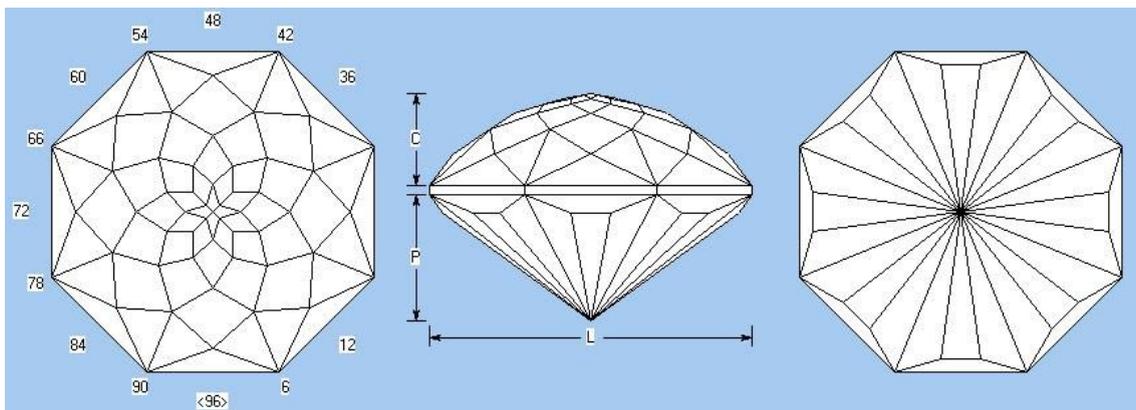


## Presentation of the "50<sup>th</sup> Anniversary of the IGE" cut

*By Egor Gavrilenko, Director of the Laboratory of Analysis and Certification of Gems of the IGE and passionate gem cutter.*



*Virtual image of the "50<sup>th</sup> Anniversary of the IGE" cut realized with the GemRay program*



*Diagram of the "50<sup>th</sup> Anniversary of the IGE" cut designed with the GemCad program*

Fifty years old is a respectable age to reach for both individuals and organizations alike. The maturity of age provides a wisdom that has much to do with the concept of balance. Thus, it seemed appropriate to use the octagon for this special cut dedicated to the 50<sup>th</sup> Anniversary of the Spanish Gemological Institute.

The octagon is a shape that represents balance; the number of sides can be divided four times in equal parts. It is also an intermediate shape between the square and the circle, used since ancient times in different cultures as a symbol of union between the earthly and the material (the square) and the celestial and spiritual (the circle), entirely appropriate for

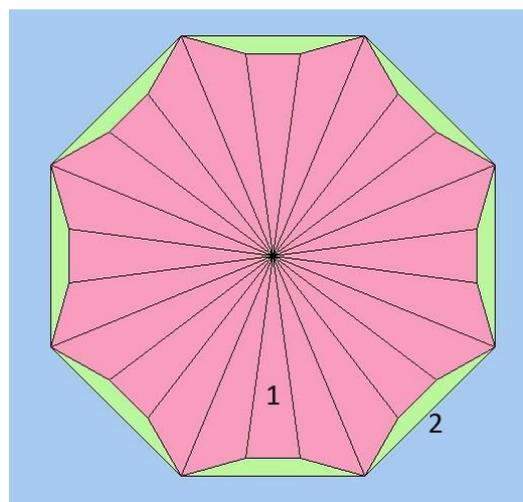
gems as they also bind these two worlds. We can find octagons in the shape of ancient temples, in a large number of symbols such as, for example, the cross of the Knights Templar, in the Arabic ornaments, etc.

The eight sides of the cut can also be interpreted as eight facets of the Gemmology, the main areas in the knowledge of precious stones, such as:

- Identification of gems
- Graduation of the quality of gems
- Appraisal of jewellery
- Cut of gems
- Design and manufacture of jewellery
- History of Art
- Mining of gems
- Trade in gems

The cut has exactly one hundred facets, a round number that symbolizes the 50 years the IGE will celebrate in 2017 and the next half century of life, full of the successes that we wish for the IGE.

The bottom of the cut -the pavilion- is of the utmost importance so that we obtain the correct passage of light through the gem. This side acts as a reflector of light to return the rays toward the observer. If the crown is too low, the light passes through the gem without being reflected or sparkling; if it is too deep, it refracts toward the sides and is equally lost. Once again, for maximum lustre, we need a balanced proportion of the pavilion, especially calculated for this cut, taking into account the refractive index of the gem that is going to be cut.



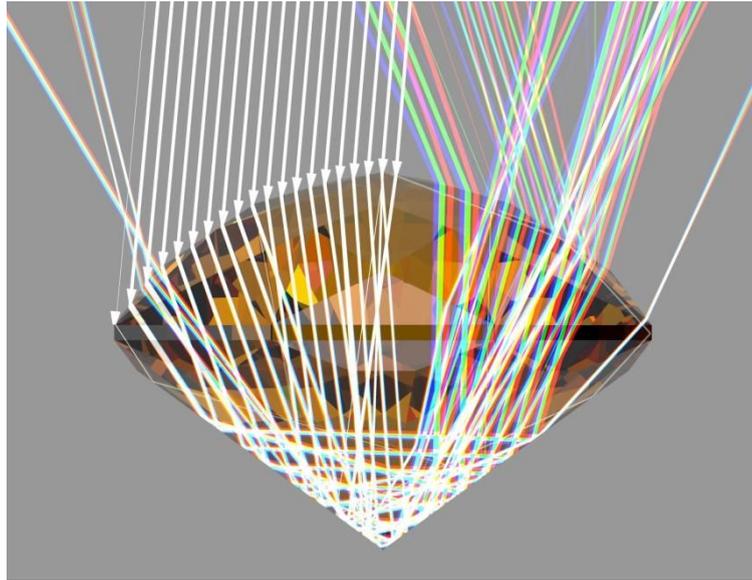
### *Facets of the pavilion*

Returning to the symbolism of the cut, the many small facets that make up the pavilion (1) represent all of the thousands of members and students of the IGE over the 50 years of its history. Their role has been fundamental in the life of the Institute, the gemmological knowledge and professional success of its members and students is reflected in the form of the multi-coloured brightness.

In turn, the eight broad facets (2) that adapt the cone shape of the pavilion to the octagonal perimeter symbolize the areas of related sciences on which Gemmology is based:

- Physics
- Chemistry
- Mineralogy
- Crystallography
- Mineral deposits
- Geography
- History of Art
- Design and Jewellery

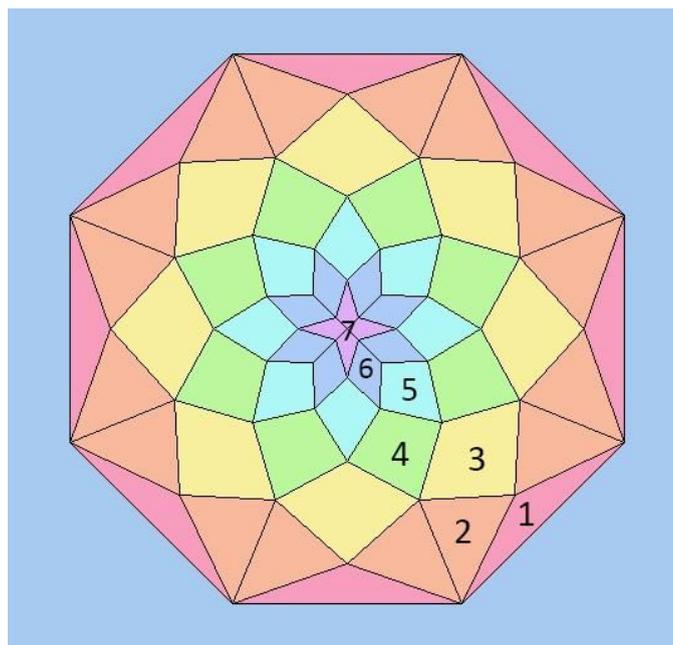
The rays of light reflected on the pavilion are directed toward the top of the gem, where they are refracted in the facets of the crown before returning to the observer. The angles of refracted rays depend on the wavelength of each part of the visible spectrum, where in gems with high dispersion (fire), such as diamonds or sphalerites, we see flashes of scintillating colours on the crown instead of rays of white light. Cuts with large crowns in the shape of a dome, without a horizontal table, are particularly favourable to reveal the maximum dispersion of the gem.



*Passage of light through the gem, with white incident rays and outgoing rays that create dispersion while being refracted through the gem.*

*Modelling in the DiamCalc program.*

The task of giving sparkle to the work of the IGE depends on its own assets, both material and human, symbolized by the facets of the crown. The seven belts of facets, from the girdle toward the apex of the crown, represent the assets of the Institute that have enabled it to develop its numerous activities throughout its history.



*Facets of the crown*

The facets closer to the girdle (1) correspond to the valuable material assets accumulated by the IGE throughout its 50 years of activity - collections of gems used in classes and on display in the Museum, library books and lecture notes, gemmological equipment for classes and for the Certification Laboratory, and other material resources that facilitate the activities of the Institute.

The work of the administration is essential in the life of any organization. The current and four former presidents of the IGE, the members of its Board of Directors who have devoted countless hours to the management of the IGE, its administrative staff, the volunteers and helpers who have always helped the IGE selflessly: all of them are reflected in the second ring of the crown's facets. (2)

The next circle of facets (3) corresponds to the Laboratory of Analysis and Certification of Gems of the IGE, the department with state-of-the-art equipment and skilled staff in gemmological analysis which enjoys great national and international prestige thanks largely to the work of its former Director, our teacher and friend Juan S. Cózar, who dedicated thirty-eight years of his life to the IGE.

The activity of the training of the Institute is reflected in the fourth ring of the crown's facets. (4) For half a century, tens of thousands of students have passed through the classrooms of the IGE, obtaining knowledge of the exciting world of gemstones from their teachers. Thanks to them, the theoretical and practical courses of the IGE have always had the highest prestige for gemmological training within the jewellery sector. It was during one of these courses that the author took his first steps in the art of faceting gems.

The Appraisal of Jewellery is another activity of the IGE, and particularly important for private customers who want to have their jewellery valued. In many cases, gemmological knowledge is necessary precisely in order to determine the economic value of gems and jewellery. This area is reflected in the fifth ring of the crown's facets. (5)

The following ring (6) corresponds to the very important work of the dissemination of gemmological knowledge that the IGE has been making throughout its history. Its free assistance activities at jewellery and gems

trade fairs, its annual cycle of lectures, its web page with free access to an immense amount of materials, its free courses of basic gemmology, and its activity on social networks has all contributed very significantly in increasing the general level of gemmological culture in Spain and other Spanish-speaking countries.

Finally, the crown is closed with a ring of four facets in the form of a wind-rose. (7) These facets symbolize the extensive national and international relationships currently maintained by the IGE as a result of its work over half a century of history. As examples of these relationships we can mention its association with the Polytechnic University of Madrid, through the School of Mining and Energy Engineering of Madrid (ETSI) and its Gomez Pardo Foundation, the recognition of the IGE Laboratory by the Chamber of Commerce of the Community of Madrid and founder membership of the Federation of European Education in Gemmology (FEEG), the union of ten European gemmological schools that teach the Diploma of European Gemmologist.

We would like to present a typical Spanish gem, a sphalerite of 25-carat weight, faceted with the "IGE 50<sup>th</sup> anniversary" cut by Egor Gavrilenko and for donation to the IGE gem collection.

