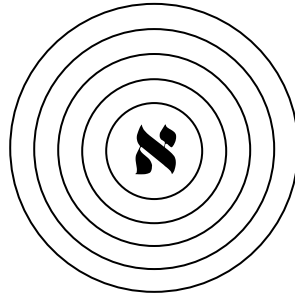


Hypotheses

It wasn't even the Absolute degree of infinity Georg needed to know. A simple explanation of the transfinite degrees apparent in the structure of his alephs. The current diagram no longer suited his needs:



Circles inherently carried no mathematical properties, he concluded, but denoted only the principal of all mathematics, of all known, the uncountable infinities. A symbology that distracted from his goal.

He knew transcendental numbers well, related on a hyperconscious level the Kabbalahists never reached in their studies of the ten Sefirot or the Ein Sof; beyond the reach of the Pythagoreans and their worship of the tetractys (following the line of 1 and 2 and 3 and 4, the primary dimensional elements to construct 10). Georg knew himself close to God, and His omnipotence.

It was already clear the relation between the infinities. The impossibility to change degrees of infinity, no matter the application of other infinities. He knew no arithmetic processes could raise an aleph zero to any higher level, except the power of that already established infinite set. Wrapped in Leopold Kronecker's mockery, and the subtle rejections other mathematicians published hidden in their benign proofs only affirming the unwritten, yet accepted, axioms of number theory, the alephs and highest level of infinity eluded him. Georg wanted more, knew more. He claimed to see the face of God in his alephs, His Chaluk blinding and glorious. But his proofs remained incomplete.

Georg slaved over the infinite sets, and power sets, and power of power sets, yet the continuum remained incomplete and unsolved, causing his first neurological breakdown that would lead to his death decades later. After a brief stint in the Halle Nervenlinik, he refocused his efforts on a long forgotten postulation in English literary history, to ease his stresses: the Bacon-Shakespeare Conspiracy. No evidence existed to support the notion that Francis Bacon in fact wrote the Shakespearean plays, rather than William Shakespeare (a man believed never to exist, according to some theories). Georg wrote on the first page of each note book he kept for his findings: "Shakespeare is no immortal; on the contrary, it is Bacon who is immortal." Those mathematicians who still considered Georg a colleague, a man of numbers and proofs and facts, wrote enquiring to his health. In each response he spoke only of Bacon and Shakespeare, of his knowing the fraudulent pedagogy circulating misnomers to perpetuate recycled tyranny; he would "expose to the world the true Shakespeare" he responded.

After two months, Georg had acquired what he imaged to be every text written by both men: 59 essays, 16 books, and two letters attributed to Francis Bacon; and all 37 plays

Hypotheses

allegedly written by the hand of William Shakespeare. He ignored the 154 sonnets and four lengthy poems—poetry was no means by which Bacon would ever debase himself to write Georg concluded. All the numbers he could not explain, but felt held a strong power fusing the two men. Before even numbers were accounted for, Georg attempted assimilation of grammars and syntaxes and dictions. Every comma, semicolon, colon, period; the various punctuations of which he was unfamiliar, he dissected. Books of columns comparing the two minds, all 114 works unified in one seemingly endless document. Digits scattered across the tables paired with indecipherable equations and proofs.

The authors' syntax and diction were compared much in the same. But these proved even more elusive than the grammars, most often—aside from common pronouns, prepositions, and conjunctions—the two bodies of work shared very little in common as to language. Shakespeare's work consisted of hundreds of made up words, while Bacon relied heavily and Latin and Greek to assess his postulations.

When the texts, at first, did not show signs of syntactical similarity, Georg slipped into his previous continuum depression. Although not a full nervous breakdown, avoiding a trip to Halle, Georg could not coincide the differences; differences he knew represented his inability to extrapolate their unity. On the one hand, the inevitability that these two authors were in fact one and the same Georg knew, without reason; on the other, his perfect and undeniable logic resisted the notion based on their texts' inconsistencies. He scoured the figures, recounted, recalculated. A dozen times over he rewrote and reanalyzed his findings. But, to no cognitive advancement.

Rather than right-out debunk Shakespeare and crown Bacon with the linguistic glory Georg knew the man deserved, he stumbled onto something new. A discovery that Georg believed altered the very essence of, and possibilities for, language. He designated his finding "The Imaginary Beat Anomaly", which he states as follows:

In any given textual sequence, there exists S number of syllables (or Real Beats), that can be quantified through the summing of written pronounceable syllables. However, in the same spoken sentence, there can also exist any number of unwritten syllables outside the present number S . These "indefinite" syllables (or Imaginary Beats), are represented by the Greek letter Ψ , and only exist in the spoken word. If Ψ 's are to exist, every sentence must contain the same number of beats, written and spoken, when the real and imaginary beats are summed, in order for communication to be feasible. The Universe Syntax Coefficient (u), where u is the set value of any given sequence of Real Beats in single integer order: a set of 10 elements or less being one, a set of 11 to 20 elements being two, etc. *ad infinitum*, where each element in a set is a Real Beat. In order for u to function in its proper intent, 10 must precede, making it possible to calculate the number of Ψ for any rendered sequence, or sentence.

Georg explicated this theory in a 35 page proof, concluding with the set of one u equalling 10, as it pertained to the number of God, a number Georg believed to not only circumnavigate his alephs, but the universe in general, especially communication, a number that intrinsically man inherited from his Creator. The proof designates a base 10 series to

Hypotheses

explain sentences of varied and compound/complex syntax. Georg graphed several examples— $\log_{10}S$, 10^S , $10S$, S^{10} —all to what he thought possible outcomes in order to solve for Ψ in text.

Punctuation, incidentally, he did not consider as part of the IBA theory, disregarding his previous Bacon-Shakespeare work altogether, concluding that punctuation was the absence of beat, where the speaker/reader paused to breathe between phrases—much like the empty set present in all sets finite and infinite.

Georg used the IBA to reconnect Bacon and Shakespeare. He wandered around his study reading Shakespeare with an IBA syntax he knew with which Francis spoke. Never actually hearing Bacon announce a single syllable, Georg knew with exact precision, tonality, pace, and inflection how the scientist spoke. Gathered from letters, conversations, journal entries, and a large assortment of mathematical assumptions based on Bacon's writings, Georg surmised, without doubt, he had recreated the great man's voice.

For a brief moment he thought he saw them while reading *Hamlet*: the alephs. Their cardinality subscripted between Elizabethan English. He ran figures and proofs, dozens of pages of thin scratched pencil marks in some notation that even Georg found difficult to read near his death. But the numbers did not coincide.

His efforts, however, were not in vain. By extrapolating the versification of *Hamlet*, Georg discovered that it was possible for the number of imaginary beats to extend beyond the Universe Syntax Constant, negating the IBA equation, it becoming $\Psi \geq 10u - S$. He reasoned, however, that no Ψ could be infinite, for if it were possible for Ψ to be infinite, contained within a finite syntactical arrangement, it would prove impossible to ever complete a spoken sentence. This led Georg to wonder if it were possible to write an infinite sentence, and if, by rule of the Imaginary Beat Anomaly, that the imaginary beats in the sentence would in fact also be infinite, since an infinite sentence could never be vocalized. By doing so, and through a series of complex operations, Georg discovered the following equation:

$$S + \Psi = \aleph_1$$

where the beat limits of S and Ψ are infinite

This was an outcome he did not expect; or one he intended. But the sheer possibility of it seized him. Then he wrote the following postulation:

$$S^\aleph + \Psi^\aleph = \aleph_2$$

No proof to go along with the assumption, but he felt no need to provide one. Simple logic was enough for Cantor.

He was wrong.

Months later he disproved himself—again without proof—concluding that an infinite sentence's beats raised to infinite sets completed the possibility for the infinite; it became all the cardinals, or Georg's \aleph . The equation is as follows:

Hypotheses

$$S^{\aleph} + \Psi^{\aleph} = \aleph$$

where \aleph represents all possible cardinals for the Alephs,
and the high level of the infinite

He wrote his good friend, and publisher, Richard Dedekind the following letter:

Richard,

I have herein enclosed copies of my latest work. Several of these proofs no longer hold, since subsequent findings disprove my discoveries, yet the processes, I find, integral in collectively upholding my argument. The alephs, transfinite numbers, and their cardinals still remain elusive; however, it was through them that I have made this greatest discovery. The Bacon-Shakespeare Conspiracy, you will recall, has populated my mind for years. The proofs that follow in this letter will make all clear to you, and the world.

Unfortunately, the letter was inconclusive, as were his proofs, to what he referred would be made clear from his work. Only fragments aligned for Dedekind, of which he wrote: "This Imaginary Beat Anomaly proves troublesome and unexpected, even for Georg Cantor. I sense he grows ever closer to Halle. The alephs will be the death of him." Dedekind tried writing to his friend and colleague, but Georg interpreted the response as ridicule and severed all ties with Dedekind and the rest of the mathematic community. He ceased teaching. Abandoned all pursuits and remained cloistered in his study with the Imaginary Beat Anomaly, and Shakespeare and Bacon.

Perhaps it was not Bacon at all, Georg tried to reason, but some other man of science. He expanded his reach, considering even further that a coalition of mathematicians and scientists constructed the Shakespearean library. Galileo Galilei, Nicolas-Claude Fabri de Peiresc, Rene Descartes, William Gilbert, Johannes Kepler, Simon Marius, and Marc Welser, each a master in their own right, and Georg needed to see some similarity between each man. If for nothing else, to prove his IBA theory beyond what Dedekind disbelieved. Walls papered with diagrams and statistics, but like his initial work with comparing Shakespeare and Bacon, only now his study resembled the space of a lunatic. He reduce himself to grasp at occult numerology, sequencing each name letter by letter, one through 26 assigned to each alphabetic symbol from A to Z respectively. Once sequenced, Georg applied reduced summation to each name until he had simplified them to single integers from one to nine representing each man. The same steps were repeated to process their birth and death dates, and the location names of each. All the findings were plotted, each man in a different color on four separate graphs. His results were less than satisfactory, each graph functioning better as business revenue examination than elucidating the Shakespeare-Bacon Conspiracy. Or his alephs. Or anything.

The idea died soon after its conception.

Desperation seized Georg. Nearly a year wasted in the Bacon-Shakespeare hypothesis, with no more evidence that his continuum existed. The alephs, stagnant and undefined, and Shakespeare still the man of words the world believed him to be. Panicked, he sought to construct various mathematical models based on the Ptolemy universe,

Hypotheses

hoping that perhaps the geocentric model was not in fact a gross oversight of the astronomer, but a distraction, a code of some kind later used by Galileo, or Bacon, or one of his other scientist/mathematicians. Perhaps, like his initiation into the alephs—inscribed in a series of circles—Ptolemy had hidden the earth at the solar system's, even the universe's, center as a misnomer to deviate any unworthy pursuant from finding Truth. About what, Georg assumed the infinite, applied to his alephs and IBA theory. All Georg needed was the cipher. A cipher that, up until Georg's work, had yet to be considered, or discovered. Though he never found Ptolemy's cipher, Georg invented several of his own, all of which relied heavily on Euclidean geometry, the Golden Ration, and variable time continuums.

But the model, in its crudeness and lack of measurable detail, drove Georg further back to Pythagoras and his mathematical and geometric relations. More disappointment, and further disillusionment. Two months spiraled around the Fibonacci sequence, which produced dozens of maps corroborating imaginary and real beats among Shakespeare and the now handful of mathematicians and scientists Georg used to disproved the Englishman. Still Bacon dominated the varicose research verging on cancerous that now bloated his study, hundreds of pages stacked on his desk, covered in ink, but empty.

Shakespeare and Bacon, and the others, severed the anxiety Georg's alephs fostered, allowing him to rejoin the transfinite and cardinals once more, which resulted in the last year of his life extinguishing at the Halle Nervenlinik. Georg died January 6th, 1918. Though control of his mental faculties all but faded into oblivion in the months preceding his death, the genius of his work could not be denied. All the work pertaining to the alephs, the infinites, transcendentals, his precious cardinals; every scrap he scribbled on was prized by the University of Berlin, a gift be bestowed on the college days before he succumbed to the flesh. And it was in their cataloguing of Georg's work, that the answer he searched for—not the cardinals, the true order of the infinite—still evaded those familiar with his deterioration.

Weeks proceeding his burial, and after the reading of his Last Will and Testament, his study, which remained vacant over that year since his departure, was opened. Written in what looked to be dried blood across all the walls, layered and crusted and mostly illegible, was the phrase repeated without end: I am William Shakespeare.