

## **Dürer's *Melencolia I*: Creating a New Archetype**

by Jared Bendis

### **What is the *Melencolia I*?**

“Laden with enigmatic artifacts and dominated by the saturnine figure whose aspect is the essence of melancholy” (Manning 24), Dürer's engraving *Melencolia I*, has fascinated scholars and viewers for close to 500 years. Scholars from a variety of disciplines have written, theorized and debated on the meaning and iconography of the work, from its broad thematic issues, down to its finest details. Is it a mathematical treatise, piece of alchemic wisdom, lamentation over his lost mother, or it is something more? This paper analyzes many of these often-conflicting ideas, uncovers new questions about the work, and in the end demonstrates that Dürer's intention with *Melencolia I* was to synthesize a variety of facts, emotions, and ideas and create a new archetype for future generations.

We can find some of the meaning in Dürer's own documentation. We know that “she looks out with the eyes of Saturn.” If she is Saturn, then she is the child of Uranus and Gaea; she is the child of heaven and the child of Earth; she is the union between the two. Following the proposition that this figure is Saturn, we can safely argue that the ladder in the background is Jacob's ladder, which connects heaven and Earth, and is reflective of this figure's role in the universe (Manning). The ladder's seven rungs pose a much more difficult question. The number seven is so mystical in itself that it would be impossible to explicate what he was trying to enumerate without allowances for alternate

interpretations. Some have said that the seven rungs are the seven liberal arts, and that the evidence in support of this is visually apparent (Waetzoldt).

The “Saturnine” figure wears both keys and a purse. Dürer lets us know that the keys mean power and the purse means wealth. We can take a religious stance on this and argue that the keys are the power of heaven and the wealth is the wealth of Earth (Manning). What other religious implications Dürer was trying to make we cannot say for certain. The emaciated dog could be representative of the suffering of Christ, and we clearly see tools of a carpenter strewn all about. Panofsky calls *St. Jerome* and the *Melencolia I* “spiritual counterparts.” Dürer would frequently give them out as a pair, and they were often viewed and studied simultaneously. The poles of this spiritual comparison were, in Panofsky’s terms, “life in service” versus “life in competition with God” and “the peaceful bliss of divine wisdom” versus “the tragic unrest of human creation” (Panofsky).

Other elements, such as the hourglass, bell, and scale, remain the subjects of speculation: the hourglass measures life; the bell tolls death; and the scale weighs the final judgment. These are strong visions of mortality, but at the same time the hourglass is still half full, the bell is not ringing, and the scales are empty (Manning).

Time itself is an issue of debate. At what time of day does this scene take place? The bat is nocturnal and leads us to believe that the scene takes place at night, but is it dusk or is it dawn? Everyone is awake; the child is writing, and the woman is pensive in thought. The bell hangs over them. It looms over the entire print. Our eyes follow the rope off the frame waiting for it to ring, and to discover who is ringing it. This is the dawn of creation—that quiet moment before we embark on the chaos of life. Panofsky would

disagree. He describes the scene in terms of absolute night, with the “dimly lit light of moon,” the “lurid gleam of a comet,” and a “lunar rainbow” (Panofsky 156).

Melancholy is described as being “the demon of the dead hour,” and the flowers on the woman’s head are identified as nightshade, a symbol of solitude (Waetzoldt). The imagery portrays solitude, and yet there are four (albeit lonesome) creatures in this busy scene.

Endrea has described the *Melencolia I* as being “the human spirit in its striving for truth and thereby happiness” (Patty). This striving is a solo contemplation. It is a journey that can be attended by many but only experienced individually. Many have been inspired by the *Melencolia I*. To wit, the mid-1800s saw a strong resurgence in the appreciation of this work, notably among Romantic writers, such as Gautier, Baudelaire, and Michelet (Patty). Over the centuries, the *Melencolia I* has brought scholars from various disciplines together in contemplation of its meaning and legacy.

### **The Ambiguous Title**

Within the bat’s spread wings, Dürer entitles the work “*Melencolia I*.” This raises innumerable questions. Why title the work? Out of Dürer’s 104 engravings only eight have supporting material. Of the other seven, six are portraits and the last is the *Fall of Man* (Manning). Why the “*I*” after “*Melencolia*”? Did he intend a *Melencolia II*? Or, is there something else going on altogether?

Theories abound. Some of them are perfectly logical and some of them stretch the bounds of practical reason. Passavant says the “*I*” is really the Latin “*i*” or the verb “*ire*”

and that the true meaning of the title is “*Melancholy Begone!*” (Waetzoldt). Perhaps it is an abbreviation for “*Melencolia Imaginative*” or perhaps it isn’t an “*T*” at all, and is just an extra mark to fill up space (Massing, Waetzoldt).

Many believe that the “*T*” really stands for “1.” This “1” may be a reference to “1” the source of all mathematics, or “1” the unity of God. The idea that there would be a “*Melencolia IP*” is absurd to some authors, while others feel it might represent another form of melancholy, “a hopeless malady of the soul” (Panofsky, Massing). It is well known that melancholy is one of the four states or humors that govern the body: sanguine, choleric, melancholic, and phlegmatic. If Dürer were going to execute a print for each of the four humors, then why would they need numbers? Moreover, what rationale would place melancholy first? Panofsky theorizes that the “*T*” is a value and that melancholy represents the lowest degree of achievement, hence the designation of “1”.

The most fanciful theory that I have encountered is based on the common use of the anagram in Pythagorean and Kabalistic writings. The addition of the “*T*” in the title allows the letters to be rearranged into “*elem. Nicolai*” translated as “*Nicolaus’s Elements*” (Manning). Now, the big issue is to discover which Nicolaus he is referring to. Is it Nicolaus Copernicus? And, are the elements earth, fire, air, and water? They can be clearly seen in the vicinity of the title. *Earth* is the stone polyhedron; the bat flies on the *air*, over a sea of *water* near a crucible over a *fire* (Manning). But the anagram could also be a reference to Nicolaus Cusanos, whose mathematical elements, the symbols of the line, circle, and polygon, are also found in the work (Waetzoldt). Still another possibility is that the anagram might connote the noted alchemist, Nicolaus Flamel from the early 15<sup>th</sup>

century. Faced with all these theories, I choose to believe a simpler explanation. The “*P*” is a “1.” This “1” is telling us not to look backward for explanations, but to look forward. From my understanding, the *Melencolia I* exists as a source document, a creation for others to study and anticipatory of their creations.

### **The Magic of Dürer’s Square**

The magic square in the *Melencolia I* has aroused the attention of mathematicians and art historians for centuries. Regretfully, while Dürer was both an artist and a mathematician, few observers have analyzed his work from both points of view simultaneously.

The square is a magic square because all of the rows add up to the same number: horizontally, vertically, diagonally, the sum is always 34. Manning theorizes that this may refer to Copernicus’ structuring of the heavens with 34 circles. But the answer is more straightforward. The magic square is a 4x4 grid. We refer to this as a 4<sup>th</sup> order magic square. For any magic square of order  $n$ , the constant (the sum of all the lines) is  $n*(n^2+1)/2$ : in this case, where  $n=4$ ,  $4*(16+1)/2 = 68/2 = 34$  (Hunter and Madachy).

In 1894, Cust explained that “there can be no doubt that the so-called ‘magic square’ refers directly to the death of his mother.” Placing his mother’s death at 5/17/1514, Cust attributes the 1514 to the lower 2 center squares, the 5 to the sum of the upper two center squares (2+3), and the 17 as the sum of the corners (16+1 and 13+4). Cust takes his theory to the extreme in that he purports that the hourglass “records no doubt the hour at which the sad event happened” (Cust). This is all a lovely thought, but considering

Dürer's strong mathematical background and that Panofsky puts the date of his mother's death at 5/16/1514 (Panofsky) we need to investigate for a contextually appropriate and correct explanation.

Magic squares have long been associated with alchemy. Saturn, the vision of Melancholy, represents lead (the father of all metals) and is represented by a 3<sup>rd</sup> order magic square (Stapleton). Jupiter, which combats melancholy, is represented by a 4<sup>th</sup> order magic square (Pickover 19). Dürer isn't offering us the magic square as a puzzle but as part of the solution to the problems of melancholy. Hidden within a 4<sup>th</sup> order magic square is a "gnomon" or a carpenter's rule: the L-shaped series of numbers that turns a 3x3 grid into a 4x4 grid (Stapleton). The square is a tool similar to the ones around the base of the image.

Dürer's magic square is special in other ways as well. In addition to being the first magic square to show up in Western culture, it is a very uncommon construction of a magic square (Watson 282). There are a total of 880 unique solutions to a 4<sup>th</sup> order magic square (not counting reflections or rotations) (Hunter and Madachy). But Dürer's magic square can be added up in many other ways to reach the sum of 34, making it a "panmagic square," "associated of a double even order" (Hunter and Madachy, Pickover 21). The illustration (Pickover 21) shows the true beauty of the sums of Dürer's square.

One begins to wonder, with all the possible sums for this magic square, was it intentional or coincidental that the date is reflected in the bottom. Moreover, some doubt Dürer's ability to be so artistically and mathematically minded at the same time and they even contend that the source for his magic square is found elsewhere. (Watson). Similarly,

it is clear that Dürer didn't know the magnitude or the significance of the square to either alchemy or mathematics. The work is dated 1514, and the 1514 repeated in the square is Dürer's way of letting us know he knew exactly what he was doing, both artistically and mathematically, and this invites us to investigate his square for the true meanings, which are still explored today.

### **Dürer's Polyhedron: The Enigma**

The polyhedron in the *Melencolia I* has been analyzed, theorized, and criticized from many disciplines. The only consensus among the scholars is that they don't know what it is. Panofsky refers to it as a "truncated rhomboid of stone"; still others have labeled it a "granite polyhedron" or a "truncated cube" (Patty, Manning). Could this be the Stone of Saturn or The Philosopher's Stone? (Ritterbush) Mathematicians have tried to reconstruct this polyhedron in an attempt to explore Dürer's mind. What was he seeing? What is his vision? What piece of mathematical wisdom or alchemic magic is he trying to show us?

MacGillivray, in his treatise on the polyhedron, constructs it from two equilateral triangles and six irregular polygons and theorizes that Dürer didn't draw it from a model but perhaps from a large piece of calcite crystal that he might have encountered (Walton). The angles formed by a calcite crystal would be 76.1 degrees, while other mathematicians have further striven to prove that Dürer was trying to create a polyhedron representative of the "golden number" of 72 degrees (Schreiber). Grigriev and Shafranovskii attribute the

polyhedron as an octahedron of a fluorite crystal, which has been drawn at 72 degrees (even though in nature, it would really be 60 degrees) (Mackay).

The debate is not just a mathematical one but a theoretical one as well. The historian Max Steck describes it as “the artist’s free invention” and contends that it isn’t special at all (Ritterbush). Federico acknowledges the whimsy of trying to reconstruct an object from a print by pointing out that “you can place anything your fancy pleases on the back side of the stone block, a bas relief of St. George slaying the dragon if you wish.” The idea that the back is the same as the front is from the assumption “that the emaciated sleeping dog in the foreground is still dog all around” (Federico 30).

One theory says that Dürer isn’t just presenting us with the problem of the polyhedron’s construction (and hence the melancholy), but demonstrating to the viewer that he knew the answer as (Ritterbush). This theory has been directly countered by others who argue that this is just a drawing and we have overanalyzed the entire thing (Mackay). In the conclusion to his treatise, Schreiber theorizes that Dürer presents you, the viewer, with a sphere and tools, and invites you to construct the polyhedron for yourself. Clearly, Dürer would be pleased that for 500 years people have continued to take up his challenge.

### **Uncovering Dürer: A Look Within**

It is important to look at Dürer not just as an artist and mathematician but also as a teacher and a student, a success and a failure. Dürer is praised for the *Melencolia I* for using unique perspective and using the clutter of the objects to obscure the vanishing point of the work. (Manning). But perhaps this isn’t the case at all. In Dürer’s time, there were



no books on perspective, and he went to Italy to learn “the secret” (Panofsky). Dürer himself couldn’t speak the classical languages and had to rely on his friends to translate many of these works for him (Heilbron). In reviewing Dürer’s art, Ivins admonishes him and remarks that “Dürer not only showed that he knew both and understood neither of his predecessors, but introduced a series of errors which goes far to explain the odd architectural perspective of many of his woodcuts and engravings.” But, Dürer, subsequent to the *Melencolia I*, goes on to author books on perspective and geometry, which “add nothing to the science of perspective as developed by the Italians” (Panofsky 253).

Whether he contributed to our overall understanding of the workings of perspective or not, Dürer chose to write his books in his native German. When the words didn’t exist in German he invented them, and these contributions to the scientific lexicon of High German are nevertheless a remarkable achievement. These words and his promotion of scientific German are still used today (Walton). His target audience was different as well; he wanted his work to be read by anyone who “required measurement,” including “goldsmiths, sculptors, painters, stonemasons, and joiners” (Walton). Dürer always intended his scholarly works to be aimed at a multidisciplinary audience, and we can only assume that his artwork shares the same intentions, but perhaps even to a greater extent. As a student, he might not have been at the head of the class, but as a teacher there can be no doubt as to his far-reaching impact.

## **Conclusion**

In the end, maybe Panofsky is correct, and “we have no right to assume that practically every detail in the *Melencolia I* has a special ‘meaning’” (Panofsky). But so many of the elements in the work offer up such rich discussions and debates that you can’t help but wonder how much of it is really there by design. Even if the discussions are the workings of overeager scholars, we have to agree that even Dürer would be pleased with the effect of the *Melencolia I*. In 1512 Dürer said, “It has been instilled into us by Nature that we would wish to know much, that we may thereby perceive the real truth of all things” (Waetzoldt). And while Panofsky calls the work a spiritual self-portrait of Dürer the work has become a spiritual and epistemological mirror for generations. Dürer poured his soul into the *Melencolia I*, and it will surely inspire, confound, and teach for another 500 years.

## **Bibliography**

- Cust, L. The Engravings of Albrecht Dürer. London: Seeley and Co. Limited, 1894.
- Federico, P.J. "The Melancholy Octahedron." Mathematics Magazine. 45 (1972): 30-36.
- Heilbron, J. L. "Review of a translation of Geometrie by Albrecht Dürer." Book Reviews. (1995): 645-646.
- Hunter, J.A.H. & Madachy, J.S. Mathematical Diversions. New York: Dover Publications, 1975.
- Ivins, W. M. On the Rationalization of Sight. New York: Da Capo Press, 1973.
- Mackay, A.L. "Dürer's Technique." Nature. 301. 24 (February 1983): 652.
- Manning, R.J. "Dürer's Melencolia I: A Copernican Interpretation." Soundings: An Interdisciplinary Journal. 66. 1 (Spring 1983): 24-33.
- Massing, Jean Michel. "Review of Melencolia I. Dürer's Denkbild." The Burlington Magazine. 135 (March 1993): 220-221.
- Panofsky, E. Albrecht Dürer: Volume 1. Princeton, New Jersey: Princeton University Press, 1945.
- Patty, J.S. "Baudelaire and Dürer: Avatars of Melencolia." Symposium: A Quarterly Journal in Modern Foreign Languages. 38. 3 (Fall 1984): 244-257.
- Pickover, C. A. The Zen of Magic Squares, Circles, and Stars. Princeton, New Jersey: Princeton University Press, 2002.
- Ritterbush, P.C. "Dürer and Geometry: Symmetry in an Enigma." Nature. 301. 20 (January 1983): 197-198.
- Schreiber, P. "A New Hypothesis on Dürer's Enigmatic Polyhedron in his Copper Engraving 'Melencolia I'." Historia Mathematica. 26 (1999): 369-377.
- Stapleton, H. E. "The Antiquity of Alchemy." Ambix: Being the Journal for the Society for the Study of Alchemy and Early Chemistry. 5. 1 (October 1953): 1-43.
- Waetzoldt, W. Dürer and His Times. New York: Phaidon Publishers, Inc. 1950.
- Walton, D. W. "Albrecht Dürer's Renaissance Connections between Mathematics and Art." Mathematics Teacher. 87. 4 (April 1984): 278-282.