Möbius and Masonry - by WB Rob Brower PM Solar #730

Inspired by comments made by WB W. Mike Lawson during a lodge education program

Take a normal strip of paper. Neglecting the thickness, it is plain to see that this strip has two sides and four edges. One side is facing you, and the other facing away. If you were to glue the two narrow edges together, you would get a truncated cylinder. The resultant shape would still have two sides, an outer side and an inner side, but now it only contains two edges. If we return to our original strip of paper and glue the short edges together again, but this time twisting the paper one half turn prior to gluing the edges together, how many sides and edges does the new form have? Would it surprise you if you were told this shape had only one side and one edge? (Try it for yourself if your inner skepticis screaming shenanigans.)

This new shape is called a Möbius strip, named after the 19th century German mathematician August Möbius who, along with Johan Listing, discovered it in 1858. This was a novel discovery in the field of mathematical topology. This shape can commonly be seen in modern women's fashion as the infinity scarf, which is just a more marketable name than Möbius. Other applications include the shape's use in conveyor belts which, since there is only one side, allows for even wear over the entire belt. In recording on old style cassette tape, using the tape in a Möbius configuration would allow for twice the amount of space on the same tape. Molecular knots and molecular machines, which was the work that earned the 2016 Nobel prize in chemistry, use this same motif. If you take the gluing idea even further by gluing the all edges of two of these strips together, you will create a Klein bottle, which is a shape with no edges and no volume. Unfortunately, a proper Klein bottle requires 4 spacial dimensions, so all 3D representations are compromises. (Seek out Klein bottle videos on the YouTube channel Numberphile for more discussion on these.)

While the mathematics is interesting in and of itself, how does this all relate to Freemasonry? The simplistic answer is that the 47th problem of Euclid teaches all Masons to be general lovers of the arts and sciences, and therefore any intellectual exploration in the mathematical sciences is a worthwhile pursuit. This refrain is again relayed to the initiate in the lecture of the Fellowcraft degree when discussing the seven liberal arts and sciences, namely geometry and astronomy, which leads to the practical application of topology which is navigation. But a deeper look into the Möbius strip proves to reveal a more significant meaning to the student of our gentle craft. With this strip, what was a two sided object was easily turned into a one sided figure. What is on the "outside" is identical to what is on the "inside", which logically follows as this shape truly only has one side. Careful study of masonic teachings can do the same with the good man who knocks on the portals of our lodges. Through reflection, circumspection, and the application of the Three Great Tenets and the Four Cardinal Virtues, he can truly become a man with only one side. This is not meant to suggest that he becomes a masonic automaton, but rather that who he is in private and with his closest confidants, is the same man he is when abroad in the world. He respects all, and affords them the same civility, respect, and affability he does to his inner circle. He need not worry about modulating his behavior no matter the company in which he finds himself. His moral deportment is not merely a facade put up to impress those around him

like a Christmas display in a department store window, but it is a true reflection of the man he is both behind closed doors and in the light of day for all to see. He genuinely meets all on the Level, acts with all on the Plumb, and parts with all on the Square. His outward actions reflect his innermost virutues and values, and, much like the Möbius strip which began this discussion, he ultimately has only one side for the world to know.

An example of a Möbius strip: https://en.m.wikipedia.org/wiki/Möbius_strip

Instructions to make a Möbius strip for demonstration purposes:

1. Cut a strip of paper much longer than it is wide (2 inches by 11 inches for example)
2. Twist the strip 180 degrees (half turn)
3. Now tape the two short ends of the paper together, making the strip into one continious band. (see the picture above)