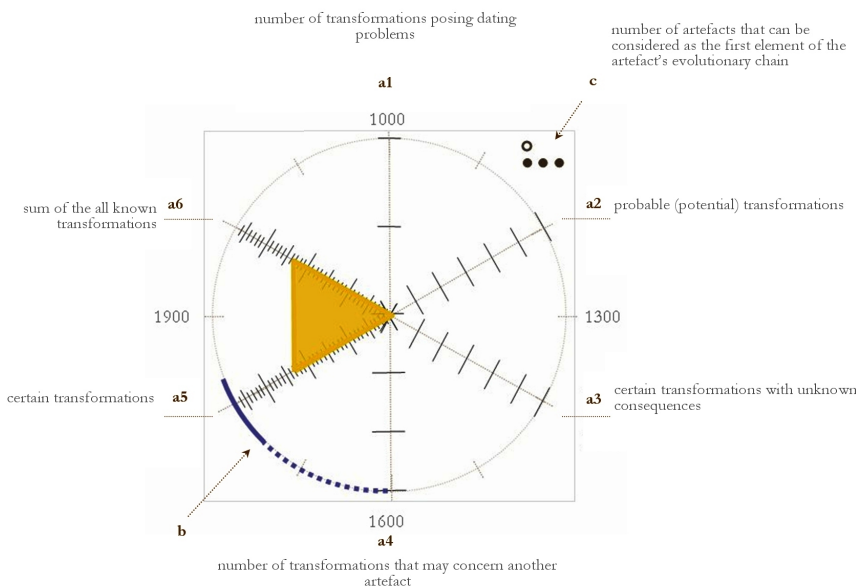


**And so at the end of the day, which story [of an edifice] compares to which?**

Naturally a number of parameters need to be cross-examined, if we intend to try and answer this question: duration of life, amount and nature of transformations, construction type, quality and quantity of information available, *etc.*. One way to visualise multidimensional data sets, dating back to the 19<sup>th</sup> century, is what E.R Tufte calls **small multiples**. The following visualisation gives a synthetic, comparison-enabling overview of 8 parameters (Fig. 28), with a ninth parameter (construction type) represented through the background colour. Each square icon represents a given edifice’s “knowledge pattern”. Edifices are aligned by construction type, and then ordered by decreasing duration of life (Fig. 29).



**Fig. 28** A *small multiples* visualisation : parameters and encoding.

Values for the six parameters (*a1* to *a6*) are reported along axes starting from the centre of the square (growing values outwards). On each axis, the maximum value for a parameter across the collection is reached when reaching the circle. In this example, value is zero for axes *a1* to *a4*, axes which correspond to the expression of a doubt. By contrast, values for *a5* and *a6* are always positive, and a yellow triangle connecting them to the centre is drawn filled.

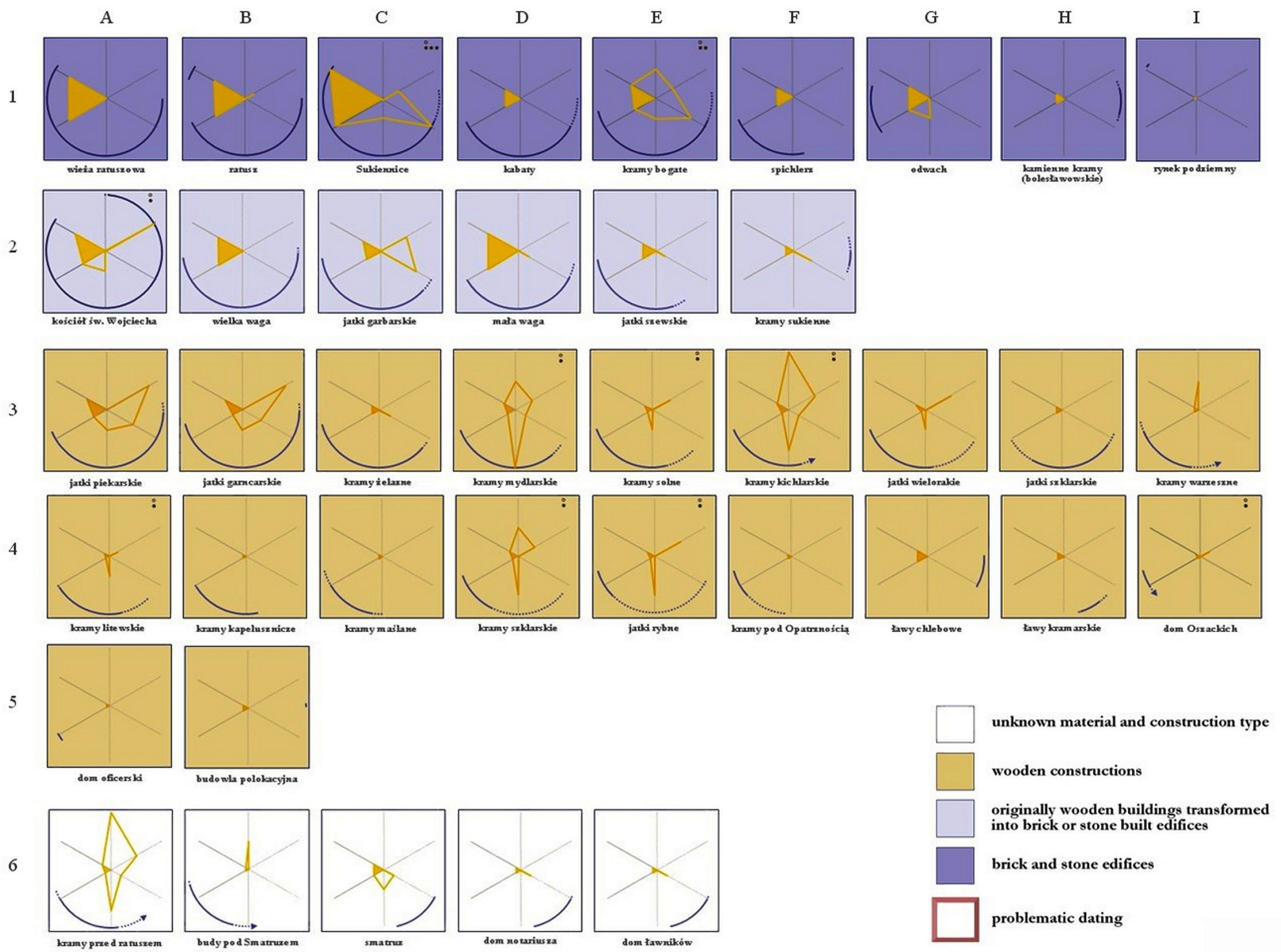
The seventh parameter – duration of life (*b*) – is represented by an arc, with growing dating clockwise (midday is year 1000, 6 o’clock year 1600, *cf.* Fig. 26). A dotted line points out doubts concerning the dating. Finally, in the upper right corner of the square little black circles identify various possibilities concerning the first stage of the artefact’s evolutionary chain (*c*).

At first glance, when analysing the visualisation, some edifices do clearly compare to others, in particular inside groups corresponding to a given construction type (colour of background) : observe for instance D1 and F1, E2 and F2, A3 and B3, D3 and D4, D6 and E6.

Similar patterns can also be spotted *across* groups: C3 compares to F2, D6 and E6, I3 compares to B6, B2 compares to D1 and F1, *etc.*. Beyond one to one comparisons, clusters can be observed in or across groups: (E3, G3, A4, E4); (A1, D1, F1, H1, B2), *etc.*

Groups as such do have particularities: typically the filled yellow triangle - corresponding to the overall amount of transformations *vs.* certain transformations - is significantly smaller in the case of wood constructions (brownish background). Observing the whole collection also underlines a pattern : the duration of life is apparently not the determining factor in the amount of information and of transformations : compare for instance B2 and D2 (B2 is older, but with less transformations than D2).

But besides helping to spot patterns inside a collection, such a visualisation can also be fruitful in underlining significant exceptions, “outliers” inside a group. C2 for instance shows significant differences with the other edifices on line 2 – an indication that the “knowledge pattern” for this object is slightly different.



**Fig. 29** The combination of *small multiples* (ordered by type of construction and estimated duration of life).

Another interesting exception can be also noted in line 2 (originally wooden buildings, transformed later on into masonry structures). Inside this group edifice B2 is the only one for which the “knowledge pattern” contains no expression of doubt (axes a1 to a4 - Fig. 28). What to derive from this observation is the analyst’s responsibility (Is the edifice really that well known? Were documents over-interpreted in an assertive way?) - the visualisation however does unveil an intriguing pattern.

Finally, comparisons can be a first step in a re-interpretation of the initial data : F3 and A6 show very similar patterns, suggesting implicitly that the latter (construction type not known) could belong to the former’s group (wooden constructions). However the visualisation is a first step, and nothing more than that. It lays a question on the table, based on facts, a question that naturally needs an in-depth investigation.