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Interlude One: "Lesser Infinities"
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In this interlude, we will will examine the concept of "Lesser Infinities". The overall concept of Lesser Infinities involves the fact that absolutely everything is Infinite in its own unique manner, which is due to the fact that the concept of Infinity is simply another aspect of the concept of Nothing. (The fact that Infinity and Nothing are different aspects of the same overall concept is an extension of the Quantum Mathematical concept which involves the fact that the 9 and the 0 are different aspects of same overall Number, as will be explained towards the end of this interlude.)

We will start with the fact that basic set theory indicates that the set of all 'Whole Numbers' is an Infinite set, as is shown below.

$$
\{1,2,3,4,5,6, \ldots\}
$$

Above, we see an Infinite set, one which will obviously continue on to Infinity (as is indicated by the "...").

Though the set of all Even 'Whole Numbers' is also an Infinite set, as is shown below.

$$
\{2,4,6,8,10,12, \ldots\}
$$

Above, we see another Infinite set, one which will also continue on to Infinity.
While the set of every millionth 'Whole Number' is also an Infinite set, as is shown below.

$$
\{1,000,000,2,000,000,3,000,000,4,000,000,5,000,000,6,000,000, \ldots\}
$$

Above, we see another Infinite set, one which will also continue on to Infinity.
The three sets which are seen above are all Infinite sets, though when these three sets are all carried out to the same arbitrary point, each of the individual sets contains less Numbers than the previous sets. For example, if all three of these sets were carried out to the Number 6,000,000, the third of these sets would contain six Numbers, while the second of these sets would contain 3,000,000 Numbers, and the first of these sets would contain $6,000,000$ Numbers.

What this means is that in relation to these Infinite sets, the Lesser Infinities require a Greater Quantity of the Infinite supply of individual Numbers in order to "Grow" larger. The first of these sets only requires six Numbers in order to reach its sixth iteration (these being the 1 , the 2 , the 3 , the 4 , the 5 , and the 6), which means that this set involves no instances of wasted Numbers. While the second set requires twelve Numbers in order to reach its sixth iteration, only half of which are actually used, which means that this set involves six instances of wasted Numbers (these being the 1 , the 3 , the 5 , the 7 , the 9 , and the 11). Next, the third set requires six million Numbers in order to reach its sixth iteration, only six of which are actually used, which means that this set involves five million nine hundred and ninety-nine thousand nine hundred and ninety-four instances of wasted Numbers.

The examples which are seen above indicate that there are degrees of Infinity, all of which can legitimately claim to be Infinite. Next, since we have already determined that some Infinities are Lesser than others, we will examine the concept of "Greater Infinities", in an attempt to determine the Greatest Infinity, or the "Infinite Infinite", as is explained below.

In order to determine the Greatest Infinity, we will need to remove the previously unmentioned limitation on only using "Positive Numbers". This would Double the Quantity of Numbers which is contained within any of the sets which we are working with, as is shown below, in relation to the set of all 'Whole Numbers'.

$$
\{\ldots,-6,-5,-4,-3,-2,-1,0,1,2,3,4,5,6, \ldots\}
$$

Above, we can see that the inclusion of 'Negative Numbers' Doubles the Quantity of Numbers which is contained within the set of all 'Whole Numbers', thereby making this set a Greater Infinity.
(To clarify, the term 'Positive Numbers' refers to "Positive Base Charged Numbers", with these being the standard type of Numbers which we have been working with throughout these chapters and interludes. While the term 'Negative Numbers' refers to 'Negative Base Charged Numbers', with these being Numbers which possess a 'Negative Base Charge' . The overall concept of 'Base Charge' will be seen again in "Quantum Mathematics and the Standard Model of Physics Part One: 'The Birth of Siblings' ", and will eventually be explained in "Quantum Mathematics and the Standard Model of Physics Part Eight: 'Sibling Similarity and Base Charge' ".)

Next, before we progress any further, we need to revisit the concept of wasted Numbers. It was mentioned earlier that the set of all 'Whole Numbers' involves no instances of wasted Numbers, though upon further reflection, we can determine that this is not actually the case, in that the set of all 'Whole Numbers' is actually wasting an Infinite supply of Numbers before it ever reaches its first digit, as is shown and explained below.

Throughout this interlude, we have been working exclusively with 'Whole Numbers', though the 'Infinite Infinite' would have no such limitation. Therefore, in attempting to determine the 'Infinite Infinite', we would be required to include 'Decimal Numbers', which means that we could work with an Infinite set which includes tenths, as is shown below. (For the sake of simplicity, this example only involves 'Positive Base Charged Numbers', as will be the case in relation to all of the remaining examples.)

$$
\{.1, .2, .3, .4, .5, .6, .7, .8, .9,1,1.1,1.2, \ldots\}
$$

Above, we can see that while this Infinite set requires a Greater Quantity of individual Numbers in order to reach any arbitrary point, it involves less instances of wasted Numbers than is the case in relation to any of the other Infinite sets which have been seen in this interlude.

Though we could also work with an Infinite set which includes hundredths, as is shown below.

$$
\{.01, .02, .03, .04, .05, .06, .07, .08, .09, .1, .11, .12, \ldots\}
$$

Above, we can see that this Infinite set requires a Greater Quantity of individual Numbers in order to reach any arbitrary point, which means that this Infinite set involves less instances of wasted Numbers than is the case in relation to any of the other Infinite sets which have been seen in this interlude.

While we could also work with an Infinite set which includes thousandths, as is shown below.

$$
\{.001, .002, .003, .004, .005, .006, \ldots\}
$$

Above, we can see that this Infinite set requires a Greater Quantity of individual Numbers in order to reach any arbitrary point, which means that this Infinite set involves less instances of wasted Numbers than is the case in relation to any of the other Infinite sets which have been seen in this interlude.

Though we could also work with an Infinite set which includes millionths, as is shown below.

$$
\{.00000001, .00000002, .00000003, .00000004, .00000005, .00000006, \ldots\}
$$

Above, we can see that this Infinite set requires a Greater Quantity of individual Numbers in order to reach any arbitrary point, which means that this Infinite set involves less instances of wasted Numbers than is the case in relation to any of the other Infinite sets which have been seen in this interlude.

These various 'Decimal Number' examples indicate that in order to work with the 'Infinite Infinite' in set form, we would be required to begin this Infinite set with the Least 'Decimal Number' in existence. Though this requirement raises questions as to how we would indicate the Least 'Decimal Number' in existence, as is shown and explained below.

If we were to attempt to represent an Infinite set which begins with the Least 'Decimal Number' in existence, this Infinite set would resemble the example which is shown below.
$\{.000000000000000000000000000000000000000000000000000000000000000000000000000$ 0000000000000000000000000000000000000000000000000000000000000000000000000000 $000000000000000000000000000000000000000000000000000000000000000000000000 \ldots$...

The example which is seen above is as close as we can get to representing the 'Infinite Infinite' in set form, which is due to the fact that the Least 'Decimal Number' in existence would contain an Infinite Quantity of individual 0's.

While the 'Decimal Number' which is shown above displays a form of 'Self-Sibling/Cousin Mirroring' in relation to the Greatest multiple-digit Number in existence, in that the Greatest multiple-digit Number in existence would contain an Infinite Quantity of individual 9's, as is shown below.

Above, we see a Numerical representation of the 'Infinite Infinite', with this multiple-digit Number involving an Infinite Quantity of individual 9's. As was mentioned above, this multiple-digit Number
displays a form of 'Self-Sibling/Cousin Mirroring' in relation to the smallest 'Decimal Number' in existence, in that the largest multiple-digit Number in existence contains an Infinite Quantity of 9's, while the smallest 'Decimal Number' in existence contains an Infinite Quantity of 0's.

Next, we will examine an extension of the overall concept of Lesser Infinities, one which involves the fact that everything is Infinite in its own unique manner, as is shown and explained below.

In relation to traditional mathematics, all Numbers can be considered to be Infinite, in that all Numbers can be separated out into an Infinite Quantity of Lesser Numbers, as can be seen in relation to the example which is shown below.

$$
1 / 2=.5, .5 / 2=.25, .25 / 2=.125, .125 / 2=.0625, .0625 / 2=.03125, .03125 / 2=.015625, \ldots
$$

Above, we see the familiar 'Halving Pattern' which was first seen in "Chapter Zero", which we have established will continue on to Infinity (in that traditional mathematics has not established a lower limit as to the size of a 'Decimal Number').

While in "Chapter Zero", we also determined that this 'Halving Pattern' displays a repeating pattern in the condensed values of its quotients, as is shown (again) below. (In this example, the condensed values are all highlighted arbitrarily in red, as will be the case throughout this section.)

$$
1 / 2=.5(5), .5 / 2=.25(7), .25 / 2=.125(8), .125 / 2=.0625(4), .0625 / 2=.03125(2), .03125 / 2=.015625(1), \ldots
$$

Above, we can see that these condensed values display an Infinitely repeating '1,2,4,8,7,5 Core Group' pattern, which in this case runs in reversed $5,7,8,4,2,1, \ldots$ order.

Though the reversed ' $1,2,4,8,7,5$ Core Group' pattern which is seen above will also maintain if we work exclusively with the condensed values of the quotients, as is shown below. (To clarify, in relation to the example which is shown below, the dividends which are involved in each of the Functions involve the condensed value of the previous quotient.)

$$
1 / 2=.5(5), 5 / 2=2.5(7), 7 / 2=3.5(8), 8 / 2=4(4), 4 / 2=2(2), 2 / 2=1(1), \ldots
$$

Above, we can see that the reversed '1,2,4,8,7,5 Core Group' pattern which is displayed by the condensed values of the quotients also maintains when we use the condensed values of the quotients as dividends.

This overall behavior is displayed regardless of the Function Number which is involved in the repeated iterations of the 'Division Function', as is shown below, in relation to the Function Numbers of 4, 5, and 8 (as the iterations of a 'Division Function' which involves a Function Number of 2 have already been examined, while those of 'Division Functions' which involve Function Numbers of 3, 6, 7, and 9 all yield 'Infinitely Repeating Decimal Number' quotients which display unique behaviors which will be examined in upcoming chapters).

$$
\begin{gathered}
1 / 4=.25(7), .25 / 4=.0625(4), .0625 / 4=.015625(1), \ldots \\
1 / 4=.25(7), 7 / 4=1.75(4), 4 / 4=1(1), \ldots \\
1 / 5=.2(2), .2 / 5=.04(4), .04 / 5=.008(8), .008 / 5=.0016(7), .0016 / 5=.00032(5), .00032 / 5=.000064(1), \ldots \\
1 / 5=.2(2), 2 / 5=.4(4), 4 / 5=.8(8), 8 / 5=1.6(7), 7 / 5=1.4(5), 5 / 5=1(1), \ldots \\
1 / 8=.125(8), .125 / 8=.015625(1), .015625 / 8=.001953125(8), .001953125 / 8=.000244140625(1), \ldots \\
1 / 8=.125(8), \quad 8 / 8=1(1), \quad 1 / 8=.125(8), \quad 8 / 8=1(1), \ldots
\end{gathered}
$$

Above, we can see that repeated iterations of the '/8 Division Function' yield a series of quotients whose condensed values display an Infinitely repeating '1/8 Sibling/Self-Cousins' pattern (which runs in the reversed order of $8,1, \ldots$ ), repeated iterations of the '/5 Division Function' yield a series of quotients whose condensed values display an Infinitely repeating ' $1,2,4,8,7,5$ Core Group' pattern (which runs in the standard though "Shifted" order of $2,4,8,7,5,1, \ldots$ ), and repeated iterations of the $' / 4$ Division Function' yield a series of quotients whose condensed values display an Infinitely repeating '1,4,7 Family Group' pattern (which runs in the reversed order of $7,4,1, \ldots$ ). (The Infinitely Repeating ' $1 / 8$ Sibling/Self-Cousin' pattern which is seen above is shown through two iterations, due to its relatively short length.) The Infinitely repeating patterns which are seen above all arise due to the overall concept of Octaves, while these various examples indicate that it is the condensed values of the Numbers which display the patterned behavior which will be the subject of the majority of this book. (All of the repeating patterns which are seen above will be examined more thoroughly in "Quantum Mathematics and the Standard Model of Physics Part Two: 'Reciprocal Mirroring' ".)
(To clarify, the term Shifted will be seen throughout these chapters, and will always refer to some form of a Shift. In this case, the term refers to the Infinitely repeating $2,4,8,7,5,1, \ldots$ pattern which is displayed by the condensed values of the quotients which are yielded by repeated iterations of the '/5 Division Function', which involves an Infinitely repeating ' $1,2,4,8,7,5$ Core Group' which is Shifted one step to the left.)

The main point of all of this is that every Number can be split into an Infinite Quantity of Lesser Numbers, which means that all Numbers can be considered to be Infinities, with Lesser Numbers being Lesser Infinities, and Greater Numbers being Greater Infinities.

That brings this section, and therefore this interlude, to a close. In this interlude, we examined the fact that Infinity and Nothing are different aspects of the same overall concept, and we have determined that the interrelation between Infinity and Nothing is simply an extension of the fact that the 9 is the Greatest of the 'Base Numbers' (which is a form of Infinity), while the 0 is the Least of the 'Base Numbers' (which is a form of Nothing), and these two Numbers are different aspects of the '9/0 Unity'. Furthermore, we have determined that the overall concept of Lesser Infinities can be carried out to the conclusion that all single and multiple digit Numbers are Infinite, while we will eventually determine that all single and multiple digit Numbers arise from, and are contained within, the '9/0 Sacred Whole', as will be explained in "Quantum Mathematics and the Standard Model of Physics Part One: 'The Birth of Siblings' ".

