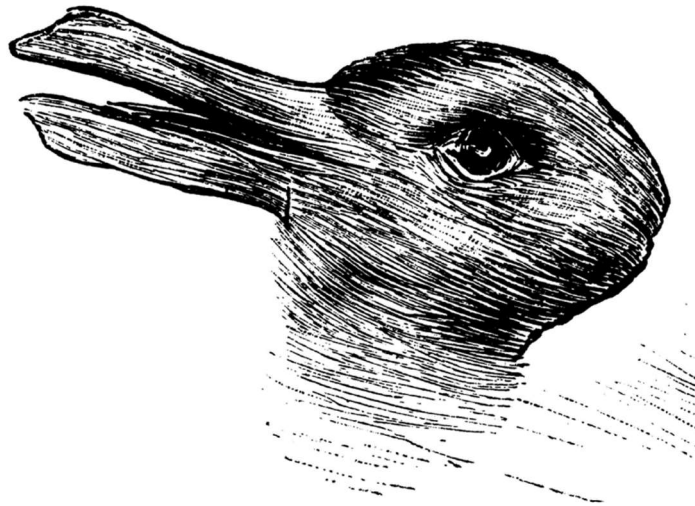


time, and both can be valid even if they lead to different results. For example, consider the optical illusion below. Is it a rabbit or a duck? In my view, it is both. Likewise, both mathematical models above apply to the astrological signs even though one may work better in some circumstances while the other will work better in others.



The bottom line from using both mathematical models for signs is that while each sign may experience its nature most strongly at the beginning, it, nonetheless, also experiences a special intensity at its “full moon” point halfway through the sign which is also when the energy of that sign starts waning while the energy of the coming sign starts increasing. This coincides, too, with observations by both Gauquelin and the Huber school of astrology, both of which note that the influence of a planet increases before it reaches a particular house cusp. In other words, even though the energy of Taurus wanes and that of Gemini grows from 15° to 30° of Taurus, as a result of the influence of the generic 30° cycle Taurus doesn't completely end nor Gemini fully begin until 0° Gemini is reached.

Returning to our first model above, the angles 0°, 30°, 60°, 90°, 120°, 150°, 180°, 210°, 240°, 270°, 300°, and 330° correspond those points on the graph that are a maximum distance from the horizontal axis, and I see them all as way stations or momentary stopping points in the *cycle of becoming* that we discussed in a previous chapter. They correspond to the traditional astrological signs and also what I consider as my primary aspects. As for the angles 15°, 45°, 75°, 105°, 135°, 165°, 195°, 225°, 255°, 285°, 315°, and 345° where the graph above crosses the horizontal axis, I see these as points where the quality of the astrological influence is undergoing a fundamental change. For example, I see the 15° point as the place where the waning influence of Aries is suddenly superseded by the waxing influence of Taurus. Likewise, at the 45° point the weakening influence of Taurus starts to be replaced by the increasing presence of Gemini. Hence, I interpret these aspects as “energy in motion,” critical moments in the process of transition from one state to another. Since we pause and experience maximum intensity at the 12th harmonic aspects, I consider them my primary or major aspects, and since energy is in transition at the remaining 24th harmonic aspects, I call those my secondary or minor aspects. Additionally, I believe that we tend to be more consciously aware of those things associated with the primary aspects while the secondary aspects correspond to energy in motion that we are often less consciously aware of. Nonetheless, these secondary aspects are also important because they show us

ahead of time where we are going and, consequently, they also give us an opportunity to make adjustments ahead of time.

As for orbs, each harmonic has a natural orb that can be defined as halfway between any two consecutive angles. For example, there are only two 2nd harmonic angles, 0° and 180°, and so the orb for such a harmonic angle would be 90° on each side. Now when I state this, pay attention also to what I am not saying. For instance, I'm not saying that planets that are 89° apart are strongly conjunct one another. They're not. No, I'm simply saying that if you only use the 2nd harmonic angles, then two planets which are 89° apart are still closer to conjunction than opposition, and this is exactly what we do when we use the quarters of the moon to determine whether we are closer to a new moon or to the full moon. In a similar manner if we use only 12th harmonic angles, then the natural orb for this harmonic is one half of 30° or, in other words, 15°. But again, I am not claiming that planets that are 14° apart are strongly conjunct. All I'm saying is that in the 12th harmonic that 15° is the turning point where, for example, a conjunction starts to transition to a semisextile or a sextile starts to transition to a square. However, if we adopt 24th harmonic angles as described above where half of these angles are considered major aspects (way stations) and the other half are our minor aspects (points of transition), then the natural orb for this harmonic is 7° 30', and this seems like a very reasonable orb to use in practice as many could probably accept this as a point where the given aspect is so weak that one should consider the next aspect as becoming more influential. Hence, when dealing with 24th aspects, once one gets more than 7° 30' beyond a trine, one should consider the sesquiquadrate to be more dominant. Also, notice that if one uses that natural orb associated with a particular harmonic, then every planet will always form some sort of aspect with every other planet. In other words, every planet will have some sort of relationship with every other, and that seems to be the way things are in the real world. We always stand in some sort of relationship to everything else.

Most astrologers these days, instead of strictly adhering to some particular set of n^{th} harmonic aspects, seem to use a hodgepodge of aspects from different harmonics. For instance, it's not uncommon for one to combine the 12th harmonic aspects of 0°, 60°, 90°, 120°, and 180° with the minor 24th harmonic aspects of 45° and 135° and then also throw in the 5th harmonic aspects (quintiles) and the 7th harmonic aspects (septiles) and then maybe also even some 9th harmonic aspects (noviles). These astrologers are, nonetheless, able to make such a mishmash of harmonics work for them, and I am in no way saying that they are doing things incorrectly. I am just presenting another way to understand things.

I don't entirely ignore aspects like quintiles and sextiles, but I do put them into the context of what I'm doing with 24th harmonics and the *cycle of becoming*. For example, a quintile is an aspect of 72°, and most texts describe the quintile being associated with playfulness, creativity, innovation, and talents. In my world of 24th harmonics, the quintile occurs after the sextile, but before the squile (75°) and the square (90°). Thus, the quintile occurs right after what I characterize as the "first date," but right before the enthusiasm might wane as one begins to question if this is what one really wants. Hence, one is still in the throes of euphoria, and this naturally results in playfulness and creativity. And as for talents, I think of these as experience points. Following the sextile, one has had a good experience with something, and as in games such as Dungeons and Dragons the experience gained heightens one's abilities in a certain area. If an aspect is very close to an exact quintile, then it is also close to the squile aspect of 75°, but the closer it is to the quintile, the more I color my interpretation of the squile with what others have observed in practice regarding the quintile. Nevertheless, I still always try to place everything first within the context of 24th harmonics and the *cycle of becoming*.

When it comes to the septile, $\frac{360^\circ}{7} = 51\frac{3}{7}^\circ$, there is a historical error I must correct. In particular, the great astrologer Dane Rudhyar who was responsible for greatly advancing our theoretical understanding of astrology, nonetheless, made an error regarding the septile. Specifically, in the book "Astrological Aspects: A Process Oriented Approach" he says with regard to the septile, "51° 25' 42" ... converted into decimals it is 51.4285714285714... . It is thus an 'irrational' value." In this statement Rudhyar and his co-author Leyla Rael seem to misclassify a rational number with a repeating decimal expansion as an irrational number, and this seems to have been an impetus to associate the septile with irrationality. In a similar way, others seem to draw upon the tradition of the Sabbath being the seventh day of the week to associate the septile with spirituality and higher wisdom. Are all those who make such statements in error? Not necessarily. Many astrologers are astute observers of events and human behavior, and, thus, the septile may indeed be associated with some kind of irrationality even though $51\frac{3}{7}$ is not an irrational number, and likewise there may also be true connections between septiles and wisdom or spirituality. However, I consider master astrologer David Cochrane's statement that "the 7th harmonic indicates self-control, introversion, an inner-direct and focus" to likely be the most evidence-based assessment of the septile that is currently available, and this is an interpretation that is consistent with my use of 24th harmonics and the *cycle of becoming*. As I see it, the septile resides between the semisquare and the sextile, and since a metaphor for the sextile is the "first date," David Cochrane's interpretation of focus and self-control describes quite well the preparation that one undergoes ahead of time. Also, if the septile is a little closer to the semisquare, then I can see how this energy in motion could be perceived as irrationality. The bottom line, though, is that I am generally able to place all of the higher harmonics, like the quintile and the septile, in the context of the 24th harmonics and the *cycle of becoming* and to find interpretations that are consistent with the observations of other astrologers. For these and other reasons I find that the 24th harmonic angles along with the *cycle of becoming* provide the best way to understand all astrological aspects. In particular, I believe that all aspects, whether 24th harmonic angles or not, need to be understood and interpreted in light of the *cycle of becoming*.

Quotient

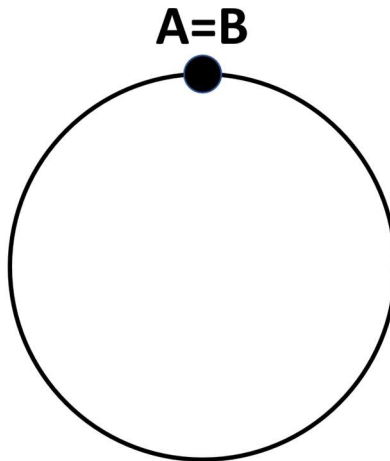
Astrology

QUOTIENT STRUCTURES

Consider the line segment below with endpoints labeled A and B. Clearly in this picture, A and B represent two different points.



Now suppose instead of seeing A and B as two separate points, we see them as the same point. If that is the case, then our line segment is transformed into a circle.



The transformation from a line segment to a circle that occurred by identifying point A with point B is also an example of what in mathematics we call a *quotient structure*. This type of structure receives its name from the fact that something is, in a sense, divided out just as when we transform $\frac{4}{6}$ to $\frac{2}{3}$ by dividing our canceling out a 2 in both numerator and denominator. Few people outside of mathematics will be aware of quotient structures, but, nonetheless, it is probably the single most important concept in abstract mathematics to emerge in the 20th century. Thus, let's look a few more examples before we discuss more deeply the importance of such things.

Next, we'll consider the integers, $\mathbb{Z} = \{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$. These are the numbers that we usually mark off for our scale on the number line. Also, it's common to classify each integer as *even* if it is divisible by 2 and *odd* if it isn't. In other words, $even = \{0, \pm 2, \pm 4, \pm 6, \dots\}$ and $odd = \{\pm 1, \pm 3, \pm 5, \dots\}$. I'm certain that almost everyone in the world knows what even and odd numbers are, but few will realize that this

represents a quotient structure. However, it does, and what is being “divided” out are the differences between particular even integers and the differences between particular odd integers. Thus, whereas in the “integer world” we see differences between 2 & 4 and between 1 & 5, in the quotient structure of the “even and odd world,” no difference is seen between any of the even integers nor between any of the odd numbers. In other words, those things which made us see differences between particular even or odd integers have been divided out.

This last example brings to mind the common saying that someone is unable to see the forest for the trees. Similarly, one might say that another person might have difficulty seeing the trees for the forest! In each scenario “forest” represents a quotient structure where the differences between individual trees have been divided out. When one sees the individual trees, the “forest” is not present, and when one sees the forest, the individual “trees” are no longer perceived, only the whole. This also illustrates another aspect of quotient structures, namely the concept of pieces of a puzzle coming together to form something new, and this is exactly what happens when we create something. Creativity is often described as an “Aha!” or “Eureka” moment when the pieces of the puzzle suddenly come together in our mind, and we can now see that every such moment corresponds to the creation of a quotient structure in our minds. Furthermore, I note that if any artificial intelligence is supposed to successfully mimic human intelligence, then it will have to have the capacity to create quotient structures. It will have to be capable of “Aha” moments.

Another thing we might notice from our even and odd example is that we could say that we took the entire set of integers and just threw each integer into one of two boxes, either the even box or the odd box, and it turns out that this is just another way of looking at quotient structures. In other words, anytime we take a set of objects and pigeonhole each object into exactly one of a finite or even infinite number of boxes, then the result is a quotient structure in which no distinction is made between any of the elements in any particular box. Additionally, one can use quotient structures to better understand the structure of one’s own life. For example, one could set up three boxes labeled “like,” “dislike” and “neither,” and then one could proceed to classify everything one knows with exactly one of these three labels, and the result is a quotient structure that represents your likes and dislikes. Similarly, one could create a quotient structure that describes one’s morality by classifying things as “right,” “wrong,” or “neither.”

If we look around us, we’ll see that we are creating quotient structures all the time. Every time we have an epiphany and every time we implement a classification scheme, quotient structures are being created, and they help draw certain aspects of our reality into focus by eliminating other features. Thus, quotient structures are actually just as common in real life as they are in mathematics, and as we will see in the chapters that follow that many things utilized in astrology these days are also examples of quotient structures. However, before moving on to that, let’s list some more quotient structures that define our lives, and my claim is that when we examine things, we’ll see that just about everything we know is a quotient structure. For example, look at a chair in your home. That is a quotient structure because you are seeing the chair as a completed whole rather than just a collection of parts. You can, of course, quickly switch your attention to the component parts such as legs, back, cushions, and so on, but when you see the “chair,” your mind is focused only on the whole. Likewise, every other object you see is also likely a quotient structure where the difference between individual components has been divided out in order to produce the perception of a single whole. Other quotient structures can be identified by simply thinking of all the ways you might complete the sentence, “I am (a) _____.” For instance, my list of the ways in which I could complete that sentence includes things such as male, mathematician, liberal, Jew, hippie,