

# Viking Beads



## Goals

- Acquaint you with the research
- Review necklace sizes
- Review bead types and sizes
- Hints when shopping
- All data is/will be on DARC website



## Research - Callmer

- Callmer, J. 1977. Trade beads and bead trade in Scandinavia ca. 800-1000 A.D. Acta Archaeologica Lundensia, ser. In 4°, 11. Lund.
- Scandinavian finds of 10 or more beads
- Total number of finds: 299
- Total number of beads: 14945
- Largest Find: 1216



Note the skew – Brondsted's article – 345 Danish graves surveyed. 14% have one or more beads. Only 7 of the 345 are recorded as having 10 or more (2%)!!!!

But in Icelandic graves it is more like 100% with beads, but with low numbers...

# Research - Callmer

- Tagged typology of beads
  - Colour: 214 is dark blue, 205 is black

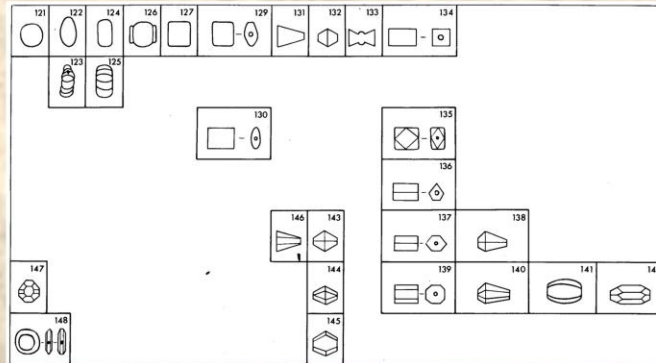
COLOUR CODE

201, 202, 223 NONCOLOURED, WHITE, SILVER	213 MALVA	Plate 1
203 GREYISH WHITE	214 DARK BLUE	
204 GREY	215 FORGET ME NOT BLUE	
205 BLACK	216 BLUISH GREY	
206, 224 YELLOW, GOLD	217 BLUISH GREEN	
207 GREYISH YELLOW	218 PALE TURQUOISE	
208 ORANGE	219 LIGHT GREEN	
209 RED	220 GREEN	
210 YELLOW BROWN	221 DARK GREEN	
211 BROWNISH RED	222 GREYISH GREEN	
212 DARK BROWN		
	T – TRANSPARENT	
	ST – SEMITRANSSPARENT	
	O – OPAQUE	



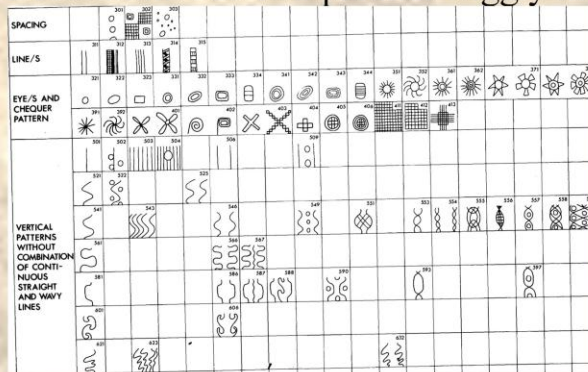
# Research - Callmer

- Tagged typology of beads
  - Colour:
  - Shape: 124 is rounded with flat sides



# Research - Callmer

- Tagged typology of beads
  - Colour:
  - Shape:
  - Decoration: 525 two parallel wiggly lines



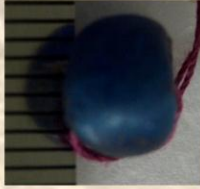


## **Research – Callmer – typing a bead**

- Measure length, diameter
- Calculate proportion
- Determine colour (chart), transparency
- Determine Shape
- Determine construction method
- Determine decorations (charts)
- Pick the type



## Research – Callmer – typing examples



- Len: 5 mm
- Dia: 8 mm (163)
- Prop:  $>1/2$  but  $< 1$  (152)
- Colour: D. Blue (214)
- Trans.: Semi (182)
- Shape: Rounded, Flat sides (124)
- Construction: Hot worked
- Decorations: None
- Type: A???
- No exact match but:
  - A011 – Clear
  - A080 – Orange
  - A509 – Forget me not blue
  - A290 – Pale Turquoise
  - A351 – Greyish Green
- A new type (Iceland)





# Research – Callmer – typing examples



- Len: 12 mm
- Dia: 15 mm (166)
- Prop:  $>1/2$  but  $< 1$  (152)
- Colour: Black (205)
- Trans.: Opaque (183)
- Shape: Rounded, Flat sides (124)
- Construction: Hot Worked

- Decorations:
  - Two crossing lines (553)
    - Monochrome (311)
    - With eyes maybe (557)
  - Eyes – dot with rays (351)
    - Or triangular rays (371)?
    - Equispaced (301)
- Type: B089



## Research – Callmer – typing problems

- Similar shapes (122, 124)
  - Are ends flat or not?
- Decoration – fun wasn't it?
- Clear glass or quartz?
- Hot worked or blown/pulled? (A vs E/F)



## **Research – Callmer – typing**



### **Why Bother?**

- Types can be specific to time/place
  - Extra authenticity
- Could show trade connection
- Ensure authenticity – not modern taste



# Help with Typing

Firefox - DARC - Viking Age Bead Making Experi...  
http://www.darkcompany.ca/beads/beat\_classifier.php?submenu=8

 **Dark Ages Re-Creation Company** 

Museums Iron Schools Articles Projects Beads Blog About DARC

**Bead Classifier (prototype)**

If you select Carnelian, Crystal, Amber, or Amethyst beads the colour and Translucency is ignored.  
If you select a spheric shape the Length will be adjusted as needed.

Bead Type:

Bead Colour:


Translucency:

Bead Size/Diameter:  mm (perpendicular to the string)

Length:  mm (along the string)

Shape:  [Pictures here](#)

**Overview**  
Sep 26, 2009  
Jul 18, 2009  
Jul 4, 2009  
May 30, 2009  
Sep 1, 2008  
Jul 20, 2008  
Jul 1, 2008  
Jun 14, 2008  
First Experiment  
Archaeology  
Bibliography  
Questions & Answers  
Crafts in Rite  
Glass Beads  
Stone Beads  
Bead Summary  
Small Summary  
Bead Classifier



## Research – Other

- Arkeodok Viking Beads from Fröjel port of trade
  - CD with 200 beads from Gotland
  - All plowzone finds (undated)
- Elín Ósk Hreiðarsdóttir, Icelandic beads from Viking times – with appendix about beads from later centuries, Thesis, University of Iceland, 2005
  - All known beads in Iceland
  - Icelandic



## Research – Papers

- E.g. Briggs, C.S. A Neglected Viking Burial with Beads from Kilmainham, Dublin, Discovered in 1847. *Medieval Archaeology* 29:94-108, 1985
  - <http://darkcompany.ca/articles/callmerextension.php>
- Rarely enough to fully type





## Analysis – Numbers

- “Average” - Mean, Median, or Mode
- Mean: 50 (num beads/num finds)
- Median: 32 (half have more, half have less)
- Mode: 17 (most common number in 11 finds)
  - Next most common: 28 (10 finds)
  - Next most common: 18,20,27,29,36,47 (9 finds)
- 5 largest finds: 1216, 603, 402, 365, 304
  - Heavy skew upwards
- Only 21 finds over 100 beads (7%)
- Only 6 finds over 200 beads (2%)



Now that we understand the scope of the data....

3rd mode: take mean of those numbers and you get 28.6 (just like the second mode), and the median of them is 28....

75% of finds are under 50 beads (and that is 75% of those over 10....)

93% of finds are under 100 beads

## Analysis – Numbers - Size

- Problem: Only tag recorded 163=6 to 8mm
  - Solution: treat that as min (6), avg(7), max(8)
  - But many ways to calculate
- Problem: Some types are more than one size
  - Type A001 is size 162-166 (min:3, avg:10, max:17)
- Mode of Sizes: 163-164 (6-11mm) [19% or 30%]
- Mean of Sizes: 4.8 to 10.2mm (7.6mm)
- Mean of Beads: 4.4 to 9.4mm (7.1mm)
- Mean by Find: 6.8 to 12.2mm (9.8mm)



Mean of sizes – One bucket for each size tag (or group of sizes), then weight by how many beads of that size, then calculate

Mean of Beads – ignore finds – just focus on beads

Mean of finds – figure “mean” of each find, then find mean of those numbers (weights find as most important)

- means at least one find is significantly higher than “average”

## Analysis – Numbers – Colour

- 57% of beads have a base colour
  - Others are stone, unknown, no real ‘base’, etc
- 32% dark blue
- 13% medium green
- 12% white-greyish white
- 10% greyish green
- Remaining 33% are the other 17 colours



## Analysis – Numbers – Colour (cont)

- 50% “Transparent” (181)
- 25% “Opaque” (183)
- 5% “Semi-Transparent” (182)
- 6% “Semi to Fully-Transparent”(181-2)
- 14% “Semi-Transparent to Opaque”(182-3)
- Most colours are biased
  - Dark Blue – 92% Transparent
  - Black – 100% Opaque



Shape: 124=43%, 122=21%

Shape: 122 and 124 = 55%

Shape: “122, 127” = 26%

Other shapes = 19%

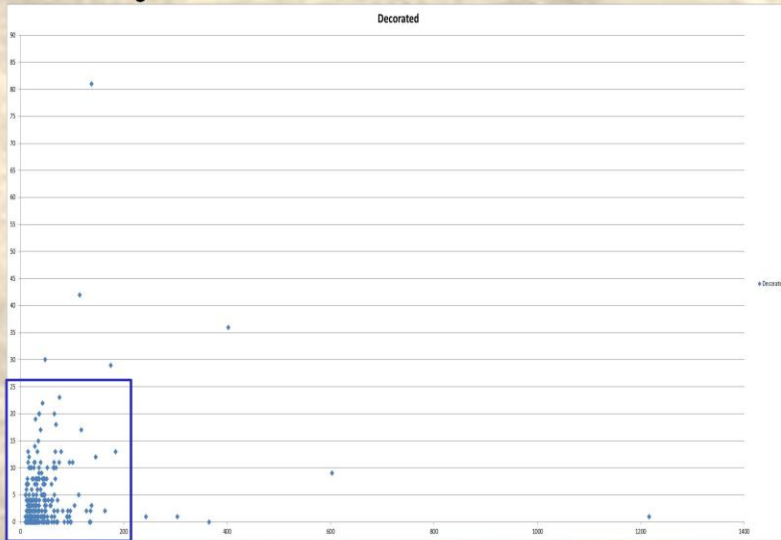
Prop: Tougher due to large % in groups “151-153” etc

## Analysis – Numbers - Decorated

- Callmer's "B" types
- 75% of finds have multicoloured beads
- Average (Mean): 6.7
- Median: 4
- Mode: 1 (40 finds, 18%)
  - 2<sup>nd</sup> Mode: 2 (35 finds, 16%)
- Finds with more than 10?
  - 38 (17%)
- Max: 81 (in find of 134)



# Analysis – Numbers - Decorated





# Analysis – Numbers - Decorated



## Analysis – Time Periods

- Types used to divide into periods
  - BP I: 790-820 AD
  - BP II: 820-845 AD
  - BP III: 845-860 AD
  - BP IV: 860-885 AD
  - BP VII: 885-915 AD
  - BP VIII: 915-950 AD
  - BP VI: 950-960 AD
  - BP IX: 960-980 AD
  - BP XII: After 980 AD



Roman numerals out of order as Callmer created it, then revised it based on the data

## Analysis – Time Periods

- Types used to divide into periods
- Incidence

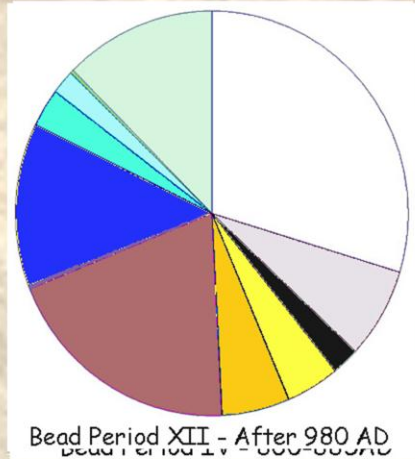
$$- \sqrt{\left(\frac{\text{finds with type}}{\text{finds}}\right) * \left(\frac{\text{num beads of type}}{\text{num beads}}\right)}$$

- Considers both finds and beads
- Better than just percentage of beads



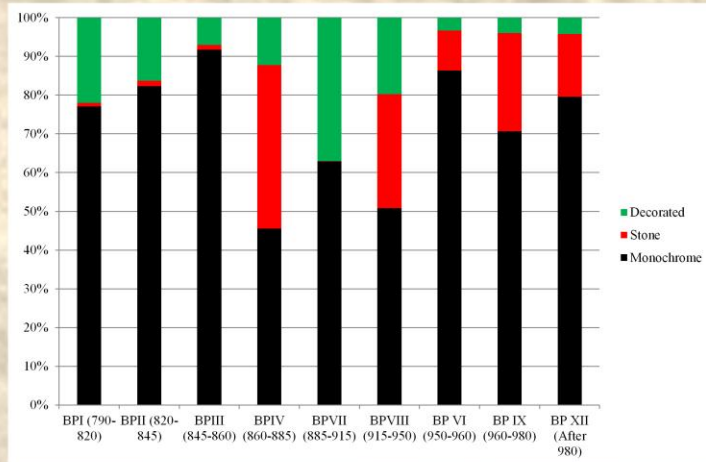
## Analysis – Change over time

- Colour



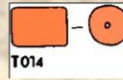
# Analysis – Change over time

- Stone vs Glass vs Decorated



## Analysis – Change over time

- Diagnostic/Semi-diagnostic
  - Some types only occur in a single period
    - Easily mark that period
    - E.g. A100 in BPIV
  - Others are more common in one period
    - Indicate that period is likely
    - E.g. T014 in BPIV



Semi-diagnostic – twice as common in this period than any other



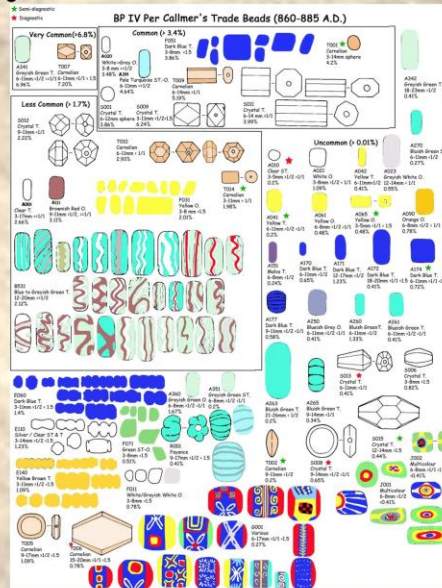
## Analysis – Bead Charts

- Divided by Period
- Type number
- Colour and Transparency
- Size and Proportion
- Diagnostic or Semi-Diagnostic
- Percentage of incidence in this period
- Grouped into categories
  - Very Common (Incidence  $> 20$ )
  - Common (Incidence  $> 10$ )
  - Etc

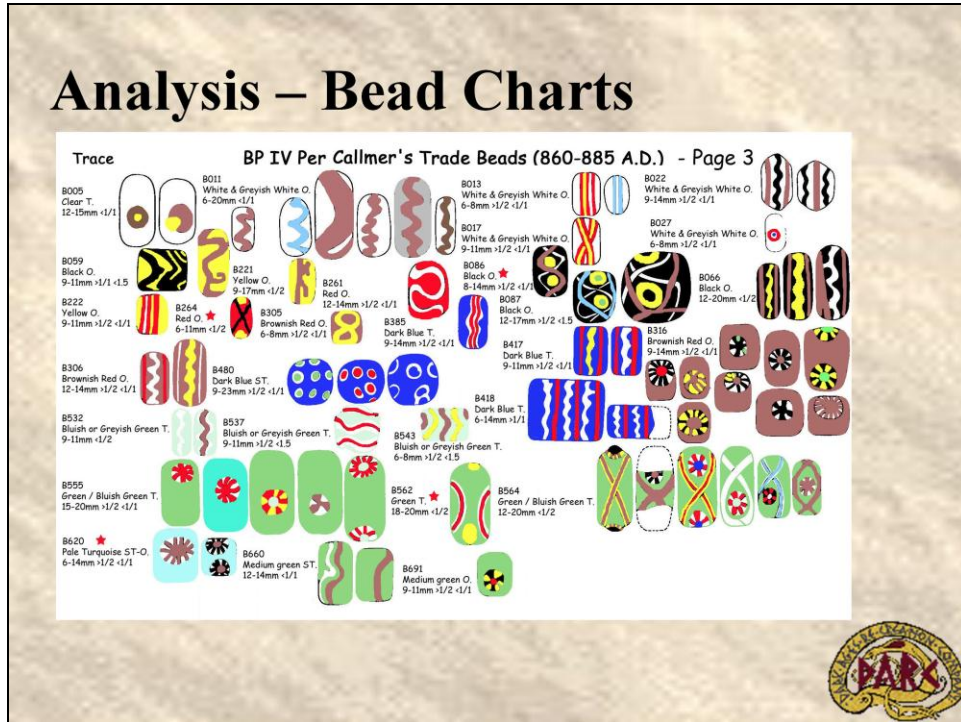


Roll all of that up in one place....

# Analysis – Bead Charts



# Analysis – Bead Charts



Notes may be on left/right/top/bottom in order to compress – colours help you know where to look for the images

Note clusters of beads as same type

## Photos – Eiríksstaðir, Iceland



- BP IX
  - 960-980
- 60 Beads
  - 28 Decorated
  - 0 Stone
- Odd shapes
- Some good
- Some bad
- Symmetry
- Fix?



Expect 4% decorated, 16% stone

Drop middle strand (15 beads, 8 decorated)

Remove all but a couple of decorated – now necklace is under 30 beads

Perhaps add a BPIX diagnostic (lots of larger melon semi-diagnostic to choose from)

Maybe some more blue and yellow beads

## Photos – National Museum Iceland



- 80? Beads
- 2 Decorated
- Most small
- Not found in this order
- Note symmetry
- Note central bead
  - E021?



Some beads are likely doubles

Note blue/yellow preference

Likely BP IX



## Photos – National Museum Iceland





## Photos – Shelagh Lewins



- 9<sup>th</sup> c. Danish
  - BP II, III, IV, VII
- 80 Beads
- 15 Decorated
  - Dots – wrong time
  - 20% - II, not VII
  - B480 – BP VII
- Copper paint
- Colours
  - BP II, III – Dark Blue
  - BP IV, VII – Grey Green
- Stone – not IV
- Fix?

[http://www.shelaghl Lewins.com/reenactment/viking\\_womans\\_outfit/viking\\_womans\\_outfit.htm](http://www.shelaghl Lewins.com/reenactment/viking_womans_outfit/viking_womans_outfit.htm)



B480, blue with white/red dots – semi-diagnostic to BP VII but 6!!! of them

But if VII then should be more like 40% decorated

Fix:

Remove Copper painted ones (4)

Remove non-B480 dotted (5)

Remove half the B480s (3)

Remove two-thirds of the undecorated beads (46)

Add back in 10 – all grey-green

Add 17 decorated, mostly grey-green

## Building a Necklace

- Number of beads
  - Consider your station
  - 28 is average for those who can afford 10+
  - 1 or 2 decorated?
- Types of beads
  - Time/Location changes
    - Colour, stone or decorated, diagnostics
- Order
  - Every necklace I have chased down was not found in order



**Questions?**



## Contact Us

- <http://www.darkcompany.ca/beads>
- [neil@treheima.ca](mailto:neil@treheima.ca)

