

Can professional jewellery designers using Consensual Assessment Technique (CAT) achieve an appropriate level of inter-rated agreement when judging a specific jewellery design creativity task?

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Abstract

The consensual assessment technique (CAT) (Amabile, 1982) is a commonly used technique for the assessment of creativity, according to which the best judges of creativity are experts of the specific domain in question. This paper will review existing research on the use of CAT within the design domain. The research strategy used is a reflection of the theories being investigated and in extending such research this study has been designed to explore whether CAT can be used as a measure of jewellery design creativity.

As required when applying CAT, 30 artworks in the form of ring designs were collected and assessed by seven professional jewellery designers for their level of creativity, technical execution and aesthetic appeal. Once the judgments were obtained, ratings on each dimension were then analysed for inter-rated agreement. In addition, the relationship between with creativity and the two other design attributes, technical execution and aesthetic appeal, was investigated.

The findings are especially significant given the fact that CAT procedure has never before been employed as a means of measuring creativity within jewellery design. Hence, due to the lack of research in the area, a benchmark should be established for further studies.

Creativity assessment

CAT is a method used extensively in creativity research and has been called the 'golden standard' of creativity assessment (Carson, 2006). Its widest use is in research because it is based on judges' comparisons of actual products created by subjects whilst not being tied to any particular theory of creativity and it mimics the way creativity is assessed in the 'real world'. Unlike divergent thinking tests, where the participants are required to respond to a series of predetermined items or questions, what sets the CAT methodology apart is the fact that subjects produce an actual product.

When using this assessment method, there are five requirements that need to be met. Firstly all judges need to be familiar with the domain and therefore have some sort of criteria for creativity, technical execution and aesthetic appeal. Secondly, the ratings should be made independently to avoid any influence among judges' assessments. Thirdly, if CAT hasn't been applied to evaluate performance on a similar task before, judges should rate other related attributes of the products in question, such as craftsmanship, aesthetic appeal or technical execution. Additionally, the artworks should be judged only in relation to one another and not to any standard for the particular domain. The fifth and final requirement is for each judge to rate the artworks in a randomized order.

Results

This study utilizes the consensual assessment technique for the reason that it is a subjective assessment tool and therefore the requirements set by Amabile (1982) were followed. After careful consideration a task was set for the main study, requiring from the participants to design a ring. This task took into account the comments judges were making while rating the art works in the pilot. Therefore, the participants were asked to create technical drawings showing plan, front elevation and 3/4 view. A group of 7 independent experts were selected, with enough experience in the field, in order to assess independently and rate the artworks in relation to one another. As CAT is applied to jewellery for the first time, the judging panel were asked to assess not only creativity, as it was the case with the pilot, but also technical execution and aesthetic appeal.

Cronbach's Alpha calculation was performed for each of the rated attributes, as it is a standard procedure when utilizing CAT. This calculation help to determine whether it is justifiable to interpret scores which have been aggregated together as well as to enhance the validity and accuracy to the interpretation of this study's data. For this ring task, rating of all seven judges were found to be highly consistent for creativity with an alpha of 0.86. Even though results showed slightly less consistency for Technical execution ($\alpha=0.84$) and aesthetic appeal ($\alpha=0.80$), reliability is highly acceptable for all three attributes.

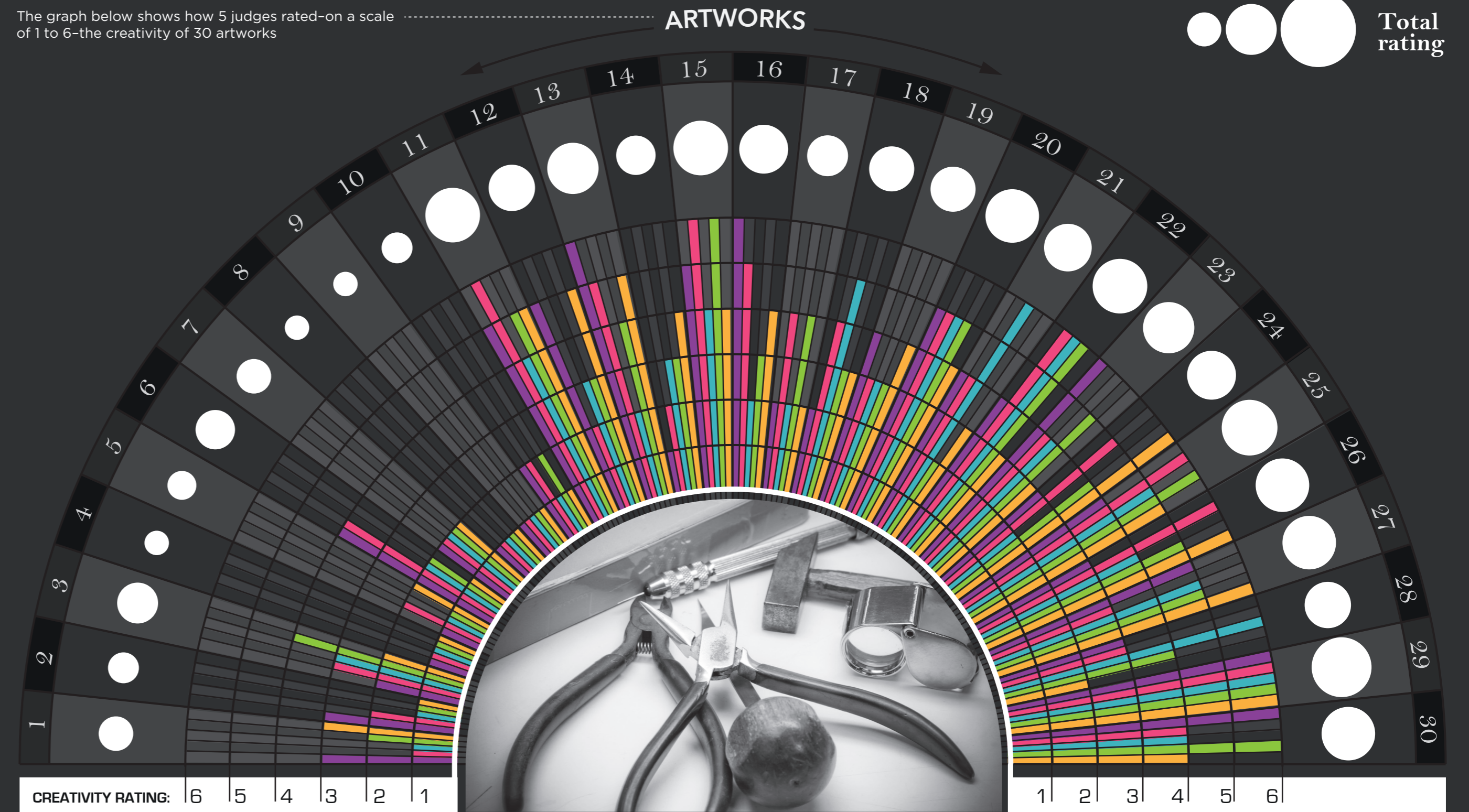
Discussion

This study was designed to examine these three questions: (a) Are professional jewellery designers able to reliably assess the creativity of a given ring design task? (b) Is it possible for these judges to separate creativity from technical execution and aesthetic appeal? And (c) if so, what is the relationship between these ratings? The results of the pilot and main study, demonstrate that the inter-rated reliability was acceptable for all attributes, as they were all above 0.7, with the highest being the pilot results at 0.89. Unlike the small amount of studies found to be directly related to design, the CAT in this study has shown sufficient levels of consensus within the jewellery domain.

The brief set out to design a ring has been verified to be a suitable task, however more revealing were the correlations between creativity, aesthetic appeal and technical execution. The main point to consider is the fact that this study has demonstrated that CAT is a favourable method when assessing creativity in jewellery design. This study adds to the already existing research supporting the idea that at any point in time there is no more valid or objective measure of creativity of an artwork/design, than the collective opinions of a group of professionals in the field. However, it is unquestionably true that experts might not always agree with each other, and their opinions may change over time, especially for a field like jewellery design where fashion trends play such an important part.

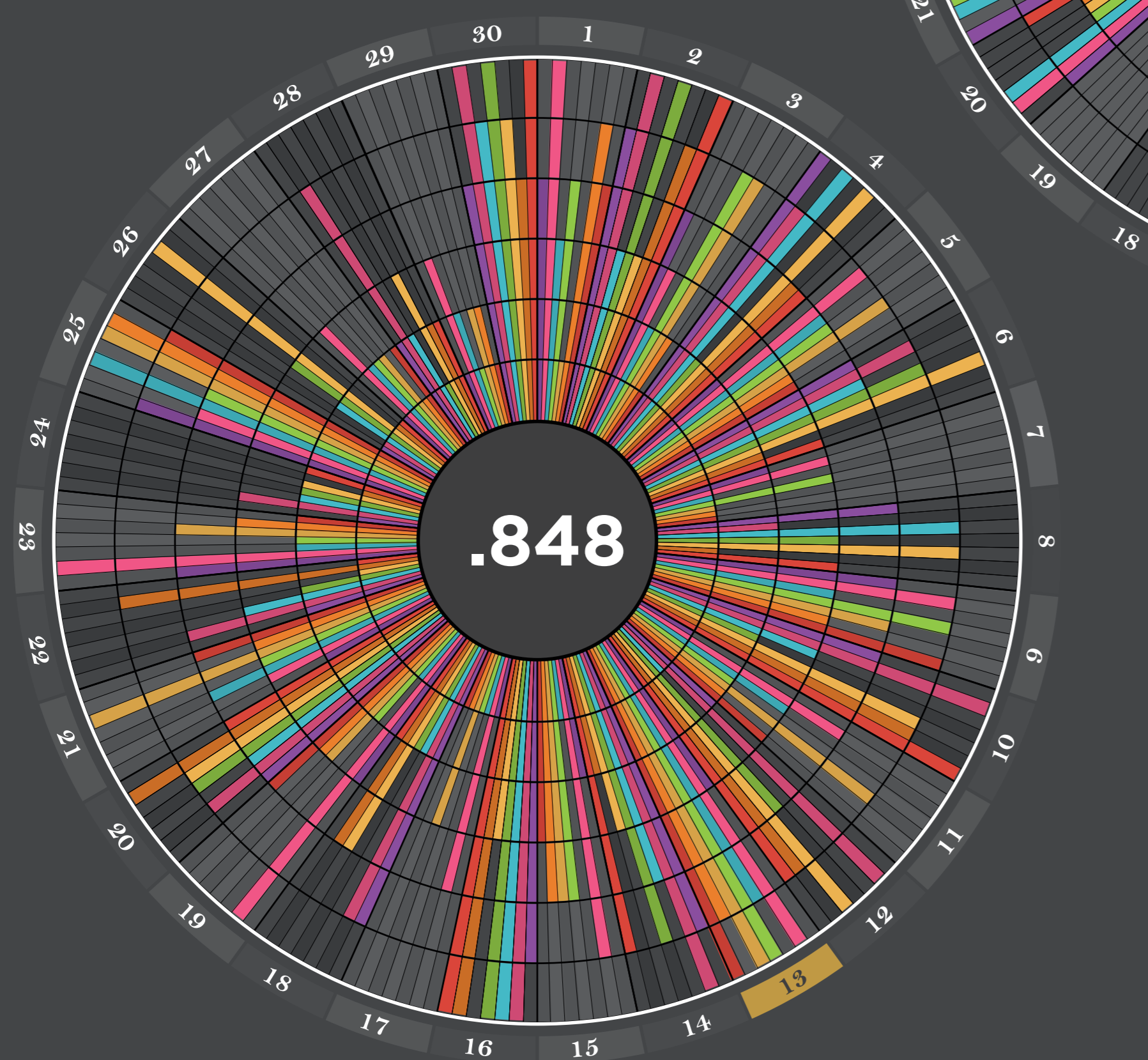
Pilot Study

The graph below shows how 5 judges rated—on a scale of 1 to 6—the creativity of 30 artworks

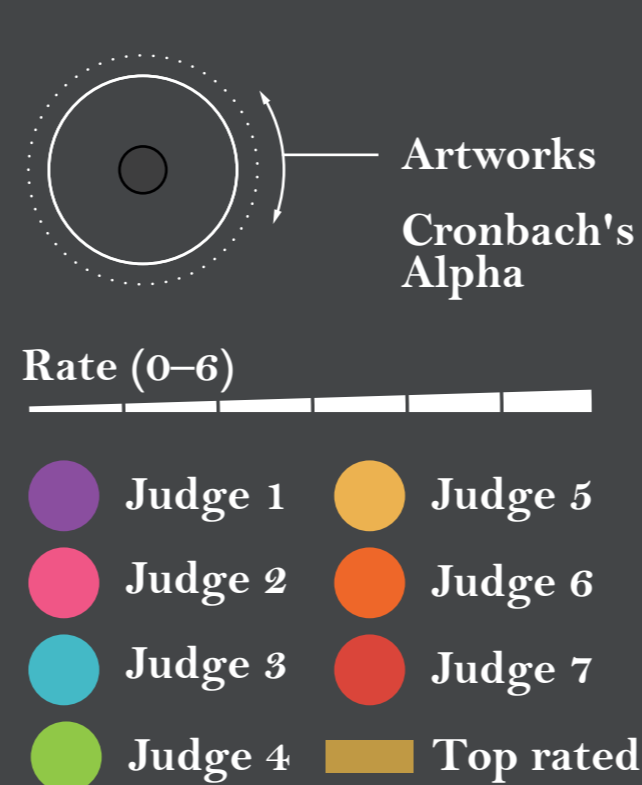


Main Study

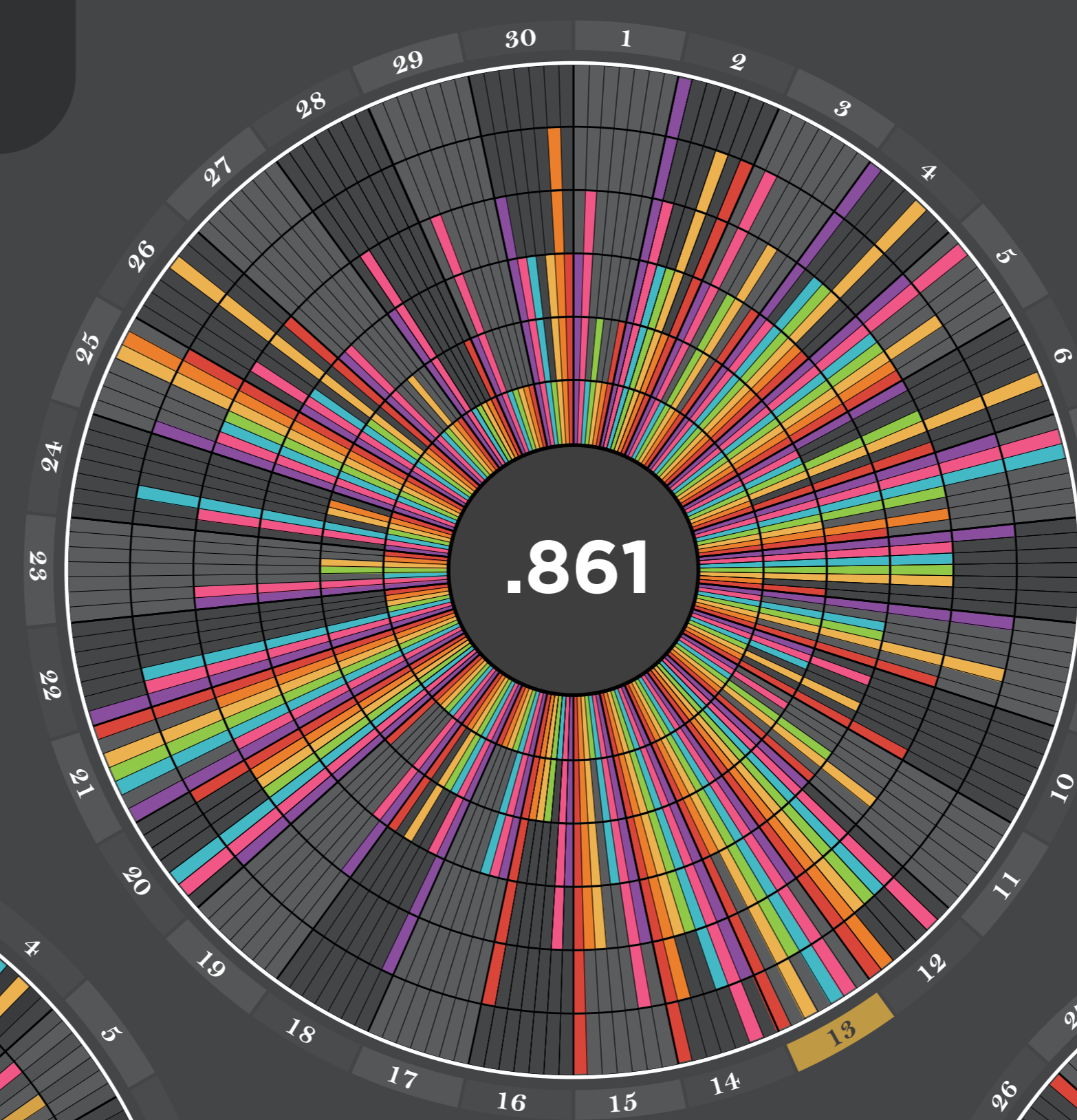
1 Technical execution



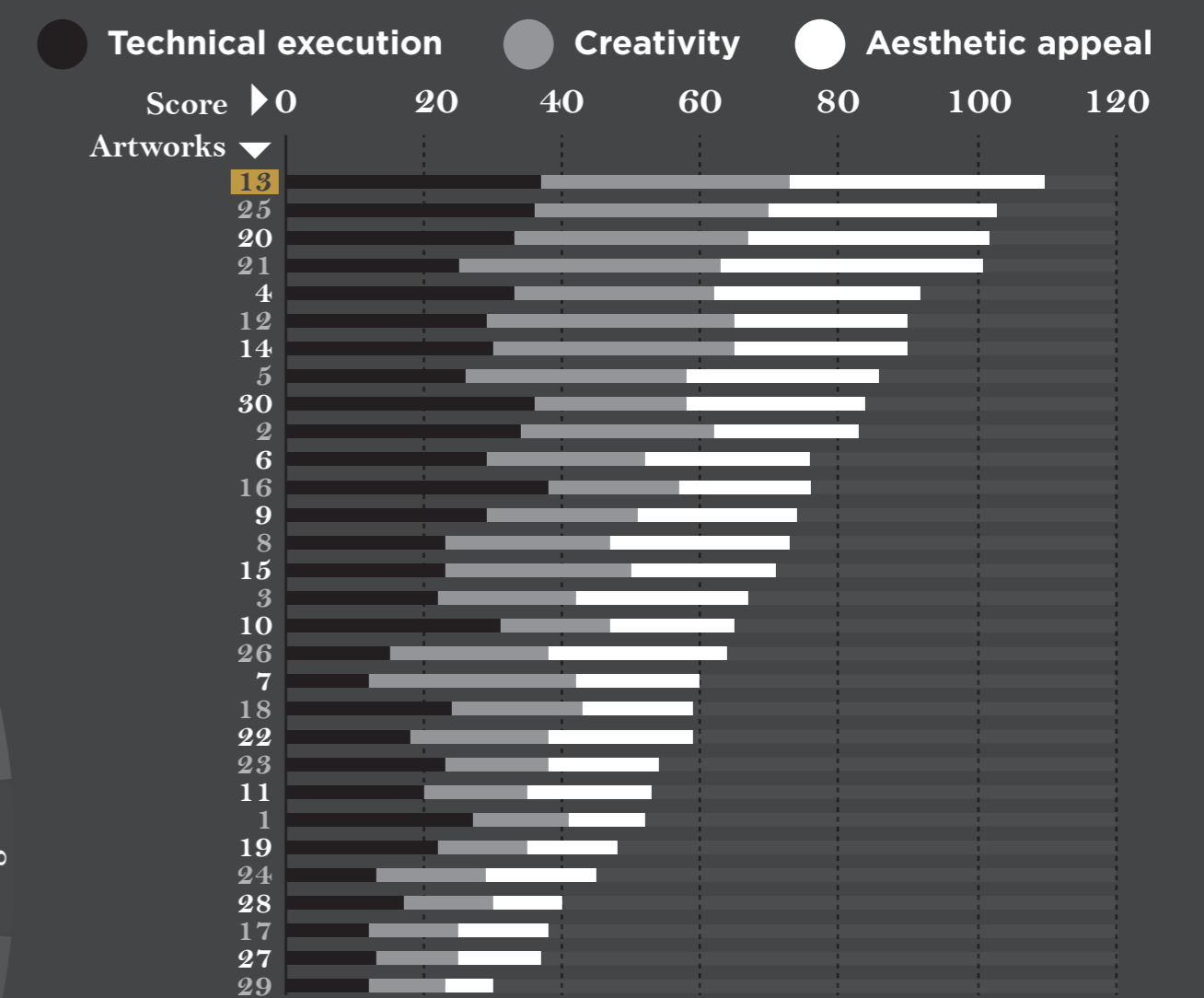
Legend:



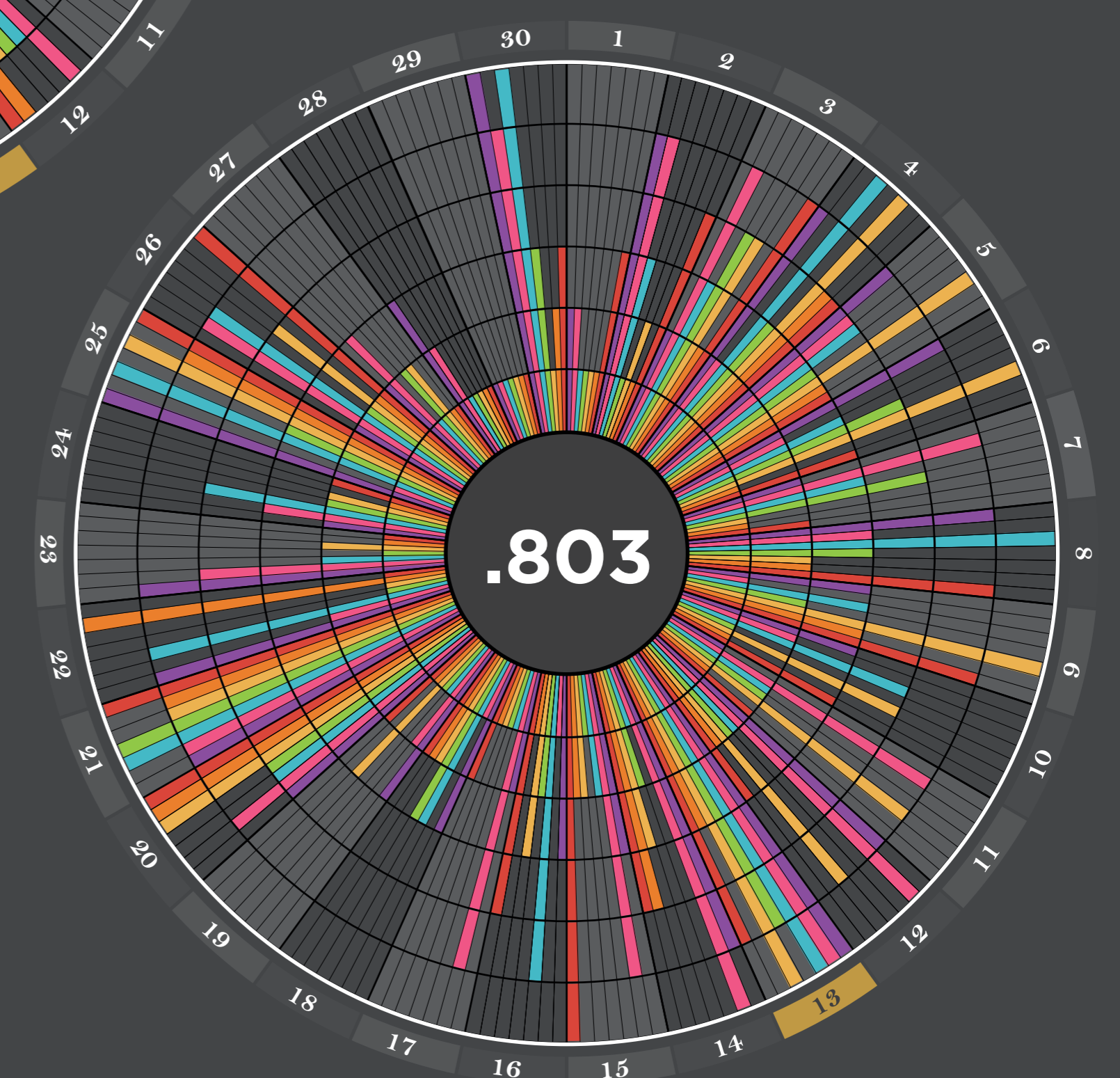
2 Creativity



Total rates by category:



3 Aesthetic appeal



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