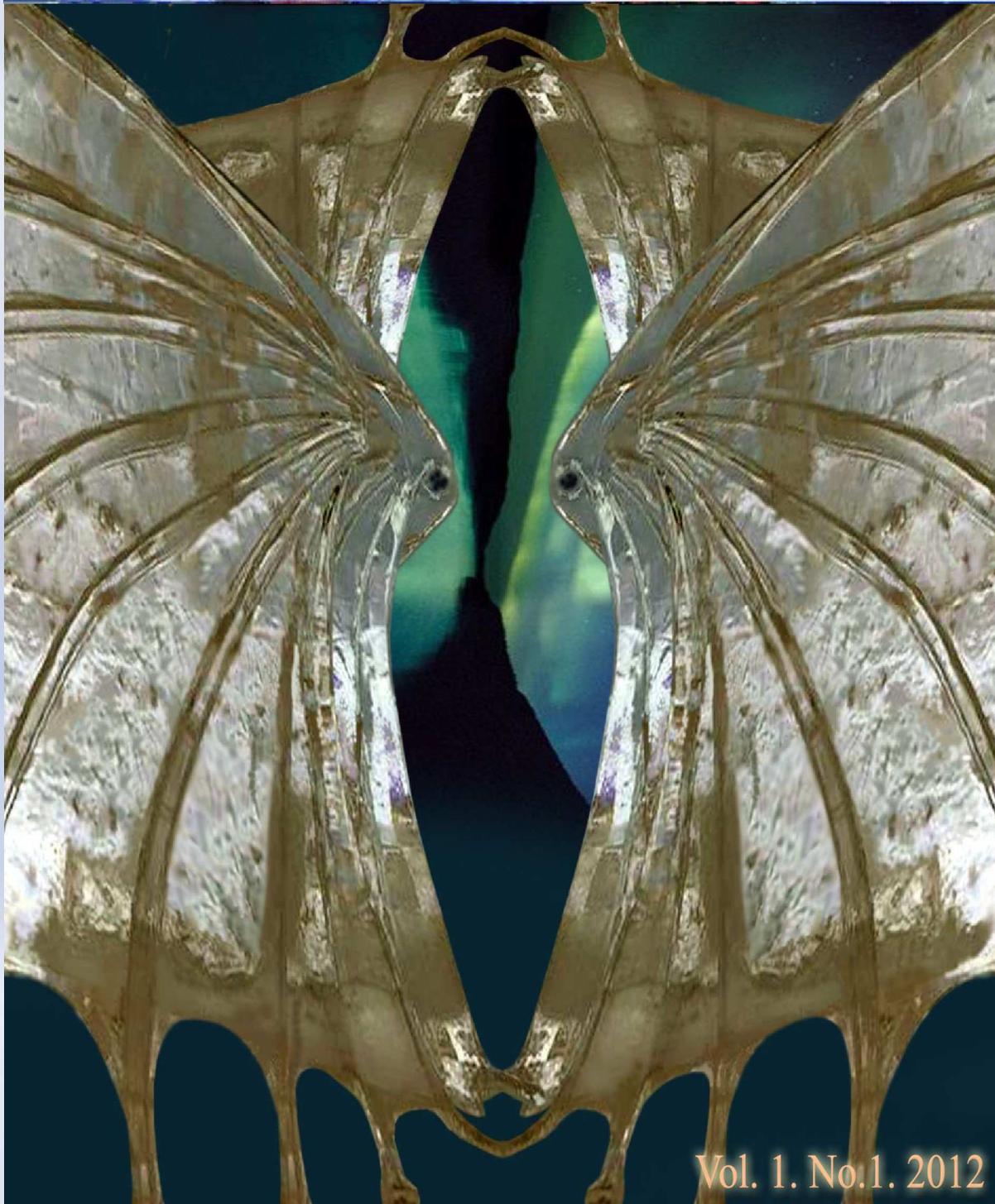


Transfigural Mathematics

Journal of Original Ideas Exploring Natural Creativity
(featuring Mathematics, Sciences, Literature, Arts, and Philosophy)



Vol. 1. No.1. 2012

Transfigural Mathematics

New Ideas and Peer Review

On the rejection of new ideas in science, we got this from of Juan Miguel Campanario Universidad de Alcalá, Facultad de Ciencias, Madrid, Spain,

“Twice the Journal of Chemical Physics rejected in 1965 the key paper that led to the 1991 Nobel Prize in Chemistry so rightfully awarded to Richard R. Ernst [Ernst, 1986]. The editors claimed that the contents of originality were insufficient for publication in such journal. In consequence, Ernst had to publish his findings in the less known Review of Scientific Instruments [Ernst, 1991].

The truth about Change is that you can't prevent glasnost from happening, may this be in politics or in that in which politics is a subset, that is, in knowledge. Glasnost will come when it will come and the gatekeepers of old shall be swept away by the rivers of change.

Still on the myopia that impedes the progress of knowledge but got swept away by change when the world decides to move and the being has had enough of the beaten path.

From Frank Tipler's famous article, *Refereed Journals: Do They Insure Quality or Enforce Orthodoxy?* we have,

“...If one reads memoirs or biographies of physicists who made their great breakthroughs after, say, 1950, one is struck by how often one reads that “the referees rejected for publication the paper that later won me the Nobel Prize.” One example is Rosalyn Yalow, who described how her Nobel-prize-winning paper was received by the journals. “In 1955 we submitted the paper to Science.... The paper was held there for eight months before it was reviewed. It was finally rejected. We submitted it to the Journal of Clinical Investigations, which also rejected it.” (Quoted from The Joys of Research, edited by Walter Shropshire, p. 109). Another example is Günter Blobel, who in a news conference given just after he was awarded the Nobel Prize in Medicine, said that the main problem one encounters in one's research is “when your grants and papers are rejected because some stupid reviewer rejected them for dogmatic adherence to old ideas.” According to the New York Times (October 12, 1999, p. A29), these comments “drew thunderous applause from the hundreds of sympathetic colleagues and younger scientists in the auditorium.

In an article for Twentieth Century Physics, a book commissioned by the American Physical Society (the professional organization for U.S. physicists) to describe the great achievements of 20th century physics, the inventor of chaos theory, Mitchell J. Feigenbaum, described the reception that his revolutionary papers on chaos theory received:

Both papers were rejected, the first after a half-year delay. By then, in 1977, over a thousand copies of the first preprint had been shipped. This has been my full experience. Papers on established subjects are immediately accepted. Every novel paper of mine, without exception, has been rejected by the refereeing process. The reader can easily gather that I regard this entire process as a false guardian and wastefully dishonest. (Volume III, p. 1850)...

Peer Review Policy of JTfM

The journal, *Transfigural Mathematics* was launched to publish new ideas. We welcome those original ideas which in most cases look strange when they are born. We publish and let the entire humanity and posterity know what you have for them. They are the best referees.

In this regard we would like you send your work to at least two people to go through them and pass their comments to us together with your paper. We shall do the rest by going through your paper. We combine our comments with the comments you send with your work and where the views of the referees agree in a way—whatever the differences—we *publish*.



Purpose

Original ideas. Innovative ideas. Elaborate account. Creation. Innovation. Elaboration. One is new and strange. One enriches the strange that is no longer new. One adds to what enriches the new that is no longer strange. While original ideas struggle with the problem of finding the right language for formulating their very concepts and the innovative ideas with the problem of not veering off the course of the ideas they set out to enrich, what creation, innovation and elaboration have in common is cultivation. They are all cultivation, that is of the mind in this case, to convey what it has to the world with the best of care.

What does the flamboyant toga of mainstream is elaborate account of what was created once upon a time and innovated upon along the way. Most of what comes to the tables of editors of scientific journals belongs to the province of elaboration. And most of what gets published belongs to the beaten path of elaboration.

The *Journal of Transfigural Mathematics* simply called *Transfigural Mathematics* was launched to publish original ideas which normally find it difficult to get read at all because they are so new, so strange. Of course what constitutes the mainstream knowledge are ideas which perhaps for hundred years or more when they were delivered unto the world were original ideas. At that time most of these ideas got published because they were not tied to careers nor to promotion nor titles all of which are impoverishing the intellectual and academic landscape in our time. People simply explored in those days for the love of knowledge and the joy it brings to the heart.

By looking at what props the contemporary economies, from the commercial benefits of computer technology to space exploration, the fact remains that most of the foundations of technological breakthroughs in our time were laid before governments began to fund basic research at all. Just two examples. The American National Science Foundation was launched in 1950. That's after the birth of relativity and quantum mechanics. The German Research Foundation – Deutsche Forschungsgemeinschaft – was founded in 1920. Before then relativity, special and general, was already born unto the world.

Original ideas are at the core of what is called basic research. This is research that is not motivated in the first place by any commercial benefit, not by any promise nor promotion of a career but simply by the love and advancement of knowledge and the fulfilment of the desire of the heart. That's why they are always strange when they come. That's why editors of journals that should pass the new voices across to the world feel dazzled, in some cases, confused by them and in fear run straight to the elaborate account of what was founded, tested and even in some cases, twisted along the line with more accounts coming from all sources like tins of tomatoes on conveyor belt.

As all this was and is still going on, *Transfigural Mathematics*, was born – the year was 1985 - to take the new and strange voices to the world for which they were born to serve. And since no single original idea is produced from a single field, it is necessary to open the lovers and beloved of the muse, our readers, to a dialogue among and handshake of the disciplines. This means the creative mathematician should write in a way that should inspire the artist and so doing link him to the contributions of projective geometry to the arts. Who knows, the artist who reads the mathematics paper may find herself launching a new philosophy of art. And when next she writes, the writer should allow the poetic in her to communicate with the scientist. After all the creative scientist has a lot in common with the creative writer. In fact all creative minds have this in common: they live in world without boundaries. Indeed they are free. The *Journal of Transfigural Mathematics* is the meeting point of creative minds and the melting pot of original and innovative ideas.

In a nutshell...

The general mission of the journal is

to build bridges between various aspects of intellectual engagements and aesthetic awareness and expression and use same as the basis for cross-fertilization of ideas between mathematics, the sciences, literature and the arts.

In this regard, the journal sets out to make its readers – and authors

- develop critical attitude to even established ideas
- think of new ways of doing things
- be receptive and be ready to understand new ideas
- contribute to the development of new ideas
- create new systems
- broaden the base of existing systems
- play an active part in the voyage of discovery

and more.

→

Readership

Readers of *Transfigural Mathematics* are people who are searching for inspiration in and beyond their fields. They have open minds. They love the odyssey of the mind that goes with arriving at a new idea at all. And they love not only the idea but also the engaged, reader-friendly style of its presentation too. Readers of JTfM are lovers of new ideas and their innovation that is made to bear on them and of the beauty of language too. So they are broad-based researchers. They are incessant seekers. They are simple folks in want of spiritual and intellectual pasture to enrich their lives and through this, transform this common space, the world, into a glorious habitat that is a blessing to posterity.

In this regard...

The journal's primary aims are

- to encourage talents wherever they may be found and whosoever they may be
- To bring to light great ideas that (i) have been established (iii) are new and have been developed to some extent, or (iii) are new and are at the primary stage of development provided these ideas have interdisciplinary flavour and may or may not be controversial.....
- to inculcate in the readers the spirit of inquiry

such that the journal has a readership that is

- tolerant of new ideas which in most cases look strange at the beginning
- ready to put things in question
- derives joy from the pursuit of knowledge for its own sake

Frequency

Every edition of JTfM is connection-exchange-intensive. The *ViewPoint* in which trail-blazing mathematicians, scientists, writers, artists and philosophers are interviewed requires reading through their works, getting in touch with them, setting the questions and requesting for their photographs. *Research Papers* and articles need to be reviewed. There is the need to be conversant with developments in mathematics and the sciences, literature and the arts to bring to our readers thought-provoking and inspiring articles in *MathsLetters*, *For The Records*, *Research in the News*, *SciTech News*, *WritersDiary*, *ArtsWorld* sections of the journal. Reviews of books calls for extensive reading too. That's why the journal is being produced four times a year. In addition to these sections of the journal, there is the *Highlight* which confronts ongoing research with questions and opens new perspectives on established thoughts with the aim of broadening them. For *Highlight*, contributions are solicited from mathematicians, writers, scientists, philosophers of (mathematics, science, knowledge, being, mind...), artists and people from other disciplines and engagements.

Circulation

With the online edition added to the printed edition, the journal goes far and wide. The journal, through its online edition which is far cheaper than the printed copy covers the university libraries, libraries of research centres, libraries of writers guilds and associations, arts council libraries and private libraries of lovers and beloved of the muse around the world. The printed edition has the advantage of being a book and so ideal for the library while the online edition can be pinned together by individual subscribers.

Donations

Since its inception in 1994, apart from the donation from a friend, Kenneth Hsü, professor emeritus of Stanford and TEH Switzerland and the journal's *MathLetters Editor*, Domingo Gómez Morin, the Editor-in-Chief who launched the journal has been financing it. The advantage of this is that the journal can choose to and is independent. All the same the journal welcomes donations and financial support both of which shall be announced and received with thanks. It also welcomes sponsorship too without censorship nor strings.

Publisher

The Matran School
Berlin, Germany

All Correspondence to:

lereshak@yahoo.de

[Refer under *Editorial Executive* for postal Address(next page)]

Transfigural Mathematics

Editorial Executive

EDITOR-IN-CHIEF

Lere O. Shakunle
The Matran School
Berlin, GERMANY
lereshak@yahoo.de

CO-ORDINATING EDITOR

Donald V. Poochigian
Department, Philosophy and Religion
University of North Dakota
Grand Forks, North Dakota, USA
donald.poochigian@und.nodak.edu

PAPER EVALUATION EDITOR

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University of Oulu, FINLAND
timo.jarvilehto@oulu.fi

CONTRIBUTED PAPERS EDITOR

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London, E1W 2UT, UK
ioulia_fenton@hotmail.co.uk

MATHSLETTERS EDITOR

Domingo Gómez Morin
Caracas, VENEZUELA

ARTSWORLD EDITOR

Laura Batson
Ottawa K2M 2B9
Ontario, CANADA
lbatson14@hotmail.com

FRONTPAGE/CARTOONS EDITOR

Susanne Pikullik-Bastian
28211 Bremen, GERMANY
spb7@gmx.de

PUBLISHER

Transfigural Mathematics Society

CORRESPONDENCE

Editor-in-Chief
Transfigural Mathematics (JTfM)
Käthe Niederkirchner Str. 24
10407 Berlin, GERMANY
www.transfig-math.de

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Acknowledgement: Thanks to Claude St. Arroman for the permission to use the image
from her stunning collections of images and photographs on architecture as the frontcover
of this edition.

Fluid Logic Numbers cannot be used for counting since a fluid logic number is neither a whole nor a part. As a result of this, these numbers cannot be applied in numbering of pages or anything since in such cases numbers are not things and so lack the identity of things. This is not the case with the fluid logic numbers of Transfigural Mathematics in which numbers constitute things and so have the identity of things with the result that they include living experiences. The result of this is that mathematics is no longer a journey in abstraction and formalism but an immersion in life itself. This is what it means to be a breathing-point which is a fluid logic number which is the zerospiral. This edition explores, explains, and explicates how the fluid logic numbers transfigure into breathing-points and zerospirals.

Lere O. Shakunle

Breathing-Point Geometry of Transfigural Mathematics with its Foundations

Lere O. Shakunle
The Matran Schools
Berlin, Germany
email: lereshak@yahoo.de

Abstract

This paper is about the basic concepts of the geometry of transfigural mathematics. The name of the geometry is Breathing-Point Geometry. In other words, the foundations of breathing-point geometry are in transfigural mathematics whose foundations are not the same as those of classical, set-theoretic modern, and intuitionistic mathematics. What this means is that breathing-point geometry is not the same as Euclidean geometry nor non-Euclidean geometries. For example, the point of Euclidean geometry which remains the same in non-Euclidean geometries and the line of Euclidean geometry which as parallels are not valid in non-Euclidean geometries as a result of the differences in the shapes of figures in such geometries are not valid in Breathing-Point Geometry. The reason for this is that the entities of breathing-point geometry are not products of axiomatic way with the world in which the inhabitants originated from and live in logical space whose other name is Void. With such foundations, the point doesn't have to be anything - Euclid makes it, amongst others, the undefined - but from what lacks access to human experience with no hold on imagination other to take it to be Nothing, the line emerges and lo! there are now two points! With the line made of two points, space is now the line in one dimension waiting for its natural omnipresence to be packed into boxes as planes, surfaces and solids. Fluid logic numbers of transfigural mathematics from which the zerospirals of breathing-point geometry originated are about what things are and not about producing a point by the fiat of the axiom and relating it to the line and from there get to the plane and from thereon, other shapes which are unlike space itself because they are static, come to the fore just like that, with functions built on infinitesimals and limits given the duty of effecting a flow that is forced. Breathing-Point Geometry is not point-free like the geometry of Whitehead in which 'point' still exists all the same but take on the name of states or regions. And this being the case, gaps still remain. There are no gaps in breathing-point geometry because there are no gaps in Nature. In Nature, according to Heraclitus, everything flows but this is not enough either, says transfigural mathematics. If everything flows nothing can be held responsible. And so, there is the permanence in the flow that changes and there is the flow in the permanent that is as constant as the northern star. Still on gaps. The story of science is littered with gaps, from quantum jump to the Big Bang. But science is an expert in getting its story patched up, witness the God-of-gaps narration of the history of the world in which science whose Big Bang is itself the kind of story that fits the magician's wand says that the gaps in its story need to be there for God to have a place. In other words, no gaps, no God. To which [Heller, Michael – Creative Tension. Essays on Science and Religion, p.7] rightly replies, and I agree with him completely, that it is bad theology and equally bad science if, in the case of science, its only goal is to popu-

Nature there are no gaps. And so, if there are no gaps in Nature, how come that the story told by science and the axioms that try to show what-is of the entities of mathematics but end up with no ground under them, groundless yes, but existing in their own universe that are strange to what we know existence to mean are filled with gaps everywhere? I would say it is not God who needs the gaps to exist but that science and mathematics need the right foundations that are based on what things are instead of imposing on things what they should be that needs to make sense of their creations by filling the gaps that are un-natural. This cannot be done with the foundations that produce mathematics and the sciences. With gaps everywhere nurtured by dichotomy, with worlds thrown apart with no sands of compromise between them, with things cut and split into one against the other and so doing split the human consciousness to divide the house against the itself and divided, dividing the world against itself such that wherever it turns it can only see a divided world through itself as the mirror, it is to be expected that an Explanation that comes from such foundations has to be not only filled with gaps as a result of the exclusion of space from figure, one from the other through the banishment of the inbetween of harmony, of peaceful co-existence, of peace with Nature, in the world, everywhere. The paper begins with the philosophy of breathing-point geometry and from there takes us into the realms of the geometry. This done, the basic concepts are presented with exploration and discussion that are followed by examples. Space in Breathing-Point Geometry is not the same as space in Euclidean and non-Euclidean geometries where shapes represent the space of logic than the space of Nature and in which measurement ‘cuts’ things out and away from things and space is reduced to pieces that could be sewn together.

Breathing-Point Questions – Beyond the Terms of Reference of Euclidean, non-Euclidean, and Other Geometries

What happens where space is something as the figure which encompasses the visible tree and the ideas that populate the mind and pictures that inhabit imagination, the daughter of creativity? What happens where the point flows and the line folds? And indeed what happens where space itself is as active as what is in it and so it is neither a container (Newtonian Mechanics) nor in combat with ‘matter’ (General Relativity) but is included in what is in it to the point of One in the Other? The answers to these questions are easy because where the point and line are the figures and both include space that includes them, the point as something definite on the line and the line as beginning and ending with points no longer have any place in the scheme of things. This is the case because there is no place for the point to claim as a definite place not the line as definite beginning and end because being included in space, the one flows in the other that folds from which follows that there can be no longer rigid geometric shapes to represent space which is no longer alone. Thinking of space as a plane or sphere is no longer valid because space is included in the point and the line and from there the figure is included in space and space in figure.

In all this, we are speaking from within the geometry of the breathing-point. Breathing-Point Geometry (BTPTG) is neither Euclidean nor non-Euclidean. Whatever the differences in their shapes of space, the point, represented by a dot or edges, and line, straight or curved, Euclidean and non-Euclidean geometries agree on what the point and the line is and from there what the plane on which the metrication of space is based. Distance remains distance between two points on the plane as it is on the sphere where the difference is whether the line of distance is straight or curved. The concept of distance breaks down completely in Breathing-Point Geometry. It breaks down because space in including one in the other in which itself is included, two or more points could be a single point or many points depending on *whether*,

- (i) *space is in-between the figures which are a figure with it, therefore spacefigure*
- (j) *space is between the figures which are a figure with it, therefore spacefigure*
- (k) *space is across the figures which are a figure with it, therefore, spacefigure.*

In-between, between, and across are some of the features of transfigural INS. Transfigural INS are the different forms of One in the Other of Space, Figure, and Identity.

Space is non-homogenous in Breathing-Point Geometry. There are alpha-alpha space, omega-alpha space, alpha-omega space, omega-omega space, and identity space. These spaces have different structures. There are also different types of spaces including the above diverse structures that constitute what is known as transfigural space. More about all this soon.

The purpose of this paper is to introduce the fundamental concepts of the geometry of transfigural mathematics by which is meant a geometry whose foundations are to be found in transfigural mathematics and so whose foundations differ fundamentally from those of classical, modern set-theoretic and intuitionistic mathematics (Shakunle, ATINER 2011; Poochigan JTfM Vol. 1. No.2.2011; Shakunle, JTfM, Vol.1. No.2, 2011).

Breathing-point is what a point naturally, therefore is, in reality. From this follows that in breathing-point geometry, the underfined terms are not the point and line. What cannot be defined because they are incomplete are the traditional geometric shapes which are rigid where the space they set out to represent is not. And so a circle is undefined in breathing-point geometry and remains so until it flows at which stage it is no longer just a shape separated from the other by the ruler and the line as boundary between the inner and the outer but a figure that includes space that includes it. A sphere becomes a sphere when it flows.

For the rigid geometric shape to become a transfigural figure that include space together with which they are spacefigures, it requires the presence of the zerospiral in it which makes of it a spacefigure. What follows from this are different types of zerospirals. A circle as a zerospiral which is called zerospiral circle or simply transfigural circle, that is a circle in transfigural geometry, is not as complex as zerospiral sphere samedifferent (same yet different) transfigural sphere. These circles and spheres and others are living organic entities in a living, breathing world. They bridge the gap between the traditional circles and others of Euclidean and non-Euclidean geometries and artistic geometric drawings on one hand and between them and the natural organic circles and others on the other. What these figures have in common is the creative potential, amongst others in them, that change them radically from simple to complex to intricate. Before reaching these figures, the basic concepts of breathing-point geometry shall be presented. This shall be done after a short excursion in the concepts such as undefined terms and axiomatics that protect the rigidity of geometric shapes in the traditional geometries.

Transfigural Mathematics and First Principles of Greek Philosophers

Arche, the first principle is the beginning of all. There was none before it. And being the beginning without the other, it is expected that it also is the end. In other words, the first principle begins and ends the line. But what happens to infinity which has no beginning nor end? Indeed where is the place of infinity of the line and not the infinity of the point on the line - the continuum - in the first principle from which all begin and at which all end? And if infinity is a point which is the first principle, what makes it an infinity where there is none before not after it that make it know itself to be the infinity? We shall come back to these questions very soon.

The First Principles of the ancient Greek philosophers were based on the First Cause which is the One from which the Many originated. We have some of them in the list compiled by [Siris, Vasilios]:

- Thales of Miletus:** All is Water - All comes from and is made of Water
Anaximander: Pupil of Thales. Introduced the apeiron (infinity)
 All originated in the sea from Moist Element
Anaximenes: All comes from and is made of Air
Pythagoras of Samos: All comes from and are numbers.
Heraclitus of Ephesus: All originated from and is made of Fire.
 Everything is in a state of flow - *Panta rhei*
Parmenides of Elea: All is made of One. Change is illusory. That which does exist is The Parmenidean One, which is timeless, uniform, and unchanging (Wikipedia)
Zeno of Elea (495-435 B.C.). Known for his four paradoxes: Dichotomy, Achilles, Arrow, and Stadium. These paradoxes are related to the notions of continuity and infinity. Lost his head after being found guilty of treason.

Anaxagoras of Clazomenae :With Anaxagoras came dualism in which the Mind rules itself with other things sharing one another's properties. According to him, "Other things share in a portion of all things, but Mind is boundless and rules itself, and is mingled with no other thing, but remains apart by itself. For if it were not apart but had been mixed with any other thing, it would have shared in everything if it had been mixed with anything. For, as I have said above, there is a portion of everything in everything. And if other things had been mixed with Mind, they would have prevented it from exercising the rule which it does when apart by itself. For Mind is the slenderest and purest of all things. Mind is the ruling force in all things that have life whether greater or smaller."Anaxagoras 's First Principle is called the homoeomerous theory of matter. This is explored indepth in to [Cornford, F.M.: Anaxagoras Theory of Matter-I] below:

"Anaxagoras' theory of matter offers a problem which, in bald outline, may be stated as follows. The theory rests on two propositions which seem flatly to contradict one another. One is the principle of Homoeomereity: A natural substance such as a piece of gold, consists solely of parts which are like the whole and like one another-every one of them gold and nothing else. The other is: 'There is a portion of everything in everything', understood to mean that a piece of gold (or any other substance), so far from containing nothing but gold, contains portions of every other substance in the world. Unless Anaxagoras was extremely muddleheaded, he cannot have propounded a theory which simply consists of this contradiction. One or the other proposition must be reinterpreted so as to bring them into harmony. Some critics attack one, some the other; some try to modify both. Mr. C. Bailey has recently published a fresh attempt to reconstruct the theory in a form consistent with itself. But the result, as he admits, is arbitrary and (above all) uneconomical. These defects, like all the contradictions and obscurities found in other accounts of the system, can be traced to the second proposition: 'There is a portion of everything in everything', or rather to the construction put upon it. The language is crude, vague, and ambiguous. What does 'everything' mean? Has the first 'everything' the same sense as the second? If taken to mean that there is a portion of every material substance in every material substance, the proposition leads to a result for which 'uneconomical' is an indulgent epithet."

Leucippus and Democritus: They realized that the Eleatic dilemma of identity and change could be resolved without invoking a cosmic intelligence of any kind, whether material or immaterial. In their theory, the universe consisted of unchanging indivisible particles, the atomoi or atoms, moving within an empty void. The identities of these microscopic atoms are fixed with their interactions based definite causal laws.

Protagoras : Greek philosopher and the earliest known Sophist. Believed that sense perceptions are all that existed, thus reality differs from one person to another.

The First Principles were supposed to be the origin of things in that everything was supposed to come from and made of them. The Axioms later got translated from them. But when this happened as contained in the axiomatic system that constituted the geometry of Euclid, the universal domain of the first principles became limited by the entities of the system that is being axiomatized. Even then, Euclid was more generous in this case than Hilbert who later set out to put geometry on sound foundations the kind that conferred meaning on them by syntax and manipulation of symbols. The axioms of Euclid originated from the largely unknown and based on what was written about the point and line as definitions, none of them could claim to exist, if to exist means for the Other to be aware of the One being there since identity is not possible in isolation.

The entities of Euclidean logic lacked the Other of Space as a natural habitat and live in the isolated space of logical deductions. The sound foundations that Hilbert advanced stipulated that all that should be known about the basic concepts of a system should be contained in the axioms [C.U. Moulines : *The Nature and Structure of Scientific Theories*] This means existence of a thing is determined by the axiom! And the theorem, where possible. And the proof, of course.

Nor are the First Principles of the Pre-Socratics without their limitations. They were all based on the physico-material in which things are interpreted to be rigid - which is why the atomists threw collision into the atoms to make them hit one another to generate motion imposed from without - and so are logical constructs that are wider than the axioms which replaced them but had the inbuilt limitations of being first causes.

Like the axioms of Euclidean geometry and those of mathematics in general, the first principles are confined to logical domains that are fundamentally rigid and to which dynamics is introduced from without into the axioms, definitions and the theorems that are derived from the axioms. Though universal, the lenses of first principles are determined by what they advance as being the first cause - everything is water (Thales), everything is number (Pythagoras), all are one (Parmenides), all are dual opposites (Anaximander and others, (see below)), all are atoms (Leppicus and Democritus), everything flows (which was rejected because it was difficult by the rigid rules of the logic of traditional mathematics to manage what flows; the limitation of everything flows is that there is no place for it in Greek mathematics and to compound the problem, there is no seat of permanence in it as given by Heraclitus) - and so end up with domains which are broader than the axiomatic systems that later replaced them.

Generally, where they are not monists, and even as monists, the pre-Socrates philosophers were preponderantly dualists. Anaximander and, later, Heracleitus, Empedocles, and Anaxagoras all held doctrines of opposed natural substances, in which the interplay of opposites is at the basis of everything. Pythagoreanism which was founded by Pythagoras of Samos, is based on opposing dyads such as one/two, male/female, and so forth. The metaphysics of Plato divides the world into two realms: the unchanging intelligible world of "forms" and the perceptual world of change. Human sense which 'participate' in the unchangeable

and perfect form (Ideas) are imperfect copies.

These first principles of the Ancients, including the Good of Plato, do not cover the empirical sciences. They do not cover the deeper levels of human awareness. They are confined to their subject matter which are materialistic and so are removed from the deep questions about the where and wherefores of human existence. The missions of the axioms are all the same narrower though they are than those of the first principles on ancient Greek philosophers.

The axioms of mathematics and logic, their definitions and theorems deal only with what appears in the pre-axiomatic statements and operate within the logical space of the operations on the terms and basic concepts. This being so, they do not cover the empirical sciences which involve the world out there in which things are fluid. This means that mathematics and the natural sciences only deal with a very limited aspect of things and such things that are predictable, manageable, controllable. These are qualities which cannot be applied on living things.

Now suppose we want mathematics and the sciences to cover the empirical aspects of awareness with its fluidity, unpredictability, constant change and intricate complexity in addition to the traditional terms of reference, what must happen? This seems not to be the way to go. The way to go is to ask why mathematics and sciences are far removed from questions that are crucial to human survival. The problem is that their foundations limit their scope.

Now look at traditional mathematics. Its spaces - geometric and algebraic - are not the spaces in which we live. Though they speak of three dimensions, these dimensions could not be related to what it means to live in the world. Where pollution is the problem we do not need three or more dimensions. We need to know what we do wrong to make the environment become a sick place. We do not need the algebraic space, a constructed highly mechanical space, where and when hunger and famine hits the world. What we need are questions about what was done wrong to the environment to deserve such a backlash. When the trees are drying and what we need from them for survival is under threat, good though our praise of how fast we can travel may be but what we need is to look again at the concept of distance in our physics which tells us that we are separated from the trees and the birds and others and at our biology that makes us the king of the manor in the world that belongs to all.

We do not talk about logical space in transfigural mathematics. We talk about the space we share. We do not talk about distance but that where one flows in the other, the peace of the tree is the peace of the bird and the peace of the tree and the bird is our peace too. Indeed we begin with the space of shared awareness in transfigural mathematics and travel inside it to its very depth.

We do not need first principles. We do not need the axioms. There is no place for the undefined terms which makes nonsense of what is built from it because how to defend building from what cannot be known because it is the other world of Plato before which this world is condemned. We do not need all this in transfigural mathematics. We need ourselves, the tree, the bird, the sea, the earth, the sky, yes the deeply intellectual in which the spiritual and the emotional flow with all the values and the virtues involved, indeed we need all that is here and in the there at the other side and in the beyond to begin with. We say we are neither less nor greater than the others. And so we begin with the source of our common identity. For this we do not need 'there exists x such that....' in which x is willed into the world by the axiom out of nothing. We say we are that x in the y of nature and the z of the divine. We are here. The tree is here. The mountains are here. We don't need to escape to the region of reason to pull existence out of the wand. We are the proof of there exists. And so let us begin with ourselves.

How do we know that we are human beings if others are not around? Identity is not possible in isolation. And so we say, this being the case, what makes us human then? What makes us human is that others are there to show that we are human beings. They cannot do this if they are a distance apart. This means they are in us and we are in them. But they cannot be in us if space is not involved, this being what we see between us and them, our others. This also means that in their flow in us and us in them, space is involved. All this does not need syllogisms not if-then conditions. It is a straight-forward story about how are what we are and come to be what we are.

In transfigural mathematics, we are not talking about *relation of A to B* in which A and B are separated by natural space that transfigurally includes one in the other nor A and B which are placed in the void of logical space with relation R to be operated upon. Instead of *Relation R* we have *iNclusion N* of one in the other as a *flow in flow, flow in fold, fold in fold, form in flow in fold* of one in the other which is the general form of inclusion called transfigural INS in which A and B, may they be terms "A" and "B" as concepts or things A and B cannot be exhausted but being one in the other have no place in them for the undefined.

Transfigural INS is about one thing being in the other that involves *In of In* (in), *In of Within* (within), *In of Between* (between), *In of InBetween* (inbetween), *In of Through* (through) which is included in *In of InThrough* (inthrough), and *In of Across* (across). And so if we take a bird on the tree and a tree in the forest, they are iNcluded in each other and a flow in the other trees of the forest and other birds on the trees. And these birds and trees and human beings and the seas and the sky and the planets and the heavens, the ants and the elephants and others including the universe itself have the same source for their identity being included one in the others in all. These are different kinds of Ins, yet one in the other in All of across all the same.

And so in transfigural mathematics there is no first cause nor first principles. For let there be a first cause, it requires transfigurally what is before it and what is after it to know that it is a first cause. And if what is before it is the first cause, the first cause which was nonlocal became local and the before also needs something before and after it to know what it is. So, there is nothing like first cause nor first principles. All the same there is the transfigural which is nonlocal and which is in all the local-in-nonlocal figurals. All this goes to show that how it all began or where it will all lead, the nature and condition of things being transfigural, shall remain a challenge to human imagination and the fountain of creative potential in the heart of things, never, because of the fluidity of things and the permanent that holds together, to be resolved. Certain things shall remain beyond the accessibility of human knowledge because they belong to another plane of awareness which though flows across the intellectual plane could only be felt at a level that transcends the rational-logical to understand.

The reason for this is simple and this much is demonstrated in the logic of transfigural mathematics. The language of the rational way with the world cannot understand that a thing can be different and yet be the same. And that what is called contradiction is resolved once the Other is included by the One that excludes it for the same of neatness and razor-edge precision that do not exist in Nature.

With this the empirical that includes the experiential personal-social-cultural, the mathematical-logical-scientific and transcendental mystical-philosophical-spiritual flow in one another with the condition that we are not dealing with logical space that is a Void but with the natural space that we are in and which is in us such that the inner flows in the outer and the outer in the other. This space out there, now included in us, is no longer out there. The space of rationality that bans the wide, large world from its domain by reducing natural space of home to the logical space of abstraction is now open to the very space that opens it

to the world. The house is no longer divided. Consciousness is no longer split. The outside now flows into the inside and the inside into the outer. The excluded other that was a wall is now the included other that is a river. This is transfigural mathematics.

In transfigural mathematics we begin from the empirical to mathematical and from there to the geometrical, the logical and far deeper into the spiritual. And from these we come back again to the empirical with the result that new discoveries are being made. In our journeys from the outer to the inner and from the inner to the outer, the one flows in the other such that the exclusion of the other of traditional perspective disappears completely. What results is that we do no longer have the inner space separated from outer space. And so, the edifice of transfigural mathematics is now an entire universe populated by mathematics, sciences, metaphysics, arts, literature, architecture and other lofty engagements of the human spirit as a flow of one in the others.

Undefined Terms

Even though they have no place in transfigural mathematics, the undefined terms and axioms shall be explored all the same.

An undefined term is the same as the first principle. It is contended that to define it other words that are used to do so are always saying the same thing [Timothy Peil: Survey of Geometry] and it is for this reason the point and the line are left as undefined in Euclidean geometry and remain so in non-Euclidean geometries.

And this is where the problem of the foundations of mathematics and science begins. The fact that a term is underfined means that it and others like it are alone in the world which is a logical space. In the logical space of Euclid, the 'point' is alone. For were there to be the other than the point, this could be used to shed some light on it. This is easy to grasp because the other that is not the point should be able to tell us about what the one, the point, is. Indeed the point needs this other to know that it is a point at all.

Since in the geometry of Euclid, space, the natural Other of the point, is a void and the central and only entity is the point, it is expected that being lonely, there is no way to know what the point is. This may be the reason why through what it is called by Euclid, the point is nothing. What is surprising is that it is same nothing that is used to produce the line and from it the plane and other entities of Euclidean geometry.

Since Euclid - or long before him since he got his geometry from elsewhere but could claim to be the inventor of the axiomatic system all the same - every mathematical system is expected to begin with what is called primitive or undefined terms. For arithmetic, the principal underfined term is number. For geometry it is the point. This could be extended to the line as it is in Euclidean geometry.

Since number is underfined, something has to be done to know what is being talked about when it comes on the table. And so instead of knowing what a number is, what was done was to present the numbers and make them into predecessor and successor progression that is based on the relation of less-than, equal-to, and greater-than. In doing this, number is what it means for a thing to be less than, equal to, and greater than the other. What shows this relation between one number that is unknown and the other that is also unknown since it is not and cannot be defined as it was given and accepted without question is called the axiom. A simple logic applied to what this means tells us that there is something wrong there. There is, because if a thing is undefined, it means it cannot be defined by itself but some other thing. In other words, an axiom is also made of number, the undefined, and so in the end, even with the axiom, the number remains undefined because what us being used to define the undefined is itself undefined.

Why is the undefined term at all? The answer to this question in form of the defence is that if you want to say what an undefined thing is, you end up piling up the same words and breaking same down until the entire world is filled with the same word in different forms. In saying this, what is happening is that this word is the only word in the world. It has no other. It gives itself its own name. Which is good but which is nothing. It is nothing because a thing cannot know what it is without the other.

Indeed, Kurt Gödel showed the limits of axiomatic system with his Incompleteness Theorem. But the problem is much deeper than that as pointed out by Henri Poincare who said in mathematics an object is not studied but the relation among objects. As a result of this mathematics is indifferent to the replacement of objects by others as long as the relations don't change. Indeed that matter is not important, form is the interest. In other words, if there is a cow and a man in the same place and the cow is replaced by a stone, this doesn't matter at all. What matters is that there are two things and not what the two things are. And so, in the attempt to be universal, the baby is thrown with the bathwater, meaning is banished just as the figure, which encapsulates meaning and metaphor, is reduced to the manipulation of signs and symbols in the space of logical-rational.

And this is where, amongst others, Transfigural Mathematics comes in. It says it is not only that it matters that one thing is replaced by the other but that to talk about relation we need to know that which is being related. For example, transfigural mathematics would ask to know what the cow is and what the person is. It would say that without the cow the person would not know that she or he is a human being at all. Indeed that it is the presence of the other that makes it possible for the one to be what it is. In that case, the place to begin is not relation but what it is that is being related. For, if we do not know what we are relating, how can we be sure that the kind of relation we are talking about is what indeed exists between them?

This takes us back to the undefined of mathematics, for example, point and number. Undefined because the point and number, are each alone. They haven't not just the Other outside of them but inside and between themselves, the dont know about the Other. What is alone requires something other than itself to know what it is. In other words, a number and a point requires that they are defined in the other through which they know that they are number and point.

I give an example. If there is 1, how does it know that it is 1 if there is no other? This other is not 2 except it can be shown that there is something other than 2 that brings them together to make one be in the other. And when this happens, what makes it possible for 1 to know itself is the space between which is itself not a number. With space included, 1 is now itself through what come before and after it. The Others of 1 are 0 and 2 that makes 1 live in context. Transfigurally this means space is included in figure and figure in space.

It is the same thing with the point. The other of the point is space that makes it possible to be inside the others through which it knows itself to be a point.

The Axiom

What is an axiom? The dictionary tells us:

Axiom:

(a) *A self-evident and necessary truth, or a proposition whose truth is so evident as first sight that no reasoning or demonstration can make it plainer; a proposition which it is necessary to take for granted; as, The whole is greater than a part;"A thing can not, at the same time, be and not be."*[1913 Webster]

(b)*An established principle in some art or science, which, though not a necessary truth, is universally received; as, the axioms of political economy.* [1913 Webster]

Usage:

An axiom is a self-evident truth which is taken for granted as the basis of reasoning.

Axioms bear the general name, axiomatic system. In most cases they are called the axiomatic method if only to show that with axioms, the corner stone is a method, that is the method of writing the axiom itself to accommodate the logic that holds it together. So what is an axiomatic system?

An axiomatic system is a logic structure in which we prove statements from a set of assumptions. Axiomatic systems consist of four main parts: undefined terms, defined terms, axioms/postulates (accepted or unproven statements), and proved statements. Starting with undefined terms and a list of statements, called axioms and postulates, one is able to obtain new theorems by proving statements using only the axioms or postulates and previously proved theorems. [Timothy Peil, *Survey of Geometry*, 2007]

To be true to its name and mission, an axiom begins with undefined terms and a list of statements about or related to the undefined terms.

The question which the undefined terms and the list of statements about them raises is, where do these terms come from? Let us take the point as our inroad.

We have it that,

Euclid defined a point as 'that which has no part' and a line as 'length without breadth.' The questions then arise: What is 'no part'? What is 'length'? What is 'breadth'? From this common fault that mathematicians ran into, the mathematician, David Hilbert, was quoted as saying, 'We may as well be talking about chairs, coffee tables and beer mugs.'

To Hilbert's comments, we can add that based on what we got from Euclid about the point and line, we may as well be talking about nothing and from this nothing begin to make statements. The point of Euclid is nothing because it is simply not there. And the line as length without breadth is also nothing and remains so until we got later to know that it is made of two points, one at the beginning and the other at the end. But then we should not forget that we have not settled the case with the point which has no part. If by having no part it is a whole we know that this cannot be the case because a whole is that which has a part. And if a line has length without breadth, this also cannot be the case because even a needle, however thin, has breadth otherwise it cannot be talked about as a needle. As an idea, the 'needle-concept' generates 'figures' that make its presence felt.

Of course, what we got from Euclid about point and line was what the formalists expanded to its logical limit when they say that mathematics is a play of symbols that have no meaning and that what matters is the operation that is performed with the symbols. The same thing we can say about the point and line of Euclid.

To give concreteness of Euclidean point and line, David Hilbert wrote his *Axioms of Connections* in which the point and line play prominent roles. We are concerned with those axioms that relate the point to the line and the line to the plane in his [Foundations of Geometry, 1965]:

- a) *Two distinct points always determine a straight line.*
- b) *Any two points of a line completely determine that line.*
- c) *Three points not situated in the same straight line always completely determine a plane.*

In keeping to the Euclidean axiomatic method, the point still remains undefined and so inaccessible to experience and imagination because it lacks access to the 'figure' that makes exist but then the same point gives rise to the line such that we can say that a straight line is determined where there are two points that are separated. But the issue of 'straight line' compounds the line that was unknown from Euclid. The Euclidean line, like the point, lacks the qualities that are normally attached to things that exist. But the straight line does not remove this lack. What it does is raise another question about when is a line straight. Einstein tried to solve this with a ray of light. The question is whether there is a straight line at all in Nature. A straight line would mean that everything and everywhere is static so much so that nothing can disturb any line at all. The concept of void works for straight line but where space is included in things, there is no straight line. And that two points completely determine a straight line means that the line is being pegged at both ends with a rod inbetween. In that case, we end with artificial line and not the natural line.

Even then the problem is that the rod itself is not straight except where we say that nothing is happening in and around it! So the straight line compounds the problems with which the line was loaded from Euclid.

We are still exploring the axioms. Axioms are not possible in transfigural mathematics I said. Before showing why the concepts and terms of axioms do not fit the world of transfigural mathematics, let us see what transfigural mathematics is that the traditional mathematics and the(ir) sciences are not.

Fundamental differences between Traditional Mathematics (TdM) (classical mathematics, set-theoretic modern mathematics, intuitionistic mathematics) with the Sciences that are based on them and Transfigural Mathematics (TfM) with its body of knowledge covering many fields and personal practical philosophies and transfigural awareness.

In what follows I shall use the abbreviation of transfigural mathematics as TfM and that of traditional mathematics with its sciences as simply TdM. By traditional mathematics I mean classical mathematics (CM), modern mathematics (MM) that is based on set theory, and intuitionistic mathematics (IM). Numbers in MM differ from those of CM but all of them including IM are based on the same principles as far as what numbers are is concerned. They are based on the axioms of Peano arithmetic one one being equal to, less than, or greater than whether as counting numbers or as sets with the additional concept of 'power' in sets.

TfM : Space is natural

TdM: Space is logical.

TfM: Natural space is Something

TdM: Natural Space is Nothing

TfM: Things from one in the other but have centres of permanence

TdM: Things are separated such that a 'flow' is not natural

- TfM: There is natural continuity without gaps
- TdM: What is called continuity is contiguity with gaps however tiny
- TfM: Being a flow of one in the other, the empirical-experiential flows in the logical-mathematical
- TdM: Logico-mathematical concepts do not cover and cannot be applied to empirical-experiential phenomena
- TfM: There is what I called depth which is the flow of the spiritual in the rational and the flow of the rational in the emotional
- TdM: It is all rational
- TfM: Entities of transfigural mathematics are people, trees, birds, seas, ideas, and others, visible and invisible which are called figures and being included in space are called spacefigures which are zerioids. One begins from the senses to transcend them by going deeper behind the visible and the touchable to the reality that is beyond what is presented to the senses which was where the journey began. This journey to the reality of things is made through the combination of imagination, creativity, and attunement which transcend the senses. But since we began from what we know to the unknown, there is no need to justify existence because we are dealing with what exists.
- TdM: Entities are products of reason. They are brought out and placed on the paper and so they need to justify their existence since we did not know them in the first place. Their existence is inside the axioms that brought them to life. Even where in their pre-axiomatic text they began with what is known, their translation into axioms reduce them to logical entities that depart from their origins as soon as they become an axiomatic system.
- TfM : A thing is itself in the others. This means the identity of a thing derives from what it is in itself in the others. Without the other a thing has no identity because it cannot know what it is. As a result of this space is included in things and things are included in space. Space is a river of one in the other.
- TdM: A thing is itself alone. Space is a wall of division.
- TfM: Things are related to the other through inclusion and a flow. This means in reality, there is no distance of relation R. What we have instead is a domain of inclusion N.
- TdM: Things are related through relation because they are separated one from the Other.
- TfM: One is included in the Other by inclusion N of transfigural INS
- TdM: One is excluded from the other.
- TfM: There is no greater- nor less-than in transfigural mathematics. This means there are no hierarchies. One is as unique as the Other.
- TdM: One is greater or less or equal to the other. There are hierarchies.
- TfM: Things are other-included flow with seats of permanence
- TdM: These are isolated units that are forever separated.
- TfM: There is The Transfigural which is the embodiment of All that included the Other in One. Transfigural is non-local and manifests through the figures that are visible (and imaginable) worlds which are local in the nonlocal transfigural but non-local in their respective alpha and omega domains.
- TdM: There is nothing to compare with the transfigural and the figural.

- TfM : There are different types of spaces that constitute transfigural space. one of these spaces is the natural space. Inside it and deeper than it are the other spaces vz. Interspace, intraspace, transspace. Transspace gives forms to the figure.
- TdM: There is nothing to compare with transfigural space in TdM.
- TfM: A thing is neither whole nor part. The inbetween bridges the gap through inclusion of the Other.
- TdM: There is dichotomy of whole and part. There is no inbetween and the \ Other is excluded even in many-valued logics. The quantum probability is Either-Or in the end.
- TfM: A point cannot be isolated from the line nor located pointedly on it. There is no dichotomy of point and line.
- TdM: A point is not the line. Where not suppressed not defined as nothing as it is in Euclidean geometry, it an isolated thing
- TfM: A point like the line is not an undefined terms. There is no place for undefined terms in transfigural mathematics.
- TdM; The point is an underfined term. By extension, the line is also undefined.
- TfM : A thing includes its context. What is in space called the figure in transfigural mathematics is included in space, its habitat. It all begins with the natural space that is shared by all.
- TdM: There is no natural space in traditional mathematics. The natural space is treated as a void. It is replaced with logical and other algebraic spaces that are named after those who substituted natural with logical space. Natural space is therefore treated as a logical space and so like a Void that is defined by distance, point, and motion.
- TfM: There are values not as sums or numbers but as values that hold the world together and which are fundamental to peaceful co-existence. Values do not belong to the terms of reference of traditional mathematics. One as a flow in other in transfigural mathematics means that whatever is done for or against one is done for or against the Other. The Other that is included in One in transfigural mathematic means other people, nature, and the world. The All is the Transfigural.
- TdM: They have nothing to do with values other than as sums of that on which the logical and mathematical operations are performed.
- TfM: There is no dichotomy between practical, applied and theoretical in TfM. It is a practical philosophy of life which flows into the applications in inter-personal relations and international relations that originated through one as a flow in the other through which all belong together. The applications which include the spiritual, the philosophical, scientific, humanistic and other areas of human engagements and awareness flow readily into the theoretical into which they flow back to enrich.
- TdM: There is a sharp division between applied and theoretical while the practical is nowhere to be found in TdM. Indeed a large bulk of TdM cannot even be applied to anything. The mental gymnastics of traditional mathematics may be what led the formalists to say mathematical entities have no meaning and that what is done is play around with meaningless signs and symbols.
- TdM: A unit is a monad. Even where it is a field, there are still gaps such that it ends up a continuum of points that is contiguous but not naturally continuous.

TfM: There is no unit but a flow of one in other. This flow of one in other is called the zeroid. There are no gaps in zeroid and so there are no continuum of points. The line is natural continuous flow. A zeroid is a presence.

What is a monad?

The monad theory states that each individual, each monad is unique and subject to a developmental law peculiar to it, that it draws everything from the ground of its own being (lespirit tire tout de son propre fonds) and that nothing can penetrate it from outside by physical means.

[Heinekamp, Albert: *Leibniz Today* (in Gottfried Wilhelm Leibniz, Popp, K; Stein, E (Editors), Universität Hannover)), p.22]

What is a zeroid?

The zeroid of transfigural mathematics is everything that a monad is not. In other words, the zeroid can in no way be related to the monad. Every zeroid is unique but unique not in the sense of being separated from the other as it is the case with the monad. It is open to the world that flows in it and in which it flows and so derives its identity from itself and the others and so lives in context. A zeroid consists of being and becoming as alpha and omega domains with identity at the centre through which the being gives unto becoming what makes it a change in permanence and the becoming gives unto being that which makes it a permanence in change with the identity balancing the odds through its influence. What this boils down to mathematically is the figure (number, point, line as the basis), space (transfigural space) and Identity (the inbetween).

Inside the zeroids are the following qualities:

- *Transfigural*
 - * *Transfigural Potential*
- *Figurals*
 - * *Creative Potential*
- *Transfigural Influence*
 - * *Alpha and Omega Domains*
 - * *Identity Domain*
- *Natural Space - Spationatural*
- *Interspace - Interspatiality*
- *Intraspace - Intraspatiality*
- *Transspace - Transspatiality*

Some of the other features are contained in this paper.

And more. Indeed it is possible to get a whole encyclopedia of the fundamental differences between transfigural mathematics which includes the entire body of human knowledge and forms of human awareness and beyond and the traditional mathematics with the sciences that are rooted in it but for here, we shall limit the differences to what we have above. All the same some of these other differences and most of what we have above shall be explored in this paper through the geometry of transfigural mathematics which is called breathing-point geometry.

So the what-is-it, why-is-it and how-is-it that have no place in what-does-it-do of axioms are where transfigural mathematics began before launching into the other mansions of being, nature, and beyond.

Breathing-Point Geometry – Geometries in Geometry

Breathing-Point Geometry (BTPTG) is made up of the following geometries:

Breathing-Point Transfigural Geometry

This is based on transfigural breathing-point. In this geometry, space is the in-between of the figures to make one transfigure in the other.

Breathing-Point Interfigural Geometry

This is based on figural-in-transfigural breathing-point. In this geometry, a figure flows in the other as a result of inclusion of space in figure

Breathing-Point Identity Geometry

This is based on identity domain of fluid logic numbers which include breathing-point transfigural geometry and breathing-point interfigural geometry. This geometry includes the features of both geometries. Its peculiar feature is that in the flow and fold of breathing-point interfigural geometry, where breathing-point transfigural geometry suddenly comes to the fore, all the points and lines are a point which is a fold that flows in, therefore, as influence which makes it a fold of influence. In this geometry space is across the figures.

Before getting into these geometries, an example is given on what a point is in them.

Point

A fold of flow in space of influence

(Breathing-Point Transfigural Geometry)

A line that folds in and out of itself in the other

(Breathing-Point Interfigural Geometry)

A fold of influence

(Breathing-Point Identity Geometry)

Line

A flow of fold in space of influence

(Breathing-Point Transfigural Geometry)

A point that flows in Other in All

(Breathing-Point Interfigural Geometry)

A flow of influence

(Breathing-Point Identity Geometry)

From this follows that the fold of the line is the point and the flow of the point is the line including transfigural influence.

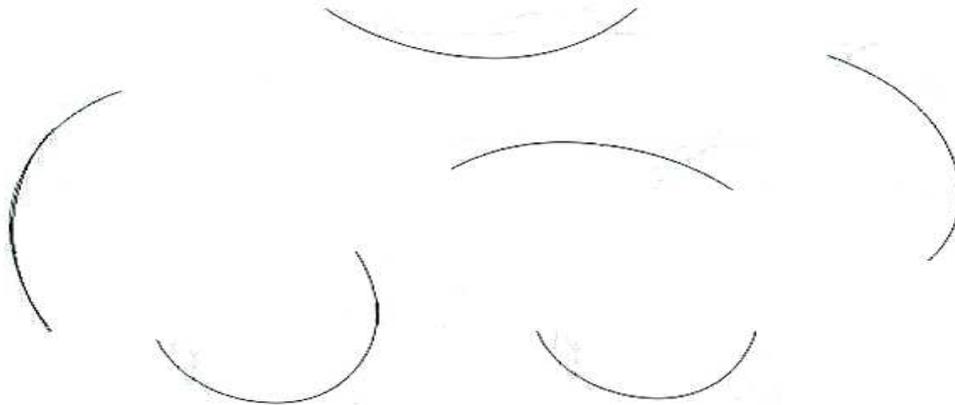
Plane

The spread of the line
(Linespread)

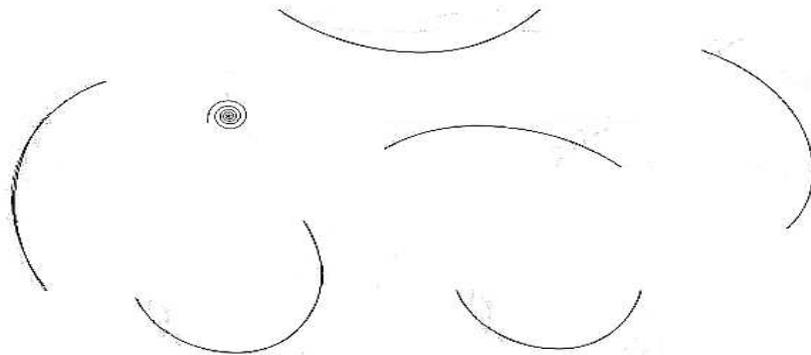
Like the point and the line, the transfigural plane, is neither Euclidean nor non-Euclidean. The same holds true for other entities of Breathing-Point Geometry. For example, the journey of geometric imagination of a point as a fold gives:



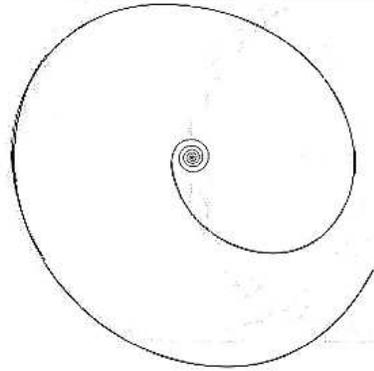
Any of the figurefolds is what we got from geometric imagination of a point as a fold that includes space as a flow. And so, any dot in this paper has one of the profiles above. The point in the real is a zerspiral with form in fold, flow in form as folds. The geometric imagination of a line as a flow gives:



These flowfigures are a line including space. They are a line because they are figures inbetween which there is space that makes one flow from and in the other. By combining what we got from geometric imagination of the point and the line we get,



These lines and the point, with space InBetween them to make one flow in the other, gives, amongst others,



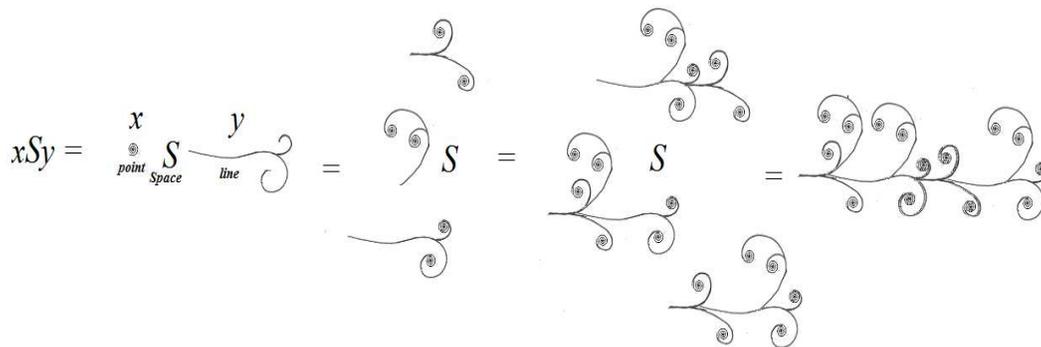
which is a line and point with Space In-Between, that is xSy , in which point is x and line is y . xSy can also be written as $x y$ in which the place between x and y is the space inbetween which is S . This is breathing-point transfigural geometry in which space is InBetween. xSy is Space being what it is through point and line which folds and flows in it as it Space flows and folds in them and in so doing, transfigures one into the other. xSy is a spacefigure. In all this we do not forget the role of transfigural influence which features simply as influence in the what-is of space, point and line above. More on this very soon.

From this follows that as a flow of influence the line is what we have below:

Space is S or the place below:

None of them could be seen except through movement of the line of influence in the figure in space. The space below the line as a flow of influence and space is something. This is to be expected since in transfigural mathematics, space is that which makes one to flow in the other therefore it is a *figural space* while the figure, may they be number or point or line, are *spatial figure*. Together, figural space and spatial figure constitute spacefigure. More about all this as we progress.

By bringing the profiles of point and line above with space in-between, we have, among others what is below:



Since the point is a fold in the flow and a line is a flow in the fold, both point and line constitute what is called a zerospiral in Breathing-Point Geometry. We shall soon get to the folds of the zerospiral and the zerospiral which the point in the example above profiles. The zerospiral is the breathing-point that includes all the features of the geometries of the breathing-point.

In transspace which is one of the spaces of transfigural space, a line is transfigured into a point and a point into a line as contained in what the point and the line are in the breathing-point transfigural and interfigural geometries.

From this follows that let there a point be here, by moving in space (which can be compared to moving the hand away from the point), the point has passed through space to remain the point or the line. The same holds true for the line.

To get the feel of what these geometries are, the shortest route is to think of the interfigural as the domain of human experience. It is the Here in the There of the Beyond. It is the road to what is (Over) There and Beyond it. It is the world of interspace in which one is in the other. The transfigural is the realm of transspace which includes interspace in interspace of the interfigural.

For every entity of Breathing-Point Geometry, there are the transfigural, interfigural and transfigural domain what-is

Beyond Euclidean and non-Euclidean Geometries

Euclidean geometry runs into the trap of parallel line because of the exclusion of space that produces the rigidity of its shapes. Non-Euclidean geometries could not change the nature of the Euclidean point because the role of space is reduced to what is in it and so their shapes end up being rigid as those of Euclidean geometries. The curvature of space is not by its own will but is made possible by 'matter' in it. The result is a tussle between the two in which one, space is reduced to the other, 'matter'. Because of the rigidity of non-Euclidean shapes – they cannot be called figures in the Breathing-Point Geometry for the reasons that shall be given soon – one comes off with the feeling that their 'space' was invented to fit the shape as this relates to the observation of the senses to whose province the grasping of the nature and condition of reality does not belong.

It is not a question of angles and all that whose degrees that show that where they occur what we are dealing with is metric rather than natural space. Reality transcends the reduction of shapes to degrees where they have to qualify as figures. But what indeed are shapes and why are they not figures?

Shape – Object and Countability

Shape is about concrete and discrete things. Its boundary is the line which defines it. Examples of shape is a geometric circle whose closed curve divides it in terms of space inside the circle and space outside the circle. A square, triangle, cone, and other geometric shapes such as cylinder have lines as boundaries that demarcate the inner from the outer.

There are other shapes which are so by virtue of their countability as discrete things and as being separate from the other as numerically in classical, set-theoretic and intuitionistic mathematics. In other words, shapes are things that can be counted and are taken to be separated by space as walls between them.

Transfigural Figure - When Concrete-Countable Flows and Non-Countable-Mass Folds

A figure in breathing-point geometry is a natural entity that includes space which includes it. It is not concrete that it is countable like cups, tables, chairs, tree, birds and so on while at the same time it is not non-countable like water, oil, air, cloud, melody and so on. Being a flow in space that flows in it, as a table it flows in other tables and trees and folds in water and air which flow and fold in them.

A transfigural figure being included in space that includes it is a spacefigure. As a spacefigure it is much on the side of space and many on the side of figure. The many on the side of the figure is not the same as classical many because this many includes the much which also includes it. The transfigural many is therefore much and thing being so it cannot be spoken of in terms of less- nor greater-than.

And as a flow of one in the other in which the one includes the other and through it, the all, a transfigural one is some one. In linguistic terms, a transfigural one is not *someone* but *some-one*, not *somebody* but *some-body* in which one includes the some and some include the one. We shall come later to this when we get to instances in which 'figure' such as countable nouns CNs which are not countable in transfigural mathematics and non-countable nouns NCNs which are also not countable but with one being in the other such that their coming together results into something new.

For example, what is called the countable thing is a flow in space that flows in it such as the non-countable thing which is also a flow in space that flows in it. This flows-in is the inclusion of one in the other. In both cases, the figure is no longer a figure but a spacefigure.

What differentiates river from the tree are the structure of the folds that constitute the spacefigure that is a tree and spacefigure that is a river both of which have inside them and between them the interfigural of the interspace in which the inner flows in the outer and the outer in the inner.

Though I shall return to it after presenting the foundation principles of transfigural mathematics diagrammatically below before presenting the principles themselves, I hasten to say here with all respect for the battle of the intellect that has been made to bear on bridging the gap between countable things and non-countable things that what these fine minds did not realize is that the foundations of the problem is to be found in the classical and set-theoretic number theories in which the numbers are isolated from space such that space that should make one flow in the other, that is the countable in the non-countable, is used as a wall.

To make the countable flow in the non-countable, the place to begin is numbers and space. Where space is included in number as it is the case with the fluid logic numbers of transfigural mathematics, the stand-alone countable noun dissolves into a flow and the non-countable dissolves in space too.

Why do both the countable and the non-countable need to dissolve? The reason is simple. In transfigural mathematics, the figure includes countable nouns such as chairs, tables, cups, pencils, human beings, birds, trees in the non-countable nouns some of which appear the list on the next page.

Usually <i>non-count</i> nouns			
Things	Qualities	Actions	Fields of Study
water	dependability	walking/to walk	psychology
stuff	honesty	typing/to type	history
money	loyalty	jumping/to jump	social work
advice	sincerity	thinking/to think	economics
proof	integrity	swimming/to swim	biology
equipment			English
dust			anatomy
homework			philosophy
fun			religion
information			theology
ink			
luck			

These – count nouns and mass (non-count) nouns – include space that includes them. They are with different foldforms. These foldforms are in space which is flowform. Foldforms and flowforms make the spacefigure. The result is that fold is in flowform and flow is in foldform. These can be written together as flowdform. In most cases I simply write flowform to mean flowdform.

As a spacefigure, the tree is more compact than water which flows more easily than the tree as a figure included in space. Thus whether compact or solid or relaxed or tensed because it is hard, a figure as folds flows in space that includes it and in which it is included. This is why there is no shape in the ontology of transfigural mathematics but flowcurves. This ontology is presented below:

- **Zeroid**
- :
- **Transfigural**
 - Figural
 - Alpha, Omega, Identity
 - Figural
- **Transfigural**
- :
- Identity Zeroid** (One-in-Other, Other-in-All)
 - Transfigural-in-Figural (nonlocal-in-local)
 - Transfigural Potential
 - Transfigural Influence
 - Loving Influnenc
 - Odd-Balancing Influence
 - Level-Balancing Influence
 - tptp (nonlocal)
 - : : :

- Alpha Zeroid (Other-in-One)
 - Figural-in-Transfigural (local-in-nonlocal)
 - Creative Potential
 - Transfigural Influence
 - Loving Influence
 - Level-Balancing Influence
 - tptp (local)
 - : : :
- Omega Zeroid (Other-in-One)
 - Figural-in-Transfigural
 - Creative Potential
 - Transfigural Influence
 - tptp (local)
 - : : :
 -
- Spacefigure
 - Space (Something)
 - Figure
 - Identity
 - Space-in-figure, Figure-in-space
 - : : :

What we have above derive from the Foundations Principles of Transfigural Mathematics which follow below.

Foundations Principles of Transfigural Mathematics

- One in Other in All
 - (F(oundations) P(rinciples), FP One in Other)
- Other in One in All
 - (FP Other in One)
- There is a Part that is a Whole
 - (FP of Wholepart)
- There is a Whole that is a Part
 - (FP of Wholepart)
- There is neither Whole nor Part
 - (FP of Beyond Whole and Part)
- Every Infinity is Relative
 - (FP of Infinity)
- A Point is a Fold in Flow
 - (FP of Point-in-Line)
- A Line is a Flow in Fold
 - (FP of Line-in-Point)
- In every Figure there is Space
 - (FP of Spacefigure)*
- The local domain of Spacefigure is the Figural *F*
 - (FP of Alpha-Omega Domains)
- The nonlocal domain of Figural *F* is the Transfigural *T*
 - (FP of Identity Domain)

* Spacefigure: Which comes before the other, ‘Space’ or ‘Word’? If we say the answer is the ‘Word’ then we say, that’s it! But wait, “Word’ needs ‘Space’ to be and so, let there be a ‘Word’ this ‘Word’ includes ‘Space’”. Transfigurally the ‘Word’ which is the ‘Figure’ is included in the ‘Other’ which is ‘Space’. Making them One is ‘Identity’, which is the InBetween.

The Zeroid has nothing in common with the First Principles of Pre- and Post-Socrates. To see how diametrically opposed to the zeroid is, I present below the First Principle of Leppicus and Democritus, the atom. In [Rama Hoetzlein: The Organisation of Human Knowledge: Systems for Interdisciplinary Research] we have the taxonomy of Leppicus-Democritus’ First Principle as:

- Atoms (dots)
- Voids (Nothing)
- Shapes
 - Circles
 - Squares
 - ...
- Styles
 - Empty
 - Filled

As could be seen above, shape belongs to the count(able) nouns. Wherever you go, however it begins, there is a thread that runs through the First Principles of ancient Greek philosophers. All of them were later reduced to the countable. Heraclitus who says everything flows has dualism built into his system because his fire is not the same as the matter it is directing. Heraclitus took the systems of Anaximander and Anaximenes and added a cosmic fire pervading the universe that was intelligently directing all change to it. The fire of Heraclitus was similar to Anaximenes' air, or *pneuma*, in some respects, *but is a separate kind of element from the matter it is directing*. Be all this as it may, his famous “everything flows,” for which he did not show how flatly contradicted the conditions of knowledge on based on the One of Parmenides.

The question that marvels is, why is everything reduced to the countable? Why is it that all of the First Principles except the not quite clear one of Heraclitus is inbuilt with countable (counting nouns) concepts? To get to the roots of this we need to go to the types of languages and the role they play in the development of these First Principles into the body of knowledge.

Nature’s Language – *Lost in Translation*¹

Nature speaks a language which, in most cases, when it comes in contact with human logic inside and from which the mind extracts its way or when it comes in contact with the human mind got translated into the human language from which logic is extracted, it got lost in translation.

Like every language, Nature’s language is made of words. These words are in many kinds. In human language, there are words for concrete things. These are taken to be countable words. That is words of things that can be counted because they are seen as separated from one another. For example, human beings and oranges. There are also words for things as mass. These are words for things that cannot be counted. Water, air, hair, and gold are some of such words. For countable words, the question is ‘how many?’ while for things that cannot be counted, the question is ‘how much?’

The First Principles of the ancient Greek philosophers were expected to represent the common language for the disparity of the countable and the uncountable. And so, when Thales said all was water, this was supposed to mean that even the rock is made of water. And when Pythagoras said all is number, this mean numbers are supposed to represent things except that when these numbers meet with qualities they have no place for them. The reason for this being that hot and cold are not the same as angry and cool which refer to human traits. In other words, since all is number of Pythagoras lack the identity of living things and could not be shown to be the flower nor the tree as such, it means that what is reducible to the First Principles in the final analysis are the ‘non-living’ things of the classification of Aristotle.

Whatever they say, the First Principles had to be brought to the human language that should communicate them to the world. There were not many but powerful, the First Principles of ancient Greek philosophers and they had the same thing in common which was to show what things are which, as I have been trying to show, they didn’t because they left human beings and nature behind while the spiritual had no place in them at all except the ‘Good’ of Plato which has nothing to do with spirituality.

Now, since language had to communicate what things are, this means everything is water had to be shown in respect of rocks and stones, for example. It is possible to say that water becomes ice and hardens into rocks over time. The question is, what makes this to be so? But more difficult is that, since stones and rocks do not flow and there is nothing to make them so, what do they have in common with their parents, which is the water of Thales? This was solved by breaking water up into the countable with the First Principle of Lepticus and Democritus which says “All is atom” What ‘all is atom’ does is reduce ‘water’ to the countable that constitutes the core of Greek language. So against whatever things may be in reality, ‘all is atom’ reduces it to the countable. We are still with Thales.

“All is water” says all is massive, that is, without the atoms which later came after him, what Thales was saying was that all were made of water. There are problems which surface as one thinks this through. These were highlighted by [Powers, Adam, 2010]:

“If all is water, than we run into certain problems. Water must somehow be explained by water. What? That can’t happen. Next, if the human is water then the human mind is water, and if the human mind is water, how did that water begin to develop cognitive equipment that functions very intelligently? These seem unanswerable for sure. It is almost as hard as being a man made of water, trying to climb out of a pond made of water, on a ladder made of water. You see how this idea folds in on itself? Even more problems show up when we think of how God fits into all this. If God exists (to Thales), God is water, and if God is water that means humans are made of the same stuff God is, so we’ve no need to obey Him because we’re now on the same level.”

Indeed, if the human is water then the mind is water, and if the human mind is water, then this leads to the following questions:

Water cannot use water to know water, so is it possible for water

- (a) to identify itself, and this done,*
- (b) to begin to know itself as ‘water’?*

We begin with (a)_i. By ‘to identify’ we mean, to have its name as ‘water’ which is not possible where ‘water’ is alone. A thing that is alone lacks a name because without the other, it has nothing to compare with to get a name. Indeed it is the appearance of the other that leads

to things having names. This leads to (a)_j. Knowledge of ‘water’ demands first and foremost that ‘water’, a thing, knows itself to be ‘water’ for example. With the name settled, then the search for ‘how is it possible’ for ‘water’ to be what it is begins.

So, since identity is not possible in isolation, without the other, ‘water’ as ‘water’ is not possible. The absence of the Other makes the One, that is ‘all is water’ and of Thales, the One of Permenides, the numbers of Pythagoras that live in the void, the atoms of Lepiculus and Democritus that know of no other since they also live in the void, ontologically and epistemologically impossible. Of course, it is possible to build with such foundations but this can only be done by shutting out the world and making ‘*all is x such that*’ the inhabitant of logical space that constitutes the world of reasoning. In ‘all is x’ which axiomatically is written as ‘let there be x’ which is the same as ‘there is x’ which within the axiom is the same as ‘all is x’ in this axiom, it is taken that ‘x’ on its own exists and with this the knowledge of ‘x’ that follows after ‘such that’ can then be built. But there is no ‘x’ without the other because it is the presence of the other that makes it possible for ‘x’ to know that it is ‘x’ at all. And with this not settled, any existence conferred on it is built on the fiat of reasoning rooted in the space of logic.

Thus, for ‘water’, ‘number’ ‘One’ or any foundational ‘all is x’ or as an axiom, ‘there exists x such that..’ which was the re-formulation of the ‘all is x’ of the ancient Greek philosophers to hold, there is the need for the Other of ‘x’ without which it is not possible for it to be ‘x’.

In fairness to them, some of the ancient Greek philosophers were aware of the existence of the Other. However, where it exists, their Other is the negation of One. And so what was done, through the syllogism of Aristotle, was devise a logic that was based on the exclusion of the Other.

This Other-excluding logic had decisive implications for how the body of knowledge developed. The Other comes in various forms. For example, the Other of a language that is based on counting is the language that is based on mass. The Other of what is in space - Matter in the language of physics for example, Space as Wall in the numbers, classical and set-theoretic modern, ... - is Space. These are Others that make One to be One at all. They are not the Other as the Other but the Other that makes the Other have a name at all and from there has a base for knowing it. The Other as the opposite of the One is not the same as the Other that is naturally included, like the day in the night that makes a day, the One to be complete. The Excluded-Other splits the One by making it become a divided house. It does not ‘negate’ the One as the ancients thought but the Exclusive-Other splits consciousness. It is oil on water. The transfigural Included-Other is in the One and the One is in it with neither the One nor the Other losing its uniqueness. This is about what things are through One in itself in the Other in which knowing what they are is possible.

Transfigural Mathematics shows the Other of the One, that is, the Other of ‘x’ in ‘there exists x...’ that makes it possible for it to exist as a natural as against a logical entity. This is the language of Nature and of what is deep down in us that was lost, along the way, in translation. In Nature’s language, one thing flows in the other otherwise nothing can hold. This is a case of One that includes the Other which with itself in the Other makes the One.

This being the case, the question comes up: Practically speaking, what is the transfigural One that includes the Other? I give a simple example. There is a room with chairs around. People are sitting down on the chairs. There are some chairs which are empty. When new people enter, they do not see the empty chairs. Only those who sit close to the empty chairs know that they are empty. They see them as gaps which they are. A spontaneous smile of ‘Come on, here are chair waiting for you!’ from persons, the Ones, with empty chairs – which as place-spaces in reality – to those who are standing shows how One includes the Other.

This is an example based on compassion. Even then, this is like saying, you should be compassionate. This is not the case, transfigural mathematics would say. It would say it is the natural thing to be compassionate for which there is no need for preaching at all. So, such as it belongs to the flower to open its bud of joy to the world, so does it belong to being human to have fellow-feeling to which compassion and empathy belong. In other words, what in the hands of the religions are used as commandments whose infringement is punishment with the result that being what is asked means working for the heaven is, transfigurally, the natural way of things to be. In other words, where a religion would forbid a thing whose practice means punishment, transfigural mathematics would say, this is not necessary, since it is in the nature and condition of things that are breathing-points and are alive to be compassionate, live healthily, respect life irrespective of whether it is that of a human being or a bird or insect, and live the best that can be that could bring joy to hearts everywhere and so living, fulfil the divine dream of humanity as belonging to the masterpiece.

In other words, the transfigural One in the Other in All, while it includes the example of filling the gap with compassion as given above, is the reality. The reality is that there is no One without the Other since for One to know what it is requires the Other. This is the condition and nature of identity of things. From this follows that in reality there is no distance D of separation since, wherever they are, the Ones on the chairs here and in cosmos include the Others here and in the cosmos. In this case, it is not a question of people filling places, in reality, whether it is a room for get-together which is open to the world or the world itself as the open room, the inclusion of the Other in One flows in loving influence² [Shakunle, LO: Transfigural Mathematics. Breathing-Point of Loving Influence, 2010] This influence is transfigural influence. This is the inclusion of what is done to and for the Other is done to and for the Other and through the Other, to and for All.

The Other in One of Transfigural Mathematics are other persons, fauna and flora, indeed all of nature and beyond.

Languages, Foundations, and Development of Knowledge

Languages are classified into Non-Classifier, Classifier, Neither Non-Classifier nor Classifier Languages. In Non-Classifier Languages, plural nouns end with ‘es’ as in box-boxes or with ‘s’ as in pupil-pupils. Between the numeral and count noun there is a classifier in classifier languages while such thing (classifier, cl) does not exist in non-classifiers languages. In [Krifka, Manfred – *Different Kinds of Nouns and Plurals* (Syntax in World’s Languages III, 2008, pp 1 – 8)] there are various examples of mass/count distinction in English in which the differences between what could be counted and what could not is in most cases very sharp and clear-cut while in the mass language like Chinese Mandarin, the plural form is also the same as the singular such that what obtains for the plural of mass nouns such as water, oil also applies to, for example, the counting (one, two, three) persons.

In [Gil, David - Numerical Classifiers] we have,

*“In English and in other languages, nouns may vary with respect to the property of **countability**. Nouns of high countability such as woman, dog and pencil denote objects which are conceptualized in terms of highly individuated units typically associated with a characteristic shape. In contrast, nouns of low countability such as water, sand and smoke denote objects which are conceptualized in terms of masses without unitary structure or characteristic shape.”*

Examples are “one boy, two trees,....”. , There are nouns of low countability such as “one

glass of water’, two pounds of sand’” which permit of plurals for mass nouns by dint of distance that is made possible by countable nouns before them. This is not the case with Non-Countable Languages where in most cases if not in all countable and the uncountable are treated the same by adding classifier between the numeral and the count noun. The following examples from [Krifka] come to mind easily:

“Liquids and substances are mass (lack of defined boundary): *water, milk, gold* Mass nouns [that] denote relatives one would expect to be denoted by count nouns: *jewelry, silverware, furniture, drapery*. Mass nouns coerced to count nouns: *three oats*. Count nouns coerced to mass nouns : *a lot of apple* (some writers: a lot of cheese)”

Count nouns with numerical (classical, modern mathematics) distinctions: *apples, oranges, stones,..* Count nouns have –s (as in persons), –ex (as in oxen), –ren (as in children) added to the plurals of their singulars (person, ox, child).

We got the following example of classifier language from [Krifka]:
Classifier language:

- Combination *numeral + classifier (CL) + count noun*

Example: Chinese (Mandarin)

sān ge rén sān rén sān ge rén men
three CL person

There are some non-marking (mass) languages as against number-marking (count) languages that have no classifiers. An example is Turkish that is given below [Krifka]

Example: Tagalog, Turkish

a. *tatlong tao /tao-tao* b. *dört çocuk /çocuk-lar*
five person person PL five child child PL

In Tagalog and Turkish, there are plural (PL) forms, that is, *tao-tao* for *person* without –s (persons) as in count languages and *çocuk-lar* for *child* without –ren (children) as in count languages. The Turkish of plural in singular form without classifier could also be found in Yoruba where you have (*omọ kan, omọ meji, omọ meta,..omọ púpọ* for *one child, two children, three children..., many children*) with *omọ* for *child* and *children*. These are examples of Non-Classifier nor Classifier Languages in which the plurals are like the singulars such as water , oil, milk...

Be all this as it may, based on what we got from [[Toyota, Junich, *When the Mass Was Counted: English as Classifier and Non-Classifier Language*,] about how English started off as a mass language and later became a count language along the way I make bold to say that all languages began as mass languages before counting took over to reduce the mass to the count.

“...Earlier English did not make a clear distinction between mass and count nouns, and such a distinction emerged around late Middle English/early Modern English. Proto-Indo-European, the parent language of present-day English, lacked such a distinction and the state of earlier English can be considered as the residue of Proto-Indo-European. The development could be partly a result of language

contact particularly with French or Latin, but it is also possible that the speakers' world-view had changed, which triggered the change in counting system..."

We have further examples of Classifier Languages in [Yi, Byeong-uk, in "Numeral Classifiers and the Mass/Count Distinction"],

"Classifier languages, which include Chinese, Japanese, and Korean, (i) have no grammatical number system, and (ii) make prominent use of classifiers, special expressions without counterparts in non-classifiers languages (e.g., English), in numeral noun phrases (e.g., their counterparts of 'three cows')"

What these language do is try to use the same form for singular and plural forms of words. In doing this, a classifier is inserted between the numerical-counting and the person or thing.

The ontological implication of language in which everything is countable is that to deal with anything at all, such a thing has to be reduced to the countable. The epistemological implication is that it is only by reducing to the countable that anything can be studied, where the language of inquiry is count language. This language may be powerful, indeed beautiful and as it is the case with English, even flexible – English has the advantage that it is flexible except that in mass/count distinction, it is fundamentally a count language with traces of its original mass structure carried over in nouns whose plurals remain the same even if they are countable, for example, *sheep* - but since its inner structure is such that it can only deal with things only if they are countable, anything, indeed everything has to be reduced to the countable.

For count languages, the atoms of Leppicus and Democritus had cleared the way for them by giving them the kingdom of countability. Atoms make it possible to reduce all that is mass by Nature to the count language. And so, let there be a word that is by Nature mass, such as water, experiments have to be performed to reduce water to the countable. The result of reducing all to the atomistically countable are compounds, molecules and elements.

Counting, Measuring, and Packaging – Different Gaps, Gaps all the Same

It is the case with Non-Classifier languages to see everything as countable and so what refuses to be counted has to be broken into pieces to reduce it to the countable. Toothpaste cannot be counted [Krifka, 2008]. To reduce it to the countable, it is measured using as it were the very numbers that feature in counting. Thus measuring number is also a counting number.

Now, let us see the contradiction that is built into counting and measuring both of which set wholes and parts apart.

Counting numbers deal with wholes and parts. And so we have a tree which is a whole and so cannot be a part. To make it a part, it has to be broken into parts. And where it is put into a set of set theory as a member, it becomes a part that it is not in reality. The contradiction is that since things are wholes and parts, the logic of being a part of a branch of tree which is a part cannot be applied to a 'whole' tree that is a member of a set. The reason is that the tree as a member of a set is a 'whole tree' while a branch is 'part of a tree'. In other words a tree that is a whole and a member (part) of a set is not the same as the branch of the same tree which is said to be 'a part of the whole' This means the set as a whole is made of wholes and the tree as a whole is made of a part and since the whole has not and cannot be shown to be a part, it is not possible to call it 'part' of anything, in this case, member-part of a set.

Nor does the contradiction of counting end there. It is extended to things that cannot be

counted by packaging them to make them become measurable which is another type of counting. The 'whole' of counting gets into another problem in mass things. To measure a bowl of water means that water can be measured 'as whole' like trees. This is not the case. There is nothing like 'whole water' as it is with the 'whole tree' of counting numbers. To get 'whole water' for measurement means that all the water in the world has to be measured. And so, what can be measured in mass things is a part which is not possible since mass things cannot be broken into parts.

In all this I was trying to show how it is impossible to relate the language of counting-measuring languages to the language of Nature which is the living, breathing language as seen in the fauna, the flora, in us, and in everything.

It is not a case of things standing still when in reality they are in a state of flow that is the only problem with human languages but that the tree that the human languages see as isolated and the mass that they measure and so doing, isolate from space are not what they are in the language of Nature. In the language of Nature, every thing is a flow which is the nature of things in the condition of things.

Forms of Plato and Substance of Aristotle – How They Differ Fundamentally from Transfigural, Figural and Figural-in-Transfigural of Space, Figure, and Identity of the Zeroid Transfigural Mathematics

The transfigural, figural, and figural-in-transfigural that constitute Space, Figure, and Identity that is the Zeroid in transfigural mathematics take us to some foundations issues, for example, to the Forms of Plato. Here I shall show the fundamental differences between transfigural mathematics as foundations and the ancient Greek foundations.

Before now, I have shown some of these fundamental differences between the zeroid and atom. Here I want to show the same differences between the Zeroid and the Forms of Plato as we got them from Aristotle. In doing this, the same deep differences between the PRESENT IN of Aristotle and the different types of IN called INS whose full name is transfigural INS of Transfigural Mathematics shall be explored. These shall then prepare the ground for transfigural INS and how they apply to the transfigural, figural, and the transfigural-in-figural from which follows the figural-in-transfigural that make it possible to have daughter zeroids of identity zeroid.

Let me begin by saying that in the world of Plato, nothing moves. The tables, the trees, and others that participate in Forms that do not move, are always what they are and do not interact with the other except all the tables through tablehood, a static quality if there is one, and all the trees through the equally static treeness, if there is one. And because Plato says a Form is One and what participates in it are Many and that the One is Over Many, this would them mean that the Set as a Form is Over the members, the Many which participate in it. This is the celebration of binary thought and little wonder then that the logic of sets is two-valued Aristotelian logic.

In a way, nothing touches the Form of Plato. It touches things which are nothing and gets nothing back from what it touches since these participants to it iare world of appearances. Also In a way, Forms have a lot in common with monads. The One Over Many first principle of Plato goes as follows (Rep. 596a, a-b):

“We customarily hypothesize a single form in connection with each collection of many things to which we apply the same thing....Then let’s now take any of the

manys you like. For example, there are many beds and tables....but there are only two forms of such furniture, one of the bed and one of the table.”

In this one of the bed is bedhood and one of the table is tablehood as different Form of Bed and Form of Table for all the beds and tables. In other words, for any set of tables, there is a single Form.

All this is elaborated in *Pheado* 100c-d:

“...if there is anything beautiful besides Beauty itself, it is beautiful for no other reason than that it shares in Beauty....nothing else makes it beautiful other than the presence of, or the sharing in, or however you may describe its relationship to that of Beauty we mentioned, for I will not insist on the precise nature of the relationship, but that all things are made beautiful by Beauty....”

What this means is that let there be a set of tables. For this set which has many tables as its members, there is only one Form. The tables are what they are by virtue of a kind of relationship with the Form.

In this, the tables remain the same. The Form too. Nothing moves. Nothing changes. The table is excluded from the others by its Form. And in all this, space does not even exist.

The formal form of this is that *a, b, c, d,...* are tables that are tables as a result of a Form (the Table itself) in which the tables participate. And this Form, the One, is Over the Many, the tables.

The problem with the Form of Plato surfaces as one asks to know whether it is a Part or a Whole. The questions are:

- *Is the Form a whole of it in what participates in it, or*
- *Is the Form a part in what it participates in and if so what happens to the Form of Largeness which should not be small?*

If the Form is a whole, then it is separate from what it participates in and so separate from itself. If the Form is a part, then it is divisible and so its unity is broken into pieces.

And so, one of the central problems that Form raises is the Whole-Part dichotomy. The One of Parmenides was disturbing because it had no answer to the Many. The Many was later to come when the atomists reduced it to a mechanical concept by breaking the One of Parmenides into pieces, banishes Space and replaces it with Void so that their atoms could move. Living things, including Leppicus and Democritus, cannot be here without the very space that they banished for their atoms. But they wanted motion and so they got to the idea of lifeless atoms which relate to one another by collision inside the box. Another Many was later to come. These Many are sets of things that participate in Forms to which they relate as appearances.

The most important of the problems is that since a Form is One and so there is no Other, how is a Form possible? Indeed how does it know that it a is Form? And if the Form of Smallness is not the same as the Form of Largeness, how, since the logic of Forms is that they are not what they participate in, therefore a case of Either-Or, that is of Excluded Other, how do Forms manage to survive the negation of one by the other which includes erasure or one swallowing the other? Since the Form of Plato produce questions for which they have no answer, let's now turn to the Substance of Aristotle.

Aristotle's 'first principles' which he called cause. are encapsulated in his ten categories. These are:

- (a) Substance
- (b) Quality
- (c) Quantity
- (d) Relation
- (e) Where
- (f) When
- (g) Position
- (h) Having
- (i) Action
- (j) Passion

Of all the categories, Aristotle's fundamental entity is substance. For it we have,

Substances are primary.

Examples of Substances : human being, water, iron, tree, flower....The other nine categories are secondary. These categories "exist in" substance. These are called 'Accidents' Examples are flour, desk, chair, comb, pencil... Belonging to Accidents are Quantity (discrete = 1, 2, 3,,: contiguous = with gaps)

Quality

- (a) Effective qualities (colour, texture,...)
- (b) Abilities and disabilities (ability to grow, or walk)
- (c) Habit and disposition (flammable, transparent,)
- (d) Form and figure (round, square, etc)

* Relation: substances exist in relation to other substances. Examples are at the back of, in front of, brother of,....

* Where (place): Substances occupy place. *Where* is a different mode of being than 'when', or quantity. When we ask where something is, we are not asking about its relation, or size, or quality. *Where* does a thing exist?

* When (time): Material substances exist in time. Time is not a substance but when is. If material substances did not exist, time would not exist

* Action: Substances can act in certain ways. Bird's fly, dogs bark, trees produce, etc.

* Passion (to undergo): Substances can be acted upon. I.e., getting forced into, rained on, etc.

* Posture: Substances can take on a certain posture, I.e., sitting down, standing up, lying down.

* State is habit: clothed.

But what is 'accident'?

*Accidents are what exist in a thing. In Aristotle's ontology, accidents exist in a substance. In other words, they inhere in a substance. The word 'accident' is from the Latin *ac-cidere*: to inhere in. The substance is that in which the accidents inhere. They actuate the substance in an accidental way, that is, in a way that does not change the substance itself.*

From [Ward, Ken 1998] we have most of the categories summarized in a sentence:

"A five-foot tall (quantity) man (substance) who was a thinker (quality) sat (position) on a bus (place) one morning (time), feeling hungry (state), but continuing to do a crossword puzzle (action) enthusiastically (passion)."

Relations are crucial for understanding what is happening between Substance that is primary and the other categories under it which are called accidents by Aristotle.

Instead of many things participating in the Form that over them as it is the case in Plato, what we got from Aristotle is about how the substance relates to the accidents, that it those things that exist (inhere) in a substance.

According to Aristotle, there are SAID OF relation and PRESENT IN relation.

SAID OF Relation:

Amongst others, the SAID OF relation exists between a **kind** and a thing that falls under it. For example, man is a kind and John falls under it which gives, *Man is SAID OF John*.

PRESENT IN Relation

- This is relation of fundamental ontological dependence. What is PRESENT IN a subject belongs to it. It is not a part and *it cannot exist independently from what it is in*.
- This relation is also a cross-categorical. Indeed things PRESENT IN a subject are non-substances while the things they are present in are substances. In other words, non-substances are PRESENT IN substances.
- What is PRESENT IN a substance is accidental by which it is meant that is non-essential to the subject which is the substance.

With what we have about the Forms of Plato and what participates in them we can now compare Aristotle's Substance with it using as it were the SAID OF and PRESENT IN relations of Substance to the Accidents.

Substances are like Forms because they, like Forms are unchanging. The difference is that while Forms belong to a beyond where ideals reside, as we are told by Plato, and so are beyond the dream of Substances which are of this world, what happens is that the Substance in relation to the Accidental is the pulling down of the Form where it now represents the 'ideal'. That what is PRESENT IN something is a non-substance testifies to Substance wearing the robe of Form and that the subject in which it is present is a substance gives the same feel of the participant in which the Form is present but the participant is not a Form.

The Participants in Form and the Accidentals of Substance do not change but are fundamentally static because a participant-in-tablehood-table and participant-in-treehood-tree of a substance do not change at all since they lack the Other that makes natural change possible.

By natural change I mean the transfigural concept of change in which a table in the sitting room is the same table but different from a table in the park because being a flow in the other, both tables differ by what flows in them and in which they flow as the space flows in them and they flow in space and for this reason are never the same. This means the table

you see now is not, yet the same you see when you turn the head away and turn it back again. It is the same table but it is a table by being included in the Other of other things and space that make it a table. Since nothing stands still, the table whose inclusion of Other of natural space and environment makes it a table is always changing. All the same the permanent quality of the zeroid in it ensures its stability and makes it worthy of being studied at all with the proviso that nothing final can ever be known about it.

This is the same with everything in the world. There is no final knowledge and there can be no final knowledge of a thing. Thus change in transfigural mathematics is fundamental. It is not about growing from child to adult or the colour of a thing fading but about the intrinsic quality of a thing which being a flow in the other makes it impossible to have a final knowledge of it because of the *transfigural element* in it.

All this takes us to the transfigural INS as contained in [Shakunle, JTfM Vol.1. No.2. 2011] The Form of Plato and what they participate in are not the Form, the Substance of Aristotle and the Accidents which inhere in them but can never dream of becoming a substance are completely different from and have nothing in common with the Transfigural and the Figural that constitute the identity Zeroid and the alpha zeroid, and omega zeroid. As a result of this the SAID OF and PRESENT OF of Aristotle do not hold in transfigural mathematics. Indeed there is no relation *R* which is based on separation of one from the other in transfigural mathematics. What we have are the transfigural INS which covers all forms of iNclusion *N* of one as a flow in the other in all.

Transfigural in transfigural mathematics is IN the *figurals*. Indeed where there is One, the Transfigural, there is the Other, the figurals. Unlike Platonic Forms which are apart from what participates in them, the figurals do not participate in the transfigural. Unlike Aristotle's Substance to which other categories are accidents the figurals are not the accidents of transfigural. What makes this to be so could be found in the zerospiral of the breathing-point geometry to which we shall come soon. In the zerospiral, the transfigural is in the realm of identity domain which is the seat of identity zeroid while the figurals are in the alpha and omega domains which are the seat of alpha zeroid and omega zeroid. In the transfigural is the transfigural potential which is the source of the transfigural element. In the figurals is the creative potential in which the transfigural element and the others features of transfigural manifest.

Together, transfigural and figurals are One in the Other that constitute the One. In other words, ***the One, transfigural, is in itself in the Other. In*** is called the *transfigural INS* in that includes itself and others, that is:

IN = in, between, among, inbetween, through, inthrough, across
= transfigural INS

with T (Transfigural) including the INS and with *in* for *covering all* and *inbetween* for *bringing together*. From transfigural INS, we therefore have,

Transfigural, is in (in= covering all) itself in (inner-outer-indepth = inbetween) the Other.

What does *in=covering all* mean? It means *a state of primordial divine silence* (spds) with 'primordial' used in the sense of 'original' which does not mean a 'beginning' since, transfigurally, let there be a 'beginning' there is something before and after it that makes it to be a 'beginning'.

Transfigural mathematics shows the futility of causality and the Big Bang of cosmology which could be conveniently mapped on the Euclidean line with the Big Bang as the point of beginning and the Big Crunch as the other point that defines the end of the same line. The gaps are immense in Big Bang because the point that begins has no past and the point that ends has no future. Transfigurally Cause and End can never be known. Because, let there be the Cause, there is what comes before it and what comes after it that makes it a Cause. Thus human knowledge is such that it can never begin from the beginning and from there know of the end. The Cause is for this reason unknowable, indeed incomprehensible, and to be honest, quite beyond human imagination. Here, humility demands that we accept the limits of knowledge, and more annoyingly yet true, the impossibility of rationality to get to the roots of it all as far as life is concerned.

In what follows, I present an example on *Betweenness* which is the gateway to the zerospiral of Breathing-Point Geometry.

Condition of Inbetweenness

Inbetween every xy is a k that is one in the other

Nature of Inbetweenness

The other of k is xy

To explore the condition and nature of inbetweenness we need to get the feel of figure, figural, form, and transfigural. Here we go:

Form **in** Figure with form as M and figure as G with $MG = G$
 Figure **in** Space, Space **in** Figure with G and S for space such that SG
 Figural **in** Figure with Figural as F and Figure as G , with $FG = SG$
 (with F (in=through) S)

We have G, M, F, S, T :

Figure : G (from fiGure)
 Form : M (from forM)
 Figural : F
 Space : S
 Transfigural : T

Among the transfigural INS, I shall present some of them here with examples that are based on Figure, Form, Figural, and Space. The Transfigural is the *inbetween, through, inthrough, and across* of transfigural INS. The inbetween involves the inner-outer-depth, that is, it includes the others on the left and right which are the Figurals from inside-out and outside-in of outer-inner infinity and the depth, which is the inner-outer infinity of a zerospiral.

To know how one flows in the other among Figure, Form, Figural, and Space, with the Transfigural inbetween everywhere, I shall present below the formulas. We need these formulas for the condition and nature of inbetweenness above.

From transfigural INS, the following *Ins* were chosen:

Ins = in, inbetween, between, through, inthrough

for which we have the following operational symbols:

- \equiv : *in*
- \sphericalangle : *inbetween*
- \succ : *between*
- \cong : *through*
- \wp : *inthrough*

We have the Form in (as a flow in) Figure:

$$\underbrace{Form}_M \overset{in}{\equiv} \underbrace{Figure}_G = G$$

in which the form in figure manifests as figure. Inside this IN, there are other kinds of INS in it. These are not visible in the Figure G. This is In of INS. For the *through* of INS, (through-INS), we have:

$$\underbrace{Form}_M \overset{through}{\cong} \underbrace{Figure}_G = GM$$

in which Form is through Figure with the Figure remaining. In through, both Form and Figure could be seen. This could be compared to helping an old person or playing or dancing or typing or thinking with furrows showing or feeling happy and so on, all of which are visible forms. This is not the same as the concentrated form of IN in which the Form is not visible but the figure could be seen.

And since these forms of *through* are coming from the well of one in the other in which one includes the other which is rooted in empathy, fellow-feeling, compassion, and other virtues and ideals as the well of action, any other action of the *through* of INS at all, cannot be any other thing other than what makes one belong to the other in the struggle to make this world the paradise divine.

With this background, the flow of one in other of Figural, Form, Space, and Figure, all of which are in the in=inbetween of transfigural INS is presented.

$$in = \left\{ \begin{array}{l} \underbrace{Figural}_F \overset{in}{\equiv} \underbrace{Space}_S = FS = S \\ \underbrace{Form}_M \overset{in}{\equiv} \underbrace{Figure}_G = MG = G \end{array} \right. = \{SG\}$$

$$through = \left\{ \begin{array}{l} \underbrace{Figural}_F \overset{through}{\cong} \underbrace{Space}_S = SF \\ \underbrace{Form}_M \overset{through}{\cong} \underbrace{Figure}_G = GM \end{array} \right. = \left\{ \begin{array}{l} SF \\ GM \end{array} \right.$$

The Different Contexts of transfigural INS

in : *One in Other invisible*

among: *One in the Other visible and invisible*

through: *One in Other visible*

inthrough: *One in Other from ‘through’ (above)*

inbetween: *One in Other in All*

between: *One in Other*

(between Alpha-Other and Omega-Other and Identity of In-between; between which is inside and which has nothing to do with distance is optically translated as ‘distance’ in the external)

across: includes through and inthrough

At this stage, we are now poised for immersion in the condition and nature of inbetweenness.

Condition of Inbetweenness

Inbetween every xy is a k that is one in the other

Nature of Inbetweenness

The other of k is xy

Explication of Condition of Inbetweenness

We have,

$$\begin{array}{ll} \underline{x} & \underline{y} \\ k = ky & k = kx \\ x = xk & y = yk \end{array}$$

Flowforms

$$inthrough = \left\{ \begin{array}{l} \underline{x \text{ in } y} \\ xy = x \\ \underline{y \text{ in } x} \\ yx = y \\ \underline{k \text{ in } k} \\ kk = k \end{array} \right.$$

(in = inthrough)

$$\begin{array}{cc} \underline{x \text{ in } k} & \underline{y \text{ in } k} \\ x = x \underbrace{ky}_k & y = y \underbrace{kx}_k \end{array}$$

$$\begin{aligned} xy &= \begin{cases} xky \\ ykx \end{cases} = \underbrace{xy}_x \underbrace{kk}_k \underbrace{yx}_y \\ &= xky \end{aligned}$$

By substituting k with q we have

$$xky = xqy$$

which is a fluid logic number.

And with

$$\begin{aligned} x &= \text{space, } s \\ y &= \text{figure, } g \\ k &= \text{Inbetween} = T \text{ (the seat of identity)} \\ &= q \end{aligned}$$

we have

$$sg = \left\{ \begin{array}{l} \underbrace{\text{Figure}}_g \overset{\text{in}}{\equiv} \underbrace{\text{Space}}_s = s \\ \underbrace{\text{Space}}_s \overset{\text{in}}{\equiv} \underbrace{\text{Figure}}_g = g \end{array} \right\} \{sTf = xqy$$

which is a zerospiral.

Nature of Inbetweenness

The other of k is xy

The explication of this follows readily from the condition of betweenness.

We have, with k as q ,

$$\begin{aligned} xqy &= (x, y) \text{ Other of } q \\ &= q \end{aligned}$$

in which q is the One of Other (x, y) , therefore

$$q = xqy$$

which is a fluid logic number written as,

$$fn(q) = xqy$$

which fulfills the condition and nature of what number is in transfigural mathematics.

Transfigural Figure and Nature's Language

Nature's language are things in Nature. This language is not based on any human language as such but a human language which gets close to it has the capacity of understanding the language better with the result that what are called 'phenomena' and 'laws' end up being what they are – the nature of things in the condition of things.

The condition of things is the that which is permanent but which includes, amongst others, qualities of change and so makes change possible while the nature of things is the changing which has the qualities of the permanent in it to make it endure for a while until it changes again. Inbetween them is the identity.

The language of Nature is a flowform which is the nature of things and a foldform which is the condition of things both of which constitute the figure (foldform) and space (flowform) which together are the flowdform that is the zerspiral, the breathing-point.

Nature's language is not a specific human language but it is all languages in that it has all what human languages have and transcend them by virtue of what it is. And so, there is *tree*, a word-figure, in Nature but it is not the standing alone, cut away from space, tree of count language nor the mass language which is separated by distance through the negation of one by the other within what share the same language, water and oil for example.

Of course, if all of science had been based on mass language, it would have been quite a different science and indeed quite a different body of knowledge that we would have had. Of course, as transfigural mathematics tells us, the mass language is not complete because the less-greater big-small dichotomy and other dichotomies exist in it, the same dichotmies that bedevil count language.

Be all tis as it may, mass language has the inner capacity for absorbing negation of one by the other and the total exclusion that results therefrom than count languages which, against what is easy to see in Nature, that is, that without one in the other, no world is possible, things are reduced to the countable since the countable is what makes them to be measurable, predictable, manageable in the nature of things in which *tree a* and *tree b* are the same in condition yet different in nature as a result of the inclusion of space in figure.

In all this, what I was trying to say is that the linguistics of transfigural mathematics is based on the language of Nature. It is unlike the lot that has been done in linguistics to settle the scores between count and mass langauges by reducing one to the other algebraically in which a string of words is taken for mass [Emmon Bach : The Algebra of Events (Linguistics and Philosophy 9 (1986) 5 – 16 by D. Reidel Publishing Company)]

Transfigural Space

Transfigural space consists of

Innerspace

This is the inner-outer space of inner-outer infinity

Naturalspace

This is the outer-inner space of outer-inner infinity

Spationatural

Innerspace and Naturalspace

Interspace

Space between a zerospiral and another zerospiral

Intraspaces

Space among zerospirals reaching the transspace

Transspace

This is Depthspace where the egg-chicken mystery begins and is resolved. Here the figure is a word, say the Egg. Space is also a word, say the chicken. Word requires space but Space is also a word. Both are born together in Identity. This mystery is further explored in the paper.

Before I begin with the exploration of some of the spaces of transfigural space above, I would like to share with you the letter I got from Professor Donald Poochigian before he went through this paper. He wrote, among others,

“Here is my concise account of these operators:

Injection constitutes a Hilbert space, a substantively and formally unaltered element in different spaces, represented by $a=a$.

Surjection constitutes a transmutative space, a substantively altered element in different spaces, represented by $a=b$.

Bijection constitutes a transfigurative space, a substantively unaltered and formally altered element in different spaces, represented by $a_1=a_2$.

Effectively, injection is a fractal space. In any case, on my categorization, what you are developing could be designated transfigural or transmutative, surjection or bijection. What is your analysis of which is most accurate? Your response is appreciated.”

In my reply to Don, I wrote, amongst others,

“On the spaces defined by injection, surjection, and bijection,, none of these space types reflects any of the spaces of transfigural space. And the reason why this is so is that they are (logical constructs in) logical spaces.

And, as you know, there is no space in transfigural mathematics without the figure included in it. Some of the spaces of transfigural space, especially the interspace with its interfigure had been treated in some of my former papers. It comes out anew, amongst the other spaces, in the paper I am re-reading now.

Anyway, I explored all this in the paper. ”

The point I was trying to make is that, by going behind these spaces to their logico-

arithmetic foundations, what we discovered is that injective $a=a$ is typical identity, surjective $a=b$ is substitution of the wholes while the bijection $a_1=a_2$ is substitution of the parts. In fact we can show that $a_1=a_2$ is the same as set-theoretic $a=b$ so long as a and b have the same count of members no matter what these members are.

Injective, surjective, and bijective spaces, because of their logico-geometric foundations which are intrinsically classical, have no place in breathing-point geometry. The reason is that their equations are not valid in the arithmetics of transfigural mathematics from which the spaces of transfigural space originated. For example a_1 can be in a_2 but never a_2 . In other words, there is nothing like $a=b$, $a=b$, $a_1=a_2$ in transfigural mathematics since such equations are based on things that are wholes or parts as numbers or segments of the line or areas of a surface.

I shall begin the exploration of transfigural space with cubist space and volumetric space. In doing this we need to remove the 'metric' in volumetric which reduces the free space to what can be packaged in a box, however large and free.

The solids of cubist space are dissolved. The metric of volumetric space is removed. The solidity of cubist space dissolved in folds. They are folds in transfigural geometry. Volumetric space is replaced with voluminous space in which addition and subtraction could not be understood in the traditional sense of adding a piece to another or subtracting one thing from the other. Indeed, in transfigural arithmetic of fluid logic numbers, where a number is added or subtracted, what results is also numbers that derive from fluid logic numbers the basic forms of which are alphas, omegas and identities. And so where you have $11 - 01 = 10$, this does not mean that 11 which is identity is greater than 01 which is alpha number. What is happening here are changes in qualities and nothing to do with quantities at all. For example what results from removing alpha number 01 from identity 11 in the form of mixture of qualities is omega number 10 which is a flowform 1 [Shakunle, J. Transfigural Mathematics, Vol.1.No.2. 2011 p. 37; pp 107-108]

The solids of cubist space as a flow are folds in transfigural geometry while the volumetric lost its measurability and returns to its natural form which is voluminous such that instead of volumetric we have voluminous space. With this we can now begin our journey to the spaces of transfigural space beginning with the natural space of transfigural geometry.

Breathing-Point Geometry - Condition and Nature of Presentation and Exploration

In what follows the geometric structures of breathing-points in the Breathing-Point Geometry shall be presented as equations. These equations shall be shown to be the fluid logic numbers of transfigural arithmetic and algebra. From this, the spiral numbers of fluid logic numbers which, like every fluid logic number is a point and also a line at the same time and so a point that cannot be pinpointed anywhere on the line and a line without beginning nor end, shall be presented. This shall be followed by the lines which are flowcurves and the point which is a fold which together constitute the breathing-point which begins as a fold and ends up as different structures of the breathing-point itself which is the zerospiral.

In the zerospiral, the non-homogeneity of space shall be shown. There we have alpha, omega, and identity structures of space. From alpha structure of space follows alpha-alpha and omega-alpha structures which are represented as lines therefore specific flows in the fold that is the point. In it also, the omega structure which consists of omega-omega and

alpha-omega structure of the same space in point and point in space with point which includes the line as the line includes the point standing for figure and space which includes the point, the fold in the flow of the line, standing for where and in which the point transfigures in the type of transfigural space called the transspace shall be presented and also explored.

Having gone this far, the spaces of transfigural space – innerspace, naturalspace, interspace, intraspace and transspace – shall be presented and explored in the zerospirals to the extent that is possible.

In doing this, the other basic qualities of the breathing-point, the zerospiral, which is now spacefigure, shall be presented for exploration. These are transfigural influence which is treated below and transfigural potential, transfigural potential, and its creative potential.

This done, we shall get into the presence, the zeroid. What this is cannot be put into words but a feel of the Transfigural will give the spirit of it.

Geometries of Breathing-Point Geometry

Below we have the introductory structures of the geometries of breathing-point geometry. This is based on fluid logic number 1, that is fln(1) which is 012. In other words, it is based on $fln(1)=012$ with fln from *fluid logic numbers*.

$$012 = \left\{ \begin{array}{l} 012 = \underline{0} \ S \ \dot{2} \quad : \text{Space } S \text{ as body includes One in the Other} \\ 012 = 0 \text{ --- } 2 \quad : \text{One (the line-figure) included in the Other by Space} \\ 012 = 0 \cdot 2 \quad : \text{One (the point-figure) included in the Other by Space} \end{array} \right.$$

S which is space, since it in figure and the figure in it, plays the same role in a fluid logic number as the number too. From this forms of fluid logic number 1 which is valid for every fluid logic number we have the arithmetic and the algebraic forms below:

Breathing-Point Transfigural Geometry

$$\begin{aligned} 012 &= \underline{0} \ S \ \dot{2} \\ xSy_i &= \frac{0}{1} \cdot \dot{2} \\ &= \cdot \\ &= - \end{aligned}$$

Breathing-Point Interfigural Geometry

$$\text{fln}(q)_{i=1,2,3\dots} = \underbrace{012, 123, 234, \dots}_{\substack{xqy_a, xqy_b, xqy_c, \dots \\ \tilde{n}_1, \tilde{n}_2, \tilde{n}_3, \dots}}$$

$$xqy_a = \left\{ \begin{array}{c} \overset{012}{\cdot \quad \cdot \quad \cdot} \\ \underbrace{\hspace{2cm}} \\ 123 \end{array} \right.$$

$$xqy_b = \left\{ \begin{array}{c} \overset{012}{\text{---}} \\ \underbrace{\hspace{2cm}} \\ 123 \end{array} \right.$$

Breathing-Point Identity Geometry

$$\begin{aligned} \text{fln}(q)_{i=1,2,3} &= 012, 123, 2S4 \\ &= \cdot \\ &= \text{---} \end{aligned}$$

The geometric structures of these forms shall come clearly when we get to fluid logic numbers, their spiral numbers and the folds and zerospirals of these numbers. The above structures originated from these algebraic forms below:

$$xSy = \left\{ \begin{array}{l} xSy_i = \overset{0}{\cdot} \overset{1}{\cdot} \overset{2}{\cdot} \\ xSy_j = \overset{0}{\text{---}} \overset{1}{\cdot} \overset{2}{\cdot} \\ xSy_k = \overset{0}{\cdot} \overset{1}{\text{---}} \overset{2}{\text{---}} \\ xSy_h = \overset{0}{\text{---}} \overset{1}{\text{---}} \overset{2}{\text{---}} \end{array} \right.$$

for beathing-point transfigural geometry, and

$$\begin{aligned}
 xqy_a &= \left\{ \begin{array}{c} \overset{012}{\cdot \cdot \cdot} \\ \underbrace{\hspace{1.5cm}} \\ 123 \end{array} \right. \\
 xqy_i &= \left\{ \begin{array}{cc} 012 & 123 \\ \cdot & \cdot \end{array} \right. \\
 xqy_j &= \left\{ \begin{array}{cc} \underline{012} & \underline{123} \end{array} \right. \\
 xqy_b &= \left\{ \begin{array}{c} \underline{\hspace{1.5cm}} \\ \underbrace{\hspace{1.5cm}} \\ 123 \end{array} \right.
 \end{aligned}$$

for breathing-point interfigural geometry. From breathing-point transfigural geometry and breathing-point interfigural geometry follow the form below for breathing-point identity geometry from breathing-point interfigural geometry,

$$\begin{aligned}
 xSy_i &= \begin{array}{c} 0 \ 1 \ 2 \\ \cdot \ \cdot \ \cdot \\ \cdot \end{array} \\
 xSy_j &= \begin{array}{c} \underline{0} \ \underline{1} \ \underline{2} \\ \underline{\hspace{1.5cm}} \end{array}
 \end{aligned}$$

and breathing-point geometry from breathing-point transfigural geometry,

$$xSy_{ii} = \begin{array}{c} \cdot \cdot \cdot \\ \underbrace{\hspace{1cm}} \underbrace{\hspace{1cm}} \\ \cdot \end{array} ; \quad xSy_{ij} = \begin{array}{c} \cdot \cdot \cdot \\ \underbrace{\hspace{1cm}} \underbrace{\hspace{1cm}} \underbrace{\hspace{1cm}} \\ \cdot \cdot \cdot \\ \underbrace{\hspace{1.5cm}} \\ \cdot \end{array}$$

which is irrespective of where the points which are folds may be. And so let a point be a planet and another point another planet, the space between them constitute the space-in-figure of both planets and makes it possible for one to be a flow in the other such that the planets are the figure-in-space and the space that makes one a flow in the other is the space-in-figure of the planets. These planets with the space are a interspatially spacefigure with one as alpha-spacefigure and the other as the omega-spacefigure and together with space, make a spacefigure.

In the case of Earth, Saturn and Mars, the earth in the middle is in both Saturn and

Mars and so to treat the Earth in isolation of planets together with which is a spacefigure as a result of the space in them which is the case of 012 is to miss the point that no planet is itself without the others because what it is derives from itself in the others.

An example of breathing-point identity geometry is given below:

$$\begin{aligned} \text{fln}(q)_{i=1,2,3\dots} &= \overset{\text{point}}{0}\overset{\text{space}}{1}\overset{\text{line}}{2}, 123, 234, \dots \\ &= \text{fluid logic numbers} \end{aligned}$$

This shall be explained when we get to the geometric flowforms of alphaflows, omegaflows and their identityflows of the fold that is the breathing-point which are the zerspirals and their folds.

The equations of breathing-point geometry prepared us for the basic principles of the geometries of breathing-point geometry.

Basic Principles of Breathing-Point Geometry

btptg(a)

Every figure-in-space and space-in-figure is a breathing-point

btptg(b)

Every breathing-point is a zerspiral

btptg(c)

A zerspiral is a spacefigure

btptg(d)

For every spacefigure, there is a central fold which is the flow of influence

btptg(e)

In every spacefigure there is a zeroid that makes it a breathing-point

btptg(f)

Every zerspiral is one in other zeroid

btptg(g)

A zeroid is a presence

The above principles based on fluid logic number 1 are:

$$\underline{\text{fln}(1) = 012 = xqy}$$

$$012 = xqy$$

$$012 = xSy$$

$$012 = SqS$$

The generalized forms are:

$$xqy = (x, q, y, s) = \begin{cases} \dots, -101, 012, 123, \dots = xqy \\ \dots, -101, 012, 123, \dots = sxs \\ \dots, -101, 012, 123, \dots = sys \\ \dots, -101, 012, 123, \dots = xsy \end{cases}$$

Examples based on fluid logic number 1 = 012:

$$\underline{\text{fln}(1) = 012}$$

$$\underbrace{0 \overset{q}{\underset{\cdot}{1}} 2}_{1 = xqy} \quad \underbrace{0 \overset{x}{\underset{\cdot}{1}} 2}_{1 = sxs} \quad \underbrace{0 \overset{y}{\underset{\cdot}{1}} 2}_{1 = sys} \quad \underbrace{0 \overset{s}{\underset{\cdot}{2}}}_{1 = xsy}$$

x = point
y = line
s = space

We have come across

$$xqy_{i=0,1,2,\dots} = -101, 012, 123, \dots$$

in [Shakunle, JTfM, Vol.I.No.2, 2011] and in various works on transfigural mathematics. What we have not come across nor seen before are *sxs*, *sys*, *xsy*. The reason for this is that these can only be treated in the geometry of transfigural mathematics where space shows itself to be something as the figure with which together is spacefigure.

The interspace of the interfigural which is the space in the naturalspace between you and the person before you, the space between you and the tree beyond and which space includes you in the other of the person and tree and from the tree to the river and on like that to the cosmos itself could only be treated in the arithmetic and algebra of transfigural mathematics but could only be shown in the geometry of transfigural mathematics, which is the breathing-point geometry inside which we are. Suffice to say that the interspace includes the natural space of human experience. It is the space within-without of a zerospiral and another zerospiral, indeed of a breathing-point and another breathing-point through which one is included in the other in all.

Now, with this background which shall come up again as we journey ahead, we can, in the light of the basic principles of breathing-point geometry above, explore the line in the point and the point in the line that is made possible by space which includes one in the other such that together they make the spacefigure. What is going to be presented here is the profile of *xSy* that takes us to the fold of a zerospiral that it is.

The diagram of xSy that follows shall be explored with a view to making its explanation come forth. For the Basic Principles of Breathing-Point Geometry btptg(d), we have:

"For every spacefigure, there is a central fold which is the flow of influence."

According to this principle, there is a central fold. A fold is a point. This fold is a flow. A flow is a line. This means the central fold which is a point is also a line. This is the condition and nature of a point. From this follows that at the centre of everything, there is a central fold which is a flow through and across. And so, let there be a line, there is another line inside which is the centre of the line. This line which is also a fold is the line of influence.

This is shown clearly in the fluid logic number to which we shall come soon. But before then, let us see the central fold that is a flow using as it were a fluid logic number.

We have for fluid logic number 1,

$$\begin{aligned} fln(1) &= 012 \text{ (arithmetic)} \\ &= xqy \text{ (algebraic; generalized form for every fluid} \\ &\quad \text{logic number)} \end{aligned}$$

Based on this we have for fluid logic number 1 whose generalized form for every fluid logic number is xqy , the foundations conditions which are based on transfigurality below.

Foundations Conditions
- Transfigurality -

$$012 = \left\{ \begin{array}{l} xqy \\ \text{a) } \underset{\cdot}{0}\underset{\cdot}{1}\underset{\cdot}{2} \\ \text{b) } \underset{\cdot}{0}\underset{\cdot}{1}\underset{\cdot}{2} \\ \text{c) } \underline{\underline{0}}\underline{\underline{1}}\underline{\underline{2}} \\ \text{d) } \underset{\cdot}{0}\underset{\cdot}{1}\underline{\underline{2}} \\ \text{e) } \underset{\cdot}{0}\underline{\underline{1}}\underline{\underline{2}} \\ \text{f) } \underline{\underline{0}}\underline{\underline{1}}\underline{\underline{2}} \end{array} \right. = fln(1) = 1$$

figure

figure : foldflow with space

• : point

figure : flowfold with space

— : line

space

space : flowform with figure

~ : space

(between the figure)

Let us take one of the forms of fluid logic number above for exploration. We take b) for which we have,

$$\begin{aligned} \underset{\cdot}{0}\underset{\cdot}{1}\underset{\cdot}{2} &= \underset{\cdot}{0} \overset{\sim}{space} \underset{\cdot}{1} \overset{\sim}{space} \underset{\cdot}{2} \\ &\quad \underset{\text{(tree)}}{point} \quad \underset{\text{(person)}}{line} \quad \underset{\text{(river)}}{point} \\ &= 1 \end{aligned}$$

Which says the tree and the river are included in the person through the inclusion of space in the figure. Since $2 = 123$ which includes 12 in 012, there is no gap on the line and 012 itself, like very fluid logic number, though a point, is also a line.

As we shall see when we get to the folds of zerospirals, the points and the line which constitute the figure are folds in folds with their centre in identity.

The Foundations Principles, through the spacefigure and the spaces of transfigural space, include spatiofigurality, interspatiofigurality, intraspatiofigurality, and transspatiofigurality as conditions which are derived from the primary conditions of foundations principles.

The fluid logic numbers which have been treated in all the previous works by the author are based on Foundations Conditions of Foundations Principles.

Derived Conditions - Spatiofigurality -

$$xSy = \left\{ \begin{array}{l} \text{a) } S\dot{X}S \\ \text{b) } S\underline{X}S \\ \text{c) } S\dot{Y}S \\ \text{d) } S\underline{Y}S \\ \text{e) } \dot{X}S\underline{Y} \\ \text{f) } X\underline{S}Y \end{array} \right.$$

Spatiofigurality as the name implies is space as figure. Space – the natural space - as figure results from inclusion of space in figure. Through the inclusion of space in the figure, space itself becomes a figure such that its being in the figure and the figure being in it shows space as figure that is spatial, that is spatiofigural such that together with the figure it is a spacefigure.

What this means is that space is imbued with presence through its inclusion in the figure with which together is a spacefigure. It is no longer possible to talk of space in isolation except with the figure nor of the figure in isolation except with space.

Being something as the figure through the spacefigure, space is no longer alone and separate from the figure, this being the natural condition of things, it can then come before and after a thing and so doing make it possible for the thing to know what it is. A simple example is an oasis in the desert. It is not alone because it is a flow in space that flows in it therefore a spacefigure. And being so, it knows itself to be an oasis through space that includes by surrounding it and which space is included in figure, therefore a spacfigure such that through it, the oasis knows itself to be an oasis.

I give an example. We imagine a lonely planet in space inside the sea of space. This planet is not alone because left and right and everywhere, it is surrounded by the Others of transfigural space which is non-homogenous. And since space flows in One to include the Other, this lonely planet flows in faraway planets which are included in it. Distance plays no

role where space is something in the sense of being a spacefigure with what flows in it and in which it flows.

Thus let us have \tilde{n} as a stand-alone planet which transfigurally is pnq . This planet which is 'lonely' to the eyes is not lonely because it is a planet through the surrounding space that makes it $s\tilde{n}s$, even where p and q are ages away from it. And with space S represented by \dot{s} and \ddot{s} including figure q in all scales, this means planet n as $sn\dot{s}$ in which \dot{s} is alpha-space in \tilde{n} and \ddot{s} is omega-space in \tilde{n} which together with \tilde{n} is a spacefigure.

And so, in reality, with space in things and things in space, there is nothing like a lonely anything in the universe, not even the universe itself. This is simple to understand. Nothing that is lonely can survive. It cannot because such a thing lacks identity which is crucial to the awareness of being a presence, a life, which is here, there and beyond. The next other conditions are:

Derived Conditions Interspatiofigurality -

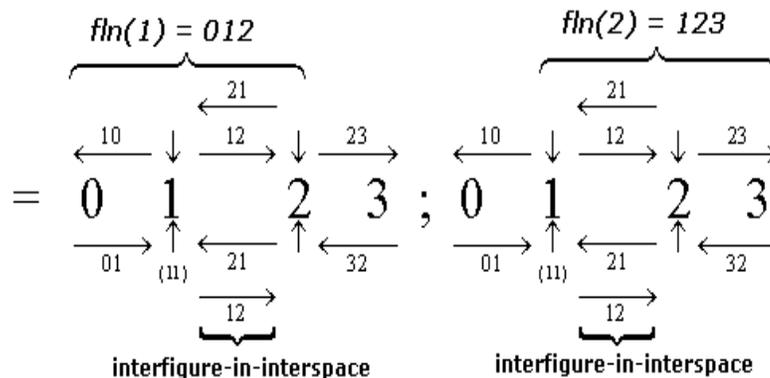
Interspatiofigurality is based on interspace of transfigural space. Interspace includes the inner-in-natural space, that is, spatiofigurality. Interspace is the space between an alpha and omega in a zerospiral and it is also the space between a zerospiral and another zerospiral. Interspace is also a figure which results from its being between one thing and the other internally and externally. It is a flow from inner to the outer and of outer to the inner between one thing and the other in itself and out of itself.

The other conditions below shall not be treated here but will show what they are under the treatment of transfigural space which are spaces within spaces of the space.

Derived Conditions Intraspatiofigurality -

In [Shakunle, JTFM, Vol.1No.2, 2011] the gateway to interspatiofigurality was given through interspace below.

$$fln(\underline{12}) = 0123$$



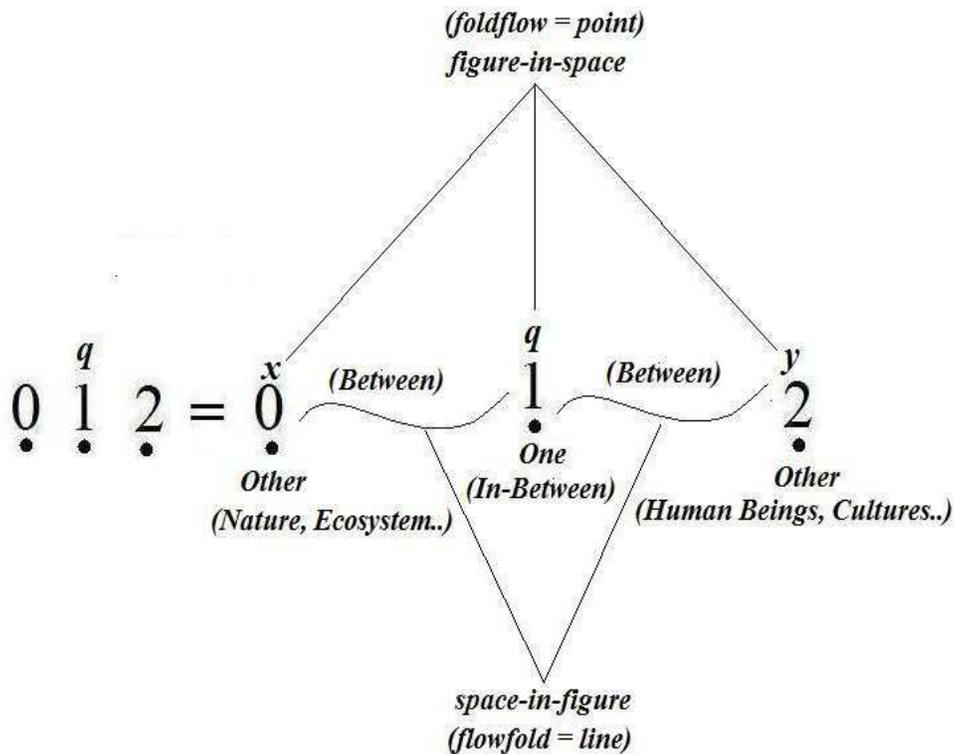
which, in cases where there are many zerospirals with many interspaces, what results is an intraspatial domain of intraspatial figure whose state is intraspatiofigurality.

Derived Conditions Transspatiofigurality -

Below we have the transfigural INS:

Transfigurality
(across, inbetween, through)
Intraspatiality
(among, through, inthrough)
Interspatiality
(between, among)
Spatiofigurality
(in, inthrough, between)

In what follows below, another level of Foundations Conditions in Transfigurality is presented. For this we have,

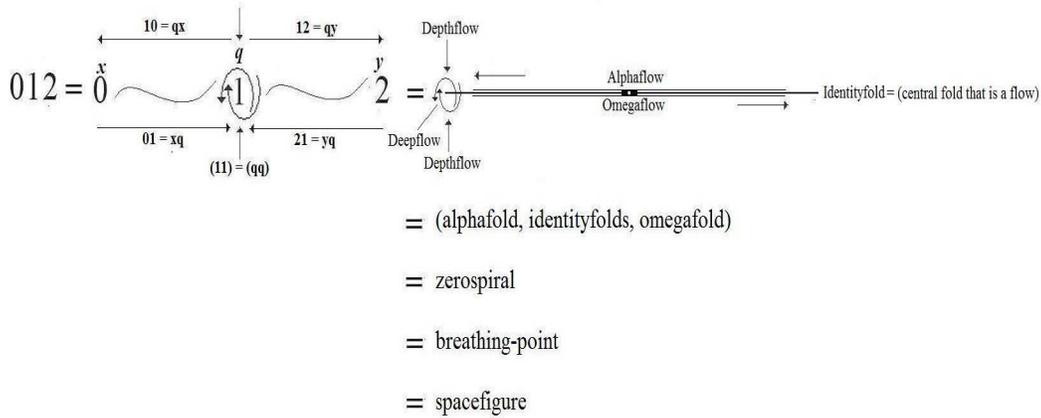


which is valid for every fluid logic number.

Every fluid logic number is a flow in fold and fold in flow with the fold including form in figure. The flow is a flow of one in other and the fold is the flow-folding into different figures which is what makes the difference between a rock and the orange as a result of different forms in the folds of the figures in the transspatial realm of transfigural space. All this follows from number as figure in space becoming spacefigure with space in which what is

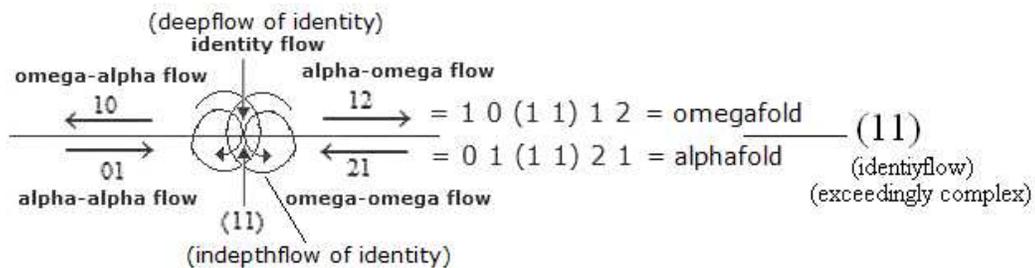
called a number could be a word standing for a tree, a human being, an elephant, a brilliant idea, compassion, and others in the realm of in the other in all divine in which nothing is less - nor greater than but each is unique.

What we have below, even though it is also based on fluid logic number 1, is valid for every fluid logic number.



with the flows in the folds and the folds in the flows.

The flows in the folds include the form and so the folds in the flows include the form too. Transfigural forms are qualities which have nothing to do with the other-world Forms of Plato. They are here in there and there in beyond as a flow of one in the other. This is also depicted below

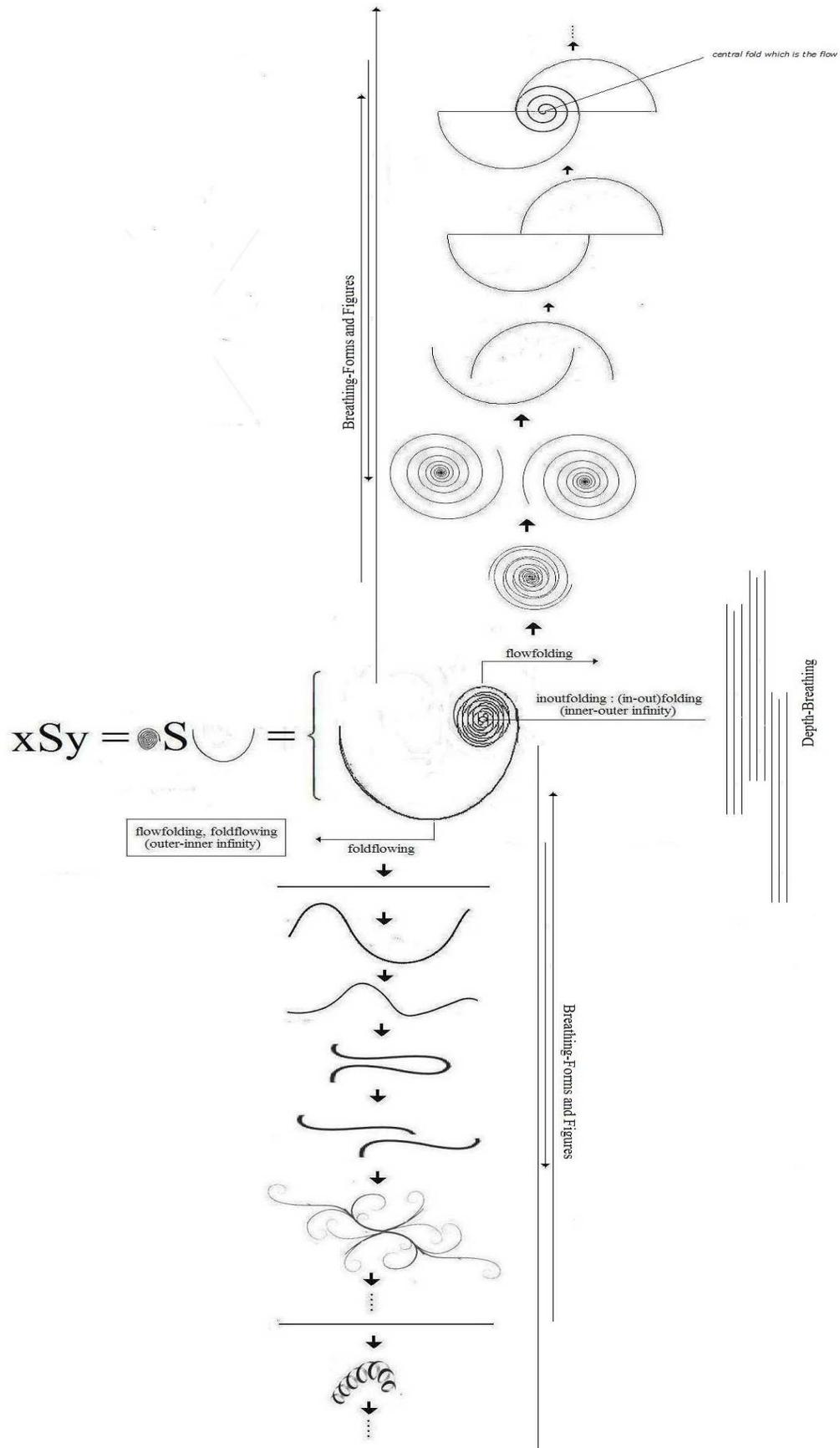


The identityflow is the fold, a point that is a flow therefore a line. It is in-between alphaflow and omegaflow. This identityflow is in everything. In a zerospiral, it is, as it is in everything, invisible but it is responsible for the heterogenous structure of space, therefore of the different flows in a spacefigure. It is the seat of transfigural potential and of identity zeroid. The alphaflow and the omegaflow are in alpha and omega domains which are the domains of alpha and omega zeroids which are the seat of the creative potential. Creative potential is local while transfigural potential is non-local. We shall come to them again. What we should not forget is that being a flow, as we got to know from what the point and the line are, also means being a fold. Of course, a thing is a figure-in-space by which is meant that it has the central fold in it which means the thing is also a space-in-figure and as a result of this is a zerospiral, therefore, a breathing-point.

And so, what is a fold which is between flow and figure and through which the breathing-point manifests itself?

We cannot get to the fold until fluid logic numbers are presented. The numbers of the folds of a zerospiral originated from fluid logic numbers. However, before we get that far, the diagram below which is based on xy in which space which is space-in-figure that flows

in x and y which are figures such that we have through them figure-in-space shows the breathing of the point in space-in-figure and figure-in-space which is also the case with xqy .



I start with the arrows. The arrows show the breathing in xSy which is the same as it is in xqy and other forms of fluid logic number. The arrows depict the way things breathe. They are irregular. They spread, come together and spiral into the deep from where they get to the depth and from there spiral out from the depth to the outer-inner that is the interspace that includes the natural shared space from where the spiral through folding into the inner-outer to the deep and from there to the depth. As things that breathe in their own different ways, the structure of things change from simple to complex and as they unfold, they become simple again and from there travelling through various levels of complexity that is inbuilt with simplicity. It is not that one is growing from one stage to the other until it reaches a stage where it can no longer grow. No, there is no such things in zerospiral which is unlike the traditional spirals which grow, wane, and disappear. A thing changes – does not evolve – using as it were the creative potential in transfigural potential and reaching a stage, it goes back to its origin for a new life from where it can choose to remain or spiral out again. When it does this, there is a transfiguration in which former things are swept away to begin life anew with the noble and the grand in the old included in the new order.

A line is a curve not by evolution but by the transfigural element inside the transfigural potential in it. This same line is also a plane also not by evolving but through the inclusion of space as it is in a curve in the figure. Yes, to transfigure has nothing to do with evolution nor has it anything to do with transformation in which the old is raised to a level with the intrinsic properties of the old still intact nor is it the same as the change that comes and goes, the kind that is attributable to the weather and such things. Transfigural brings forth something that is completely new. In it, the past and the future in the present are made anew. It is has the capacity for temporality and eternity in which the past and the future are always undergoing rebirth. And so, everyday is a new day. Everywhere is a new place. It is the condition of life to transfigure and the nature of life to live the new that pours forth from the creative potential through the transfigural potential.

From the diagram above, it is not possible to predict what will become of a thing since it cannot be separated from space and this being so, it cannot be separated from the other through which it knows itself to be what it is in itself. This is the condition and nature of things in a breathing, living world. What is demanded is imagination in creativity about what becomes of a thing as it breathes and lives its creative potential in transfigural potential.

In science, models are built on holding something down as settled. That is possible where what is being talked about is happening in a void and so could lay claim to the non-living point of Euclidean and to some extent, non-Euclidean geometries in axiomatic logical space.

Models, in the way they are used in science, are not possible in a world in which one is a flow in the other and things are always taking new configurations as a result of breathing. What this means is that any model is intrinsically out-dated by the time it is being used since what it models is already gone. A model lives the past of things.

Metaphor is better than models because it is more dynamic than the model. While it does not pretend to holding the key to reality, metaphor shows the limits of models by bringing together things which are anathema to models that feed on exactitude. The power of metaphor is its lack of exactitude. And more than that, metaphor shows how things which are seen as un-related by models and so will never be brought together belong together. The person and the lion for example. A person and the lion are in the hands of models arch enemies. Not so with the metaphor. It says a person is a lion when it means that he can roar to make you cringe anyway! And so, what is seen as not belonging together in models are shown to belong together beautifully in metaphor.

In Transfigural of transfigural mathematics, the metaphor is transcended, the magi-

cal is translated, the mystical becomes the concrete. Indeed what is happening in transfigural mathematics is the dream of metaphor. Metaphor would like to show that all belong together whatever the externalities may say against such things but the senses tend to apply a limit on the freedom of metaphor that is given it by creativity.

There is an infinite possibility of structures since a figure does not and cannot stand still because of the space in it through the flow and space does not stand still because of the figure in its through folding.

Number in Transfigural Mathematics

The concept of numbers in all of mathematics originated from and are, however remote they may look on the face of it, based on the 'natural' numbers. Natural is written as 'natural' because the name itself was not inspired by a thing being natural but by progression of things.

According to [Wikipedia],

The natural numbers had their origins in the words used to count things, beginning with the number 1.

What this means is that natural numbers had nothing to do with what things are but with counting things. Counting itself is separation. A thing is counted to exclude it completely from the other through the label it bears. Counting is also based on hierarchy of one being greater or less than the other which is un-natural. The act of relating to things in terms of greater- or less-than is easily imbibed by children through counting. But is an elephant greater than the ant in Nature? The answer is no. No, because there is nothing like less-than nor greater-than in the language of Nature. None because every thing is important. The ant is important as the elephant and so it is not 1 while the elephant is 10.

The act of using quantity to judge importance also originated from counting. Yet, what history teaches about people with little means and great achievements tells us that in the final analysis, what matters is not how many but how much. How much of the good character? How much of benevolence? How much of fellow-feeling? Yes, how much of humanity is what is going to determine the fate of this world. These are things that cannot be counted, things which are rendered uncountable by the simple reason that they flow, like humanity, like life, one in the other. Imbued with loving influences, what matters is beyond counting, as beyond counting as fluid logic numbers.

Fluid logic numbers cannot be counted because where you say 1 there is 0 and there is 2 in it and where you say 2, there is 1 and there is 3 in it and in all this, there is space inside 012 of 1 and 123 of 2 such that to be in them is to be in space and figure and where this is the case, even the person writing them down is, through space, included, in the others.

And so, just as I am included in other human beings and trees, so it is that I am included in the computer before me and the table behind me and through them in the entire room and through the room, in the building and through the building in the park and so on even if the uniqueness of the person is guaranteed through the flow from One to the Other and from Other to All.

I am not just interconnecting with the computer and the table. I am not just interconnecting with the One of other human beings and Other of Nature but they are flowing in me as I am flowing in them through space that includes them in me and me in them and so doing, space is included in figure and figure in space. The self is still there, unique, but it is not an isolated self, not an island self, not a self set apart from the Other of human beings, nature and beyond.

Were it to be sheer interconnection, then we shall be speaking about two points on the line which are touching each other and so can be severed one from the other. Were it to be interjection then we shall be speaking of two sets which have some members in common but which within as members they are separate, set apart.

Transfigural flow is nothing to compare with quantum interconnection such as the transfigural spacefigure is nothing to compare with the space-matter tussle of general relativity. These are as shown in previous works by the author as this relates to the fundamental differences between quantum interconnection and spacetime gravity and the transfigural flow.

Now, what happens where numbers are replaced with things that they traditionally count such that they can be spoken of as things and not as what is used for counting them? In other words, what happens where a tree is 1 instead of one tree or first tree? In doing this, what must happen to numbers to remove them from counting by rote to things that could claim a life, could tell a story, could speak of identity in terms of what it means to be a tree, a human being, the sea, earth, the universe? And from this, what must happen to geometry to remove it from measuring the land to become the realm of human experience, the story of a universe telling it by itself instead of somebody who claims to be out of it through the exclusion of space foisting a story on it? And what could this mean to those who have been driven away from mathematics because they could not see how its abstraction relate to the fundamental questions about human life and its whys and wherefores? These and other fundamental questions are answered by transfigural mathematics.

Number, \tilde{n}

A number is itself in the others before it and after it.

This is what a number is in transfigural mathematics. This number are called fluid logic numbers. It is a number that stands for what a thing is. It is not number in the Pythagorean sense of all are numbers but numbers that originated from how a thing is what it is through itself in the others which is about the origin identities of things. Pythagorean 'all is number' is based on numbers as abstraction which are un-natural since these numbers and others on which modern and classical mathematics are based exclude space and so do not include context and lacking context, they lack the awareness of identity as this relates to, where am I coming from, why are we here, what do things share in common, and other fundamental questions about life and existence, the various types of consciousness and the role of permanence in change and the place of change in permanence, how one relates to the other and the other to all with all this showing the flaw in the law that excludes the other.

With this, we bring back the number in transfigural mathematics.

Fluid Logic Numbers of Transfigural Mathematics and Geometries of Breathing-Point Geometry

We begin with what a number is in transfigural mathematics.

Number, \tilde{n}

A number is itself in the others before it and after it.

This number is called *fluid logic number*. According to number, \tilde{n} , a fluid logic number is unique (is itself) and is a flow of one in the others (in the other before it and after it) through

which it is a flow in all. This flow is the flow of space in figure and figure in space and though space-in-figure in all.

From what the number is in transfigural mathematics follows what fluid logic numbers of transfigural mathematics is. This is given below.

Fluid Logic Number, *fln*

Unlike natural numbers which are defined as sign for a certain quantity, fluid logical numbers derive their identities as things through themselves and their flow in neighboring numbers in space and with space. Both the natural numbers and the numbers of set theory appear in the logical empty space as singular, separate, independent entities with gaps between them. On the other hand, a fluid logic number does not exist independently of natural space, but is associated with it as a flow that fills the gaps, as well as with its neighbouring numbers. The movement of a fluid number changes all.

This fluid logic number, *fln*, is the number \tilde{n} .

From this follows that we have fluid logic number as \tilde{n} as:

$$fln(q) = xqy \quad (*)$$

in which *fln* means ‘fluid logic number’ and *q* the number itself in the others *x* and *y* before it that make it *q*. To know what is happening, we need to explore the following:

is itself
in the others
before and after it

is itself makes *q* to be unique, *in the others* makes it to know that it is *q* at all. If the others are not there, it does not know what it is. It is unique because it between the others but the others are unique too because there are others to the left and right of the others that make them unique too. The others of *q* are *x* before and *y* after it. The others of *x* and *y* that make them unique are what comes before *x* and what comes after *y* in which case, *q* is also the other of *x* and *y*. And so, let *q* be the inbetween, what we have is since to the left and right of *x* and *y* there are others that show them to be unique, they too are inbetweens and so from this follows that there are centres everywhere. From this follows that every thing is *unique* and a centre. However, there is no thing that is what it is without the others which are given as before and after.

And, since to know itself is primary, *know itself* being knowing whether it is a tree, a bird, the sea, a human being, indeed the universe, the uniqueness of *q* follow within it through the others. A thing cannot be unique on its own without the others. The others make the awareness of the uniqueness of the one possible. And so, knowing what it is through the others is born with the awareness of uniqueness that makes *q* and every thing in the world, including the world itself, special.

From this follows that the idea of a person as a microcosm in the macrocosm which completely isolates the person from the others of other persons, nature and the world is completely against the reality of being human which is possible through the one in the others. This very idea of a person as a monadian microcosm was invented to complete the project of excluded middle.

Now let us have *q* as 1, what we get is,

$$fn(1) = 012$$

which says every 1 is 012, that is, 1 is itself, what comes before it which is 0 and what comes after it which is 2.

For 1 to be itself and what come before and after it requires that in includes the space before it and 0 and 2. This then means 1 includes space to be itself which involves the inclusion of 0 and 2 that make it possible for it to know that it is 1 at all. At this stage we can now add what was left out which is *in space*.

We need to put this in before we continue. And so we have:

Number, \tilde{n}

A number is itself in the others in space before it and after it. (#)

Of course, (*) is also valid where we do not explore it and so just take space to be a hidden quality. But we cannot do this because without space 1 is static and so cannot flow to include 0 and 2 to make it flow as a line when it is also a point. Indeed 'in space' makes fluid logic number xqy to be a point as well as a line.

On the one hand, as,

$$q = xqy$$

it is a point but on the other hand, as a flow of one in the other 'in space' it is a line. What one gets from imagination is that xqy changes from point to line and line to point and goes deep into itself and becomes the line again only to become a point again. The way this change of point to line and line to point is resolved by imagination in the permanence that is xqy is by seeing it as a breathing-point.

A breathing-point includes all the possibilities of the point in the line and the line in the point. Breathing has the advantage that it is not regular. This being so, the point which is included in the line and the line as a breathing-point cannot be static. This is even made impossible by space in them which they include and which includes them.

Let's try to get a deeper feel of the phenomena of the breathing-point. Take the river as a breathing-point. When the river breathes out, the volume rises. And when it does this really its volume rises and it flows ever turbulently which to it is flowing joyously. When it breathes in it shrinks to its depth. This may even mean that it stops short of reaching where it empties into the sea. When it breathes in the depth, life in the underwater is a scene of wonder amongst the inhabitants. In this case, we remember the corals and we also remember that the sea has an inner life that is beyond. Now, as a point, the structure of the river is changing. But it is also a line, the river and so its structure is also changing. Indeed it is a point – the rolling waves around – inside the line, the moving currents, the river. It is permanent all the same. It has its permanence in the fountain.

But something is missing. It is not a river yet where the banks with its lush forests are not there. It is the trees and the birds not to talk of its many wonderful inhabitants and human beings and others that make a river to be what it is and so, let this river be q , there are x and y through which it knows that it is a river at all.

With this short exploration, we continue with examples of fluid logic numbers each of which is \tilde{n} and all of which as fluid logic numbers are written as \tilde{N} such that we have:

\tilde{N} : for all fluid logic numbers

\tilde{n} : for every fluid logic number

From this follows that we have

$$fln(q)_{i=0,1,2,\dots,-n+} = \tilde{n}_{0,1,2,\dots,-n+}$$

which gives,

$$fln(q)_{i=0,1,2,\dots,-n+} = -101, 012, 123, \dots -n+$$

From what we have about numbers above, the classical 1 is now 012, 2 is now 123 and infinity is what comes before and after it.

We take fluid logic number 1 to show the flow of a fluid logic number in which space includes figure and figure includes space which is written as space-in-figure and figure-in-space. We do this because it is very easy to see the flow of one in the other in fluid logic number 1 which flows are valid for the other fluid logic numbers. The numbers that result from the flows are called alpha numbers of simply alphas, omega numbers or simply omegas, and identity. From these numbers follow the spiral numbers that take us to the folds of zerspiral and with this it's welcome to the breathing-point geometry.

For fluid logic number 1, with $q=1$, which is also \tilde{n}_1 , we have,

$$\begin{aligned}
 \mathbf{fln(1)} &= \mathbf{012} \\
 &= \begin{array}{ccc}
 & \begin{array}{c} \leftarrow 10 \quad \downarrow \quad 12 \rightarrow \\ \textcircled{1} \end{array} & \\
 \text{0} & \begin{array}{c} \leftarrow \textcircled{1} \rightarrow \\ \text{01} \quad \uparrow \quad 21 \\ \text{(11)} \end{array} & \text{2} \\
 & \end{array}
 \end{aligned}$$

For fluid logic number 2, we have,

$$\begin{aligned}
 \mathbf{fln(2)} &= \mathbf{123} \\
 &= \begin{array}{ccc}
 & \begin{array}{c} \leftarrow 21 \quad \downarrow \quad 23 \rightarrow \\ \textcircled{2} \end{array} & \\
 \text{1} & \begin{array}{c} \leftarrow \textcircled{2} \rightarrow \\ \text{12} \quad \uparrow \quad 32 \\ \text{(22)} \end{array} & \text{3} \\
 & \end{array}
 \end{aligned}$$

The above fluid logic numbers show the form of flow of one in other. Every fluid logic number has the above forms of flow.

The numbers that result from the flow are one-in-other such as 01 as 1 in 0. They are also 01 which is 1 in classical number system. The difference is that this 01 is logically -1 which shows that it is non-classical. The addition and subtraction have different meanings because of the fundamental difference of these numbers and classical and other numbers in classical, modern and intuitionistic mathematics. It is like removing something in a volume which also gives a volume. In our communication [Jan 27, 2012] Professor Donald Poochigian saw this special feature of transfigural numbers that amongst others distinguish them from classical and set-theoretical numbers when he wrote,

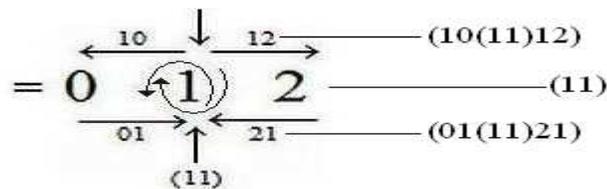
“...when I think of transfigural humbers, 'it strikes me they have more the character of volume than counting. What makes this even more interesting is volume easily transmutes into volume....[Communication, 27.01.2012]

Right from the beginning, fluid logic numbers cannot be counted. From this follows that their numbers, that is numbers that originated from them, cannot be counted too. For example 10 is 1+ and 21 is +1. 01 is -1 and 12 is 1-. At the centre of these numbers is the operational 11 which is 0 but not the same as classical zero and the creative potential zero which includes them all and beyond which is (0). And so whatever number results from subtraction and addition, even though they obey the laws of addition and subtraction to show that they are internally consistent, they are all the same not counting numbers at all. Some of the Numbers of Fluid Logic Numbers are:

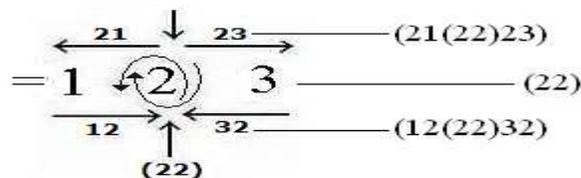
- Alpha number with the shortened name, *alpha*
 - Alpha-alpha Number / Alpha-alpha
 - Alpha-omega Number / Alpha-omega
- Omega numbers with the shortened name, *omega*
 - Omega-Alpha Number / Omega-alpha
 - Omega-Omega Number / Omega-Omega
- Identity Number with the shortened name, *identity*
- Paragons – Alpha and Omega Numbers
- Spiral Numbers
- Folding Numbers
- : : :

(with backlash / as 'whose other name is')

$$\mathbf{fln(1) = 012}$$



$$\mathbf{fln(2) = 123}$$



Logic numbers are the numbers above and below the brackets that show the direction of flow above. They are the alpha and omega numbers and identity. Alpha and omega numbers are called *paragons*. And so the numbers in the brackets are paragons and identity. The spiral numbers of the above fluid logic numbers follow from removing the brackets.

By removing the brackets in from the logic numbers of fluid logic numbers 1 and 2 we have the following numbers:

$$\begin{aligned} (10(11)12) &= 101112 \\ (01(11)21) &= 011121 \\ (11) &= (0) \text{ (This is the creative potential zero of the} \\ &\quad \text{zerospiral)} \\ (21(22)21) &= 212221 \\ (12(22)32) &= 122232 \\ (22) &= (0) \text{ (This is the creative potential zero of the} \\ &\quad \text{zerospiral)} \end{aligned}$$

The above numbers without brackets are the spiral numbers. They describe the fold of a zerospiral. They are depicted as points on the line. But we have come to see that there is nothing like point on the line in transfigural mathematics therefore there is nothing like it in the breathing-point geometry. This being so, what is called a point represented by the spiral number are flowforms in and of the line as shown in [Shakunle, JTfM Vol. 1. No. 2. 2011) containing presentation and exploration of the flowforms of logic numbers of fluid logic numbers]

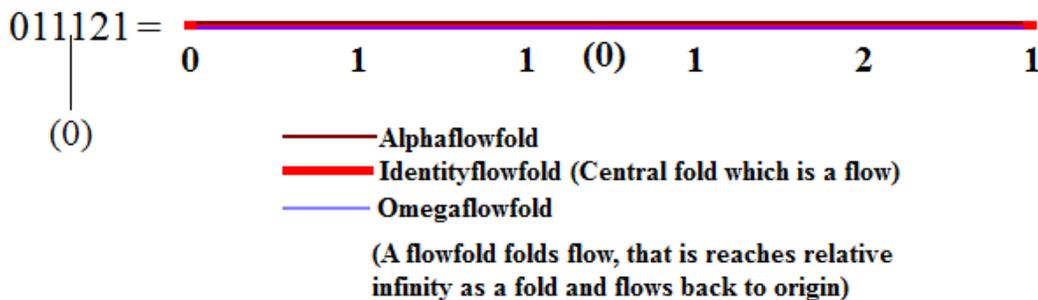
From the spiral numbers above, we shall take for example 011121 to show what the fold of a zerospiral is. It is the case that the spiral numbers 011121 and 101112 form the zerospiral that is fluid logic number 1 and which zerospiral is the same for every fluid logic numbers except that their spiral numbers are different, as different as their logic numbers which also show, through their logic which is their basic constitution, that every fluid logic number is equal to every other fluid logic number.

To get a fold we need a line. This line is the central fold that is a flow. This takes us back to Basic Principle of Breathing-Point Geometry btptg(d), where we have:

"For every spacefigure, there is a central fold which is the flow of influence."

It is not possible to exhaust this basic principle in terms of what is inside it but the diagram below and the explanation that follows takes us inside it for a journey in the infinite which is transfigural mathematics is relative in that the infinity of one is where the other begins such that there is no beginning nor end.

An example of a central fold which is a flow is given below, based as it were on the spiral number 011121 of fluid logic number 1.



The spiral number is made of flowforms which are 011121 which with the centre at (0) which is the creative potential zero which is the seat of transfigural potential. Flowforms are points that flow as a point and whose places are not definite inside the line which they are. These points as a point as folds that are flow are curves and curls. The fold below shows the line above which are flowforms in flowforms as flowcurves which constitute the natural flow of flowforms. The zerospiral itself is the point as a flow and which flow is the central fold that flows. The central fold that flows, that is the line above, is no longer to be seen because then it is the curves that flow (flowcurves) which are the folds of the zerospiral that resolve into the zerospiral as a breathing-point.

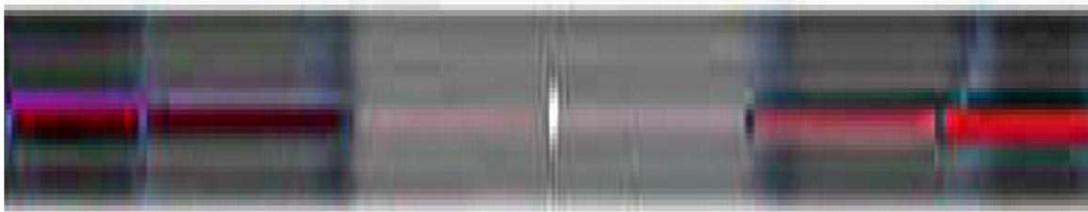
In what follows, the types of folds shall be introduced and this done we shall go back to the central fold which is a fold below to show the fold that depicts the flow of flowforms which are the spiral number 011121 from fluid logic number 1.

The central fold which is a flow with its alphaflows, omegaflows and identity flows is shown, to the extent that is reachable by imagination, below:

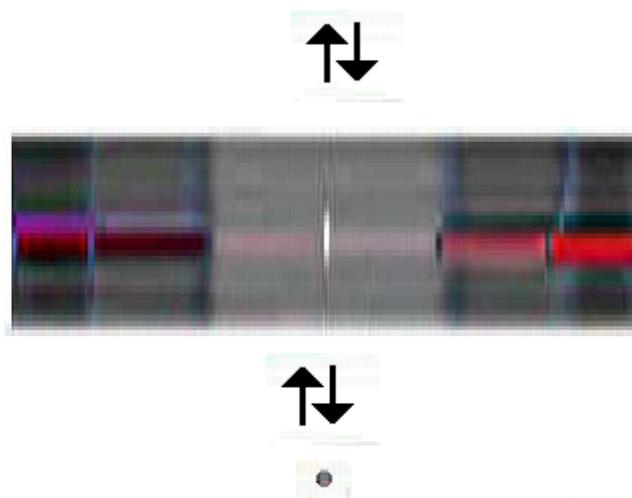
A.



B.



C.



What we have above are flows which shall be shown for what they are by the folds of fluid logic number 1 which folds are representative of every fluid logic number and which folds are a zerospiral.

There is the need to explain what is happening above before we get to how the flows fold to become what is called a fold in the breathing-point geometry. The dark background is the central flow. On the right are alpha-alpha flow which is 12 in fluid logic number 1. Below 12 is omega-omegaflow which is 21 in fluid logic number 1. Towards the right, even though they flow in each other, it is possible to say this is flow 12 and this is flow 21. But as they move to the centre, the differences disappear. Indeed as they get to the opening in the middle, it is not possible to say which is which become not only do the colours change completely where they can be seen at all but there is only one colour which disappears the closer it gets to the centre. On the left we have alpha-alphaflow below which is 01 in fluid logic

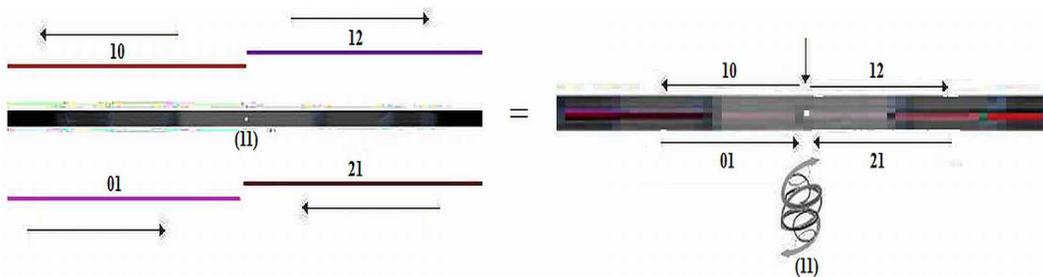
number 1. On top of it we have omega-alphaflow which is 10 in fluid logic number 1. Like what we have on the right, towards the far left, even though they flow in each other it is possible to say this is 10 and this is 01. As they move to the centre where they come from and which centre is not possible without them, the differences disappear. At the centre all the differences are resolved into the same while as these flows leave the centre, their colours change to prepare the ground for diversity which could be seen left and right at the edges where they flow into the other fluid logic numbers that flow in them. The center is 11 which is inside the creative potential zero (0).

All this is not possible without the figure including space and space including figure which is what we have above.

The fold of a zerospiral shows how the alphaflows made of same yet different alpha-alphaflow 01 (flow of 0 in 1) in alpha domain and alpha-omega 12 (flow of 1 in 2) in omega domain and same yet different omega-omegaflow 21 (flow of 2 in 1) in omega domain and omega-alphaflow 10 (flow of 1 in 0) in alpha domain flow and fold in identity 11 all of which together with tptp β flow, fold and form in the creative potential zero (0) which is the seat of transfigural potential, transfigural influence and the other features of the transfigural whose figurals, interfigurals and intrafigurals are to be found in alpha and omega domains in identity domain. The type of space in the transfigural is transspace. The small space at the centre of the line is the place of inward spiraling to the inner-outer infinity of a zerospiral. More about it and the other features as the work progresses.

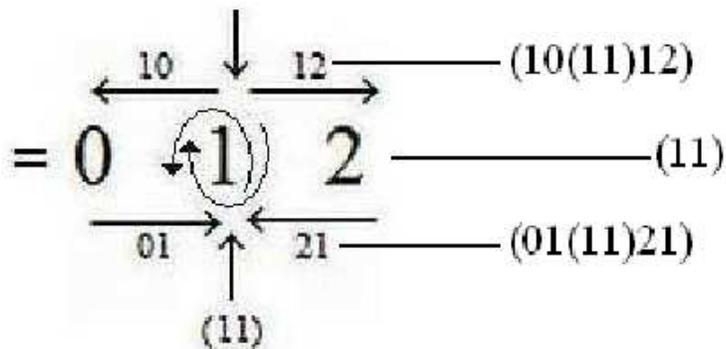
Now, let us see how the journey in the central fold which is a flow, that is a point which is a line look like geometrically.

For fluid logic number 1, we have the flows which are the folds of a zerospiral - this much we got from the central fold which is a flow - below:

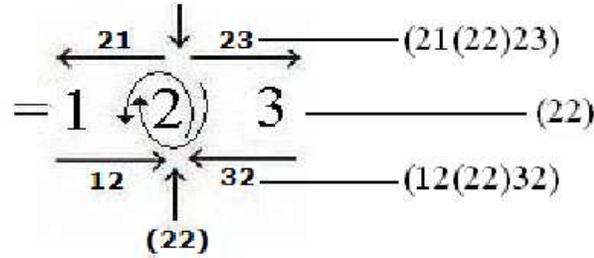


This, as we shall see soon, is the same as,

$$\text{fln}(1) = 012$$



$$\text{fln}(2) = 123$$



and every other fluid logic number even where the numbers of these logic numbers are different. Internally, their logic is the same and so every fluid logic number has the same fundamental logic as every other fluid logic numbers. The classical relation of less-than and greater-than does not exist in fluid logic numbers because – and this is very easy to see – one number is a flow in the other with every number having its uniqueness.

Before we continue, permit me to introduce what is called transfigural INS in transfigural mathematics which as it is in the arithmetic, algebra and logic (transfigural included other) of transfigural mathematics also plays an important role in the breathing-point geometry of transfigural mathematics.

Transfigural INS, η

η : Greek symbol for h which is interpreted as elongated English *n*. As an operation - it is also an operator, but we handle its operational features here - it stands for the various ways in which one thing can be a flow in the other(s). In that respect, there are different forms of one thing being a flow in the other. This is the origin of the plural of *in* as *ins*.

Some examples of transfigural *ins* are given below. Where for example we have,

$$xy : x \eta y$$

this means *x in y* which means *x is a flow in y*, In this case η is not defined and so it could be any of the other forms of flows of one in the others.

For the defined *n* we can have

$$xy : x \eta_{\text{within}} y$$

which means *x is within y as a flow*. It cannot be located but it is within *y*.

For another defined η we can have,

$$xy : x \eta_{\text{inbetween}} y$$

which means *between x and y there is another through which x and y flow one in other*. *Through* and *in* are marked to show that *in-between* includes *through* and the other features of the undefined *in*.

.....Continued on p. 77



Adebimpe Adebambo —“A tree, a leaf at a time”

Bimpe’s *One Leaf* Reversible Dress at **SurVivArt** Exhibition in Berlin

Interview with the Nigerian Fashion Designer, Adebimpe Adebambo
by Lere Shakunle

Adebimpe Adebambo is a fashion designer from Nigeria. Bimpe, as she is fondly called, was at the SurVivArt Exhibition in Berlin this year. SurVivArt was organized by the Berlin-based Heinrich Böll Foundation (refer p. 73). During the exhibition, I had the chance to discuss with her about the origins of the inspiration for her refreshingly fashionable design especially that one that won her the opportunity of participating in the Exhibition.

Journal of Transfigural Mathematics, JTfM: Your design philosophy of making many from one could as well come from a scientist working on how it all began, say about the origins of the universe, say in cosmology. How did you get to the idea of what you described as “a multifunctional reversible dress that can be used in very many different ways”?

BIMPE ADEBAMBO: I have always in my designs, sought where possible, multiple functions of a particular garment or accessory so when I got involved in the SurVivArt sustainability Arts for the Rights to a Good life project, inspired by leaves and trees in my immediate environment, I decided to make an outfit that will tackle consumerism in my own little way and exude charm at the same time. Consumerism in the world brings about a lot of evils like child labour, dissatisfaction, envy, strife and so many others and I thought, if there is a garment that can take the place of at least conservatively speaking of six different outfits in a woman’s wardrobe there will be less evils hopefully and the outfit also will also help the wearer to be innovative and creative with her styling choices.

JTfM: Also, from a technological point of view, the idea of a multifunctional design is interesting. For example, this very idea of yours could be used to design a multifunctional coffee machine which should, in addition to making coffee, make tea, toast bread, push forward a tray and so you can sit to enjoy your breakfast! By



.....Continued on page 73



- from There to Here -
Artistic Reflections and
translocational Autobiographies

Listros Gallery Berlin
showcases works of African
Artists in Diaspora

Concept of the exhibition series „von dort bis hier“

Exhibition team:

Yvette Mutumba, Dorina Hecht, Regine Wosnitza, Dawit Shanko



The exhibition series „von dort bis hier“ provides a stage for artists who grew up in Africa and reside in Germany now. The series, on the one hand, presents artists who have been living in Germany for decades, such as El Loko (Togo), Mansour Ciss (Senegal), Manuela Sambo (Angola), David Amaechi Dibiah (Nigeria) and Ivor Sias (South Africa). On the other hand, artists like Yassine Balbzioui (Morocco), Christophe Ndabananiye (Rwanda), Engdaget Legesse (Ethiopia) and Dalila Dalléas Bouzar (Algeria) who have recently migrated to Germany, will participate. By presenting Afro-German artist Ransome Stanley, the aspect of second generation migrant artists, who have African roots and have grown up in Germany, will be included.

Since its foundation, the initiative LISTROS topics related to the African continent. has worked for a change of perspective on Therefore the initiative’s core project, GAL-

LERY LISTROS, chooses an issue-oriented emphasis. Up to now, the gallery has worked with mainly non-African artists in Germany, who deal with Africa-related topics, raising the important question: "How can art by using different strategies reflect social reality?"

The extended concept of the gallery now integrates artists of the African diaspora in Germany. Cooperating with art historians Dorina Hecht and Yvette Mutumba GALLERY LISTROS invites these artists to put an autobiographical focus on their art and examine their personal experiences and development within two cultures.

The exhibition series intends to use these autobiographic presentations and reflections in order to create space for communication and interaction, giving the visitor the chance to develop new perspectives and points of view.

Each person's biography is a formative part of their existence. Every individual interaction and experience as well as the surrounding cultural and social circumstances define the personality and their world view. Artists in particular draw a lot of their creative ideas from their own experiences. They do reflect their lives and deal with both their own as well as foreign societies and cultures whereupon contours between the known and the strange tend to become less focused in times of growing globalization. Transcultural migrating, i.e. acting and living in several cultures is increasingly becoming a matter of course.

The exhibition series „von dort bis hier“ at GALLERY LISTROS in Berlin provides a stage for artists who were born in Africa and have eventually made Germany their new home. In this series, which lasts for more than a year, 11 artists of African heritage present their own analyses of their biographies. On the one hand artist, who have been living in Germany for decades are presented such as El Loko, Mansour Ciss, Manuela Sambo, David Amaechi Dibiah and Ivor Sias,. On the other hand, artists like Christophe Ndabananiye, Engdaget Legesse, Dalila Dalléas Bouzar and Yassine Balbzioui, who have recently migrated to Germany,

will also participate. By presenting Afro-German artist Ransome Stanley, the aspect of second generation migrant artists, who have African roots and grew up in Germany, will be included as well.

Despite their different countries of origin, the artists have their connections to Germany as a common basis. It is either their new home country or just a stopover in their journey through life. And while being strongly influenced by their current German surroundings, it is these circumstances of living in a foreign culture that can lead to an intense confrontation with images and concepts of their African home countries. Due to their roots in different African countries and cultures, they form a part of the complex African diaspora. For some of the artists, their external perspective as well as their being marginalized within German society opens up space for investigations and explorations shaped by their replacement, or even their displacement.

Life as a part of a diaspora often leads to confrontation with one's own self-definition as well as certain expectations from the outside world: They are supposed to represent and reflect their own situation. This creates an ambivalent position intensified by the fact that many artists rediscover the relations to their own roots while being here. Therefore, this situation can lead to a confrontation with one's heritage that couldn't have developed without the physical distance.

The artists participating in the exhibition series exhibit these topics in their art. But they neither refer to subjects of African cultures all the time nor do they comment on socio-political issues on the African continent. In fact, "von dort bis hier" shows in a subtle way, how the personal journey between different cultures characterizes the artist's work.

Thus, the main issue of the exhibition series is about what constitutes the respective artists, with their individual background as guideline.....

[Source:<http://www.vondortbishier.listros.de/von-dort-bis-hier/konzept/>]



Thinks Traces and Flowfold Arts of Zerospiral of Transfigural Mathematics at Listros' Von Dort bis Hier

Listros Gallery – Press Release

THINK TRACES- DAVID AMAECHI DIBIAH

From May 10 to June 7 we present the exhibition THINK TRACES by Nigerian artist David Amaechi Dibiah. It is the fourth exhibition in the series „von dort bis hier – Artistic Reflections of translocal Autobiographies“, taking place from January 2012 to April 2013 at GALLERY LISTROS.

THINK TRACES is a project showing the necessity of responsible worldwide acting and governing in regard to the African continent. Nigerian artist DAVID AMAECHI DIBIAH questions the convictions and cliches that exist between Europeans and Africans in his exhibited photography (e.g. "Threat" and "Draught", both 2009) and installations (e.g. "Manipulation"). They refer to the alleged superiority of western consumer goods and Christian values and the fact that traces left by Africans in diaspora countries are most often associated with folkloric and culinary experiences.

In the exhibition David Amaechi Dibiah shows works from the fields of painting, drawing, photography, installation, video and performance. He uses all these medias to work on the interplay between African and

European art, i.e. both cultures he moves in and where he collects his experience. "Differences must exist to create a middle," David Amaechi Dibiah says. "Not recognizing the differences will always pose a problem. Nobody can exist without the middle."

The exhibition's core piece is an installation, which is based on the dialogue that the artist has been involved in with the mathematician and philosopher Lere O Shakunle since 2006. His philosophy of the "Zero Spiral" says that the center of the spiral can never be filled. This "in-between" has been decisive for his artistic concept ever since. The installation of the same name consists of a spiral lying on the floor and a 3.50 meter high figure called "One Other Together" which stands in the spiral's center and is made of Nigerian materials.

David Amaechi Dibiah regards THINK TRACES as an open letter and calls upon all viewers of the exhibition to liberate themselves from bias. "It is an appeal to come together and forge a continuing bond between art and culture," he says. "A natural bond towards an awareness of identity."

→

Speech by the Minister of the Nigerian Embassy, Mr. Sunday Ajala declaring open David Amaechi Dibiah's Exhibition at Listros Gallery.

Good evening: To the organizers, Listros Gallery, of this august exhibition called in English, '*From There to Here*' which sets out to encapsulate the interchange and exchange of experiences which the African artists in Diapora participating in this Exhibition, the first of its kind ever here in Germany, have made along the way since they left the shores of home for Germany up to this time. And since time does not walk on the foot of snail but flies with the wings of eagle, I would say whatever they exhibit here today has the future in it.

Good evening: To David Amaechi Dibiah whose works are being exhibited as the fourth in the series of *From There to Here*. And my Good Evening too to the founder of Listros, Dawit Shanko and his able team who made all this possible, that is, Mrs Dorina Hecht, Yvette Mutumba and especially to Mrs Regine Wosnitza who had been David's co-traveller along the way on when, where, and how things will happen and also to Dawit Shanko who was always there to untie the knot, just in case.

To you all, fellow artists, parents and visitors, it's from me Hallo in German, and Welcome to David Dibiah's journey from there in Nigeria to here in Germany and the richness of input that has come the way of his Muse over the years which is what brought us all here tonight. David Amaechi Dibiah encapsulates his works of art under the title, *Think Traces*. Indeed what is presented here are traces of the creative thought. Here you will see diverse traces of African life. More about that soon.

Since he began painting, David had always sought for a philosophical grounding for his work. This is important. It is because for a work of art to endure, it must transcend the fad of anything goes and be rooted in what is deep, so deep that the work can be discussed in relation to the fundamental questions that hold humanity, the world and life together. One of such fundamental questions is what we tackle everyday in diplomacy. The question about how we can make this world a place in which love is natural and not enforced and being so natural, war becomes our common enemy that must be removed once and for all from our consciousness, thrown away into the sea of forgetfulness in our vocabulary, banned forever in the space we share.

David Dibiah got the philosophical ground in the mathematics of Lere Shakunle in which the zero spiral depicts the centre where one is flowing in the other and constitutes the inbetween that can never be filled. The centre of the zero spiral, based on information that I got from another quarters from Lere Shakunle, is the centre of identity for all. And as David aptly puts it, it can never be filled. What a beautiful world it can be if we can live the zero spiral centre from which we all come and which makes love, inter-dependence and empathy natural again as they naturally are. Sure this transfigural world will send us home, the diplomats, but it will give us another job which is nurturing peaceful co-existence. Some of the works by David that are inspired by the Zero Spiral of Transfigural Mathematics are also in this exhibition.

Think Traces of David Dibiah is an invitation to the beauty of the rivers of African culture. You will get the feel of the African wrestler, woman carrying the child and believe me, you will get immersed in the grandeur of life there that flows into here and transfigures into beautiful works of arts as you go round the rooms here in Listros.

It is my utmost pleasure, as the Minister in the Nigerian Embassy, to welcome you to this exhibition. And of course, what better invitation from Africa to our German hosts, what better welcome to the African soil can we have for our visitors from other lands to this exhibition than the exhibition of this grandeur by a Nigerian artist from Africa.

Thanks you, David, for making us become proud of ourselves, our world, our humanity. Thanks to you all and again, Good Evening.

Bimpe's *One Leaf* Reversible Dress at **SurVivArt** Exhibition in Berlin

.....Continued from page 67

removing a thing from the machine, it becomes a coffee and tea-making machine. Remove another thing, it becomes, well, just a coffee machine. The reversibility is inbuilt in the machine. Its possibilities are limited. Is it the same thing with your reversible dress or are its possibilities are infinite?

BIMPE ADEBAMBO: It all depends on the creativity of the wearer but the possibilities of the dress are not infinite. Only God the Divine creator is Infinite!

JTfM: Still on your design philosophy and technology. Now, when we take your design philosophy to technology, what do we get? We get fewer machines for multiple functions. That's good for the health of the environment. Yes, good for the health of nations. And so, with your fill the wardrobe, even if the wardrobe is the whole world, with one dress you are now telling us that beauty is quality and not quantity. Do you intend to reach the policy makers with the fewer the better? And what about African women who waste their savings on expensive lace materials, how do you intend to reach them with one dress, rich wardrobe?

BIMPE ADEBAMBO: I really wish there is a way I can reach policy makers in Nigeria! I do not know if this kind of idea of mi-

ne is of particular interest to them now. In Nigeria, since we have access to a lot of fabric and there is always one festivity or the other, tailoring still holds sway over ready to wear which my label started since inception eight years ago. I plan if I am able to get some local or and international support or sponsorship to do a local and international fashion show (dreaming of doing Berlin Fashion week for starters!) where the audience/public will see this garment of mine and others that are similar to it so they can see that one can be attractive and stylish with fewer items. About African women and their expensive laces, I do

not think that happens only in Africa. People like to buy expensive items as a kind of status symbol and depending on their social class. There will also be social engagements where one would like to stand out of the crowd. I do not think that that is a bad thing if done with moderation. We will

always have some slightly more expensive items in our wardrobes that we bring out when the occasion arises provided we are not too ostentatious about it. I cannot change people's way of thinking in one day but I can make them see that you can have an item that you can get so much wear out of before eventually giving it up or recycling it if the fibres are still strong.

JTfM: Creative moments are mysterious. They come when they will, where they will. How do you experience your creative moments. Do they come as a flood of ideas which you have to quickly put on paper



as they come and later attend to them or in trickles so you can attend to them one at a time, so to say, even though no creative idea is alone?

BIMPE ADEBAMBO: Inspiration gives no warnings! I am inspired by any and everything around me. Nature, human beings, sights, sounds, music, machines, periods in history, weather, buildings, so many things! When I get an idea/inspiration, at times I write it down or draw or photograph a particularly inspiring object or sight and then take it from there!

JTfM: You are here in Berlin to participate in the SurVivArt of Heinrich Böll Stiftung. How did you get to know about SurVivArt and the Foundation? And what was the process of selection for participation?

BIMPE ADEBAMBO: I heard about the project through the Goethe Institut in Lagos. I am a friend of the Institut and I did a solo fashion exhibition at the Institut in May 2009. They contacted me about the Heinrich Böll Stiftung project. There was a briefing about the 'Arts for the Rights to A good Life' project by the Regional director in Nigeria and some other facilitators who told us about climate change and sustainability. We were asked to send in entries for the project in a certain format. Over 30 of us were present at that event and I really found the briefing very enlightening as I had never really bothered about climate change and sustainability before then. I decided that whatever the outcome, whether my project was chosen or not I was more enlightened and would do my own bit wherever I can to make the world a friendlier and more habitable place. After that briefing I stopped the use of polythene bags as my carrier bags and made washable, biodegradable ones instead. I was the better for that briefing. I submitted my entry on the closing day and the rest is history!

JTfM:By the way, can you say something about your journey from painting to fashion design?

BIMPE ADEBAMBO: It is not a journey from painting as I believe fashion is an extension of my creativity. I have no formal training in fashion and I work on my fashion as art.

JTfM: Since it is the way of creativity that it cannot be pinned down completely to a thing, in what other areas do you invest your creative talents and do you intend to expand on them in future? By expansion I mean launching a School or College of Creative Designs that should be based on the very idea of multifunctional reversible dress and ecological health that won you a place in the Heinrich Böll Foundation's SurVivArt Exhibition this year, for example

BIMPE ADEBAMBO: I have always wanted to start a design academy of some sort to teach and empower girls, women and the down-trodden in society. I hope it becomes a reality one day. I am also not averse to facilitating in programmes of this nature as I have done so in the past.

JTfM: What will you take back home to Nigeria about the exhibition, the organizers, about Berlin and the people you met?

BIMPE ADEBAMBO: The whole experience was great and I thank the Heinrich Boell Stiftung for the opportunity. I made new friends and met wonderful people, saw new sites and enjoyed been in the city. Berlin is an uber-cool and exciting city for any artist. There is so much going on, many museums, galleries and monuments to see and be inspired. This was my second visit to Berlin and my first visit inspired my Summer 2012 collection aptly titled 'Printsplosin-a-la-Berlin'. I hope to be back in Berlin!

Exhibition February 05 - 24, 2012

What comes to mind as one goes around the Gallery where artists and designer from countries as far and near exhibited the products of their talents at Heinrich Böll Foundation's SurVivArt is the question, 'Is SurVivArt with its ecological content another minimalism, small is beautiful art or something completely different and so with its own message?' It proves to be something completely different.

SurVivArt

The project SurVivArt developed by the Heinrich Böll Stiftung has invited artists from Ethiopia, Cambodia, Myanmar, Nigeria, Thailand and the Czech Republic to reflect on the meaning of "the right to a good life".

The concept of a "good life" touches many layers of everyday life. How we live, where we live, what we eat, what we dress, what we consume, how and where we move and travel changes the carbon footprint of our lives. Likewise, these everyday practices are intrinsically loaded with gender differentiations, roles and opportunities. Sustainability can emerge from a wealth of simple interactions, but it is also a question of how the basic needs to a good and decent life are met. Could we find ways of living that contribute to more social equality and justice and that improve community participation and involvement?

With SurVivArt the Heinrich Böll Stiftung aims to create an international bridge between sustainability, climate change, gender equity, art and culture. With the support of its international offices, SurVivArt shows perspectives and views from artists from different regions of the world, mainly from the global South

In joint projects with their own communities, Kebreab Demeke, Robel Temesgen, Alafuro Sikoki, Segun Adefila, Adebimpe Adebambo, Oeur Sokuntevy, Neak Sophal, Tith Kanitha, Nino Sarabutra und Phyoe Kyi have translated these reflections into their own culture.

“Climate + – “The Artists “Climate + – “



**Oeur Sokuntevy
(Cambodia)**

Sokuntevy will reflect on consume by creating a flea market where people will be interviewed on the objects they have chosen to give away: what is their meaning, where they came from, why were they

chosen?. She will set up a flea market stall in a real market in Phnom Penh, after these experience Sokuntevy will create an installation with hand made replicas of the objects that were exchanged, accompanied by the stories of each object as told by their owners.

**Sophal Neak
(Cambodia)**

No rice for the pot is a project questioning gender and tradition in Cambodia. The artist is using the rice pot, which is an important item in every countryside household in Cambodia and one of the

most valuable possession for a married woman. A group of women will be interviewed in order to discuss the meaning of this object and how it is related to their lives. As a result of these interviews, a collective action in the village will be made.





**Tith Kanitha
(Cambodia)**

Project based on the question of what is a good life, the artists makes a reflection on the house or any living space as a private geography where issues as life practices and gender are reflected upon.

**Robel Temesgen
(Ethiopia)**

Robel Temesgen will develop a project centered on a process oriented dialogue with children on their dreams of a good life. He will work with children – girls and boys – on the issue of “what they want to be”. Interviews with the children will be made and will be documented on videos; four children will be accompanied more intensively, including visits to their homes. All children will get a costume, done by a local tailor, connected to who they want to be and produce small clay sculptures expressing these dreams.



**Kebreab Demeke
(Ethiopia)**

In Ethiopia plastic jerrycans, called jerekinas, are part of the landscape and part of every household on the countryside.The project will involve the local school, the pupils and their parents. The jerrycans will be collected from local families in exchange for clay pots. The school environmental club will be responsible for keeping the sculpture alive – and has a right to the food grown on it. In addition, a workshop is planned to develop new designs for clay containers used for water transport based on a „needs assessment” of the children



**Nino Sarabutra
(Thailand)**



Nino’s project will reflect on consume practices and aims to bring a reflection to people on what they consume. She has developed an online [survey](#) where people may answer about what they consum and how it is related to their happiness or not; the survey creates then “the good life index”....The artists will be working with questions such as: “How do you live?”, “Are you living a good life?”, “What do you really need?”, “Could that luxury item make you happy for the rest of the year?”,

**Phyoe Kyi
(Myanmar)**



Installation with five video projections, which will be seen one at a time depending were the viewers are located, the five videos will be simultaneously seen only when there are more than five viewers. The images deal with climate change, obsessions of society,

**Sikoki Alafuro
(Nigeria)**

H+ + is a design intervention to aid in eliminating water hyacinth from local rivers and streams. This project serves as a practical illustration on how to effectively convert a destructive invasive species into a useful cash-crop. H+ + makes effective use of water hyacinth as a raw material for creating household objects that are desirable, durable, biodegradable and can be replaced in an ecologically friendly manner after the household object has degraded from extensive usage.



**Segun Adefila
(Nigeria)**

Adefila is the director of the Crown Troupe, a social theater. The group will work on a critical neighborhood in Lagos, in the Aiyedun (‘life is sweet’) street. The project shall explore the impact of climate change in the day to day life of a vulnerable and economically disadvantaged community in the coastal area of Lagos. People will be interviewed on the effects of climate change in their everyday life, how are they affected, and what could be done. Based on the dialogues and discussions a performance will be created as a means of raising awareness.



**Adebimpe Adebambo
(Nigeria)**

Adebimpe created a reversible dress to be used in multiple ways, achieving variety with one single garment. She is also making a call of attention to the massive use of plastic bags and the possibility of them being replaced by fashionable shopping calico bags.



[Source: <http://survivart.boellblog.org/artists/>]

Breathing-Point Geometry of Transfigural Mathematics With Its Foundations

.....Continued from page 67

From these examples follows the *transfigural ins* as an operation. We have,

x : point	y : line
z : zero (as in-between of point and line)	S : space (includes one in the other)
lp : linepoint as <i>line in point</i>	pl : pointline as <i>point in line</i>

An example of transfigural INS as algebraic-geometrical operation for *within* is given below. Let x be a point and y also a point and let η be within, this gives,

$$xy = x \eta_{\text{within}} y \\ = x$$

This is the case of x as point with y also as point with x inside y as a flow. The flow influence of x transfers to y to make it flow therefore y flows with x while x flows within y. This is written as,

$$x_{\text{point}} \text{ within } y_{\text{point}} = x \quad (\text{with } \eta = \text{within})$$

which says xy is a point in which x, a point, a zerospiral is inside y, another zerospiral through whose influence both of them flow differently as a zerospiral. This phenomenon is however happening in the alpha or omega domains. It is the phenomenon, amongst others, of daughter zeroids.

Transfigural spatial *within* of INS includes interspatial *between* and *between* is, amongst others, included in intraspatial *among* which is included in the transspatial *through* and *across* which are included in the transfigural *in-between*.

At this stage, having introduced with examples, transfigural INS, the thing to do would have been to continue with the exploration of the central fold that is to be found in everything but this cannot be done because of the role of space in the breathing-point geometry and which space, in transfigural mathematics is included in figure such that there is no space without figure and no figure without space, therefore spacefigure.

We cannot get to the fold of a zerospiral without showing the importance of the role of space in the breathing-point geometry. This is so because the folding effect of space determines the nature of the figure in terms of its solidity, fluidity, compactness and other features of figures, may they be rock or tree or river or cell that are found in Nature and the way ideas present themselves to the mind as figures and those other figures that live in geometric, literary, poetic imaginations and other forms in creativity.

Space, Point, and Line

Where space is not included in the figure like the case in the Newtonian mechanics, what is treated is the separation of one from the other which is at the basis of distance between one static point and the other equally static point inside a fixed geometric shape in logical space. This is not only dichotomy of space and point(mass) but that of non-existence of space in which space, as was handed over by Euclid is a void therefore a measure of distance of objects, pur et simple.

In a case in which space is reduced to what is inside it, what happens is that what is inside it determines the structure of space itself. In that case, the shape of space is determined by what is inside it. This is holistic reduction of one to the other. The curvature of space is made possible by reducing it to what is in it and so the fall of a thing is said to rupture space whose role is passive, if at all.

John Wheeler's famous statement, "Matter tells space how to curve [and once curved] space tells matter how to move" which is graphically presented below:

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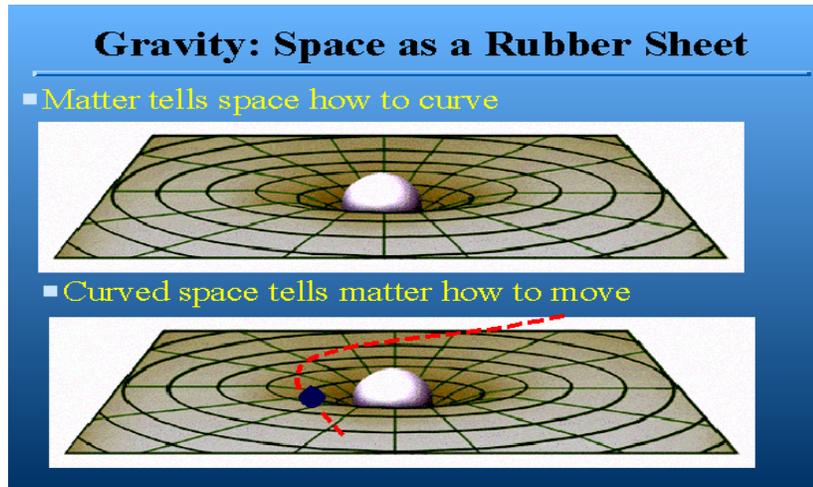
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John Wheeler’s famous statement, “Matter tells space how to curve [and once curved] space tells matter how to move” which is graphically presented below:



(Source: http://theory.uwinnipeg.ca/users/gabor/black_holes/slide5.html)

did touch upon the battle between space and matter to reduce one to the other and how what space did to matter began by matter giving the order to space. Indeed that space, once curved by matter, makes matter move is a matter of logical conclusion – space couldn’t have done otherwise anyway!

In the battle between space and matter in which matter tells space how to curve and once curved, gives motion to matter, space and matter are still separate. They are as separate as they are in Newtonian mechanics except that the apple is replaced by matter whose effect on space is to make it curve through its being in it.

In transfigural geometry such tussle between space and matter does not exist. Indeed there is nothing like ‘matter’ in transfigural geometry but ‘figure’ which originated from where breathing-point geometry was coming from, that is from transfigural mathematics with ‘figure’ inside the ‘figural’ in ‘transfigural.’

Figural in *transfigural* – local-in-nonlocal with the nonlocal as the transfigural - includes ‘form in figure’ with the ‘trans’ infusing the figure in figural with the creative potential for change in permanence and the transfigural potential for permanence in change. Transfigural figure is in no way reducible to matter because it transcends it.

In breathing-point geometry, the inclusion of space in figure and figure in space means there is no tussle between one and the other. And figure doesn’t have to bend space or anything to move. The inclusion of space in figure gives figure the flow which is motion and the inclusion of figure in space gives space the fold which fold is what the figure needs to be. Together space and figure form the inseparable spacefigure.

The next question is, what happens to distance, the physical distance for example? Through spacefigure we come to know distance for what it really is. Distance is unreal. In fact it is non-existent. It exists mainly in the senses or what means the same thing, it is built into the senses to create the illusion of separation when none exists in reality. Of course, we do ‘sense’ covering ‘distances’ and of course, almost all of technology is built to overcome it

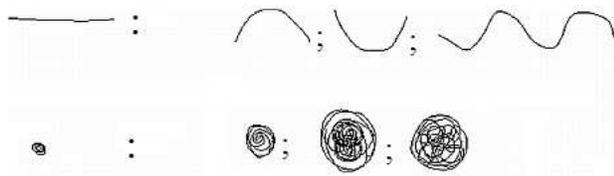
but the reality is that it does not exist except in the senses. Indeed distance is manufactured by the senses to live the illusion of distance as belonging to reality.

As we got it from xSy , let there be a tree x here and a bird y over there, the space S between them make them a tree and a bird on it and this is irrespective of the sense-made and protected 'distance' between them.

Of course, we travel from place to place as-if they are separated. The reality, however, is not to forget that the 'distance' that is being covered, though necessary to get some things done, is in reality, being lived at the level of the senses that confers on 'distance' an existence.

In reality, though we travel distances, we are still inside the same spacefigure and this is irrespective of what our senses which make the distances may tell us. We are moving in the same place! We are moving when in reality we are not moving. We are moving in the interspace but this interspace between one zerospiral and another zerospiral is also a spacefigure. More about all this soon.

Yes, all things are together, irrespective of wherever they may be. All the cosmos is together, irrespective of what things like light years may tell us. Distance is not a reality. One in Other in All is.



S : Transfigural Space = (Interspace, Intraspace, Transspace)
 [interspace includes outer-inner space of the Reach,
 intraspace includes inner-outer space, transspace is the realm
 of depth space of the Deep in the Reach of all]

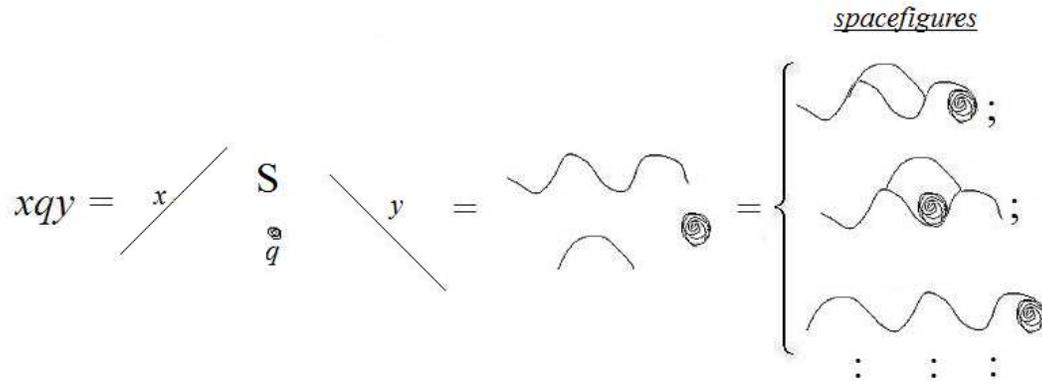
() : Outer brackets depict One in Other of a domain in other domain
 Example is the alpha domain and omega domain (The Other) in
 identity domain (The One). The Other becomes the One and the
 One the Other as the domain flows out of () to the other
 domains of fluid logic number.

() : Inner brackets inside the outer brackets. This is the identity domain of
 One-in-Other-in-All

(()) : The inner-outer domain of identity in the outer-inner domain of alpha-omega.

(0) : Creative Potential Zero in identity domain. This is the seat of Transfigural Potential.

Transfigural space also includes the other spaces – inner, natural – that were mentioned before here. From space, point, and line in which point and line are the figures, we have space S included in figure (point and line) and figure included in space from which follows that for a fluid logic number, $fln(q) = xqy$, we have, for example,



It is the inclusion of space S that changes the structure of the figure such that in the end at the right hand side, what results are different spacefigures.

From Spiral Numbers of Fluid Logic Numbers to Folds of Zerospiral

The spiral numbers of transfigural mathematics originated from the fluid logic numbers. A spiral numbers originated from the logic numbers of a fluid logic number through the removal of the brackets.

Before presenting them, let me hasten to introduce us to the difference between domains of fluid logic numbers which I call fluid logic number domains and the matrices of fluid logic numbers which is called fluid logic numbers matrices.

To show the difference, we have, for example, the fluid logic number 1, which is,

$$\begin{aligned}
 \text{fln}(1) &= 012 \\
 &= \begin{array}{ccc}
 \xleftarrow{10} & \downarrow & \xrightarrow{12} \text{---} (10(11)12) \\
 0 & \textcircled{1} & 2 \text{---} (11) \\
 \xrightarrow{01} & \uparrow & \xleftarrow{21} \text{---} (01(11)21) \\
 & (11) &
 \end{array} \\
 &= ((01, 10)(11)(12, 21)) \\
 &= ((01(11)10)(11)(12(11)21))
 \end{aligned}$$

The brackets above with the numbers of fluid logic number 1 constitute the domains of the fluid logic number. The domains are:

- (01, 10) = (01(11)12) : alpha domain
- (11) = (11) : identity domain
- (12, 21) = (12(11)21) : omega domain

The numbers in the brackets are the basic numbers of fluid logic number 1. Their names are

as follows:

- 01, 12 : alpha numbers of fluid logic number 1 which logically is -1, 1-
- 10, 21 : omega numbers of fluid logic number 1 which logically is 1+, +1
- 11 : zero identity number of fluid logic number 1 which logically is 0
- (11) : zero identity as creative identity potential domain which is (0);
- (0) : creative potential zero (implicit in every fluid logic number)

From these numbers we have,

- 01 : alpha-alpha number of fluid logic number 1
(alpha number in alpha domain)
- 10 : omega-alpha number of fluid logic number 1
(omega number in alpha domain)
- 12 : alpha-omega number of fluid logic number 1
(alpha number in omega domain)
- 21 : omega-omega number of fluid logic number 1
(omega number in omega domain)
- 11 : zero identity which is in every domain through
creative identity potential (11)
- (11) : creative identity potential
- (0) : creative potential zero which is *in* transfigural potential (not shown)
(*in* of transfigural INS)

These numbers are the basic numbers of fluid logic number 1. They belong to the domains of fluid logic number 1. Every fluid logic number has its basic numbers and domains which flow in other fluid logic numbers. It is from these I got the name fluid logic number domain for the fluid logic numbers in the form above.

However, there was another form which I discovered through my exploration. This is the matrice form of fluid logic numbers. Unlike the fluid logic number domains which came as *invention* and the fluid logic numbers that came as *revelation* – which was how transfigural mathematics came to me really - the matrice of fluid logic number was a *discovery* that originated from the domains of fluid logic numbers.

In the matrice of fluid logic numbers, the identity domain is not only the non-local (11) but includes the local-in-nolocal (00) and (22). However, what is local a fluid logic number is non-local in another fluid logic number. For example (22) is non-local in fluid logic number 2 while (11) is local-in-nonlocal which is simply referred to as local-nonlocal.

For example, the matrice of fluid logic number, basing the example here on fluid logic number 1 gives,

$$fn(1) = 012$$

$$= \begin{pmatrix} 00 & 01 & 21 \\ 10 & 12 & 00 \\ 01 & (11) & 21 \\ 22 & 10 & 12 \\ 01 & 21 & 22 \end{pmatrix}$$

This matrice of fluid logic numbers produced what is called *fluid logic number matrice* otherwise called zeroidal matrice. From this matrice, we have, amongst others, through ordering,

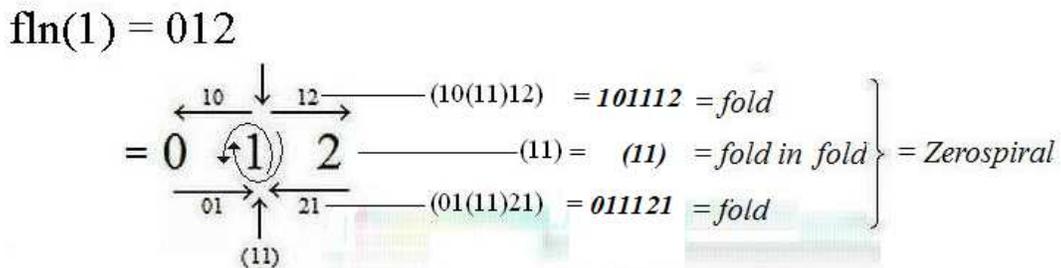
$$\begin{aligned} ((01, 10)(11)(12, 21)) &= ((01(00)10)(11)(12(22)21)) \\ &= ((01(00)10)(00(11)22)(12(22)21)) \end{aligned}$$

in which unlike in number fluid logic number where (11) is the identity domain, we have (00 (11)22) as the identity domain in matrice fluid logic number.

The folds of fluid logic number matrice are more complex than those of fluid logic number domain. But without knowing what is going on in fluid logic number domain it is not possible to know what is happening in fluid logic number matrice since the matrice builds on the domain.

And so, the folds and their zerospirals in this work shall be based on fluid logic number domain. With this background, we can now get into the spiral numbers of fluid logic numbers that produce the folds of a zerospiral.

And so, we have fluid logic number 1,



In the domains above, we discovered that a new ordering takes place. These domains cut across the alpha and omega domains that we got to know through fluid logic number domain. For example while the alpha domain is (01(11)10) in the fluid logic number domain, the flow of 1 in 0 and 2 and the flow of 0 in 1 and 2 in 1 gives domains which are neither alpha nor omega in that they cut through the domains.

These domains (the domains above),

$$\begin{aligned} &(10(11)12) \\ &(01(11)21) \end{aligned}$$

which cut through the alpha domain (01(11)10) and (12(11)21) through a flow of one in the other are called alpha-omega domains. Alpha-omega domains include the domains of fluid logic number domain.

The spiral numbers of alpha-omega domains are not the same but include the spiral numbers of alpha and omega domains of fluid logic number domain. What remains the same in both are the zero identity 11 and the creative identity potential (11) and the creative potential zero (0) from which the zerospiral got its name with (11) as identity domain in fluid logic number 1.

From alpha-omega domains of fluid logic number 1 above we have the following as the spiral numbers:

$$\begin{aligned} &101112 && (a) \\ &011121 && (b) \end{aligned}$$

with 11 in the middle whose brackets remain but was removed for clarity. Normally what we have above is of the form:

$$\begin{aligned} 101112 &= 10(11)12 \\ &= 10(0)12 \end{aligned}$$

and,

$$\begin{aligned} 011121 &= 01(11)21 \\ &= 01(0)21 \end{aligned}$$

In the arithmetic and algebra of transfigural mathematics, we have,

$$\begin{aligned} 00, 11, 22, 33, \dots, nn &= 0, 0, 0, 0, \dots, nn \\ (00), (11), (22), (33), \dots, (nn) &= (0), (0), (0), (0), \dots, (nn) \end{aligned}$$

Arithmetically we have,

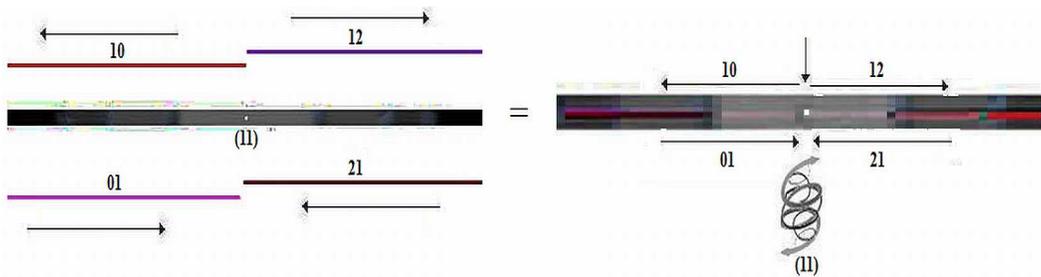
$$\begin{aligned} 10 + 12 &= 22 = 0 \\ 01 + 21 &= 22 = 0 \end{aligned}$$

which in the arithmetic of transfigural mathematics is 0 such that the alpha-omega domains are 0 which is, amongst others inside the creative potential zero, that is (0).

From the spiral numbers above, we take, as our journey to the folds of a zerspiral, the spiral numbers (b) which is,

$$011121$$

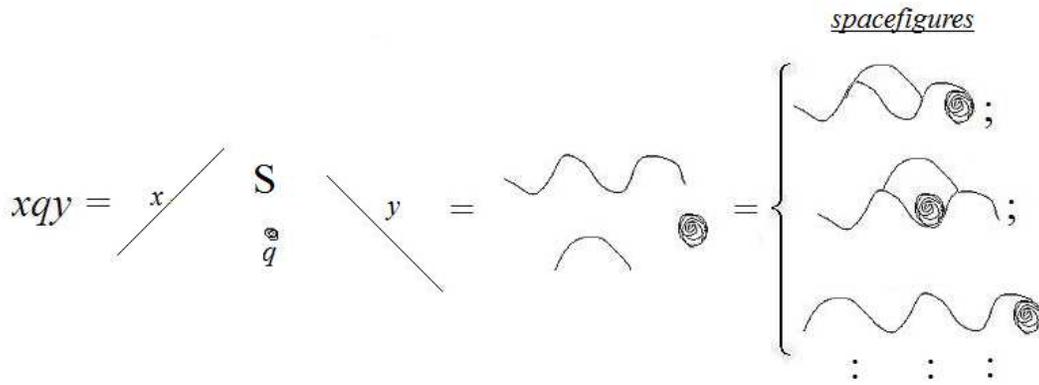
This is the fold of a zerspiral. It defines the flow that is a fold as shown below:



The numbers on top of arrows are the folds in flow which numbers are called the logic numbers of fluid logic number 1. They are folds and these folds make a zerspiral.

The Zerspiral with its Folds

The place to begin with the zerspiral is what is presented on the next page:



in which xqy is a fluid logic number. The change in the structure of the point and line results from the flowfolding effect of space in the figure and the foldforming effect of the figure in space. Without folding there is no figure and without flow there is no change that makes new structures possible through folding. Form inside the figure originated from the transspace and breathes through it with figure breathing in flow. These qualities reveal themselves in the spaces of transfigural space.

With Space S included in figure G which are points and lines and even as planes are lines that spread like a mat and so intrinsically a point, there is no distance separating one from the other. Indeed x , q , and y as one thing that flows in the other may be in different parts of the world or in the cosmos, it doesn't matter at all. They are one through S in G and G in S or s in g and g in s written as $((S, s) \eta (G, g))$

From this follows that $xqy=012$ which is $fln(1)=012$ or simply $1=012$ which is a flow of one in the other could be together while they it could be such that 0,1,2 are far, very far apart but with S included in them, they are together as one in the others in different forms and configurations. With S in G , that is $(S \eta G)$, there is no apartness of one from the other. And so, the fold of a zero spiral could be about things in the same living room of a house, or in different places in a town, country, the world, or the universe.

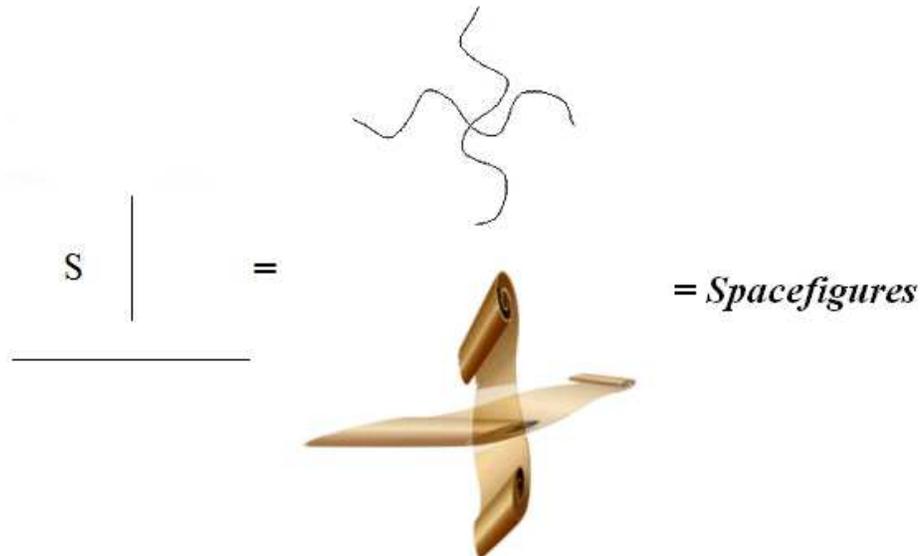
For example, in classical geometric setting, whether Euclidean or non-Euclidean, you have something like this:



In which the vertical line is brought together with the horizontal line with each retaining its rigid shape to give from what is on the left to what is on the right as a shape. In what is happening above, space is not included. The lines are brought together by willing them to be so. It is not a natural event but an issue artificially willed. The lines are excluded from their natural habitat which is space. And yet we talk about space in them! We know that when dealing with anything inside them, we are dealing with points as mass, line as infinitesimal motion of the point but *never* about space. Space is simply excluded in what is happening and so what we have is the motion of the point in a void.

Where space is included, a flow is involved and through this folding also takes place. It is

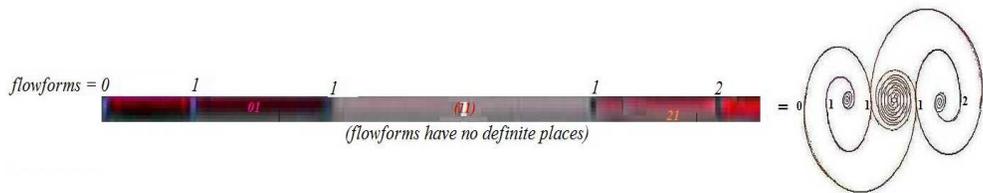
even the case that where something is moved from one place to another as it is in the movement of the hand from left to right, there is a change in the thing which is reflected in the change in its structure. This is not the case with the traditional geometries of rigid shapes. On the other hand, with space included in figure as it is in the breathing-point geometry we have,



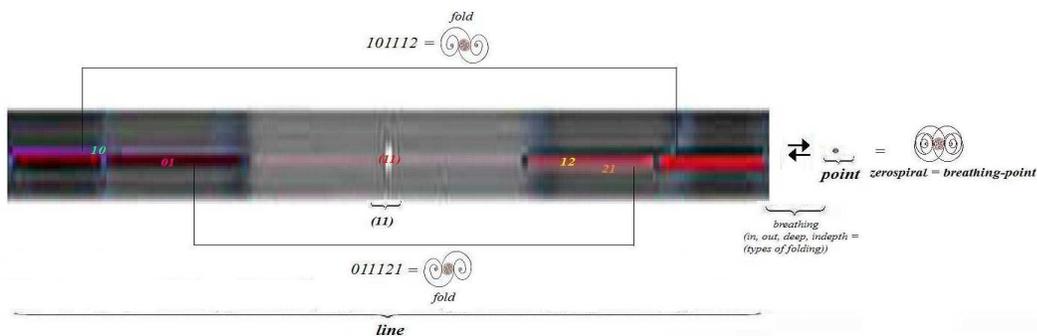
For the fold 011121 of the zerospiral, we have the flowforms:

0 1 1 1 2 1

that make a line whose form of flow and folding is presented below:



with the fold of a zerospiral on the right. The explanation of this fold and the other fold 101112 with which together it is a zerospiral, the breathing-point, is presented below:



The real structure of the line as a flow in the fold is a point which is a fold in the flow and which point are the folds of a zerospiral, the breathing-point.

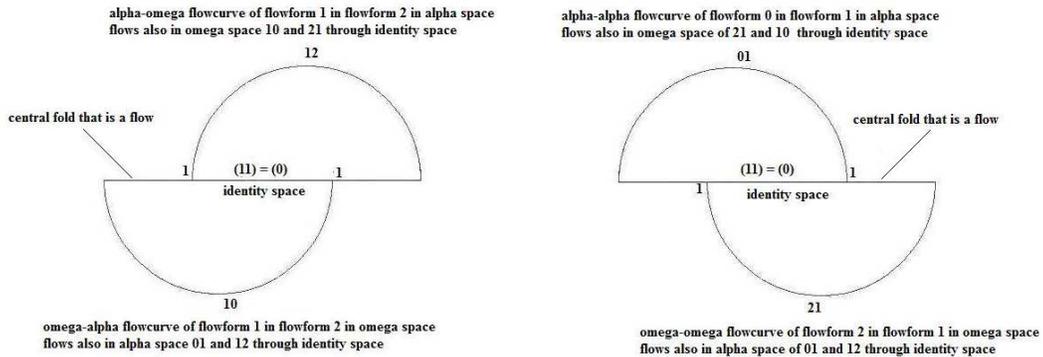
Zerospirals – Breathing and Heterogeneity in Homogeneity of Spacefigure

In the flow of the line into the fold of the point and the flow of the point in the flow of the line and on and on like that into the deep and the depth which includes the reach, the breathing, the central fold inside which all this is happening and which becomes invisible as a result of the flowfolding of space and foldforming of figure which together make the spacefigure, the central fold that is a flow determines the heterogeneity in homogeneity of space. It also shows the different forms of breathing.

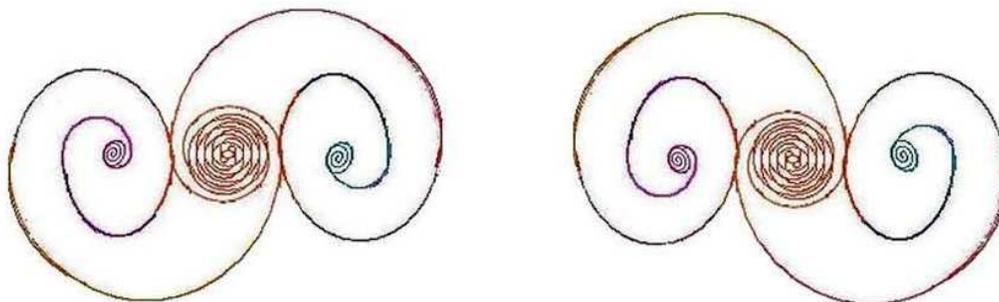
These differences in the structure of space and the folds of the figure constitute the diversity of spacefigure which every zerospiral, as a breathing-point, is.

In what follows the heterogeneity of spaces in the homogeneity of transfigural space shall be explored. For this the central fold which is a flow and which becomes invisible as a result of the flow shall be made visible. In other words, to show how heterogeneous the spaces in figure are through folding in the homogeneity of space through flow, it is important that the central fold is shown.

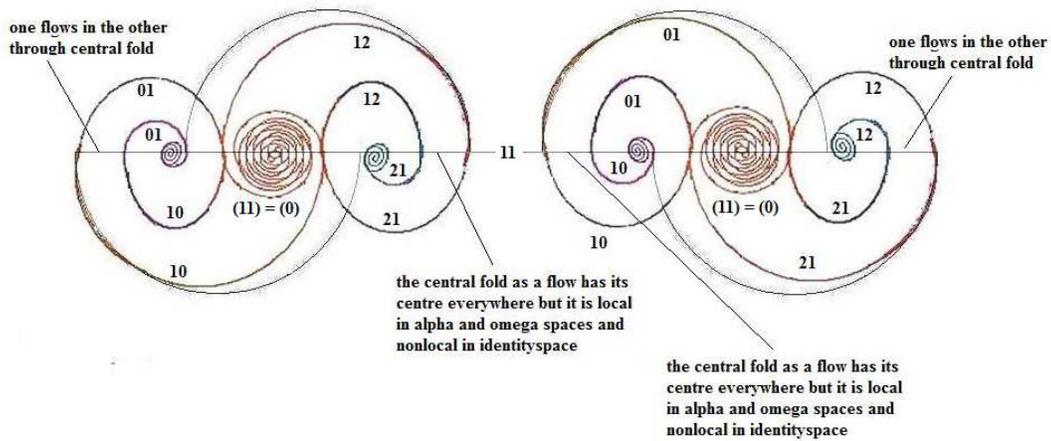
In this respect, I begin with the flowcurves of the flowforms.



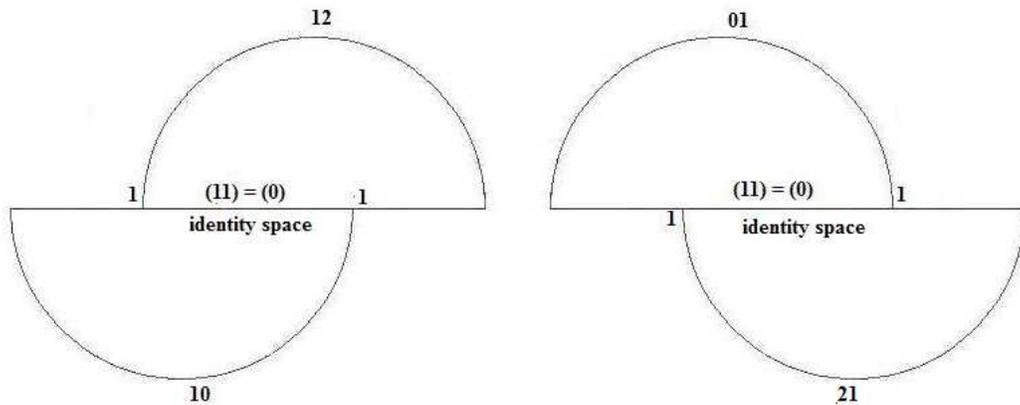
To study the heterogeneity of space of spacefigure, we shall now insert the flowcurves above inside the folds of a zerospirals.



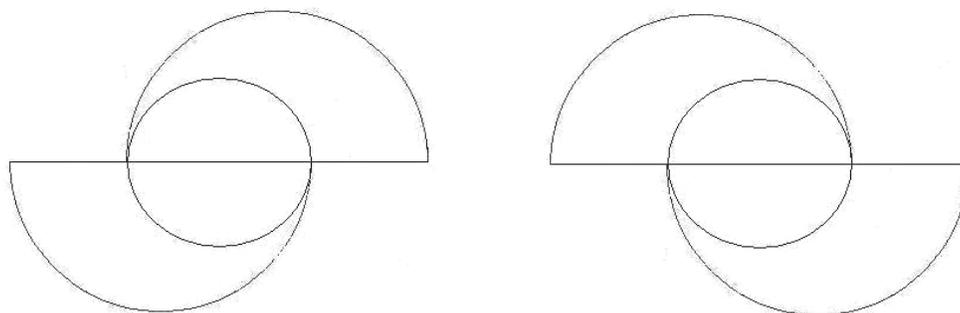
Of course we can only deal with the visible flows of the folds whilst most of the intricate ones are impossible to reach since they spiral inwardly into the inner infinity of the fold.



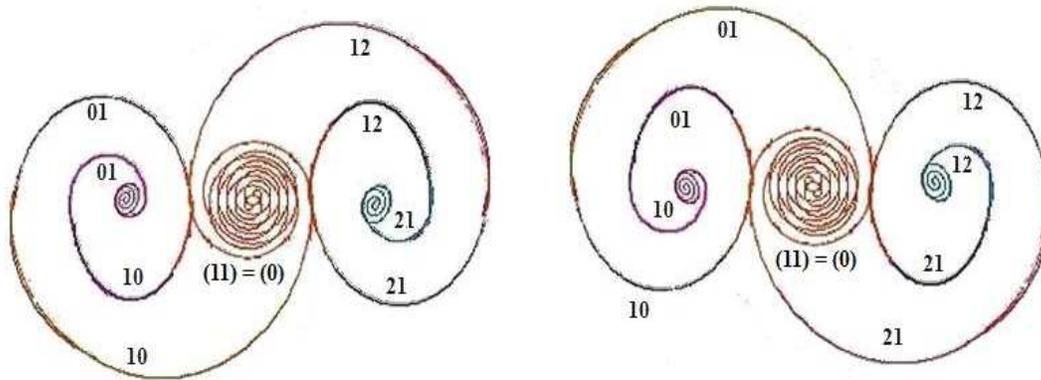
There is something very important that is missing in the flowcurves of the folds above. What could that be? It is written below but not shown.



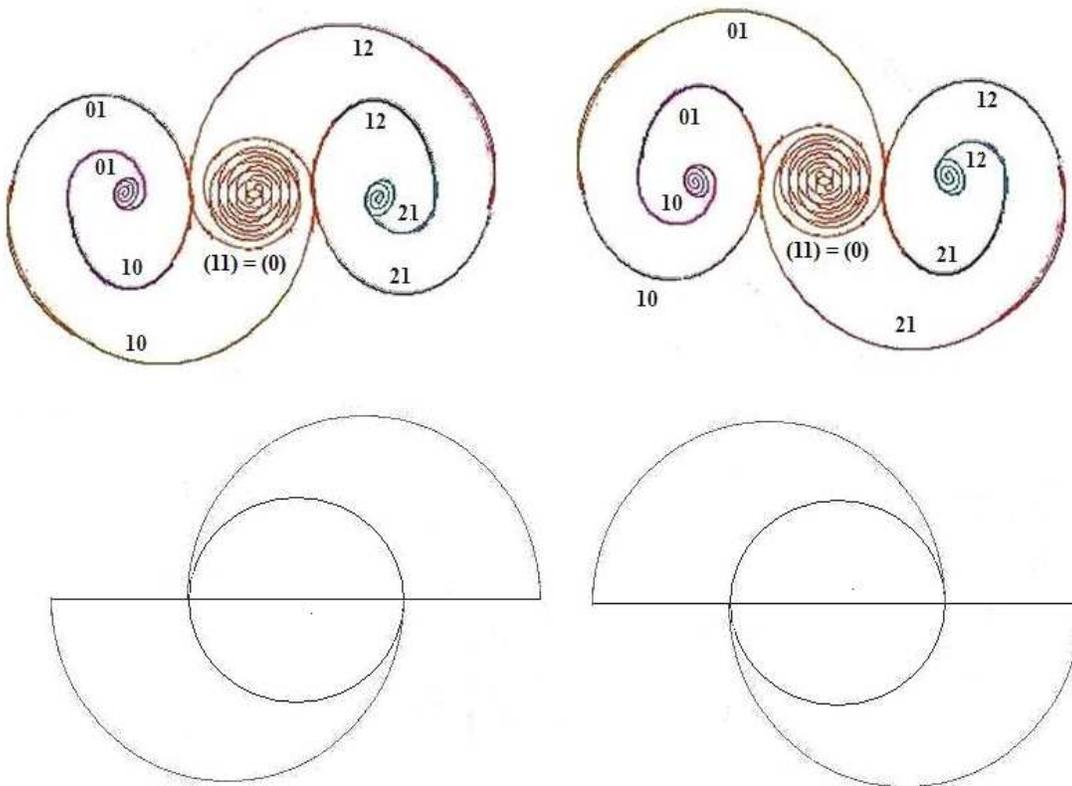
It is identity space. This identity space $(11) = (0)$ which as logical 11 which is 1 in 1 is 0 is also in a fold in the fold. The domain of the fold in the fold which is called identityfold is inserted below such that we now have the flowcurves as,



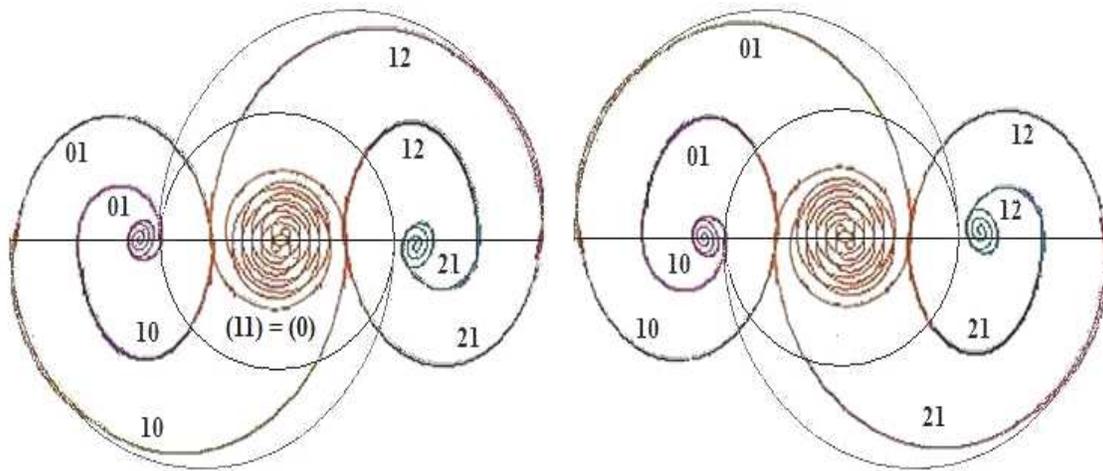
With the folds of a zerospiral in which the central fold which is a flow is implicit and in which the flow of one in the other is clearly shown, made possible by transfigural influence of the central fold whose central foldforming is the seat of the zeroird itself, that is the creative potential zero $(11) = (0)$, we have,



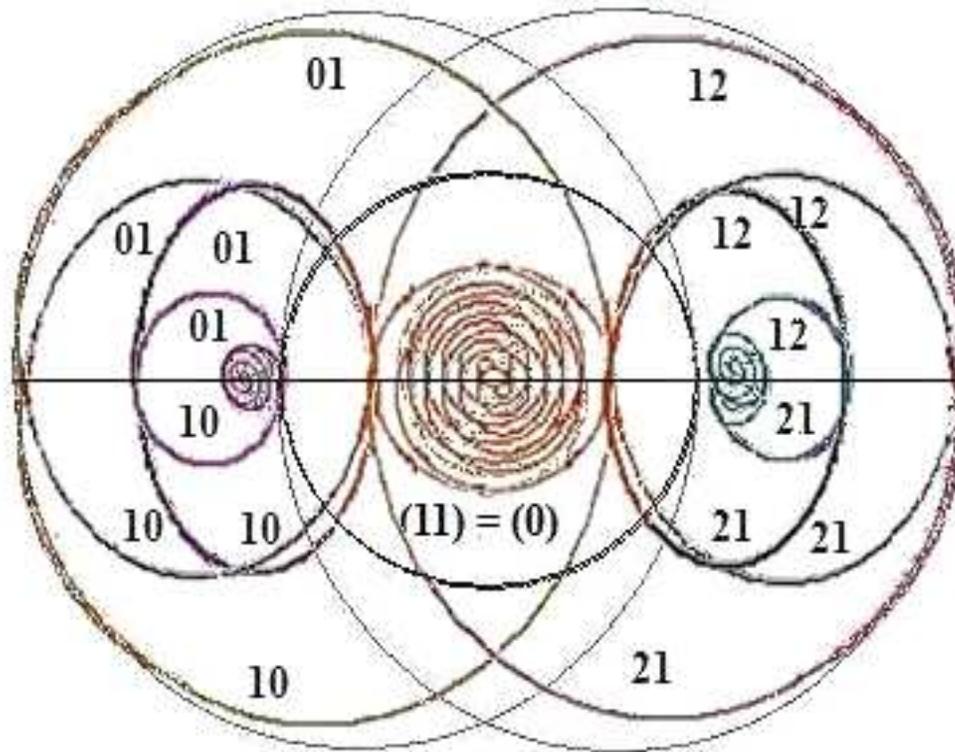
By inserting the flowcurves below the folds in the folds in which case the central fold which is a flow becomes visible again in the folds,



we have what follows on the next page,



which together give the transfigural circle in the zerospiral or what means the same thing, the zeroid, that is, the zerospiral in the transfigural circle below,



The flowcurves of the fold of a zerospiral describe the condition and nature of the movement of the spacefigure which is the zerospiral, that is, a breathing-point (above). The alpha and omega numbers are the flow in one another of flowforms of the logic numbers of a fluid logic number which in the above spacefigure is fluid logic number 1. The flow of flowcurves of the folds of the zerospiral is around, through, and across the zeroidal identity centre (0) and alpha and omega centres both left and right of identity which make a zerospiral a zeroid. The flow across the creative potential (0) which in the invisible transfigural potential (creative potential is also invisible) is the flow between of the alphafolds and omegafolds passing through, getting into, and coming out of identity, the inbetween (0).

The Breathing-Point Circle – Circles in Spheres, Spheres in Circles, Spirals in Spirals of Breathing-Point

How do we get to the transfigural circle and what makes it different from the traditional geometric circle? This is what is going to be shown below. First the difference between the traditional geometric circle and the transfigural circle of breathing-point geometry of transfigural mathematics.

For the traditional circle to become the transfigural circle, it must fulfill the condition and nature of number in transfigural mathematics, that is the condition and nature of fluid logic numbers.

And so we begin with what number is in transfigural mathematics which a geometric shape must be to become a breathing figure.

Number, \tilde{n}

A number is itself in the others in space before it and after it. (#)

From what a number is in transfigural mathematics follows that a circle to be transfigural is itself in the others before and after it and this is irrespective of whether what comes before and after it are the same, different, samedifferent.

By substituting 'number' with 'figure' in (#) we get easily to how space includes figure and figure includes space. In that case, we have,

Figure, G

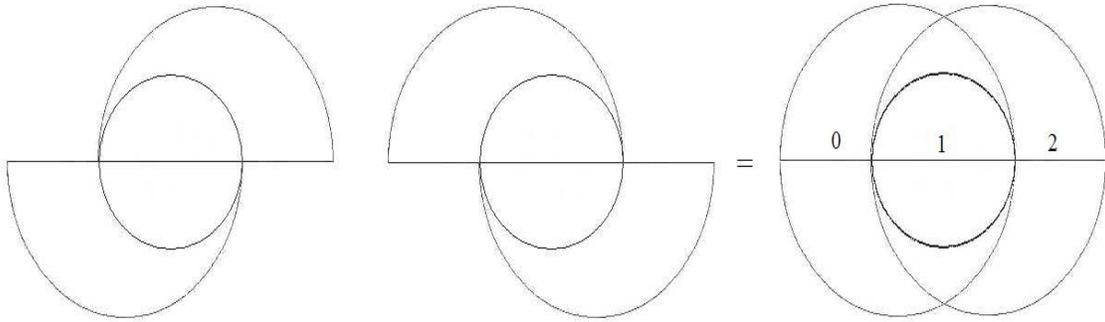
A figure is itself in the others in space S before it and after it. (#)

From this follows that whatever is a figure, may this be a person or as tree, may it be an idea or a performance, includes space which includes it in the others through which it knows itself to be a figure. And being included in space means that there is no longer figure without space and there is no space without figure. From this follows that every breathing-point which is a zerspiral is a spacefigure.

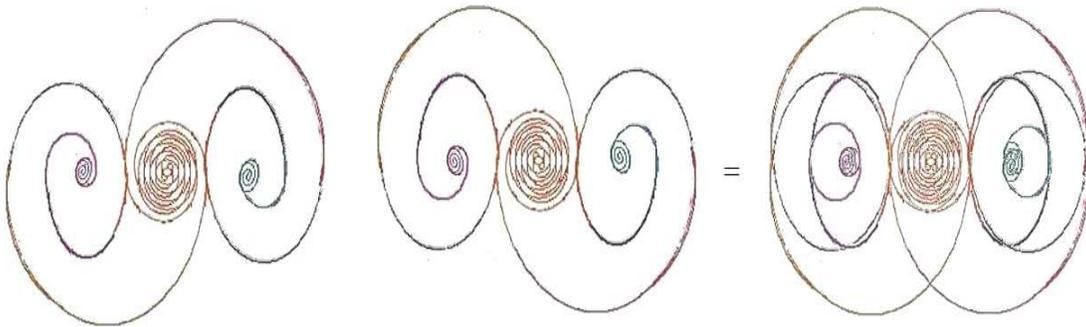
Of course, we are setting out to show that a circle is a circle because of its inclusion in space which includes it in other figures through which it knows itself to be a circle. But then a surprise awaits us when the circle becomes a figure and being so is not just becoming dynamic but far beyond that through its being a flow of one in the other geometric figures and oranges and apples and being so, breaking down the wall between the geometric, the artistic and the organic.

Indeed a geometric figure by which is meant the transfigural geometric figure, as a spacefigure is the inclusion of itself, the artistic and the organic in that it flows as one in the others of them.

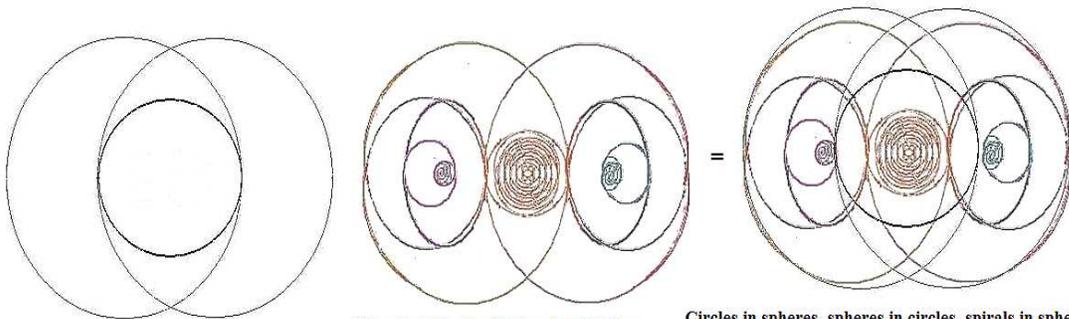
Permit me to take us back to the flowcurves again. Here we have (refer next page)



and also the folds of their zerospiral,



which together give the breathing-point circle,



The transfigural circle is dynamic but for it to be a flow in the other which does not involve any external force but all happening naturally it requires the transfigural influence, transfigural potential and the other features of the zerospiral which it got through the inclusion of the zerospiral in it. What this is meant to show is everything is a zerospiral, that is a breathing-point, indeed a zerooid.

The zerospirals enters the transfigural circle on the left to give rise to the spacefigure that includes it in the spirals of circles and spheres... in the deep and depth of inner-outer infinity of intraspaces and transspace and the outer-inner infinity of interspace, intraspaces and spacenatural reach. The zerooid is a zerooid.

Circles in spheres, spheres in circles, spirals in spheres and circles, circles and spheres in spirals, spirals in spirals,.....

This is an example of what is called the breathing-point circle, that is a circle that is a flow in the other as a result of its being transfigured into a breathing-point. There are other examples that I have completed on paper running into quite a volume that cannot be presented here because this is meant to be a paper and not a book.

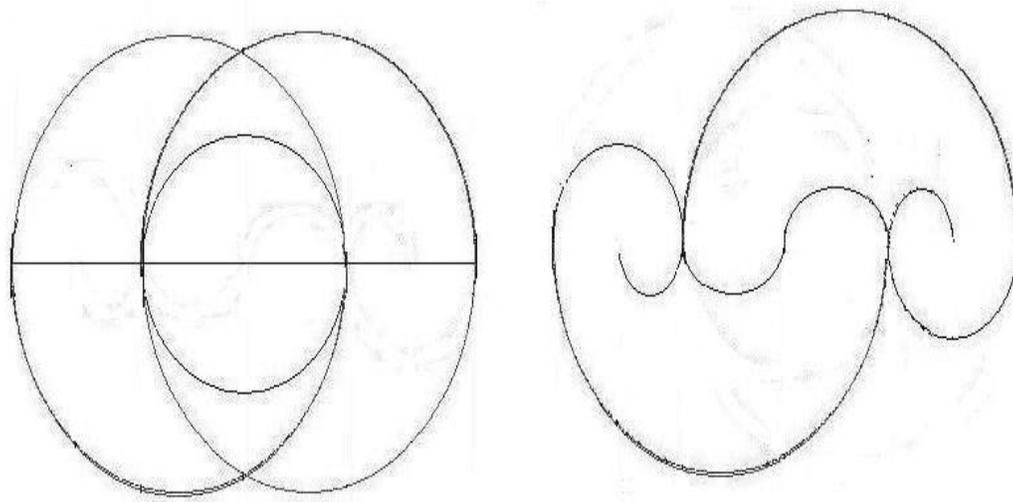
The difference, as we have seen above is that a transfigural circle includes the spheres which include it and the zerospiral includes the spheres in the circles and the circles

in the spheres with one transfiguring into the other. All this is possible because we are not dealing with the traditional geometric circle and sphere but geometric figures that flow one in the others through which they know what they are like everything in the world and beyond.

Inside the Breathing-Point Circle

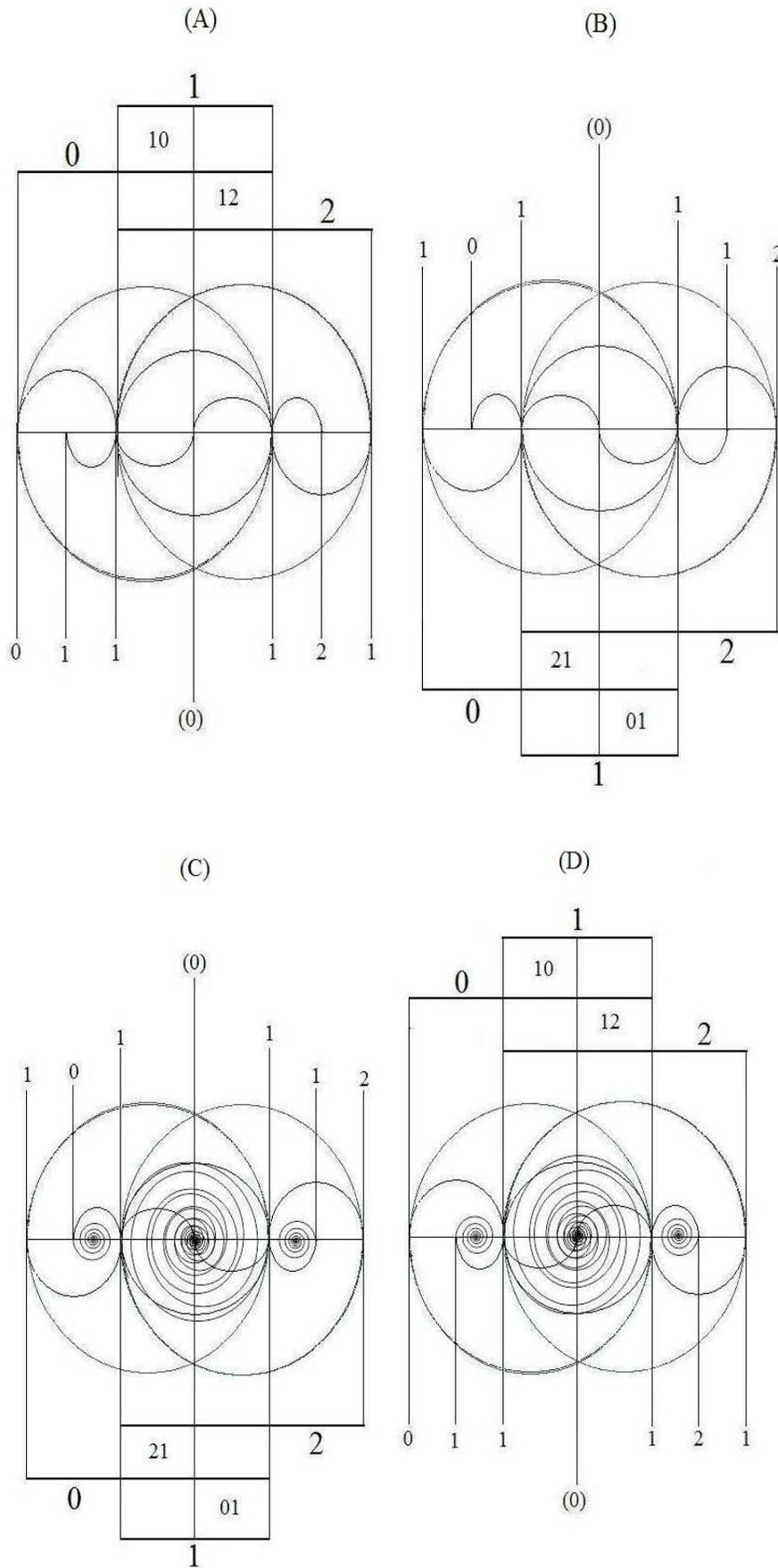
In what follows, we want to get the feel of the breathing-point circle otherwise called transfigural circle. To do this, we have to go back to the folds. In that case, we shall take a simple fold in a flowcurve, an example of which is given below.

In this example, we shall not be treating the highly-involved and complex foldforming (11) of identityspace and its local forms in the alphaspace and omegaspace – the domains of alphafolds and omegafolds - but shall introduce the flowcurves of flowfolds of the folds, first without their paragons (alpha and omega numbers otherwise called simply alphas and omegas) and later with the paragons and the identity zero $11=0$ and the creative potential zero $(11)=(0)$.



In what follows, an attempt shall be made to see how the spacefigure moves as depicted by the movement of the curve and how the flowforms which are the one in other alpha-alpha 01, alpha-omega 21, omega-alpha 10 and omega-omega 21 of fluid logic number 1 with identity 11 and creative identity potential zero (11) flow in each other interspatially first within the fold of a zerspiral and later intraspatially in the zerspiral. But before this is done, the transfigural circle and its spheres shall be explored further using as it were the flowcurves of the folds to see how 1 is in 0, 0 in 1, 1 in 2, 2, 1 at the paragon (alpha and omega number) level and 1 in 1 in identity.

The above fold with its foldcuves as fluid logic number 1 gives the folds that follow on the next page.



We shall return to these folds when we get to flowpaths of the zerospiral through their folds. But wait! Even that cannot be presented here even though I have completed it too.

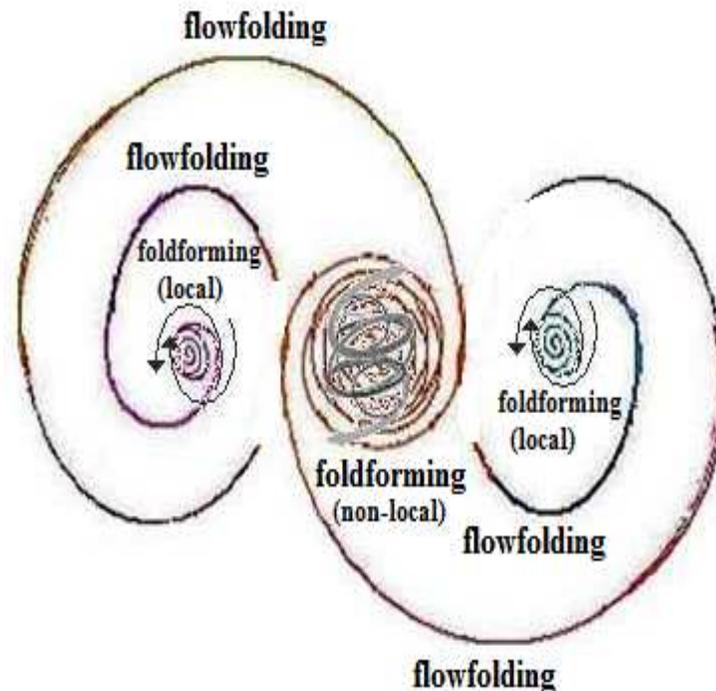
Folds and their Flowcurves – Condition and Nature of Breathing

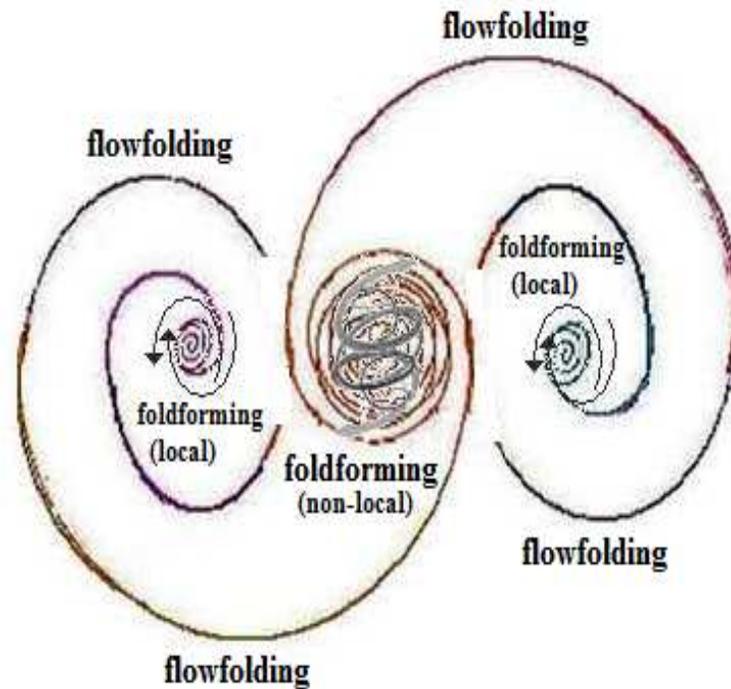
On its own, a zeropoint as a breathing-point therefore a zeroid does not require any other thing in the world for a push and pull to move. Some of the properties of folds are flowcurves and flowpaths. Flowpaths show the illusion of distance by allowing us to calculate distance only to show that things are not what they seem. The reality lies elsewhere than what things seem to be.

In dealing with the illusion of distance, that is of a thing leaving one place for the other that is also in it, we shall need flowcurves and flowpaths. In this work, we shall only be treating the flowcurves in relation to the folds and their zerospirals.

How do the folds condition the nature of breathing? Flowcurves, flowpaths and other features are inside the folds of the zerospiral. Indeed what they do is to show clearly some of the hidden features of folds at the flowfolding level. The foldforming takes us to the transspace which cannot be handled at this stage until we advance further in our immersion in the breathing-point geometry.

Below, some of the flowfoldings, that is the line into point and, and some of the types of foldforming, that is the point into form which form is in the figure and which figure is what flows and folds, therefore the line again from point, are presented.





Now there are different forms of flowcurves of the folds through which the various forms of the breathing of a zerospiral are shown. These various forms of beathing-point cannot be exhausted here and in the flowpaths, another feature of the zerospirals, they become terribly complex.

The flowcurves do not reach directly inside the foldforming which is the seat of the creative potential in the local and the seat of transfigural potential in the non-local. They reach through the local identities that is, through alpha identity on the left or right and omega identity on the right or left of identity in the middle.

As will be shown under the spaces of transfigural space which we may not reach as far as to treat in this work what is called distance is taking place in interspace which is itself a flow in the spacefigure of a flow of one thing in the other.

The space between you and the tree over there is the same as what is between fluid logic number 1 and fluid logic number 2. This space, the interspace of natural space which is called spationatural in which the inner and outer spaces are flowing into each other, is not a wall but a river, not a space of other-exclusion therefore of distance-other but a place of other-inclusion and other in one and one in other.

It is the Other of natural space, the spationatural which is in the natural space as the natural space is in it. Indeed the spationatural manifests through the interspace which it includes as it includes it.

Interspace is not only without, it is also within. However in the inbetweenness of identityspace which includes alphaspace in omegaspace, the illusion of the senses which imposes a 'wall' made of Euclidean void that makes it impossible to see the inbetweenness of identity has no place in the reality that encapsulates the nature in the condition of things.

Alphaspace, Omegaspace in Identityspace and The Inner Infinity (The InBetween)

In all that has been done up to this place, the alphaspace and omegaspace have been shown even if what has been shown thus far about them is still at the introductory level.

The issue here is the identityspace and how the alpha domain and omega domain which are, amongst others, are in it in the inner-outer infinity of identity domain. We know the following. We know that the alpha zeroid and the omega zeroid and, amongst others such as transfigural influence, transfigural identity, the nonlocal transfigural potential which includes the local-in-nonlocal creative potential are in the transfigural. The problem is that we can only reach them with imagination before we can begin to know them. Indeed there is no way to know the structure of, for example, the alphaspace and omegaspace in identityspace at all without imagination. And so, what I want to do in what follows is the journey of imagination in what is beyond knowledge but which becomes that which knowledge can invest in with a view to understanding it.

We begin again with the zerospiral. In doing this, we try to explore the structure of the zerospiral from the fluid logic numbers from which they originated. According to the fluid logic numbers, the alpha zeroid and the omega zeroid are the local in the nonlocal zeroids of the nonlocal zeroid which is identity zeroid. We explore. From [Shakunle, JTfM Vol. 1. No. 1. 2011] we have the fluid logic number 1 as,

$$\begin{aligned} \text{fln}(1) &= 012 \\ &= \begin{cases} \text{fln}(1)_{\alpha^d} = (01(00)10) & : \text{alpha domain } \alpha^d \\ \text{fln}(1)_{e^d} = (00(11)22) & : \text{identity domain } e^d \\ \text{fln}(1)_{\omega^d} = (12(22)21) & : \text{omega domain } \omega^d \end{cases} \end{aligned}$$

From these domains of fluid logic number 1 follows the domains and numbers of logic number 1 below.

$$\text{lgn}(1) = \begin{cases} \overbrace{(01(00)(10))}^{\text{alpha domain of fln}(1)} = \overbrace{\langle 01 \langle 00 \rangle 10 \rangle}^{\text{alpha domain of lgn}(1)} = 01,10 \text{ with } 00 \text{ implicit} \\ \overbrace{(00(11)22)}^{\text{identity domain of fln}(1)} = \overbrace{\langle 00 \langle 11 \rangle 22 \rangle}^{\text{identity domain of lgn}(1)} = 11 \text{ as identity logic number} \\ \overbrace{(12(22)21)}^{\text{omega domain of fln}(1)} = \overbrace{\langle 12 \langle 22 \rangle 21 \rangle}^{\text{omega domain of lgn}(1)} = 12, 21 \text{ with } 22 \text{ implicit} \end{cases}$$

from which we have,

$$\text{lgn}(1) = \underbrace{\underbrace{01, 10}_{(0, 1)}, \underbrace{11}_1, \underbrace{12, 21}_{(1, 2)}}_{\text{of } 012}$$

that takes us to change in permanence of identity zeroid and permanence in change of alpha and omega zeroids and their alpha and omega numbers.

In every logic number there is a flowform. Logic numbers of fluid logic numbers are carriers of flowforms. The numbers under the logic numbers above are the flows of one in the other based as it were on the *within* of fold and flow of transfigural INS. For example, the flow of 0 in 1 gives 0 as flowform in logic number 01, the flow of 1 in 0 gives 1 as flowform in logic number 10, the flow of 1 in 12 gives another 1 as flowform in logic number 12 while the flow of 2 in 21 gives 2 as flowform in logic number 21. On the other hand, the flow of 1 in 11 gives either way 1 which is not a flowform but a fluid logic number.

I explain why this is so. The logic number 01 is flowform 0 but there is also logic number 10 flowform 1. We also have logic number 12 flowform 1 and logic number 21 flowform 2. Things are changing here but any flow to the right produces a flowform that is not the same as any flow to the left but with one included in the other through identity.

In identity things flow left and right and what is also a peculiarity of identity, any flow in the deep and in depth of identity gives the same flowform 1 which is the inner infinity of identity domain. In other words, 11 as flowform 1 is the inner 012 – 11 is called inner-outer 012 since it flows also left and right even as it spirals inward with others in the creative potential zero (0) – while the outer is called outer-inner because it consists of the paragons and their alpha and omega identities as flowforms. From all this we have the logic numbers (lgn) which is the carrier of flowforms, in the case of what we have below, that is logic numbers of fluid logic number 1 with the flowforms as,

$$\begin{aligned} \text{lgn}(1) &= \underbrace{\underbrace{01, 10}_{(0, 1)}, \underbrace{11}_1, \underbrace{12, 21}_{(1, 2)}}_{\text{of } 012} = \text{flowforms} \\ &= 01, 10, \underbrace{11}_{1=012}, 12, 21 \\ &= \underbrace{01, 10}_{lgn}, \underbrace{012}_{fln}, \underbrace{12, 21}_{lgn} \\ &= ((01, 10) \underbrace{(012)}_{\text{(inner-outer infinity)*}}, (12, 21)) \\ &\quad \underbrace{\hspace{10em}}_{\text{(outer-inner infinity)*}} \end{aligned}$$

* infinity is relative in transfigural mathematics

What we need at this stage is fluid logic numbers with outer-inner infinity with the seat of inner-outer infinity in identity not shown but implied. In that respect we have fluid logic number 1,

$$\begin{aligned} \mathbf{fln}(1) &= 012 \\ &= \begin{cases} \mathbf{fln}(1)_{\alpha^d} = (01(00)10) & : \text{alpha domain } \alpha^d \\ \mathbf{fln}(1)_{e^d} = (00(11)22) & : \text{identity domain } e^d \\ \mathbf{fln}(1)_{\omega^d} = (12(22)21) & : \text{omega domain } \omega^d \end{cases} \end{aligned}$$

which is the matrice form.

The domain form of fluid logic number gives,

$$\begin{aligned} fln(1) &= 012 \\ &= ((01, 10)(11)(12, 21)) \\ &= ((01(11)10)(11)(12(11)21)) \quad (\#) \end{aligned}$$

in which the identity zeroid is both in alpha and omega. In the context in which it is alpha and in omega domains, the nonlocal identity zeroid in identity domain (11) behaves as local -in-nonlocal zeroids in alpha domain (01, 10) = (01(11)10) and omega domain (12, 21) = (12(11)21). In both fluid logic number domain and fluid logic number matrice, identity domain (11) is different in alpha and omega domains.

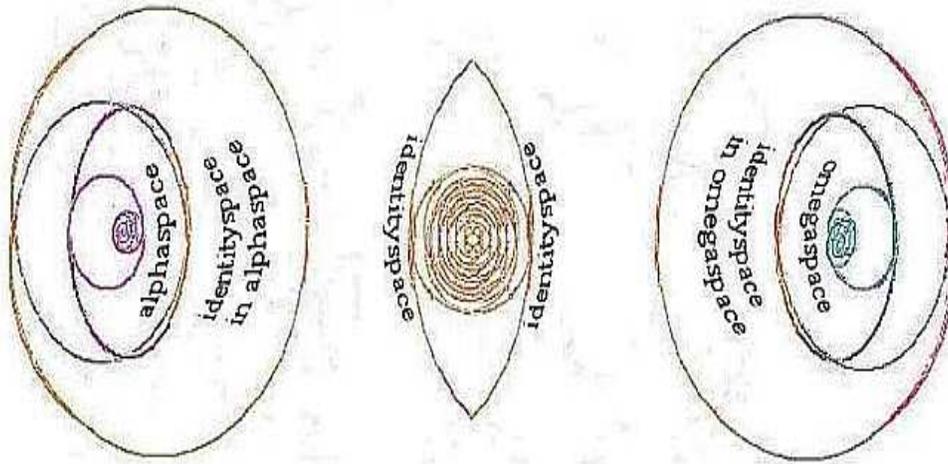
From (#) follows,

$$\begin{aligned} fln(1) &= ((01(11)10)(11)(12(11)21)) \\ &= (01(11)^{\alpha}10)\{11\}(12(11)_{\omega}21) \\ &= ((01(11)10)^{\alpha}(11)11_{\omega})(12(11)21) \quad (*) \end{aligned}$$

in which we have,

$$\begin{aligned} \text{Alpha identity } (11) &= (11)^{\alpha} \\ \text{Identity } (11) & \\ \text{Omega identity } (11) &= (11)_{\omega} \end{aligned}$$

All this prepares us for a short excursion in alphaspace, omegaspace and identityspace that follows.



In what follows, I intend to tackle one of the issues that have not been touched upon up to now. How do the alpha and omega zerooids breathe in the identity zero and how does this breathing change the form and structure of a zero spiral considering the fact that we have, amongst others,

- operational identity zero, 0
- interspatial zero (internal), $\langle 11 \rangle = \langle 0 \rangle$
- transfigural identity, F, (11), (22),...
- transfigural creative potential zero, (11) = (0)
- logic number zero 00, 11, 22, ... = 0, 0, 0, ..
- paragons – alpha and omega numbers of a fluid logic number
- Zeroid (⊙) (includes zerooidal zero, transfigural identity, transfigural potential therefore includes creative potential, transfigural influence, figurals, flowforms,....)

from which follows the transfigural creative identity otherwise called zerooidal identity (0) as:

- = (paragons – alpha and omega numbers, alpha and omega zerooids, creative potential, transfigural potential, transfigural influence, ttp, logic numbers and their flowforms, logic of logic numbers, numbers of inner-outer identities, transfigural element...)

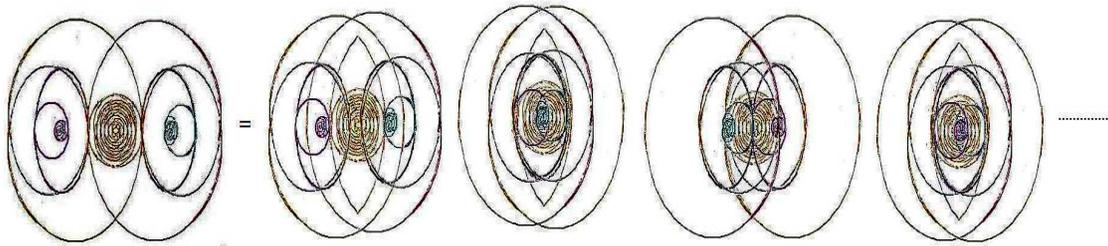
for every fluid logic number as some of the features of every fluid logic number.

Transpology – Beyond Topology

Transpology is the study of the breathing forms of a zero spiral. This makes it a branch of breathing-point geometry. In what follows, I shall present some of the transpological forms of a zero spiral.

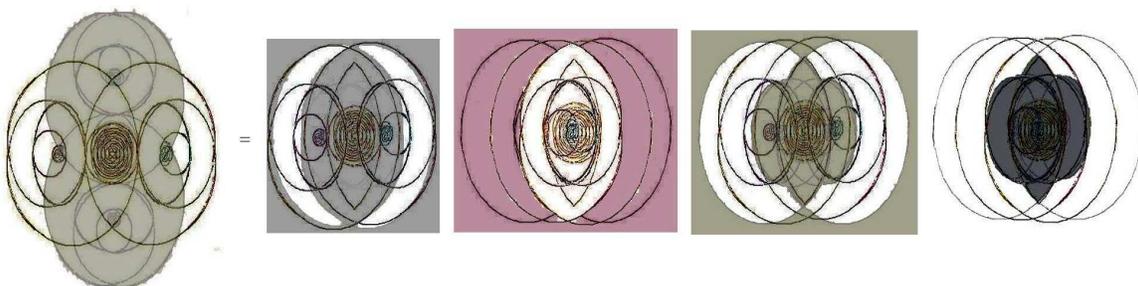
Since transpology is concerned with the study of the breathing forms of zerspirals, we shall take our introduction to them by examining how alpha and omega domain breathe in identity and how this changes the structure of zerspiral.

Breathing Forms of Fold



What we got from what we have above is that you cannot see the same zerspiral twice. The seat of permanence of a zerspiral is the identity. But there is the central identity and there are local identities. The alphaflows and omegaflows flow through the local identities where things are always changing. The local identities, that is the alpha and omega zeroids are seats of permanence too but they also have change in them since the alphaflows and omegaflows are in them. The central identity has in it the transfigural element by element is meant something which can change radically and completely the structures of the local identities and through them that of zerspirals. This means what is permanent can be made to change and what changes can be made to become permanent. And this is easy to grasp since the zeroids, the centres of permanence, have also the alphaflows and omegaflows in which things change. And since the flows are carriers of zeroidal qualities, this means they are, as folds, flows of influence. Indeed this much is confirmed by and in transfigural influence.

On the face of it, the eyes see the same thing when in reality things are changing. The zerspiral, its form and structure, is changing and with it new forms and structures are emerging even while the identity domain, the seat of permanence that makes changes possible therefore seat of change inside permanence remains the same. As a result of breathing, the alpha which is on the left goes to the right and since breathing involves motion, what happens is that structures and forms like what we have below and others so complicated to be intractable result:



In this zerospiral with its breathing forms, the numbers – alphas and omegas – which could help to show how alpha and omega domains fold inside the identity domain are not shown. This is just by way of a short introduction of transpology.

Transfigural INS, N and Classical Relation, R

In transfigural mathematics, instead of Relation R we have the local iNclusion N and the nonlocal flow of one in other η both of which are called the transfigural INS with INS as the plural form of IN.

- (a) There is no relation R of the nature xRy in Transfigural Mathematics since x and y are separate.
- (b) What we have in Transfigural Mathematics instead of R is N in “iNclude”

in which the N covers the transfigural INS, with the operation η
- (c) Instead of the traditional xRy we have the transfigural xNy
.....
- (d) Point-Line as Egg-Chicken Problem
- (e) Point folds, line flows. Without the flow of the line, there is no fold of the point. But without the fold of the point there is nothing to flow, therefore there is no flow without fold.
Conclusion: There is no point without the line and there is no line without the point. This means where there is point there is the line and where there
there is a line there is also the point.
.....
- (f) Space-Figure as Line-Point. There is no figure without space but there is no space without figure. This means where there is space there is figure and where there is figure there is space. Zerospiral solves this problem by having the alpha domain as space and the omega domain as figure with the identity domain as the spacefigure and through this having a zerospiral as a spacefigure.

Breathing-Point Interspatial Geometry

Interspatial geometry of breathing-point geometry provides the key to the other geometries of breathing-point. Transfigural identity which is crucial for understanding what is going on in breathing-point transfigural geometry and breathing-point identity geometries is very easy to show, explain and explore at the interspatial level that includes the natural space.

Generally, there is no single form for the point and the line in the breathing-point geometry. What is permanent about the point is that it is a fold in flow and what is permanent about the line is that it is a flow in fold. But when the line folds to become the point, it includes space that transfigures it into the line through the flow and when the point flows to become the line, it includes space that transfigures it into the point all this through the creative potential in interspace that is inside the natural space and through the transfigural potential in the transspace.

Transfigural influence is carried by the transfigural potential at the intraspatial and the transspatial domains and by the creative potential at the interspatial and natural domains. The creative potential and the transfigural potential in transfigural influence account for the variations of the point and the line through the inclusion of space in them.

A thing that does not include space lacks the potential for variation. It also lacks creativity which imbues things with diversity. Where a point or a line does not include space whatever comes out of them is static because they lack the creative potential, therefore the transfigural influence that makes change in permanence possible.

The change through transfigural influence is not evolutionary but is inbuilt with permanence in which a thing transfigures to become another thing completely. This becoming another thing includes the other such that there is no tree without the other trees and the forest and the ecosystem which are included in the tree which inclusion is made possible by space that is included between one tree and the others that make it to be a tree and between the trees and the forest, the forest and the ecosystem. Change is not happening in a thing in isolation and it does not involve time that reduces change to the temporal level.

For a human being, change is the flow of the emotional in the intellectual and the intellectual in the spiritual all happening in the permanence of being a human being with an identity that results from being one in the other of other human beings, birds, fishes, the seas, the rivers, indeed the world, the entire cosmos, each of which is a breathing-point, therefore one in the others.

The transfigural change in permanence has its seat in the Transfigural. In it, the tree, the bird, the sea, the universe is in one in the other, the spacefigure, such that let a noble thought come to the mind, it changes the entire cosmos and blesses the world. Good thoughts, noble deeds, divine dreams, these are changes occurring in every human person, where the nature and conditions of things are true to what they really are.

It does happen that one wants to transcend the weaknesses, does happen too that one feels that life is larger than some thoughts that shouldn't be there at all and so would like to reach beyond and above what is pulling down. This is one thing changing in itself and so doing changing the others including the entire world. Change is permanent, permanence makes change possible.

The line transfigures to become the point. The point transfigures to become the line. This becoming is made possible by space that transfigures in transfigural influence such that, so doing space transfigures into figure and figure transfigures into space through the inclusion of one in the other such that where there is one, there is other, therefore spacefigure becomes what space and figure are.

Transfigural change is such that a point cannot be predicted in its variations. The same thing is true of the line. For example, a point x or line y has space on both sides that include them in the others that include them. Space itself is therefore something, that is a bodyflow which includes the point and the line.

On the next page, this is presented followed by explanation and exploration.

$$xqy = SqS$$

$$= \begin{cases} (i) \text{ sxs} \\ (j) \text{ sys} \\ (k) \text{ s}\beta\text{s} \end{cases}$$

In (i) above, the point is x and in (j), the line is y . The point is what it is through the inclusion of space in it. The same holds true for the line. The inclusion of space in the point and the line make them spacefigures such that the one of the point and the one of the line know themselves to be point and line through the inclusion of the other which is space s in them.

It does not matter therefore whether x is a tree and y is a river. They are not alone because they have space included in them. But space does not even more than including itself in the others. It includes any other things, wherever they may be in the point and the line. As a result of this, a point in Lagos is a line in London and is a curve in Los Angeles and a point again in Berlin and these points and lines are included in one another by space such that they constitute variations of one in the other of space.

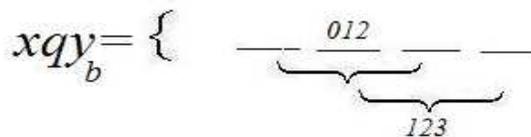
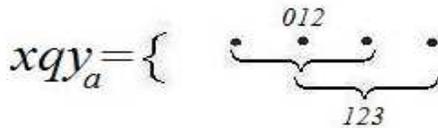
Being not static because of the inclusion of space in them which makes them spacefigures, they are always changing and in so doing, challenging imagination and creativity to show what might become of them as they flow from one mindspace to another mindspace, the inner space which includes the outer in the space of spacefigure.

The β in $S\beta S$ is the infinite possibilities of q of identity domain in SqS . It was treated in detail in [Shakunle, Lere, J. Transfigural Mathematics, Vol.No. 2. 2011].

The foregoing is supposed to prepare us for the breathing-point interfigural geometry that follows below.

Breathing-Point Interfigural Geometry

$$f_{ln}(q)_{i=1,2,3...} = \underbrace{012, 123, 234, \dots}_{\substack{xqy'_a, xqy'_b, xqy'_c, \dots \\ \tilde{n}_1, \tilde{n}_2, \tilde{n}_3, \dots}}$$



Transfigural Influence

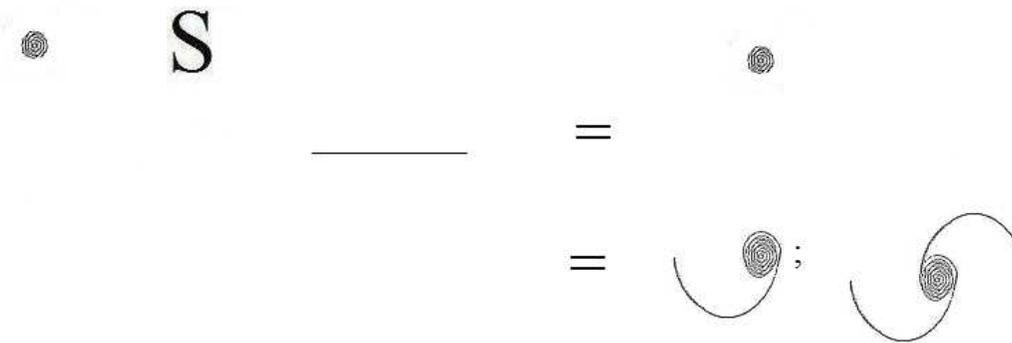
Space-in-figure influence

Space-in-figure influence is the flow in figure that transfigures it.

(This is alpha level-balancing influence)

(This shows how disparate things (in the metaphorical sense) belong together as a flow of one in the other. Line as a flow and point as a fold making various folds which is made possible by space inbetween point and line...(outer-inner space of figure))

Example:



Space-in-figure is the transfigure of figure.

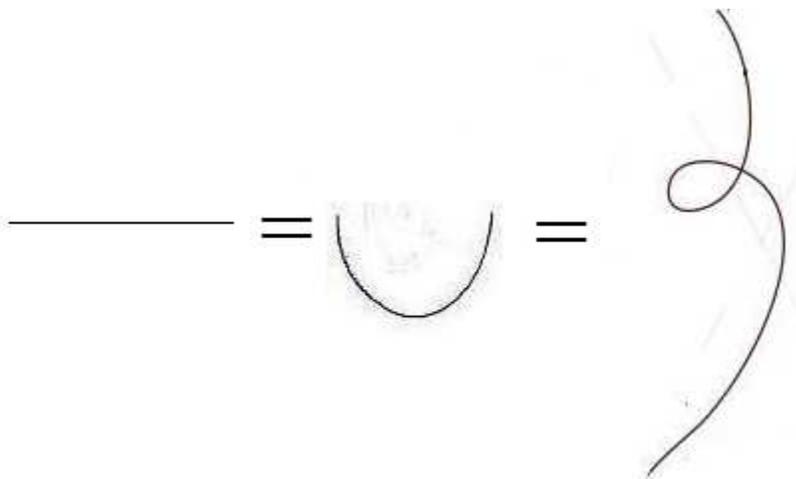
Figure-in-space influence

Figure-in-space influence is the form in fold that transfigures

(This is omega level-balancing influence)

(This shows various natural forms of the same thing. A point as spiral as various kinds of folds; a line as curve, a flow that folds,...This is made possible by the figure being in space (figure in inner-outer space))

Example:



Alpha and omega level-balancing influences are interspatial and intraspatial while odd-balancing influence is intraspatial and transspatial.

Spacefigure, sg

Together, space-in-figure and figure-in-space make the spacefigure

Geometry and Fundamental Misconception About Reality

Does the point stand still? And does the line separate? The answer we got from Euclidean and non-Euclidean geometries to this question is yes. In reality, the correct answer is NO.

Now let's try to think seriously about the point and the line. Nothing is seen in isolation, not even in imagination. And so let there be a point which in Euclidean geometry does not exist until the line was presented in which presto! two points emerge to make the line, it cannot be seen with the human imagination without context. This context is space.

But space as it is lived in human experience, space that is shared by human beings and trees, rivers and the sky, birds and fishes, is not the same as in the geometries of Euclid. The point and the line are products of axioms that confer on them logical existence which is far removed from the lived experience of existence.

The line that Euclid is talking about does not exist in reality. It can be drawn on the paper but it lives in the void and being so, it is a separation of one from the other since there is no space to give it the natural life.

The fallacy of line as a wall of separation is brought poignantly home by such figurative expression as 'draw the line.' Though figurative, literally the line is seen as the limit, the boundary between one thing and the other. The Euclidean line in a void is itself a limit at both ends and a separation that is a distance that could be cut into segments and never filled by the points.

In a condition in which a line moves in space as habitat, as stage and as context, a line is not a separation but a flow of one in the other. Since this is important for the breathing-point geometry of transfigural mathematics, I shall begin here with one of the concepts of transfigural mathematics called transfigural influence in which the point and the line are forms of influences. As for the plane, there is nothing like that really. If you take the natural plane before you, then you can see that the plane of Euclidean geometry does not exist in reality.

In [Shakunle, 2011], the following is presented as the exploration of transfigural influence without going in depth. There we have:

“Transfigural Influence

The quality of a spacefigure that determines the reach and depth of its flow. It is the zerospiral as a line that spreads and folds and flows like a headscarf in the wind with the difference that its end and domain of flow cannot be determined.

The transfigural influence in the transfigural is the odd-balancing influence. For the alpha and omega domain, the influence is level-balancing. These influences act together which means it is not possible to separate them where they can be seen which they cannot. Transfigural influence is invisible. As invisible as its source, the transfigural potential. Transfigural influence can be local and non-local without any conflict whatsoever.”

The explanation of the point and line in the paper, which shall be presented again soon for exploration include, implicitly, transfigural influence. The complete explanation of the same point (breathing-point) and line (flowline) are presented below. Before then, why is explana-

tion (of a thing) used instead of the definition (of a thing)? The reason is for this is to be found in what the words mean etymologically.

For example, from etymology dictionary we have the following:

“definition : *decision, setting of boundaries.*

Even though it means in logic, "act of stating what something means" this act of stating what something means is a boundary between a thing and the other

explanation : *to make plain or clear, explain.*

In transfigural mathematics, there are no definitions but what-is. What-is is the interplay of discovery, invention, and revelation.

In transfigural mathematics, there are transfigural what-is and figural what-is. Transfigural what-is is about what a thing is in the transfigural. Figural what-is is about what a thing is in the figural. Transfigural is the identity domain. This is the seat of identity zeroid. Figural is the alpha-omega domain. This is the seat of alpha and omega zeroids. Transfigural potential is in the identity domain. Creative potential is in the alpha-omega domain. Identity domain is the identity of the domain of fluid logic numbers which includes it and the alpha and omega domains as a domain. Figural is in the Transfigural and the Transfigural is in the Figural.

Figural in transfigural mathematics is not the same as it is used in the paper of [Poochigian, 2011] in which figural referred to the traditional mathematics. Of course the use in that paper was right. In transfigural mathematics however, figural is included in transfigural from where it originated , viz. ((trans)figural).

For every entity of Breathing-Point geometry, there are transfigural and figural what-is. The figural what-is included in the transfigural what-is through which it is imbued with transfigural influence. More about all this later.

Transfigural What-Is of Entities of Breathing-Point Geometry

In what follows some of the basic concepts that originated from the Foundations Principles of Transfigural Mathematics shall be re-visited and explored further. The reason for doing this is that these concepts are new and so, what I do when I come back to the same concepts again is try to provide additional perspective to the one that was used when it was first met.

Point

A fold of flow in space of influence

The point is the fold of the line which is a flow. This fold is a carrier of transfigural influence inside the flow through which it is a fold. The fold (point) in the flow(line) cannot be taken out of *the flow that gives it its fold* (space). In other words the fold is included in the flow of influence which is the line and the flow is included in the fold of influence which is the point.

Line

A flow of fold in space of influence

The line is the flow of the point which is a fold. This flow is a carrier of transfigural influence inside the fold through which it is a flow. The flow in the fold cannot be taken out of

the fold that gives it its flow. In other words the flow is included in the fold of influence which is the point and the fold is included in the flow of influence which is the line.

From what we have above about the point and the line, we have it that the point is a **linefold** and the line is a **flowpoint**. Indeed a point is a line that folds and flows and a line is a point that flows and folds and in all the point is a flowfold of influence and the line is a foldflow of influence.

By applying transfigural INS we have it that the fold *in* of the point and the flow *in* of the line give,

A fold (transfigural INS) flow of influence

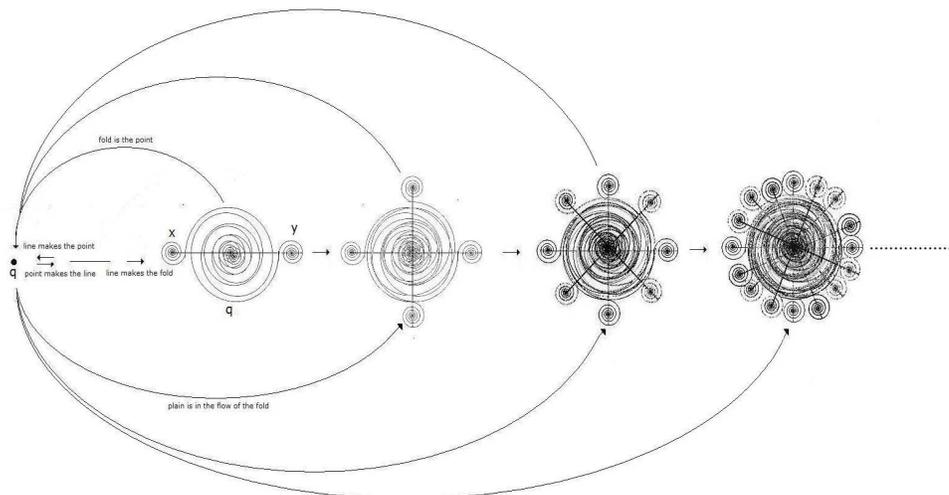
and for the line:

A flow (transfigural INS) fold of influence

The transfigural INS above shall be explored both in the folds of zerospirals and the zerospirals themselves under the treatment of transfigural space which amongst which are the natural space, the interpace, intraspaces, transspace and others which are spaces of identity.

From what we have about the point and line – the same holds for plane below – without one there is no other and one is in the other yet each is unique. The point which is a fold in the flow includes the line in space but it is unique through its folding qualities. The line which is a flow in the fold includes the point in space but it is unique through its flowing qualities. Both of them have transfigural influence in them which imbues them, amongst others, with form.

To be in the point is to be in the line yet it is to be in the point all of which include being in space too. To be in the line is to be in the point yet it is to be in the line which also includes space. The diagram below tries to capture the enigmatic nature of the point and the line:



Plane

The perspective of the line

Space

The flowfold of influence

In transfigural mathematics, space is something. Indeed, as we got it from transspace of transfigural space, figure is not possible without figure-in-space and space is not possible without space-in-figure both of which include form.

Figure

The foldflow of influence

Form

The body of influence

Influence = Transfigural Influence

Virtue, Values, Ideals, Paragon, Qualities

Types of Flow

Alphaflow

Omegaflow

Identityflow : flow of alphaflow and omegaflow in alpha and omega zerooids in
Identity zerooid

Deepflow

Depthflow

Types of Influence

Odd-balancing influence

Level-balancing influence

**Fluid Logic Numbers -
Space, Point, and Line of Breathing-Point Geometry**

In Breathing-Point, which is the shortened name for Breathing-Point Geometry, BTPTG, space includes the point in the line and the line in the point. The point is transfigured into the line and the line into the point within, through, inbetween, between, and across space. These – within, through, inthrough, inbetween, between, and across – are the central qualities of transfigural INS. INS originated from “x is in y in z” which translates to “One is in Other in All.” There are as many spacefigures of transfigural mathematics as there are transfigural INS.

In what follows, the *transfigural INS of Space* in spacefigure shall be presented. For this we have,

Space Between

Space InBetween

Space Across which includes Space (In)Through

which are space in figure and figure in space in which one transfigures in the other and the other in the one through transfigural influence.

Space Between, Space In-Between, Space (In)Through in Across

Space Between

Breathing-Point Interfigural Geometry

Space InBetween

Breathing-Point Transfigural Geometry

Space Through (and InThrough) in Across

Breathing-Point Identity Geometry

Fluid Logic Number – Figure, Space, and Identity
Spatiofigural Explorations –

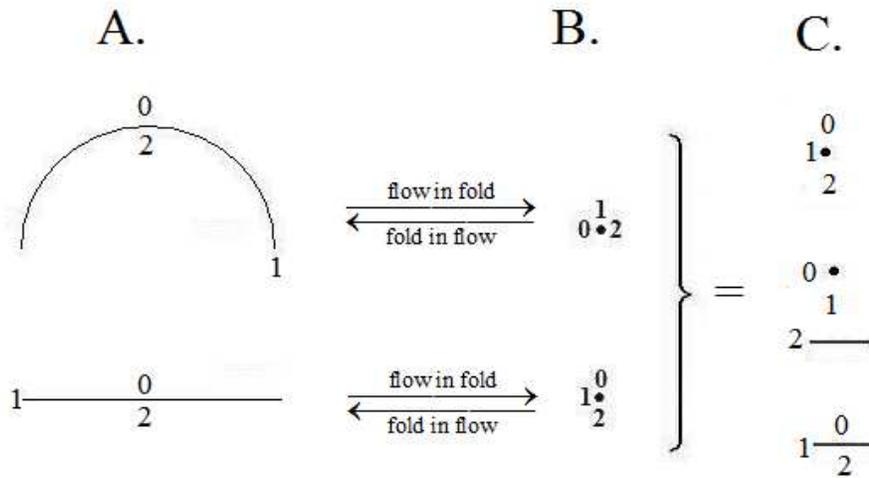
$$fln(1) = 012$$

$$= \left\{ \begin{array}{l} \text{---} : 1 \frac{0}{2} ; 0 \frac{1}{2} ; 1 \frac{0}{2} ; 1 \frac{0}{2} ; \overset{0}{\underbrace{\quad}_1} ; \overset{1}{\underbrace{\quad}_2} ; \overset{1}{\underbrace{\quad}_2} ; 0 \overset{2}{\underbrace{\quad}_1} = 012_{\text{line}} \\ \bullet : 1 \frac{0}{2} ; 0 \frac{2}{1} ; 1 \frac{2}{0} ; 0 \frac{1}{2} ; 0 \frac{1}{2} ; 0 \frac{2}{1} ; 0 \frac{2}{1} ; 2 \frac{1}{0} = 012_{\text{point}} \\ \underbrace{0 \ 1 \ 2}_{\bullet} \quad \underbrace{0 \ 1 \ 2}_{\bullet} \quad \underbrace{0 \ 1 \ 2}_{\bullet} = 012_{\text{zspiral}} = 012_{\text{folds}} \end{array} \right.$$

Fluid logic number 1= 012 is used instead of the generalized algebraic form for which we have q = xqy which generally is written for every fluid logic numbers as, ñ and for fluid logic numbers in general as Ñ for the simple reason that using 012 makes it easy to see how a fluid logic number is a line as well as a point. From being a point and the line, space itself is something since it is the body of flow and so from the flow of one in the other, space becomes a figure and figure becomes space. This becoming is one transfiguring into the other as the line transfigures into a point.

Transfiguring involves becoming which once completed yields a new being. In transfiguring the being is included in the becoming. In the transfigured, the becoming is included in the being. In both cases, the identity is the inbetween. The transfigured brings forth the new from the transfigural potential at the nonlocal level of zeroid and from creative potential at the local-in-nonlocal identity level of alpha and omega.

Based on the diagram above, we have,

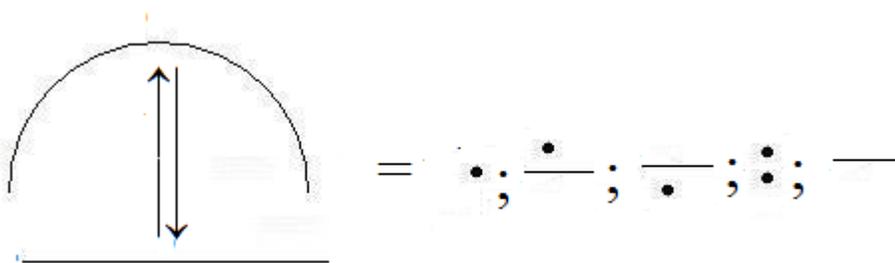


In A we have line which is also a curve which as a flow is the fold that is the point. On the other hand we also have the point which as a fold is the flow which is the line. This is depicted as double-arrow between A and B. In C we have it the forms of fluid logic number 1 in which line, point and space are the inbetween. In the case of space as 1 in 012, this follows from space being also a body as we got it from its what-is. On the other hand, it is also a case of inner space which includes what is both sides of it as it is the case with 1 which includes 0 and 1 in which 1 is the point or the line which as fold alpha and fold omega are one in the other of a zerospiral.

As that which includes one in the other, space has equal right as what it includes. Being in what it includes, this makes what space includes that which includes the other in one, therefore the figure being included in space also includes. This is what we got from spacefigure which is space in figure and figure in space.

The line as a flow in the fold of the point makes it the point. The point as a fold in the flow of the line makes it the line. Space as that which includes line in the point and point in the line makes it the point and the line. This means space can be the point or the line which means it can be both.

Since the point is the fold of the line which makes it the line, this means, let there be a line, this is also the point. And since the line is the flow of the point that makes it the point, this means, let there be a point, this is also the line. From this we have it that let there be line l_i and another line l_j which could be straight or curved, these lines could be line l_k which is a line or could be a point or could be a point and a line or point and point which are also line and line. This is depicted below.



The space between a point and a point or a line and a line is also a point or line which means it is both.

Being a fold in the flow, there is no definite place for a point on the line. This is to be expected since the point is a flow in the line. Being a flow in the fold, the line exists in the point in space and the point exists in the line in space. *In space* means *included in space*. This also is to be expected since it is a flow in the fold which is not possible without it. In other words, it is not possible to determine which comes first, the point or the line. Like figure and space they are chicken and egg. Both are solved by transfigural identity which shows itself in what a number is, therefore the fluid logic numbers, and so what a zerspiral is. Indeed transfigural identity is the breathing-point.

Space is the inbetween of the point and the line with the qualities of being and becoming as one in the other. The point is the other of the line with space infolding (in-breathing, inhaling) to give the point and defolding (out-breathing; exhaling) to give the line such that by writing the point and moving through space to write it again it becomes either the point or the line depending on the transfigurative effects of space. Space itself folds into itself which is depth-breathing that is occurring in interspace and indepth breathing that is taking place at the innermost depth that is called the transspace.

From Point in Line (Pointline) to Space in Figure (Spacefigure) and the Egg-Chicken Problem

I made an astounding experience in my encounter with the concepts of the geometry of transfigural mathematics called breathing-point geometry. And the experience is that even though the breathing-point geometry derives from the arithmetic and algebra of transfigural mathematics, indeed from the fluid logic numbers to be specific, it demands completely a different mindset.

For example, the role of space in the arithmetic and algebra of transfigural mathematics is such that it is implied. We know that without it, it is not possible for one to flow in the other and so folding into different forms is also not possible at all.

However, in the geometry, this is not enough. It is not because here it comes out clearly that space is as much a figure, a different one though, as the numbers that constitute the figure.

Also in geometry, the numbers as figures in arithmetic and algebra are points and line with space a different kind of figure that that does not wait to come out in the fold of a zerspiral but is shown to be the other through which the one knows itself to be what it is.

In the fold of a zerspiral for example, we are dealing with space and figure. Space includes one in the other such that what the fold represents is space on the right, figure on the left and spacefigure in the centre such that a zerspiral is a spacefigure. In geometry therefore, space is in the figure and figure is in the space as shown in the fold of and eventually in the zerspiral.

Having said this, we can now move on to how point and line prepare the way for space and figure in breathing-point geometry. For this we need to go back to what the point and line are in the breathing-point geometry for a more another exploration.

We have:

Point

A fold of flow in space of influence

(Breathing-Point Transfigural Geometry)

In what the point is above, we have it as the fold in the flow which is the line in the space which includes one in the other and so is a carrier of transfigural influence which is the influence that is meant, except otherwise stated, wherever we may come across the concept in this work.

Line

A flow of fold in space of influence
(Breathing-Point Transfigural Geometry)

A point that flows in Other in All
(Breathing-Point Interfigural Geometry)

A flow of influence
(Breathing-Point Identity Geometry)

The point and line shall be explored again under what-is of transfigural mathematics. From what we have above follows that the fold of the line is the point and the flow of the point is the line including influence.

Plane

The spread of the line
(Linespread)

Space

The flow in fold of influence

Which says space is a body of influence. In other words, space is also a body, therefore something. Like the figure which as a body gives:

Figure

The fold in flow of influence

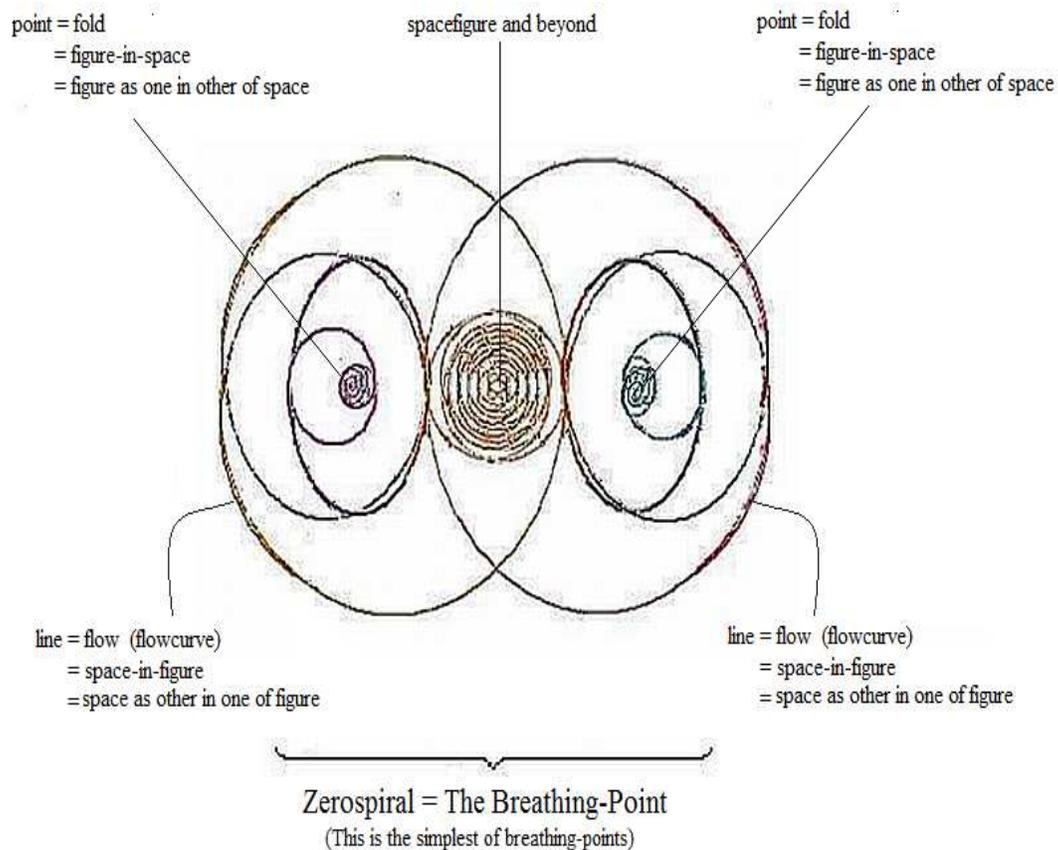
Form

The transfigural element in figure

What we have above is shown in the zerospiral, the breathing-point, on the next page.

According to what we have above in the zerospiral as the breathing-point (refer next page), there is no point without line and no line without the point. For there to be a point there must be a line and for there to be a line there must be a point. From this follows that to be in the point is to be in the line and to be in the line is to be in the point. This leads to the chicken-egg problem. But much deeper than that as we shall see.

For there to be a line, there must be a point but without the point there is no line. This could be the chicken-egg problem except that in the case of transfigural point and line the egg is in the chicken and the chicken is in the egg such that to be in one is to be in the other.



The breathing-point geometry goes further. To see how the chicken and egg come together as point-in-line as point and line-in-point as point we need space and figure. Space and figure is to line and point what egg is to chicken. In the breathing-point geometry there is no space without figure and there is no figure without space. Since one is in the other, space-in-figure is space and figure-in-space is figure from which follows spacefigure which is what things are. And this spacefigure is a zerospiral.

But then, the chicken-egg problem disappears through the form in space and figure. In other words form is what space and figure have together. Form is a carrier of the transfigural element in the flow of space and the fold of figure and so by extension there is the transfigural element in the point as figure and line as flow. Form is not the transfigural but has from the transfigural what is called transfigural element.

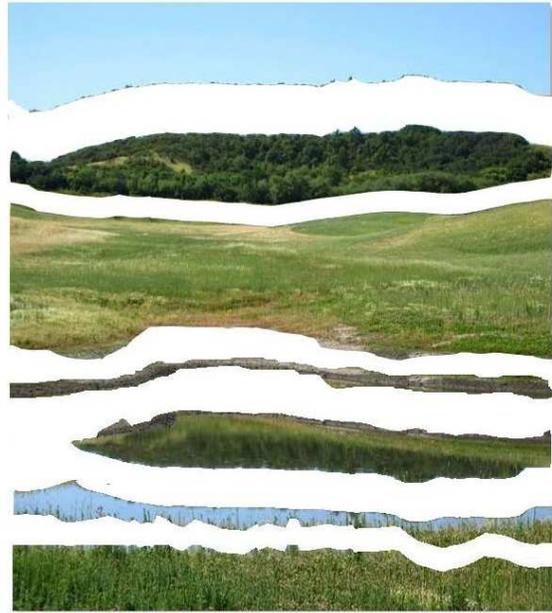
From the transfigural we also have in addition to the transfigural element, transfigural influence, and transfigural potential which includes the creative potential. This is just by way of a short immersion in the inseparability of point and line and so figure and space as a result of there inbetween in the identity realm of the Transfigural. Identity, which solves the chicken-egg problem, is the seat of, amongst others, form too.

Before we continue, we hasten to see what is inside the *plane as a line that is a spread*. This is what happens where a picture or photograph is seen from the edge. It is a line with undulations.

An example of a plane as a line that spreads is presented below:



At the edge, a plane is a line that spreads out before the eyes
(Think of lifting the above photograph of a landscape from the paper and holding it before your eyes like a solid sheet of paper. What you see is a colour spread of a line. Were the solid paper to be an handkerchief the line is now seen as made of undulations which presents the it as a flowcurve (flow of curves))



The lines of the planar line, that is plane as line, that flow in one anothe

The purpose of what has been presented thus far is to prepare us for the condition and nature (of things) that constitute the ground of what-is-it of the entities of the breathing-point geometry of fluid logic numbers.

Condition and Nature of Things

Transfigural Mathematics is concerned with the condition and nature of things on which the knowledge of what they are is rooted. It is about what a thing is which is not possible in isolation. A thing knows that it is through the other. This is what is called transfigural identity.

We do not begin by saying 'there exists' and from there continue to build on what is said to exist. We want to know what exists. To know what exists requires that a thing knows itself, that is, it is aware of itself in the world. Awareness of one requires the other because a thing cannot know itself to be that which it is without the other. To say therefore $x = x$ means nothing really. It means nothing because x cannot say it is x without the other which is y . This is why there is space. This is also why there is what is called the figure, that is, that which is in space. Between space and figure is the world.

In other words, it is not possible for a figure to know that it is a figure without space and without the figure, what is going to have the awareness of space? Thus space and figure cannot be separated. However, there is also the world which is inside them and they are inside it. And so let space and figure be sp , there is a world w in them that includes them in all and which they include. And so, such as space includes the figure so also do they include the one, the world, which includes them in other worlds.

And so, in transfigural mathematics, we have condition of things as the central issue and nature of things as what is derived from the condition of things. Explication shows how condition is in nature of things and the nature of things is in the condition of things both of which are called condition and nature respectively.

Condition, Nature of Things, and Existence

Condition is not based on ‘there exists’ which is the way of an axiom from which theorems can follow. According to transfigural mathematics, everything is a flow of one in the other. In this flow, there is permanence which has the qualities of flow and change which has it in the qualities from and of permanence. From this flow of one in the other follows the transfigural identity which shows that identity is possible through the one in the others and through the others in all. From this we got to know that there is a common identity for all. Transfigural identity is the condition while the flow of one in the other is the nature of things. Inside them is existence.

Transfigural identity is itself in the transfigural potential and the flow of one in the other includes in it the transfigural influence. In the transfigural potential is also the creative potential. All these and others mentioned before are in the transfigural which is in the figural which is the world of things. The figural is here in there and the transfigural is in there in beyond. So, whatever exists is a flow of one in the other through the transfigural identity in the transfigural.

With this, we shall now get into the condition and the nature of things and with this into the explication that will take us into fluid logic numbers and from it into the explanation and demonstration of the equations that we have met before here and those to follow.

This shall be based on the condition and nature of inbetweenness.

Condition, and Nature of Inbetweenness

Existence Condition

One in Other in All

Identity Condition

Every One is in Self in Other

Transfigural INS

in, among, between, inbetween, through, across, beyond

Inbetweenness of transfigural INS

Condition of Inbetweenness

Inbetween (xy) is k that is one in other

(words that feature: inbetween, one, in, other)

Nature of Inbetweenness

Space S includes k in xy, the other

(words that feature: includes, in, other)

Explication of Condition in Nature including Transfigural Logic

\underline{x}	\underline{y}	$\underline{x \text{ in } y}$	$\underline{k \text{ in } k}$
$x = xk$	$y = yk$	$x = xy$	$k = kk$ (arithmetic, algebra)
$k = ky$	$k = kx$	$\underline{y \text{ in } x}$	$= 0$ (logic)
$\underline{k \text{ in } x}$	$\underline{k \text{ in } y}$	$y = yx$	with the creative potential zero,
$x = x \underbrace{ky}_k$	$y = y \underbrace{kx}_k$		$(kk) = (0)$ (arithmetic, algebra, geometry, logic)

$$xy = \begin{cases} x = xky \\ y = ykx \end{cases} = \underbrace{xy}_x \underbrace{kk}_k \underbrace{yx}_y = xky$$

Substituting k with q in (*) gives

$$xky = xqy$$

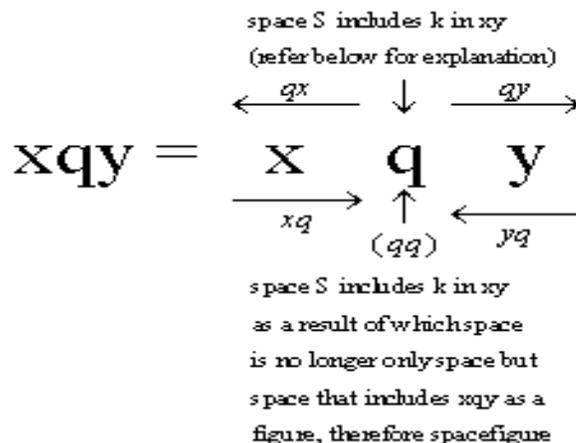
which is a fluid logic number.

As a fluid logic number we have as domain,

$$\begin{aligned} \text{fln}(q) &= xqy \\ &= ((xq, qx)(qq)(qy, yq)) \\ &= ((xq(qq)qx)(qq)(qy(qq)yq)) \end{aligned}$$

Explication of Nature in Condition including Transfigural Flow

According to Nature of Inbetweenness, space S includes k in xy which is the other of k. With k=q as we have in the substitution, we have for Nature in Condition



What we got from Nature in Condition above is that as from now we shall no longer have space alone without the figure nor figure alone without space. And so where S or s is written for space, figure is included and where G or g is written for figure, space is included since space is spacefigure and figure is also spacefigure.

From the fluid logic number whose folds and zerospirals shall be given follows that we have the between and inbetweenness of the transfigural flow in which the inbetweenness is the seat of intraspace as the flow of domain of a zerospiral among the domains (for example alpha domain in itself in the omega domain and identity domain) which spirals into the deep of the zerospiral and the transspace which is the depthspace of a zerospiral. These spaces which are inside the zerospirals are to be found between and among the zerospirals. For the between and inbtweeenness of the zerospiral we have,

$$\begin{array}{c}
 \overbrace{\hspace{15em}}^{\text{zeroid}} \\
 \text{xqy} = \left(\underbrace{\left(\underset{\text{Space}}{\text{xq(S)qx}} \right)}_{\text{Space}} \quad \underset{\substack{\uparrow \\ \text{(qq)}}}{\text{q}} \quad \underbrace{\left(\text{qy(G)yq} \right)}_{\text{FiGure}} \right) \\
 \underbrace{\hspace{15em}}^{\text{spacefigure, sfg}} \\
 \overbrace{\hspace{15em}}^{\text{zeroid}} \\
 \text{xqy} = \left(\underbrace{\left(\underset{\text{FiGure}}{\text{xq(G)qx}} \right)}_{\text{FiGure}} \quad \underset{\substack{\uparrow \\ \text{(qq)}}}{\text{q}} \quad \underbrace{\left(\text{qy(S)yq} \right)}_{\text{Space}} \right) \\
 \underbrace{\hspace{15em}}^{\text{spacefigure, sfg}}
 \end{array}$$

From which we have, *Space as Something as the Figure*,

$$\text{xqy} = \left\{ \begin{array}{l}
 \overbrace{\left(\left(\text{xq(S)qx} \right) \right)}^{\text{between}} \underbrace{\left(\text{q} \right)}_{\text{inbetween}} \overbrace{\left(\text{qy(G)yq} \right)}^{\text{between}} \\
 \left(\left(\text{xq(S)qx} \right) \right) \underbrace{\left(\text{q} \right)}_{\text{inbetween}} \left(\text{qy(G)yq} \right)
 \end{array} \right.$$

in which figure is pointline which are foldflow (folds in flows) and space is linepoint, that is flowfold (flows in folds) which together give the spacefigures.

According to What-Is of Space, we have:

Space

The flowfold of influence

which says space is a body of influence. In other words, space is also a body, therefore something. Like the figure which as a body gives:

Figure

The foldflow of influence

Form

The transfigural element in figure

Since the form of figure is taking place in transspace of space, space is in 1 as the figure too and this being so, it is in 0 and 2 which it includes in 1. That this is the case does not require any exploration but then we shall do that all the same. The inclusion of space in 1=012 means that 1 passes through a body to include 0 and 2 on body sides. This body is space which is a flow, indeed a bodyflow. The figure is the fold which is also a body therefore a bodyfold. The figure as bodyfold flows. This flow is made possible by space. The space as bodyflow folds. This is made possible by the figure. What results is that space is in figure and figure is in space. Together they made the spacefigure. This belongs, amongst others, to the condition of breathing.

The point is a fold in flow and the line is a flow in fold of influence. This means the point is in the line and the line is in the point. From this follows that the point is the linefold and the line is the flowpoint. This is made possible by spacefigure in which constitutes a presence in the presence called the zeroid.

From the foregoing follows the forms of fluid logic numbers using fluid logic number 1 as an example below:

$$012 = \left\{ \begin{array}{l} \underline{0} \quad 1 \quad \dot{2} \quad : \text{Space as body includes One in the Other} \\ 0 \quad \underline{1} \quad 2 \quad : \text{One (the line-figure) included in the Other by Space} \\ 0 \quad \dot{1} \quad 2 \quad : \text{One (the point-figure) included in the Other by Space} \end{array} \right.$$

$$\text{---} \cdot = \left\{ \begin{array}{l} \text{a) } \bullet \\ \text{b) } \text{---} \\ \text{c) } \bullet \text{---} \\ \text{d) } \text{---} \text{---} \end{array} \right. = \left\{ \begin{array}{l} \text{a) } \bullet S \\ \text{b) } \text{---} S \\ \text{c) } \bullet S \text{---} \\ \text{d) } \text{---} S \text{---} \end{array} \right.$$

with,

p : point

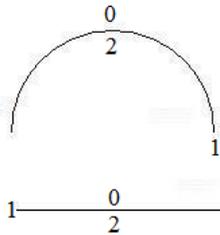
l : line

S : space

with *identity* inbetween.

Analogy is good but it never can reach the depth of things. With the limitations of analogy in mind, we can compare the line to the current in the river and space as the body of the river. We can see figure as the fish and point as the circulation of blood in the fish. There is no water without current and there is no current without river. Water is the habitat of the fish which cannot live without circulation nor the river. The flow of water current is replicated in the flow of blood which inside the fish reaches out and folds back to the centre.

Circulation of blood in the fish is a fold (in the centre) that flows. Current is a flow that folds in the circulation of the river and blood in the fish. The river and the fish cannot be separated. With space and figure things are more involved in that one is included in the other as spacefigure. By applying spacefigure on the river and the fish, we shall have it that each time a fish is held in hand, there is the river in it as well as the flow of current and the circulation of blood which is a life. The same holds true of the river that any portion of it has the fish in it and this being so, has the circulation of the blood of the fish in it and the flow of current. What this means is that all the things in the river have the river in them as the river has all the things in it, in it. All the same there is river yet there is the fish. What is required is that having one in hand, the fish, includes the other, the river.



In both diagrams with one the variation of the other, the line is the flow of influence between 0 and 2 which could be 0=outer space, 2=inner with the line which includes the point flowing one in the other. There are different structures of space in transfigural space. 0 and 2 as spaces with 1 the figure which includes the line folding in the form of rolling one in the other of 0 and 2 and flowing. In the first case, space as inner and outer bodies with different structures are included in each other by the line with each structure still remaining unique. In the second case, we have say outer space in which 0 represents a kind of structure of outer space and 2 a different structure of a kind of outer space with both spaces belonging to the same space. The line between is the In-Between of different bodies of space of the same space in which one is included in the other. This space, as a result of the line in the figure, is in the point that folds the line.

Spiral Numbers of Logic Numbers of Fluid Logic Numbers – From Static Gometric Shapes to Figures of Breathing-Point Geometry

It is no use beginning transfigural geometry with comparison with traditional geometries such as Euclidean and non-Euclidean geometries. There is nothing to compare between it and these other geometries because the foundations of breathing-point geometry of transfigural mathematics is in no way Euclidean.

Breathing-Point Geometry is beyond the dream of Euclid. By this I mean it wouldn't have by any stretch of imagination occurred to Euclidean and non-Euclidean geometries.

In both Euclidean and non-Euclidean geometry the shapes are rigid. Nature is not. Life is not. The rigidity of geometric shapes originated from the foundations of geometry.

Central to this foundation and contributing to the name of the subject itself is that things can be measured. Measurement draws distinction:

“A measurement (and the attendant “collapse” of the wave function description) after all, is the drawing of distinction.”(Richard G. Shoup: Space, Time, Logic, and Things)

Distinction is separation of one thing from the other. Distinction as separation of one from the other of inside from outside was shown to be the central property of geometric shapes by (Shoup; (ii) Robin Robertson: Some-thing from No-thing: G. Spenser-Brown’s Laws of Form, (published in *Cybernetics and Human Knowing, Vol.6, No. 4, 1999*)) whose works are based on (G. Spenser- Brown – Laws of Form)

How is this distinction that separates through measurement achieved? This was explained by [Shoup] as ‘a boundary draws a distinction, based as it were, as also in the case of [Robertson] on space as Void which is Nothing. After saying that Void ‘is not physical space like the vacuum, nor a mathematical space of any kind. It has no properties...’ Shoup concludes with what is logically indefensible by saying that Void is nothing and everything. How can what is nothing be everything since what makes it to be nothing is absence of something, including even the person who writes ‘void’ on the paper?

The problem with the logic of boundary which is built on void comes out clearly when we get to Robertson. From what has the halo of the One of Parmenides which Lepticus and Democritus broke into pieces to get their atoms which also reside in the void, in Robertson’s, ‘Whatever the void is, it has no definition, no differentiation, no distinction. When all is the same, when all is one [the echo of Parmenides] there is no-thing, nothing’ he continues with “Now make a mark, a distinction, within the void. As soon as that happens, there is a polarity...” At this point we need to say, Wait! First a no-thing cannot even be one. And since it is Void everywhere, there is nobody to make a mark anywhere.

The Void is leading to the same problems of Forms of Plato. When Plato says this world is an appearance we need to ask him whether we can believe what he is telling us since he is also an appearance. And so, since all is void which is no-thing, there can be no observer, the you, to make any mark anywhere. And inside a no-thing, a mark is not even possible!

Where void is replaced with space since the logic of void does not stand, then we can continue from where we left off in Robertson’s, “Where before there was only a void, a no-thing, now [with the mark that is made] there is distinction (the mark) and that which is not distinction.” (5) We do not forget that a void cannot be regarded as that which has no distinction since it is no-thing and that a mark cannot be made on a no-thing. The presence of the person who makes the mark and the mark itself eliminates the No-thingness of the void. There is no presence, indeed no presence is possible in a void.

With space returned, it is now easy to see the deep implications of the mark on the paper as a boundary in a situation where the maker is as rigid as a geometric shape. In their papers [Shoup & Robertson] based their logic of boundary on [G. Spencer-Brown. Laws of Form]. Spenser-Brown’s Laws of Form begins with the definition of distinction: Distinction is perfect continence. His continence means,

“That is to say, a distinction is drawn by arranging with separate sides so that a point on one side cannot reach the other side without crossing the boundary. For example, in a plane space, a circle draws a distinction.”(1)

Before we get to see how a circle is a distinction that divides what is inside it from what is outside it, we should quickly settle the issue with crossing. In his decription of depth, Spenser-Brown writes about crossing thus:

“In an arrangement a standing in a space s , call the number n of crosses that must be crossed to reach a space s_n from s the depth of s_n with regard to s . (7)

The crossing of coming from the building of electronic circuit networks for which Spenser-Brown was engaged after leaving the academy in the 1950’s (Robertson). The crossings are nothing more than connections either from one module to the other on inside a single module and example of which could be given in what happens when a text leaves the computer for the printer. The text gets to say a junction and depending on how many gadgets constitute the peripherals of the computer, it is ‘sent-collected’ by the printer. This is a form of crossing made possible by microprocessor which acts as a distributing junction from one module to the other. The boundaries are the computer and the printer.

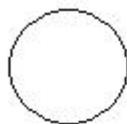
In papers based on Spenser-Brown’s logic of his *Laws of Form*, circles are used to depict distinction [Shoup & Robertson]. And where he talks about space, these papers talk about void. When they say this, the intention is to show how he begins his logic of boundary from no-thing when in reality, any symbol or mark on the paper eliminates void which by its very nature is nothing.

In telling the story about what inspired *Laws of Form*, it was shown by [Robertson] how Spenser-Brown tried to get an arithmetic for the algebra of George Boole which lacked arithmetic. The end-result from the arrangement of his lines are that 0 and 1 could be read into them. The inverted L that was used in *Laws of Form* as distinction got its clarity in the papers of [Shoup & Robertson]’

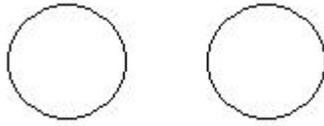
There is the need to present the use of circle as boundary in the *Laws of Form* because a circle is a geometric figure that is a rigid as a mark on the paper. This is very important in discussing the implication of a geometric shape for space. A line, based on the *Laws of Form* is also a boundary that divides the up from the down. The same with a point too which is referred to as a mark. It divides what surrounds it from where it is. All this stands where space is a stagnant pool of water as it is in *Laws of Form* or a Void that is no-thing as it in the interpretation of the ontology of *Laws of Form* in [Shoup & Robertson]. Where this is the case, this would tie with the Euclidean outlook of space as Void, therefore a container, the very outlook that informs the elimination of natural space of being of things and its replacement with the lifeless void by the atomists to make their atoms move through forces.

‘In other words, Void, being a nothing, cannot hold something since it has no place for anything. Being not a place nor stage, nothing can be placed in it, not even a mark!

Where on the other hand, space is alive and so includes and is included in things as it is the case in breathing-point geometry, there is no need for external application of force nor the collision of one against the other of atoms for things to move. The reality that we got is that motion is built into things through the inclusion of space in things and things in space. How is a geometric shape as a rigid discrete entity is a distinction is what we set out to show below from the examples given in the papers above. Shoup and Robertson use a circle to represent the mark. The draw the circle:



To construct the logic of boundary between one of mark and void, they continue by drawing a second circle thus:



In Spenser-Brown's Laws of Forms they are represented as:

[INVERTED L]. [TWO INVERTED Ls]

In his definition of distinction, Spenser-Brown also refers to what we have above as circles in space (p.1 of Laws of Form).

What is shown clearly in the *Laws of Form* is that any mark on paper where the sheet of paper is seen as stretching to infinity divides space into figure on one hand and space on the other. What results is a mismatch. A mismatch where space is not a stagnant pool of water. Where the world stands still, it is not possible for a geometric figure.

The demand that a living space makes on geometry is the flow of its figures as harmony with its nature and condition. This demands that a point is not just a mark, a geometric shape is not just an object but that whatever is in space is a figure that cannot be isolated from space without destroying its reality.

Measurement and Disruption of Reality

Place the ruler on the table and you separate it from the chair. Put the rope around the house and take it to the ruler to measure, and you separate the house from the other houses. Go to the garden, give the rope a kid and ask him to take it to the end of the garden, ask him to place it at the edge, take the rope to the ruler and you separate the garden from the pool. In all these cases, space is seen as a wall and edge is seen as the boundary. In the room, the space between the table and the chair treated as walling off one from the other by the measuring ruler which is the simplest representative of measuring instruments.

What we got from the ruler which reduces the table to units which are themselves walled off from one another according to classical numbers and by extension the set-theoretic numbers that bundle things into sets to separate them is that the table is what the ruler tells us. It is not!

Measurement does not make a table. It means *something* to be a table and this something is not what the ruler can reach. And if space is a wall – it is treated as void by measurement – then it should not be possible to move from it to the chair. If space is a void, there should be neither table nor chair in it. Indeed, there should be nobody to measure because it is the condition and nature of void that it is nothing.

Measurement is based on the separation of one thing from the other by treating space as a wall between one and the other or as void that contains nothing and so makes nothing of its results since whatever is got from measuring in the void is also void. Measurement is the protector of boundaries between one and the other. The idea that a thing can be measured derives from something more fundamental than measurement itself.

Measurement treats space as Void filled with things which know of the existence of the other through the pigeon-hole if at all. Measurement creates distance and protects it through separa-

tion of one, may this be a tree or table, and the other that may be a person or just a pointmass which is a person or any other thing is in the physics of Euclidean geometry.

The rigidity of geometric shapes as against the flow in permanence in Nature and life gets its rubber-stamp of approval that disrupts the reality of things. Measurement detaches a thing from the flow of Nature and life and replaces them with protectorates and principalities that live in the cocoons. The more measurement dreams of exactitude, the further it departs from Nature and the stranger it becomes to life. In other words, the more precise the measurement, the more artificial its product.

Distance, the most central of the products of measurement, derives its sustenance from the misconception of a thing being completely separated from the other as it got it from measurement. This is to be expected since distance operates in a play in which the actors lack the stage for their performance. For, were the actors to have a stage, this stage makes the flow of one in the others of the actors such that being the metaphor of space in Nature, there is in reality no distance between one and the other. In the isolation of one that is set apart by measurement, the table that shares a common space with the chair in the same room is given an iron-clad boundary that throws it in a box, locks it and throws the key away.

The reality of things tells us something that departs entirely from what we got from the distance and separation of measurement. A thing is a presence. A presence is that which is here, there and everywhere. Being a presence, it cannot be pinned down by a point. It is in a place which place which confers on it a uniqueness. This place is the space of its being. The space of its being is a flow in the spaces of other beings in the interfigural space that includes one in the other and through it, in the transspatial space of others in all.

Traditional geometric figures are rigid. Nature and Life are not. These shapes put Nature in the box in away that cuts a parcel of land from the other as it was the case among the farmers of Egypt of old during the days when the Nile river, after the heavy downpour used to erase artificial partitions when it overflows its banks. Indeed, the art of measuring the land and demarcating it which later became what is used as barricades against landed properties that later became parcels of land protected by law that requires a special permit to enter it by whosoever is locked out by the cutting of land which is not supported by space that cannot be cut gave geometry its name.

‘Geometry’ originated from (Greek *γεωμετρία*; geo = earth, metria = measure) arose as the field of knowledge dealing with spatial relationships (Wikipedia). The measuring of earth is taken to be the measuring of space such that like earth which is seen as a rigid body, when a ruler is placed on it, this is interpreted to mean the measure of space. That there is something fundamentally wrong with relating what is seen to be rigid, the earth, with what flows, space, and using what could be done on the other to mean the same as what is happening in the other is easy to see.

In the Euclidean geometry, space is said to be a contained. Earth as such is seen to be a body inside the container. Being a container, space is treated like a stagnant pool in which nothing moves except an external force is applied on it. That things naturally move for the world to be – the planets for example – and that things move for life to be – the coursing of blood in the veins in the body – and that feelings move which holds the human family together and that the motion of blood and water is a motion in the planets and the motion of being human which involves empathy is a motion in Nature and that all these motions are made possible by space and in space that includes what is it as we shall soon come to see in what follows, and that all this is happening without the *application of force external to a thing* but were set in motion by the *condition of influence internal to space itself* never occurred to the propounder of container space with its rigid bodies nor to those other philosophers of non-Euclidean geometries in which space and what is in it engage in eternal tussle of one trying to reduce the other to itself.

From Geometric Shape to Transfigural Figure

The circle, the square, the sphere and other entities on Euclidean and non-Euclidean geometries are not figures in transfigural mathematics but shapes. For a thing to be a figure in transfigural mathematics it has to fulfill the conditions of transfigural identity which is contained in what a number is in transfigural mathematics. This is given below.

Number, \tilde{n}

A number is itself in the others before it and after it.

The ‘number’ is what we have above can be replaced by the ‘thing’ and where this is done, it means the same thing. That means a thing is itself in the others before it and after it.

For a thing to be in the other requires that one flows in the other. Let us try to see what this means as far as the so-called natural numbers from which other numbers originated and whose conditions they must satisfy to be called numbers at all. That these numbers are not natural since to be natural is for one thing to be in the other as it is in Nature in which everything flows is not the issue here. In other words, the name is not the issue but the principle.

From what a number is and what everything is including entities of geometry follows that a geometric shape is what it is through itself and others before and after it. The idealization of space that geometric shape represents will not do here since it cannot claim to naturally represent what it says it represents. A circle cannot claim to represent space where, unlike space, it is static. For as long as it is static a circle or square or sphere is a shape and not a figure.

There are fundamental differences between a geometric shape and a geometric figure. A shape is a logical entity. It can begin from nothing and even reside in nothing. All that it requires for its existence are the axioms that carry the logic of its existence. A figure requires more than that. A figure does not exist by axioms but by the awareness of being in the world which includes its being in the space of its being and through this in others even with its uniqueness preserved.

This is why a geometric circle is not a figure until the condition of being a figure is fulfilled at which stage it is no longer an idealization, no longer a thing in based on fiat but a breathing, living thing in a breathing, living universe that includes the habitat of its being, the space, that includes it.

That’s why a geometric shape is an undefined term and remains so until it is a permanence in change and change in permanence.

The Breathing-Point

A point in transfigural geometry of transfigural mathematics is a breathing-point. From what the point is above, a breathing-point folds in and out of itself. This means it folds inside itself and out of itself. The folding out of itself includes space in the point in which it breathes through and across.

In this case a breathing-point is a line yet a point. What this means is that in breathing-point geometry, the point and line are not the undefined and a plane is nowhere to be found since let there be such a thing, it is a stretch of figure which includes form and flow

which includes fold through which forms in figures emerge such that what results are space-figures which could be solid, compact, relaxed etc depending on the structure of the folds of the flow.

A point which is the breathing-point is the zerspiral which is the zeroid in transfigural mathematics. This point is also a line which is a flowline. The zerspiral is a spacefigure. Spacefigure demands of a geometric figure that it is included in space that is included in it as one of the conditions of existence. And since a geometric circle, sphere, square, triangle and others do not meet the conditions of the zerspiral, they are shapes. When they become figures they are included in space which includes them at which stage they are no longer geometric shapes but geometric spacefigures which break the dichotomy between the geometric and the artistic, the artistic and the organic such that to be in one is to be included in the others.

For a geometric circle which is a shape to become a geometric figure it has to be included in space which includes it and not an idealization of space that closes out the outer from the inner. In this circle, the permanence is included in the changing and the changing in the permanent just as it is the case with a zerspiral. In other words, through a circle, it must have the zerspiral in it. This zerspiral that includes the circle in space and space in the circle is the transfigural circle.

Infinite vrs Finite

What does it mean to be infinite? What does it mean to be finite? When is what is infinite finite and what is finite infinite? The answer to the last question is crucial to answering the ones that precede it. The continuum as the issue in mathematics is about showing how what is finite could be infinite. It is about pouring discrete points on a line that begins and terminates somewhere to fill the gaps between one point and the other on the line. The line itself is finite but the points that could be packed on it, so goes the argument, are infinite. The gaps still remain in classical and set-theoretic modern mathematics. And they remain also in geometry with infinitesimal jumps on the line parading as continuity when in reality what results is contiguity.

Topology is called in to settle the issue about continuity but fails where natural flow is concerned as we shall see in what follows. The topology of the universe that shows that it is finite is based on a fundamental flaw of reasoning. The folding of sheet of paper into a cylinder is not the same thing as the folding of space. Folding of space involves flows.

Infinity – Infinity in Transfigural Mathematics

Whatever human beings may regard as infinity is within other infinities. These other infinities are shorter or longer, some clear, others weird in the sense that they are neither linear nor non-linear and some are challenge the human geometric imagination to the point of surrender because they are impenetrable, an example of which we got from the folds of the zerspirals of transfigural geometry in the inner realms.

The central misconception of infinity is to say that whatever can be measured is finite. A table does not end when the ruler ends nor does the tree ends where it stands. A river is not defined by its banks since through it, it reaches the trees, the flowers and others that constitute the forest.

It is human to reduce everything to what we see ourselves to be erroneously to be. Human life is seen as finite when in reality it is not. Life is that which it is. It was, is, and will ever be whatever human senses may inform us, whatever the reduction of it may tell us.

Space as Geometry in Geometry

All would have been easy, quite simple indeed, if what is called geometry is all about measuring the distance of one thing to and from the other. Indeed if geometry had not included space and had stayed with the Void of Euclid in which points as ‘particles’ are in moving in the Void. However, space, the place that welcomes everything into this world, takes geometry beyond its original mission and vision. The reason is that the more we dig into space, the more mysterious it becomes. By Space as geometry in geometry I mean geometry that is rooted in space in which that is in it is included in it. This is not the same as the geometry of the void which was beautifully captured by Yourgau below:

“...Unfortunately the atomists made things worse by endowing the Euclidean abstract space with unashamed physical existence. They decreed that there is an unlimited Void akin to the infinite space of geometers. It sounds incredible, but the Pythagoreans, too, were consumed with that mysterious notion of Space being the Void, even in arithmetic. We recall that they represented numbers by dots arranged in regular figures such as triangles and squares. The empty intervals between these units or dots, these gaps, were regarded as Void. We still use the expression ‘square numbers’ and ‘cubes’. Indeed it can be established that the Pythagoreans conceived of numbers as points or ‘particles’ in physical space.”

[Yourgau, W: *Language, Spatial Concepts, and Physics*, (in Mind, Matter, and Method. Essays in Philosophy and Science – In Honor of Herbet Feigl)]

The Organic, The Abstract, The Geometric – What Have They in Common?

Whether organic, abstract or geometric, what these things have in common are first and foremost, ground, space and figure. As a figure, a thing has its ground in space. In other words, every thing is grounded in space.

In most literature, shape is in most cases confused with geometric shape. What the literature misses is that figure – not shape – and space which are included in each other by identity are primary. A thing couldn’t be angular or roundish which defines its shape but primarily this thing is a figure. A thing may be shapeless yet it is a figure. Figure does not require shape but there is no shape without figure.

Let us explore these features of being in becoming of a thing.

Ground

Types of transfigural ground:

- Foreground
- Midground
- Background
- Deepground
- Depthground

Space

Types of transfigural space:

- Spationatural
- Introspace
- Interspace

Intraspace
Transspace

It can continue! Yes, there is indeed more about the breathing-point geometry of transfigural mathematics than could be accommodated in the paper for the journal. To be honest, I need volumes of encyclopedia to put it all down. And even having done that there will still remain a lot, quite a lot, to put down. Infinity itself is the journey of breathing-point geometry.

Conclusion

It is not possible to present all the concepts of breathing-point geometry here. What was intended was supposed to be an intensive treatment of some of the basic concepts. What now ends to compete with a book was originally intended to be pungent presentation of the basic concepts. As I got into the geometry, things turned out to be completely different. The ideas, the concepts were just pouring and so, this stands as the excuse for treating, in a few cases, the same concepts again even if when this happens, it is always from a different perspective, the kind that expands the horizon of our first encounter with the same concepts.

There is a consolation however, about some of the concepts that could not be handled in this paper. Most of the concepts that could not be treated in this paper have been treated in depth in my previous papers that were devoted to the fluid logic numbers from which the breathing-point geometry originated.

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Thanks

Meetings and Conferences

Foundations of Mathematics *What are they and what are they for?*

10-12 July 2012

Fitzwilliam College, Cambridge

The role of set theory as a foundation of mathematics has been criticized from various standpoints. The conference aims to shed light on this debate by asking what foundations of mathematics are and what they are for. Some people understand foundations as providing a justification for mathematics; others as providing the subject matter of mathematics; others still as providing us with an arena within which to settle all questions of existence and proof in mathematics. The conference will explore whether any of these senses of foundations should be privileged, and will consider the prospects of a pluralistic approach to foundational issues.



The conference will bring together philosophers, logicians and mathematicians. The following keynote speakers are confirmed:

Steve Awodey. Carnegie Melon
Patricia Blanchette. Notre Dame
Michael Detlefsen. Notre Dame
Tim Gowers. Trinity College, Cambridge
Daniel Isaacson. Oxford
Brendan Larvor. Hertfordshire
Hannes Leitgeb. Ludwig-Maximilians-Universität München
Mary Leng. York
Donald Martin. UCLA
Alexander Paseau. Wadham College, Oxford
Jouko Väänänen. Helsinki and Amsterdam
Alan Weir. Glasgow
Philip Welch. Bristol

There will also be talks by:

Steven Methven. Oxford
Sam Sanders. Ghent
James Studd. Oxford

Registration for the conference is now open, and will close on 1 July 2012.

This conference is made possible by generous support from the British Academy and the Mind Association. We are grateful for additional support from the British Logic Colloquium, the Aristotelian Society, and the Analysis Trust.

Number Theory of Transfigural Mathematics

Symbolic Fluid Logic Numbers (based on $\text{fln}(1) = 012$)

Lere O. Shakunle

Symbolic Fluid Logic Numbers (based on $\text{fln}(1) = 012$)

fln(n=1)	Basic Numbers of fluid Logic Numbers	Algebraic Forms	Symbolic Forms	n	x	k
012	Alpha	α	${}^x\alpha_n^k$	Base of Alpha $\alpha_{1=012} : n=1$	Type of Alpha ${}^i\alpha=01 : x=i, j$ ${}^j\alpha=12$	Alpha Exponential $\alpha^{i=01} k=i, j$ $\alpha^{j=10}$
	Omega	ω	${}^x\omega_n^k$	Base of Omega $\omega_{1=012} : n=1$	Type of Omega ${}^i\omega=10 : x=i, j$ ${}^j\omega=21$	Omega Exponential $\omega^{i=10} k=i, j$ $\omega^{j=21}$
	Identity	e	xe_n	Base of Identity $e_{1=(11)} : n=1$	Type of Identity ${}^\alpha e_{1=(00)}$ ${}^\omega e_{1=(22)}$	
<p><u>Examples</u></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: left;"> ${}^x\alpha_n^k = {}^j\alpha_1^{i=12} 01$ $\omega_n = {}^i\omega_1^{j=10} 21$ </div> <div style="text-align: left;"> ${}^\alpha e_1$: alpha identity (zeroid) of fln(1) ${}^\omega e_1$: omega identity (zeroid) of fln(1) $e_{1=(11)}$: identity (zeroid) of fln(1) </div> </div>						

Table does not include the Paragons in which Alphas and Omegas come together in Exponentials

Fluid Logic Numbers fln(n=1,2,..)	Alphas				Omegas				Identities/Zeroids		Identity
	Alpha-Alpha		Alpha-Omega		Omega-Alpha		Omega-Omega		Alpha Identity	Omega Identity	Identity Zeroid
	fln(n) = \tilde{n}_i =1,2,..	Number	Logic	Number	Logic	Number	Logic	Number	Logic	Local-nonlocal	Local-Nonlocal
1 = 012	01	-1	12	1-	10	1+	21	+1	(00)	(22)	(11)=(0)
2 = 123	12	-1	23	1-	21	1+	32	+1	(11)	(33)	(22)=(0)
3 = 234	23	-1	34	1-	32	1+	43	+1	(22)	(44)	(33)=(0)

....Continued →



Flowfolds of Zerospiral

Examples of Numbers of Fluid Logic Numbers From Which The Flowfolds of Zerospirals Originated

$$\begin{aligned}
 \text{fln}(1) &= \begin{cases} (01(00)10) \\ (10(11)12) \\ (00(11)22) \\ (01(11)21) \\ (12(22)21) \end{cases} \\
 &= (((01(00)10), (10(11)12)) (00(11)22) ((01(11)21), (12(22)21))) \\
 &\quad \begin{matrix} \text{alpha do main} & \text{omega ga-alpha do main} & \text{identity do main} & \text{alpha-omega do main} & \text{omega ga do main} \end{matrix}
 \end{aligned}$$

$$\begin{aligned}
 &= \begin{cases} (((01(00)10) (00(11)22) (12(22)21))) \\ ((01(00)10), (10(11)12)) (00(11)22) ((01(11)21), (12(22)21))) \end{cases} \\
 &\quad \begin{matrix} \text{alpha do main} & \text{identity do main} & \text{omega ga do main} \\ \text{level-balancing influence of the figural in transfigural} \end{matrix} \\
 &\quad \begin{matrix} \text{alpha do main} & \text{omega-alpha do main} & \text{identity do main} & \text{alpha-omega do main} & \text{omega ga do main} \\ \text{odd-balancing influence of the transfigural in figural} \end{matrix}
 \end{aligned}$$

$$\begin{aligned}
 \text{fln}(2) &= \begin{cases} (12(11)21) \\ (21(22)23) \\ (11(22)33) \\ (12(22)32) \\ (23(33)32) \end{cases} \\
 &= (((12(11)21), (21(22)23)) (11(22)33) ((12(22)32), (23(33)32))) \\
 &\quad \begin{matrix} \text{alpha do main} & \text{omega ga-alpha do main} & \text{identity do main} & \text{alpha-omega do main} & \text{omega ga do main} \end{matrix}
 \end{aligned}$$

$$\begin{aligned}
 &= \begin{cases} ((12(11)21) (00(11)22) (23(33)32)) \\ (((12(11)21), (21(22)23)) (11(22)33) ((12(22)32), (23(33)32))) \end{cases} \\
 &\quad \begin{matrix} \text{alpha do main} & \text{identity do main} & \text{omega ga do main} \\ \text{level-balancing influence of the figural in transfigural} \end{matrix} \\
 &\quad \begin{matrix} \text{alpha do main} & \text{omega ga-alpha do main} & \text{identity do main} & \text{alpha-omega do main} & \text{omega ga do main} \\ \text{odd-balancing influence of the transfigural in figural} \end{matrix}
 \end{aligned}$$

$$\begin{aligned}
 \text{fln}(3) &= \begin{cases} (23(22)32) \\ (32(33)34) \\ (22(33)44) \\ (23(33)43) \\ (34(44)43) \end{cases} \\
 &= (((23(22)32), (32(33)34)) (22(33)44) ((23(33)43), (34(44)43))) \\
 &\quad \begin{matrix} \text{alpha do main} & \text{omega ga-alpha do main} & \text{identity do main} & \text{alpha-omega do main} & \text{omega ga do main} \end{matrix}
 \end{aligned}$$

$$\begin{aligned}
 &= \begin{cases} ((23(22)32) (22(33)44) (34(44)43)) \\ (((23(22)32), (32(33)34)) (22(33)44) ((23(33)43), (34(44)43))) \end{cases} \\
 &\quad \begin{matrix} \text{alpha do main} & \text{identity do main} & \text{omega ga do main} \\ \text{level-balancing influence of the figural in transfigural} \end{matrix} \\
 &\quad \begin{matrix} \text{alpha do main} & \text{omega ga-alpha do main} & \text{identity do main} & \text{alpha-omega do main} & \text{omega ga do main} \\ \text{odd-balancing influence of the transfigural in figural} \end{matrix}
 \end{aligned}$$