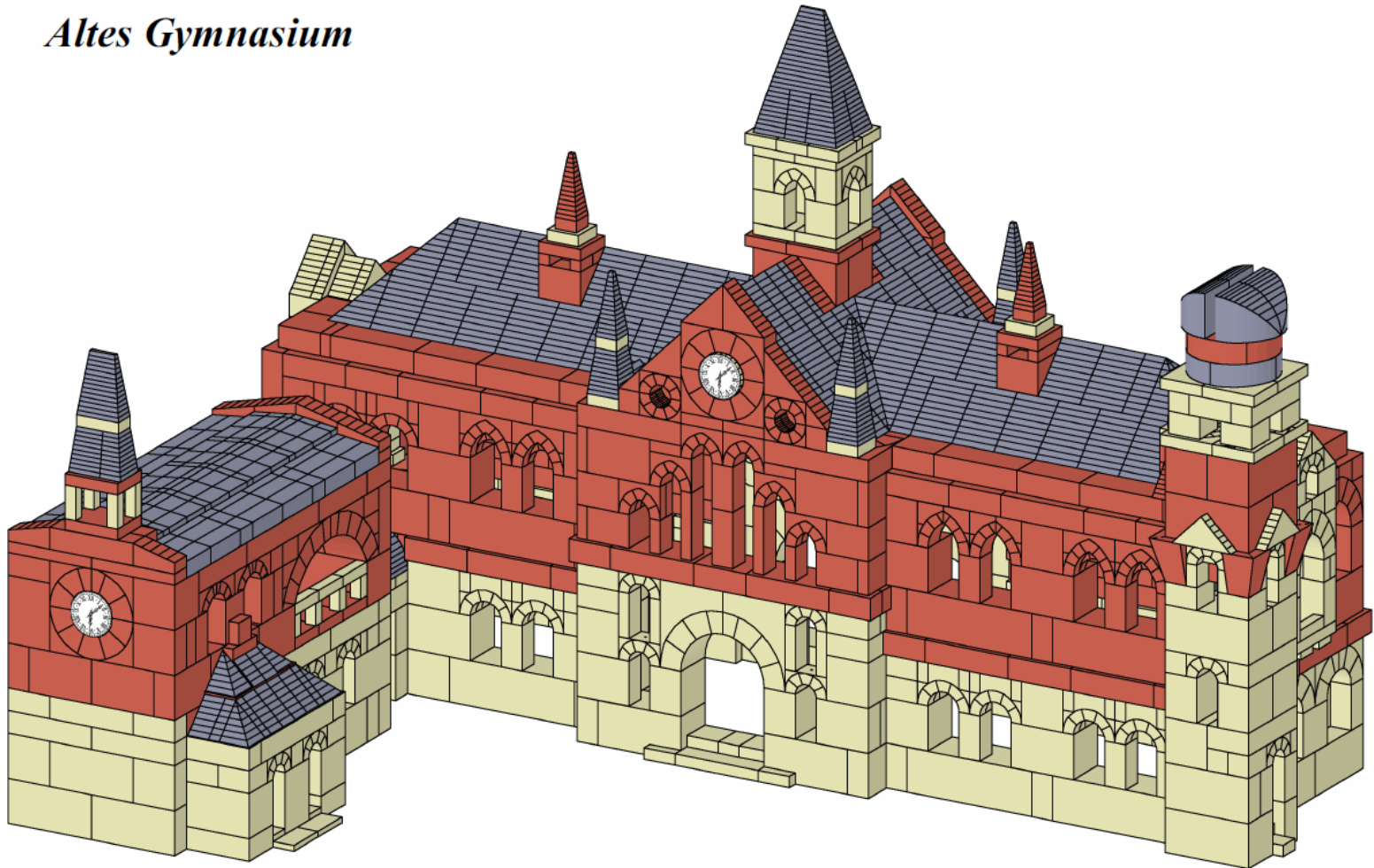
- ◆ High quality gable views with layer indication



Burkhard's way (3D view)

- ◆ Using Anker CAD

Altes Gymnasium



Status of the design committee

- ◆ Latest 13 designs from 2008 on
 - 3 x NF24
 - 3 x NF26
 - 4 x NF28
 - 2 x NF30
 - 1 x NF32
- ◆ Designers
 - George Bielen (2x)
 - Gerhard Bruckmann (1x)
 - Falk Gundel (2x)
 - Guus van Kessel (2x)
 - Diether Wellmann (6x)
- ◆ 9 had given final review
 - 5 sent to Burkhard
 - 3 being discussed with designer
 - 1 rejected
- ◆ 4 review in progress



Examples of recently reviewed designs

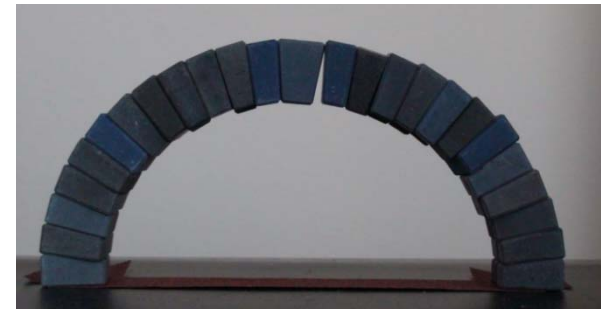
- ◆ Mazzocco enterprises by Falk Gundel (NF28)
- ◆ “Villa in classicistische stijl” by George Bielen (NF30)
- ◆ Romanische Doppelkapelle by Diether Wellmann (NF30)



Mazzocco enterprises (NF28) by Falk Gundel



- ◆ Nice design of fantasy enterprise
- ◆ Using very daring arches from tower stones
- ◆ Extremely hard to build
 - Using sandpaper to increase friction between stones
- ◆ Considered as not suited for CVA catalogue
 - All three reviewers failed to make it
- ◆ Can be downloaded from <http://www.ankerstein.ch>



“Villa in classicistische stijl” by George Bielen (NF30)

- ◆ Huge space inside supported only by two columns
- ◆ Nice neoclassical design in the style of Palladio
 - Strong resemblance with one of the Artis Koningszaal (Amsterdam Zoo)
- ◆ Several very nice details
 - Lower window sills
 - Statue suggested by two 127s



“Villa in classicistische stijl” cntd

- ◆ Roof of exceptional quality
 - Very large span
- ◆ Using bananas and tower stones to get a beautiful flowing assembly



“Villa in classicistische stijl”

- ◆ But certain stability problems
 - Columns near the entry are poorly supported
 - One collapsed during finishing of the building
 - Problem solvable
- ◆ Accepted for the CVA catalogue after improvement by the designer of the stability and correcting a few errors



“Romanische Doppelkapelle by Diether Wellmann (NF 30)

- ◆ Very complex composition of a building inside another building
- ◆ Number of nice details at the exterior
- ◆ Speciality: $\frac{1}{4}$ stone thin columns supporting the stairs roof



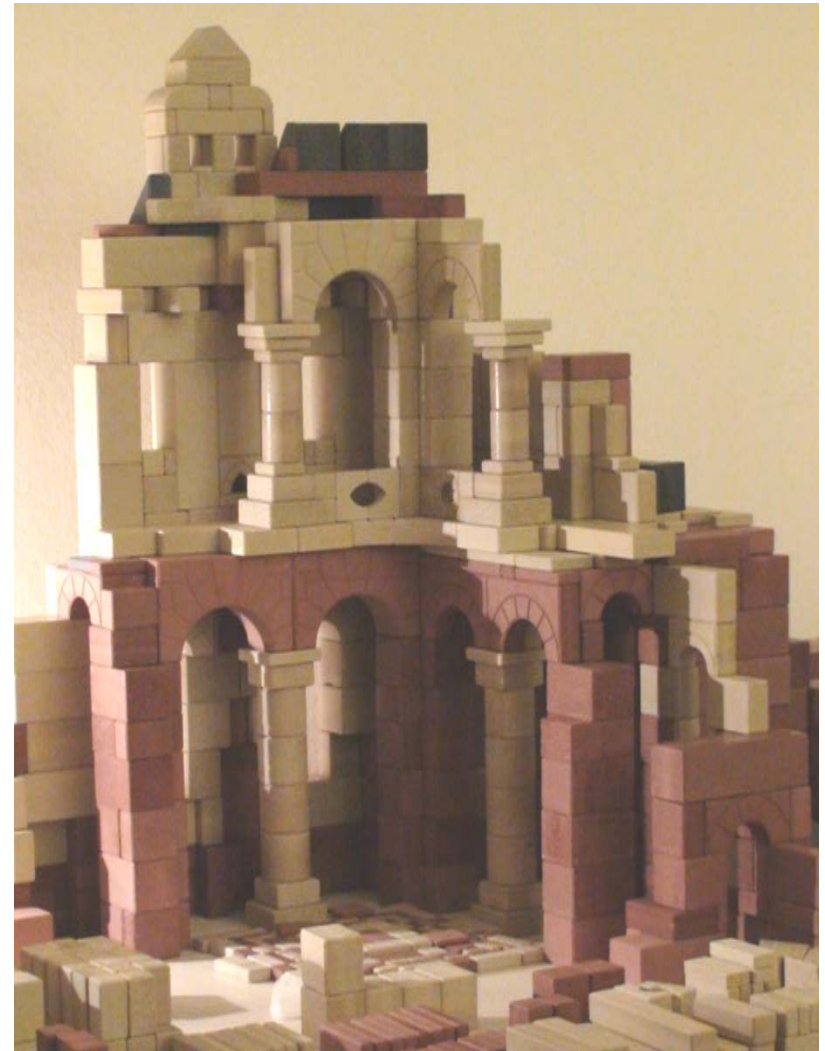
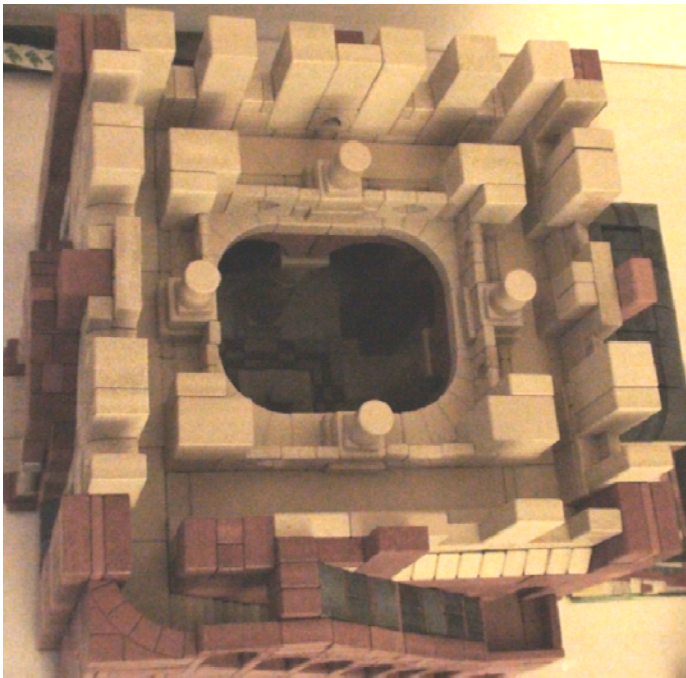
Romanische Doppelkapelle

- ◆ Tape suggested by the designer to stabilize the outer entree arch
 - Can possibly be avoided



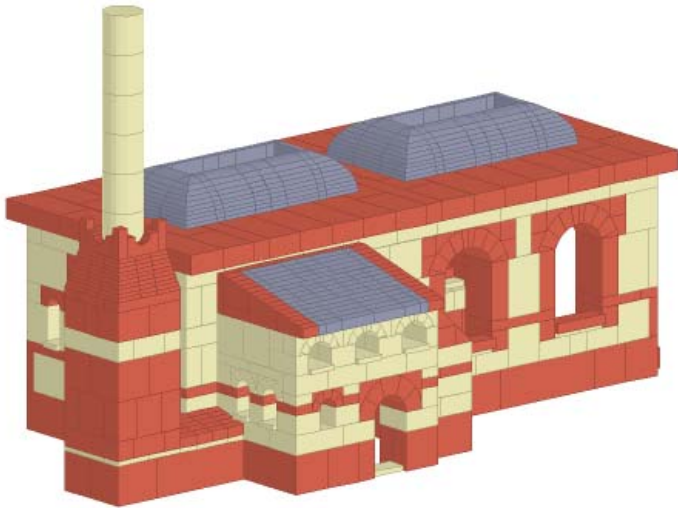
Romanische Doppelkapelle

- ◆ Containing a wealth of beautiful detailing in the interior
 - Practically impossible to observe this at the finished building
- ◆ Very crowded inside
 - Interior for a great deal filled with solid stone constructions
- ◆ Accepted for CVA catalogue after correction by the designer of a number of errors



Being reviewed

- ◆ Station Marienbaum by Guus van Kessel (NF24)



Just arrived for NF32

- ◆ Magazin (Diether Wellmann)
 - Military storage building
 - ~ 111 cm long!



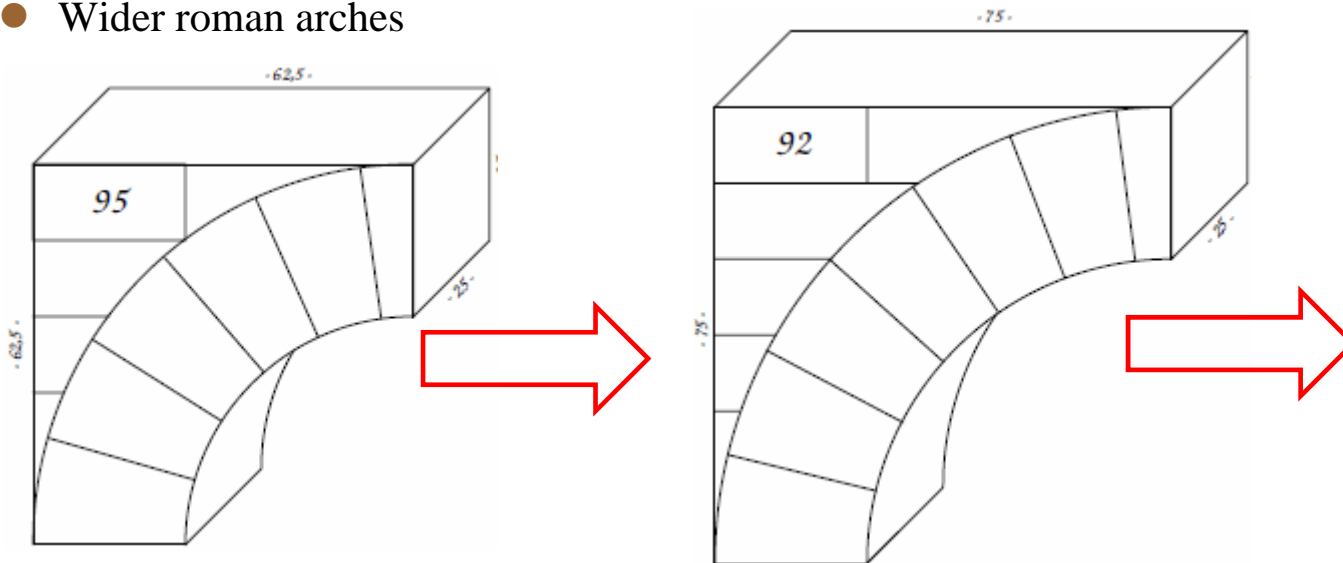
“Dome church” by Wellmann (NF32)

- ◆ Dome church with side wings (no formal name known yet)
 - Being finished by the designer



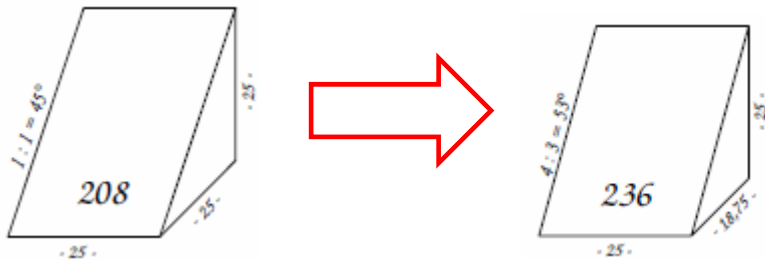
Future

- ◆ Ending with NF34 designs
- ◆ What next?
 - Designs for 2x NF34?
 - Too expensive
 - Too laborious (~ 8000 stones)
- ◆ NF34 + Grosse Burg supplement?
 - Maybe
- ◆ Adding limited material to enhance the possibilities of the NF
 - Wider roman arches



Improvement NF roofs

- ◆ Steeper roof stones



- ◆ DS roofs
 - Metal parts + tiles



Concluding

- ◆ The new designs have greatly enhanced the existing Anker “software” of Bauvorlagen
- ◆ Expected to match or exceed quality of Richter’s Bauvorlagen
- ◆ Many designers contributing
 - George Bielen, Gerhart Bruckmann, Eckhard Fischer, Rolf Fritsche, Falk Gundel, Guus van Kessel, Fred Schlipf and Dieter Wellmann
- ◆ Also much reviewing work by the design committee „Baukunst im Kleinen“
- ◆ Key figure for making everything available:
Burkhard Schulz

