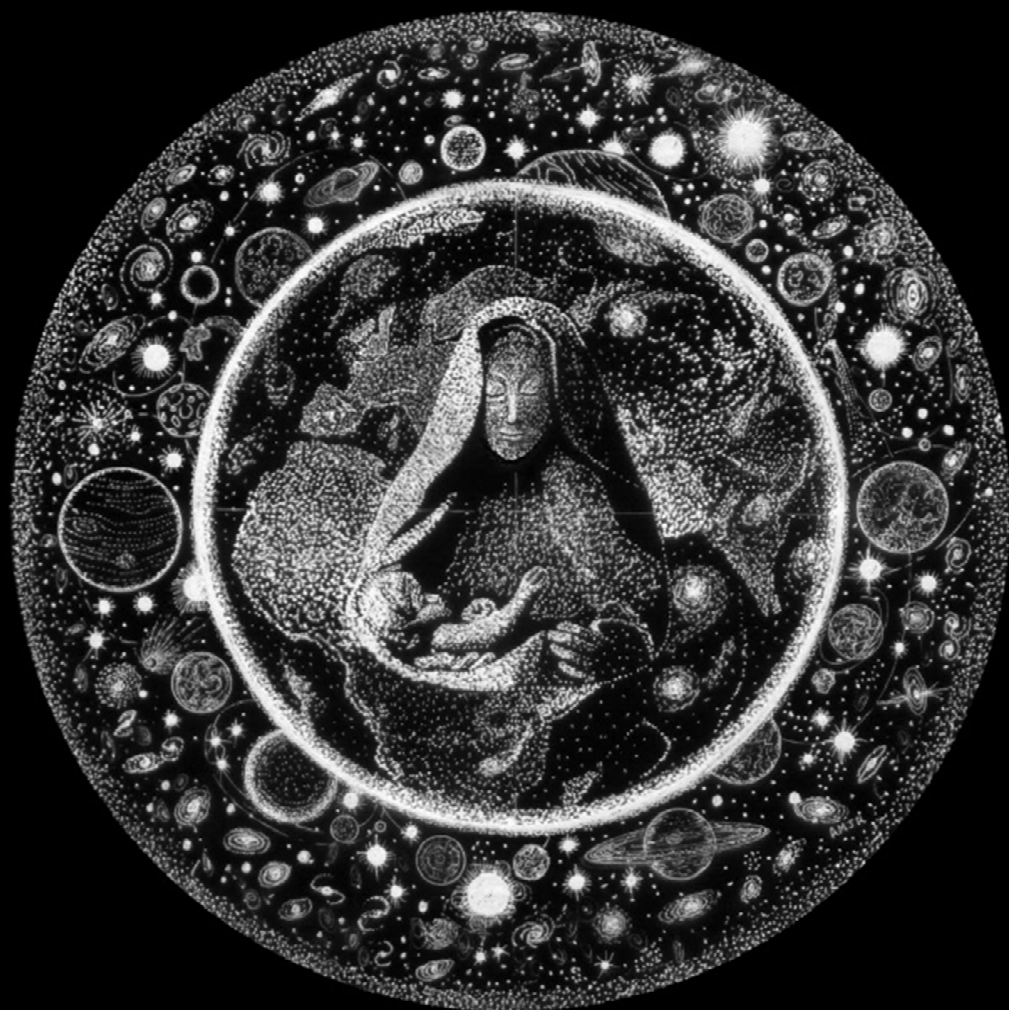


REALITY

Amazing Life – Awesome Love



ALan Marcus James Robbins

Dedication

To my Godfather Alan, from whom I take my first name; to my father-in-law who inspired me to write about reality; and to all my friends and fellow humans whose names begin with AL – and everyone else interested in reALity.

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Online version available from

https://www.scribd.com/marcus_robbins_3

Keywords: practical natural philosophy theology cosmology
psychology sociology self-improvement octaikon Christianity religion
science fracALity faculty

The cover illustration was drawn by me in ink as a negative image (using hundreds of dots) then reversed on a graphics program to form the positive. The Sagrada Familia basilica of Antoni Gaudí in Barcelona inspired the meditative Madonna and child. Many aspects of reality are represented. Once you've read the book, see how many you can identify. I also illustrated the chapter headings - see the end of the book for an explanation of the cartoon character.

Contents

Chapters	page
1. Attributes of reality	5
2. Types of love	9
3. OriginALity	13
4. MateriALity	19
5. DifferentiALity	25
6. IntellectuALity	31
7. InfluentiALity	37
8. MotionALity	43
9. IntegrALity	49
10. PhenomenALity	55
11. InternALity	61
12. RelationALity	67
13. Perfect Love	73
14. End words	77
15. The Octaikon schema	81
16. More of my works	89
17. Selected bibliography	91
18. Introducing Comic AL	93
19. Questions to ask	94
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Preface, acknowledgements and a plea

This short book has been described as the ramblings of an old man, or reflections on what makes the world real. I'd prefer to claim that it offers a unique and practical way of understanding life, love and reality, based on ten "fracALities" that have been derived from many ideas and theories in the arts and sciences.

Each fracALity is explained in a chapter relating them to my own experiences in life and how we use them to meet our own "need-loves". The concept of "perfect love" is then discussed, suggesting how this glues together all reality. A final chapter explains how the fracALities can be presented graphically as a schema called an Octaikon, which can be used as a life-long learning tool for understanding the ideas on which the schema has been based.

There are links to a website and previous publications for those of all ages who want to explore more.

I'm eternally grateful to my wife, family and friends for putting up with my continual flow of ideas, and their encouragement, criticism and help in channelling them.

This book has taken about 13.8 billion years to come into existence and is not finished yet. It needs to evolve, with your help. Therefore, if you send me your comments for improvement, I'll happily respond and try to embrace them in the next revision that I make. Thank you in advance!

*Alan Marcus James Robbins
Cutteslowe, Oxford, January 2016
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1 – Attributes of reality

What is reality? It's a question nobody really knows the answer to. It can be defined as: *the state of things as they actually exist, as opposed to an idealistic or notional idea of them*. Plenty of people have come up with ideas about what real reality is, but further questions always arise. So it is with some fear and trepidation that I've joined that band of explorers, and have had a go in this short book at suggesting how things really are.

I've concluded that we live in a universe of decimal, fractal, faculties that are universal. In other words, at every level of life, from cosmic through to microscopic, past, present and future, we can identify a pattern of reoccurring capacities, powers, attributes or characteristics, which I call "fracALities" (the capitals are intentional) – of which ten can be distinguished. These make up the reALity in which *we live and move and have our being* (to use a phrase attributed to the Cretan philosopher Epimenides, and quoted in the Bible).

Here is my attempt at defining this term:

FracALity n. An active and passive attribute of reality which connects and is connected with other attributes across time, scale and place. There are ten such attributes which form a schema of reality. (*Contraction of fractal, faculty and reality*).

Maybe the word *fractal* is new to you. Wikipedia defines it as *a natural phenomenon... that exhibits a repeating pattern that displays at every scale*. As I'll discuss, I think the ten fracALities are found at every scale of reality. The word *faculty* is simply *an inherent physical power*.

Before describing what are – in effect – ten characteristics of everything, I'll start introducing myself (and later, my family). I do this throughout the book so as to help explain these attributes and how they apply to us.

I'm really called by my second name, Marcus. But Alan, given to me in honour of my godfather, is my first, and usually appears on bank statements, credit cards, and NHS records - causing much confusion.

I've used Alan here as my *nom de plume* in solidarity with the words I use to describe these ten "fracALities". I'm a lover of words - a sort of wordsmith - and enjoy writing and exploring new ways of explaining things. So I hope you'll be able to get your tongue around the terms I'll introduce to you and savour them.

My real profession is forestry, so I'm not formally educated to write about reality or life in detail. Nevertheless, I've lived an observant life and taught myself a lot in later years about people, their behaviour and beliefs. This is because most of the problems concerning deforestation are caused by misunderstanding the needs of the people who depend on woods and forests, rather than not knowing enough about the trees themselves.

And now, in retirement, I'm studying a lot more about related philosophical ideas, which has the added advantage of keeping my grey cells healthily occupied. You can say that I am really an enthusiastic amateur when it comes to understanding reality.

So here are the ten attributes of reality that I have come up with, all ending in -al, which is a suffix that means: *of the kind of, pertaining to, having the form or character of the word that it is attached to.*

Reality is:

- Original - uniquely initiated and freely creating itself anew in a multitude of ways and forms.
- Material - having properties that enable it to be sensed, possessed and consumed.
- Differential - breaking down into individual parts that can be distinguished and defined separately.
- Intellectual - becoming increasingly conscious and able to "make sense" of other parts of itself.
- Influential - controlled by laws, rules, principles, habits and eventually choices and decision-making.
- Motional - continually moving or being moved at some level or other in time or space.
- Integral - forming wholes that are greater than the sum of their parts, and which have purpose.
- Phenomenal - communicating its state of being, passively or actively, with the rest of reality.
- Internal - maintaining connection with the divine source on which other realities depend for their existence.
- Relational - building up an ever-closer network of relationships with other elements of itself.

I've found it quite difficult to describe these attributes in one phrase, so don't worry if these descriptions don't make full sense at the moment. I'll elaborate each in a chapter, where I'll explore different words and ways to explain them.

You may ask why there are *ten* fracALities, not more or less, and whether they are really different. There is indeed an overlap between them, as you'll discover while reading, but that's not surprising. If we all started from a Big Bang, you can argue that there was a "time" when nothing could be differentiated, and everything was one. So these fracALities have evolved too, and I recognise that there will be different ways of defining them.

The fact that there are ten in my interpretation of reality is simply a result of what other people have concluded in their studies about who we are, how we behave or what we believe (e.g. managerial, psychological, physiological, sociological, political, and theological). I've spent some twenty years trying to synthesise and summarise these ideas, and if I've seen a new, valid and useful view of reality, it's because - as they say - I stood on the shoulders of giants in these subjects and have seen things differently. As you read, you may notice that I build on ideas that have two, four, eight, or even sixteen aspects to them, and you'll eventually understand (I hope) why there are ten in this particular schema of things.

Another point that will become apparent is that these fracALities can be considered as opposites or complementary pairs, and there are certain logical linkages between them, such that a framework model or schema can be drawn showing their relationships – which I call an *Octaikon*. This is discussed in the twelfth chapter, showing how it can be used as a life-long learning tool. That's the ultimate aim of this book - to serve as a universal educational portal (more -al words!) for anyone to enter and benefit from.

2 – Types of love

The AL in fracALities can also stand for Amazing Life and Awesome Love –the sub-title of this book. I use the word “life” here in both its biological and metaphorical sense. So it includes what the Oxford Dictionary defines as *the period during which something inanimate or abstract continues to exist, function, or be valid*. Many philosophical ideas consider the whole universe to be “alive” or “conscious” in some way or another, so I think I'm justified in using life to describe all of reality.

To give the book immediate practicality, I finish each chapter with a look at our life-needs in relation to the fracALity being considered. As “freshers” from an evolving universe, we're all undergraduates in the University of Life. Whatever our age, we should be continually learning how to meet our needs, using the attributes made universally available to us.

In this respect, I think there is a key question in life we need to ask and answer:

What gives us motivation/purpose/fulfilment/happiness?

I suggest it's when we can use each and every fracALity fully, to meet all our different needs. If the ultimate purpose of life is to create a better world by helping others meet their needs (as well as our own), then we need to know what those needs are. And to do that we must first understand a lot more about “love”.

Not only can the word “life” be equivalent to reality, but I also think that you can substitute the word “love”. I know that this is

a woolly notion which needs to be unpicked, and I realise that "loving" anything can stand for many things, which can be both good and bad. It can cover all types of feelings, states and attitudes towards a variety of objects as well as persons.

I think that "love" can be defined in a general sense as *the desire for something perceived good for oneself and/or for someone else*. In the theological sense, divine love is expressed when you help others to meet their real needs, with no thought to your own. It's unconditional. My model of reality has to embrace this divine love as well as human ones, because it only makes sense if it does.

I realise that you might be unhappy with the words divine or God. If so, I would ask you to bear with me as I explain things. Just to be clear, here's my theological reasoning on the matter of God in a nutshell, based on passages in the Bible: If God is Love, Jesus is God, and Truth is Reality, then (to paraphrase something Jesus said): "I am the Way, the Reality and the Life - no one comes to Love except through my Way of Life (which is Love)".

For some people, that might be a simplistic way of describing my Christian faith, and you may not agree with the logic and interpretation. But it should give you an idea of my way of thinking on this matter, which is meant to be inclusive of all religions and none, as far as they express truth and reality.

In the same way that the universe is full of things that attract each other, so our universe of life is full of things that we are attracted to, desire, or "love". Any definition of love can be misleading broad, and C. S. Lewis explained that there are four types of loves – physical/sexual (*eros*), familial (*storge*), friendship (*philia*) and divine (*agape*). My classification embraces his, but identifies six objects of "love".

We all have a desire for:

- **Need-loves:** things that are necessary for our real well-being, some of which will be essential for keeping us alive.
- **Wish-loves:** things that we'd like because we perceive that they support our personalities, aptitudes, habits, work etc. - but they're not essential.
- **Want-loves:** things that we feel we must have, without any view to our need for them.
- **Drug-loves** (I can't think of a better term): things that, no matter what, we are compelled to possess. In other words, they want us. Addiction!
- **Gift-loves:** things that other people desire, which we give to them with no expectation of "love" in return.
- **Perfect-love:** The perfect form of gift-love (*agape*), in which we give other people exactly what they really need, without any conditions attached. If you accept there is a "God", it is divinely inspired.

Except for the last, knowing whether these loves are good or bad depends on our perception of them, our motivation or intentions, and how they really affect us - or more importantly, other people.

Wants, can be perfectly OK, but become bad if they go against our well-being or stop others from meeting their needs. Needs can turn from wishes into wants and addiction (even violence) when we are selfish and greedy for too much. And it can be difficult to be objective about when the difference happens!

I'll consider perfect-love or *agape* at the end of the book, but I'll first focus just on our **need-loves**.

Based on our ten fracALities, I conclude that we all need:

- Sensory & other inputs
- Variety, identity and recognition
- Challenges and achievement
- Law, order, respect and dignity
- Physical activities
- Plans, meaning, and purpose
- Ways of communicating
- Channels for creativity
- Times to withdraw
- Opportunities to befriend

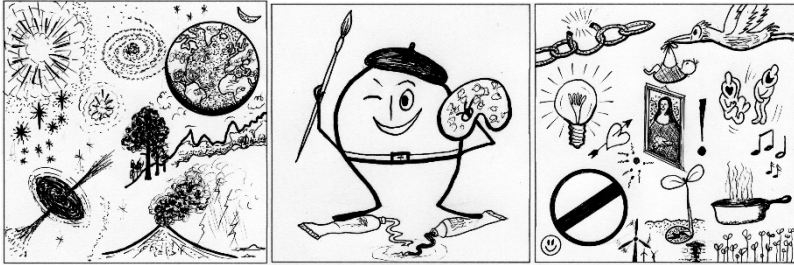
Over all these needs, there's the need for perfect *agape*-love (and, of course, the foundation of a healthy planetary environment).

I'll put flesh on this skeleton of needs (we can call it a curriculum, using the university metaphor) at the end of each chapter, where I summarise each fracALity in four ways: as a short phrase; as a four letter word; as a set of associated verbs; and in a descriptive nutshell. The four letter word is taken from my booklet "*Life's a four letter word*" (which is a young person's version of this book).

Finally I list questions (as eight bullet points) to get you thinking about how to use your fracALities to best advantage. Note that I'm not using them to form a classification of ourselves. We need to satisfy all our fracALities in whatever way is most appropriate for us to lead a full life. And we'll be most satisfied when we help others satisfy their own needs as well.

In the penultimate chapter, I discuss the importance of that essential perfect-love that brings everything together as one, and is the all in all.

3 – OriginALity



Life/love/reality is original - uniquely initiated and freely recreating itself in a multitude of ways and forms.

The first fractal faculty we start with is, appropriately enough, concerned with beginnings or origins - the creation of reality, life and love. We find this "originALity" at all times and in every dimension of the universe. Some scientists and theologians conclude that there was once an absolute beginning to our existence, the Big Bang. Others conclude that things are cyclical, and there are an infinite number of universes continually popping up and disappearing. Each one is different - original in its own way - covering all possibilities of existence. You'll agree that is all a bit confusing and difficult to get one's head around!

Whatever there was before the Big Bang (if "before" is the right word), its genesis into our present universe embraces lots of subsequent origins, each of which is easier to understand than this original so-called "singularity". From infinitesimally small beginnings, it is thought that vast clouds of "dust" were formed, ever expanding. These coalesced to form myriads of galaxies with their stars, planets and moons. Some stars blew up again into blinding white heavens forging new materials, while others

crunched down into sinister black holes, starting cataclysmic creative processes once more, either here or in other universes.

Meanwhile, all over our Universe, planets started their own life cycles similar to our own. Here on Earth, rocks cooled down, water condensed, atmosphere formed, species originated and evolution took off. Finally we humans came along creating and originating all sorts of new and innovative things ourselves, going through ever ingenious ages - from the stone, iron, bronze, middle, information and space ages and creating new civilisations, nations, cultures, political systems and religions.

And here we are now, you and me – all originals. Whether known or unknown, thousands of little bangs, so to speak, have preceded our entry into the world, and we're all unique little stars ourselves. Not only that, but we are continually being recreated as our cells die and are replaced, such that our bodies are almost all changed materially after seven years (except for our brain cells, it seems – once born, they die off and are not replaced!).

My ancestral tree is not well documented, but I have English, Irish and French roots, and when I married and started a family, our children also received Welsh and Swiss origins. The oldest ancestor I've been told about was my great grandmother who was a Huguenot, hence the French connection. She fled religious persecution, her own ancestors having been forced to eat ground glass for their beliefs. There's an irony there, as I'm now a Catholic Christian, the sort that persecuted her!

Her surname was Centurier, and how far back there was any practising "belt maker", I don't know. Since then, on both sides of the family we've had a blacksmith, one famous hand surgeon, and one eminent and knighted economist. My father's parents used to be more mundane market gardeners, right where Heathrow airport has been built, starting new life as vegetables.

By the time I came along, airport development was beginning to take off. I started life just at the start of peace following World War II, created by my parents on what was probably a warm summer's evening. But I was born during one of the coldest winters on record - in Heston 1947, and like all of us, have had many personal beginnings thereafter, unique to me.

My first home and school was in Hounslow, under the flight path of runway number one. New eras of education started in Ealing, Canterbury, and Aberdeen. While forming myself anew as a forester in Scotland, I volunteered for a year in Nigeria. That set me off on a series of new tropical jobs, homes and relationships.

From Oxford, I went to Nicaragua, and met my wife (a volunteer nurse there), moved to Honduras, started a life together, and conceived three new ones. Then we moved to Nepal and started one more life. Then followed more moves (all six of us) to Belgium, Barbados and eventually back via Chatham to Oxford.

As a forester, my main interest has been concerned with establishing plantations, and an essential part of that has been to focus on seed collection. As a result of my projects, tons of seed have been collected (mostly of pine), distributed thousands of miles around the world, and resulting in the establishment of millions of new trees from many different origins.

Much of my work in developing countries has been in mountainous areas, including the Himalayas, and on volcanic islands in the Caribbean. These geographic formations illustrate well how the earth is continually shifting, changing and recreating itself, forming new land areas and creating fertile soil on which new cycles of life can start and regenerate again.

This original fracALity is not just about the origins that formed soils, trees or us. It's also about the ways in which we as

individuals are unique, innovating and making things ourselves. Since we are created and original beings, I think that we have creativity and originality built into us, even though we might not appreciate it. For instance, some of us may claim we are not "artistic", but I think we are all artistic and creative in one way or another. We can't help but be that way.

Take me. I enjoy music, but mainly listening to it rather than composing. I've always enjoyed singing in choirs at church, and playing around on the piano - although never properly. I learnt the viola well enough to take a very faltering part in Schubert's Unfinished symphony, but my lack of practice put a finish to any thoughts of success with that instrument. Forays into painting have not flourished either, but I am good at technical illustration in my work. So, I'm an amateur "artist" – as all of us are.

When it comes to woodwork and metalworking, some of my creations have indeed been quite original. I've designed and made four small sailing boats, all testing out new ideas. The most recent used recycled milk bottles to form the hulls. I've also made half a dozen beds, each using new designs, and slept soundly in half of them. And we still have sitting room chairs that have supported our family and guests for over thirty years.

I particularly like mending things and giving them a new lease of life. In retirement, I received the honorary title of "Quality Controller" for my role helping my wife in her management of a Fairtrade shop. Besides enabling me to admire the many and varied ways in which artisans around the developing world create artefacts, it has also helped me appreciate the techniques and mimic them so as to repair and give items new life.

As already alluded to, I've discovered that I enjoy writing about things in original ways and trying to explain new ideas as simply as possible. In the later part of my career, I became involved in

drafting educational material for training courses, especially to do with people management. To begin with, like many foresters, I preferred to hug trees rather than hoodies! But later, it became obvious that forest conservation required a knowledge of people, particularly the troublesome ones, as well as the trees that they should benefit from.

Thinking about my family, we're all "creative" in different ways. My wife was a nurse/midwife, creating health and life. Lately she's been amazingly original in the displays she has created in the Fairtrade shop she manages. And of course there is her unparalleled innovation and originality as she mothered all four of our children! They, in turn, have expressed their originality in many ways by plumbing, illustration, teaching and cooking.

And how about you? In what ways do you think you are original and creating new things? Don't forget that this includes making people laugh! All humour depends on creative uses of words or circumstances to surprise us in unexpected ways. So if you like just acting the fool (as I did), you are also being creative.

All you need to know about your own originALity

In a phrase, this fracALity is the attribute of creating and being created.

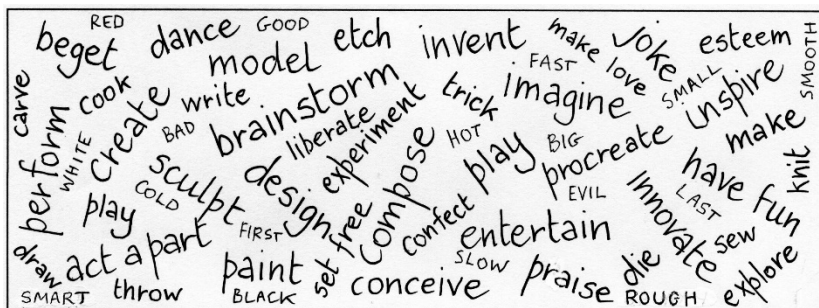
As a four letter word, it's PLAY!

And in a nutshell, think of it as the creative power that we all have, which in turn takes its power from the creative forces that formed us. If you are spiritual, then you can take it that they originate from a divine creator. We all need to have freedom and to be creative with it. Even if we don't consider ourselves to be artistic (say an actor, musician, writer, poet, painter) our creative

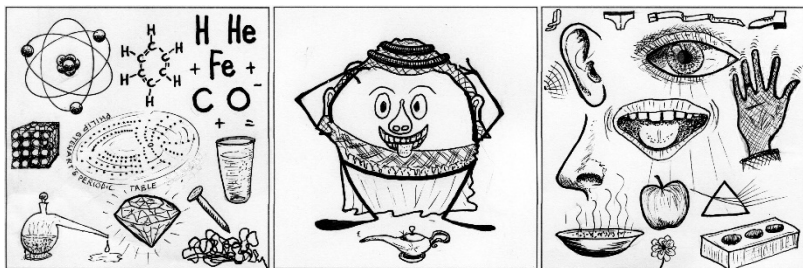
streak will surface in one way or another - doodling, making jokes, or whistling while we work! We need to imagine and fantasise. It includes that funny business of making love. And raising a family is the height of creativity! As created beings, we must be creative, too.

- In what ways do you like to be creative and original?
- In your recreation or work, how are you able to express your creativity?
- In what ways do you enjoy other people's creativity - films, for instance?
- What's it feel like when people criticise or poach your ideas?
- If you believe in a divine origin of things, how does that affect your view of yourself?
- How could your sexuality be an aspect of your creativity?
- As a parent or sibling, in what ways have children changed you?
- What things make you laugh? Why? Do you like making others laugh? How?

OriginALity in other verbs and ADJECTIVES



4 – MateriALity



Life/love/reality has physical properties that enable it to be sensed, possessed and consumed.

From origins we now come to matter, and consider our material fracALity. After the Big Bang there was a lot of matter created - the building blocks of the things we observe with our senses. Scientists aren't clear how all these particles started, or how many levels there may be. More and more are being found. Possibly, like the universes, there might be infinite levels of Lego pieces from which we are constructed. Who really knows?

What we do know is that these curious particles with unusual names like quarks, neutrinos, electrons etc. came together to form atoms, of which the first and simplest are the hydrogen and helium elements. Then, bit by bit, forged in the nuclear furnaces of the stars which they themselves created and then exploded, these particles were spat out as ever more complex elements. There are now 118 known to scientists, each with their own unique physical characteristics. Some are entirely manmade.

In turn, these elements have come together to form yet more complex compounds which then go on to form asteroids, comets,

moons and planets, gradually continuing a process of "complexification" until, under the right conditions, amazing life comes along. Although air, water, rocks, and the plants and animals that they form look, smell, taste, feel and smell completely different, they're all made out of the same "star dust".

Which brings us to ourselves, and how this material fragility is expressed in you and me. Materially, we are liquid blood, squishy flesh, and hard bones. But what is amazing is that we have the senses to observe these material things. Provided we have all our sensory faculties intact, we can see the world around us, hear the noises it makes, touch and feel, smell and taste it. Quite probably we can sense it other ways (e.g. dowsing or telepathy), but we've let those senses atrophy, or just don't know how to use them.

As humanity has evolved, we've developed more and more tools to augment our existing senses, particularly when it comes to sight. Without microscopes and telescopes we would be unable to perceive the infinite scales in which the universe is expressed, and never have worked out our origins. And of course we can tap into other electromagnetic bands like infra-red and ultra-violet which we can't perceive, but nevertheless have instruments that will, and which tell us even more about the universe.

I'll talk later about energy and movement, but I want to mention here the fact that some theories suggest that what we perceive with our senses is not reality at all. It's the interplay of energy fields, and when they interfere, particles just pop up. Be that as it may, it's simpler to assume that we "make sense" of our material world through our material senses and that this is at least a part or an attribute of reality.

My choice of forestry as a career was really made by one of my sisters. She once sent me a packet of information about the subject, suggesting that it might suit me. As usual, I had been

dithering around not knowing quite what to do, but aware that I was practically inclined and loved outdoor things. The sights, smells, sounds and feeling of grass and trees, especially autumnal colours and bonfires were magic to me. She knew this, and as a result I became a forester. When I discovered the added richness of life in Nigeria, I was hooked on tropical forestry.

I guess that I am quite a sensorial or sensual person (if that doesn't conjure up an unpleasant image). I'm very moved by beautiful landscapes, and it's not just the sight. It's also the sound and smell of them. Get closer, and it's also their feel and taste. Music of all sorts moves me, particularly a full organ and its deep bass notes. Perhaps that's partly because my father was an organist, as is my brother and a brother-in-law. So too were my elder sister and my mother-in-law.

As a result of a love of senses, I've enjoyed doing photography and explored the fascinating art and science of stereo photographs, once making my own camera from two ancient Instamatics joined together. I've done the same for sound, making (from all sorts of materials) a stereo amplifier, pickup, and a tower-like reverse horn loudspeaker to amplify the bass notes. My father also did that, but with the materials of his time (glowing glass valves), and that's where I got the idea.

Our whole family is, on balance, more sensorial than intellectual. Our elder son is excellent in mechanics and plumbing, understanding well how materials should be handled, cut, bent, joined, and welded to form working systems. Our younger son is a good example of working directly to satisfy the senses. He takes natural materials, foodstuffs like his great grandfather used to farm on Heathrow, and turns them into meals that appeal to the senses and sustain the body. It's something he loves doing, though it's very hard work.

How about you? What senses appeal to you most? Living in Oxford, we're aware of all the academic but also wonderful artistic endeavours that go on here. Whatever the discipline, they all need inputs from the senses.

Our material fragility also concerns input of physical kinds. Not only do we take in stuff using our senses, but we also literally consume material stuff like air, food, water to keep us alive. We also act as consumers by obtaining and possessing things we need or want, like clothes, a place to live and transport. We are in this sense true materialists.

Which brings me again to the practical side of these fragilities. I don't think we appreciate our senses properly. We take them for granted and do some very unwise things with them, like subjecting our ears to deafening music, squinting at eclipses, dulling our taste buds with junk food, exposing our skin to toxic chemicals and ultraviolet, or breathing in tobacco smoke. The list is endless. Although it's a pain, I think you'd agree that we do need to be more aware of the need for helmets, goggles, ear defenders, gloves and masks as and when they're required.

Those bits of apparel will protect us from extremes. But we also have to defend ourselves against psychological things that are unnecessary but insidious, such as ugliness, violence, verbal abuse, and over-indulgence - again the list is endless. We are all like videotapes, and once life is recorded via our senses and mind, these experiences are difficult if not impossible to erase.

Another way we misuse our senses is through carelessness. How often do we hear people, but not listen to them? Look at things but not really see? What about background music that just washes over us, the beauty of which is not really appreciated? Food gulped down but not savoured? Kisses received but not felt with the heart? Most of us have to learn to really engage again

with the material world, and be properly aware, "*living in the present moment*" as some theologians or psychologists might urge us to do.

When it comes to our possessions, another problem arises when we let them possess us. As we gradually accumulate material stuff, we can find that these things become a part of us, and are more and more difficult to part with. It's not surprising that many people can now make a living helping others to de-clutter their lives. I know from experience about having to say goodbye to the books and tools that I'd purchased or been given as we worked our way around the world. It's been hard!

A thought about the future. Our world has given us a wonderful variety of raw materials which have some amazing properties. We're now manufacturing even more exciting stuff. Metal that remembers its shape when crushed, textiles that repel water, and artificial tissues that allow new organs to grow. It's through our senses and the use of other materials that we will benefit from them. We're in for some materially awesome and amazing times!

All you need to know about your own materiALity

In a phrase, this fracALity is the attribute of observing and being observed.

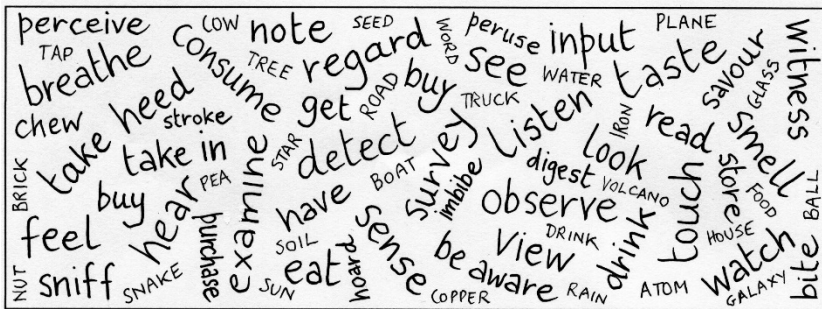
As a four letter word, it's NOTE!

And in a nutshell, we can say that it is about the material things that make up our world, and how they are input into our lives through sensing, consuming, or possessing them. We all need to take in stuff to live. We need food, water, air, clothes, shelter and other goods, as well as all sorts of things we need to see, hear, touch, taste or smell to satisfy our senses. If deprived of these

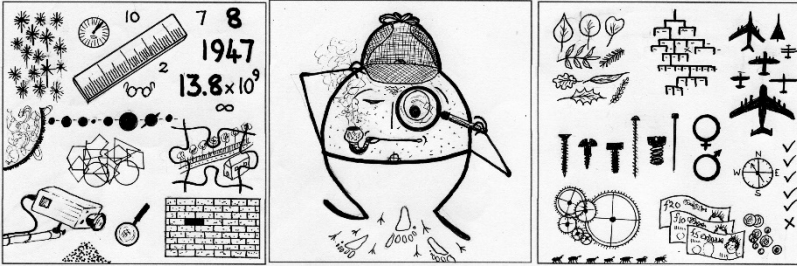
inputs, we suffer. Of course, it's got to be the right stuff. If we want the wrong inputs for the wrong reasons, we'll have problems. As with all our fracALities and their corresponding needs, everything in moderation!

- Which of your senses would you least like to lose and why?
- What materials give you most pleasure to your senses?
- When do you sometimes have too much input in your work? What can you do about it?
- When did you try fasting from something for a time? Was it helpful?
- Which food, music, sights, smells or feelings do you really not like. Why?
- Who do know who can't meet their basic needs? How could you help them?
- How are you considering the effects of your consumption on the world around you. Is it fair and sustainable?
- How do you recycle things that you no longer need?

Materiality in other verbs and NOUNS



5 – DifferentiALity



Life/love/reality is continually breaking down into different parts that can be distinguished and defined.

This fracALity logically comes after originALity and materiALity. I could call it “partiALity” to suggest the fact that reality is made up of a myriad of parts. But the common use of that word might be confusing, so I’ve used differentiALity (which is a non-word, apparently). It is however, descriptive of the way reality is partitioned or differentiated, made up of an infinite number of parts, each distinguishable from others, however slight those differences are.

There may be an infinite number of building blocks in the universe, most looking identical (atoms, for example), but they are in fact all different, at the very least because they take up different spaces (though some scientists might dispute this).

Every star, and galaxy of which they form part, is different in size, form, place, age etc. One thing that I find particularly amazing about our solar system is the way every planet and their moons are so different, even though they are all end up spherical.

When we come to our earth and its rocks, soils, landscapes, flora and fauna, there is an incredible variety of life. And in the case of each one of us, we are composed of particles, atoms, elements, molecules, compounds, cells, organelles, organs, and organisms - the same mixture, but all different.

Number comes into this fracALity as a way of describing parts. Just about every different part has at least two aspects to it, such as left/right, black/white, male/female. Of course, there may be more, such as three dimensions, four points to a compass, five fingers, six sides to a hexagon, seven days of the week, ten aspects to this scheme of reality, and so on. It not only embraces such discontinuous variation (in steps), but also continuous, like the colours in the spectrum, or frequencies of sounds where there is an infinite variety.

I think differentiALity is a good example of the fractal nature being built in to the world. We need variety and diversity. Indeed, it is essential for evolution and survival of the fittest. Animals themselves need to exercise the ability to discern differences and changes around them if they are to survive. They need to distinguish what is good and bad for their survival, and filter out what is unnecessary.

While we're on the subject of surviving, we must acknowledge that "Life" (in any sense) is finite, and all things come to an end. Stars explode, mountains erode, animals are eaten, and we eventually die. All are processes of breaking down into component parts, to be recycled again in one form or another as a new "life". This is an important and profound aspect of differentiALity, which should prompt us to ask ourselves in what ways we survive when we die. I'll give some answers later.

Despite this sombre aspect, I'm partial to this fracALity! I love identifying and classifying things, finding out why they are

different or the same, learning their names and noting how they change. Whereas the last fracALity was about observing the facts, this one is about monitoring and doing detective work, differentiating and distinguishing those facts.

It'll come as no surprise that when I was young, I used to love going to the end of the runway at Heathrow (with my brother) and plane spotting. Besides physically experiencing the sight and sound of the aeroplanes landing at close quarters, we used to take great satisfaction in identifying each plane, calling them by their correct names, even to collecting their registration numbers. It's something I've continued to do throughout life. Now that our younger daughter lives under the flight path of Heathrow again, I can indulge myself watching and identifying planes once more. But I have to admit, a lot of them look just like each other these days, with little to distinguish them.

When I started forestry studies, I won a prize for dendrology - which is the study of trees. I took great pleasure in identifying the different species from their bark and foliage. My knowledge of Latin helped me greatly in remembering their scientific names. And later when working in Honduras, I became expert in being able to identify the Central American species by their fruits, seeds, and timbers. I also loved learning about different soils, their many classifications, and how they formed.

As for my family, some of them also like this fracALity. My wife has always had a passion for stamp collecting, although it's only now in retirement that she is able to give it the attention she would like to them. It's also behind her love of packing and unpacking when the time comes to move house. Making lists and sorting into piles of what things are needed for this and that and the other gives her great satisfaction – throwing things out, too.

Our younger son wants to take over my collection of coins and paper money which I have carefully amassed as we travelled around the world. He certainly likes counting (and his wife likes accounting). Once, when he was being taken to school by his mother, they passed a palisade fence - boring to his siblings - but he remarked what fun it would be to count all the posts!

I love the variety of colours. My favourites are those of autumn. I have a book on them that enables me to match and name a vast range of hues. I've found this very useful in my unofficial job as "quality controller" to my wife's Fairtrade shop, when she was manager there. When things came in with paint chipped, I found I'm good at mixing paint to get the right match. It's not only the colour that has to be right, but also the reflectance and texture if the repair is to be invisible.

One way in which this power can be practically developed is by taking things apart to see how they work. I've always loved doing this. Unfortunately, when young, I didn't have the knowledge to put things back again, much to the exasperation of my parents.

My very first attempt of dismembering was my own push chair, which collapsed around me. A decade later, my grandfather's prized camera was disassembled, as was the transistor radio of my sister, both never to work again. Eventually, when I understood how things went together, all this undoing stood me in good stead when learning how to repair things and get them working again.

Measurement is also an aspect of differentiality, and is an ability that scientists have to employ. All experimentation requires observation and monitoring, then measurement of any change. We have invented a fantastic range of instruments to measure an ever wider range of characteristics and ever greater distances, even to the ends of the Universe.

Much of my early work in forestry was concerned with comparing the growth rates of different trees, and that was mainly by measuring their height and girth. When trees got big, instead of a tape measure, we had to do this remotely, using a special and very expensive “relascope”. Nowadays, anyone can do this with a free app on their smart phone.

Here is a good point to emphasise two important aspects of the fracALities in general, when applied to ourselves. The first is that you will find that they naturally tend to form pairs which contrast and complement each other - and need to be kept in balance. For instance, later on I'll be describing the attribute of integrALity, and whereas here we are dividing things up, then we will consider how things are put together.

The second aspect concerns the way a fracALity can be used in a morally wrong way. Partitioning things off, distinguishing them and giving them distinct names is a very useful ability, but it can be used to discriminate in ways that are not helpful. You'll be able to think of many examples – race or religion for example. They are obvious and abound around us in the world today. I'll come onto the morality aspect of fracALities later.

All you need to know about your own differentiALity:

In a phrase, fracALity is the attribute of differentiating and being differentiated.

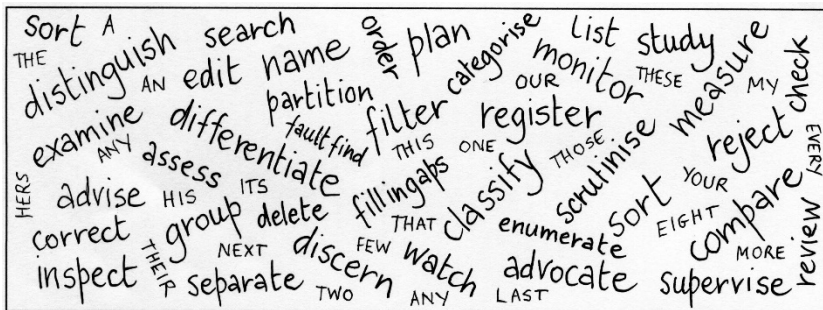
As a four letter word, it's SORT!

And in nutshell - we need variety in our lives, some of us more than others. It's built into us to note the differences between things. Our very survival has depended on it. We ourselves need to have identity, and to be recognised as distinct individuals. We

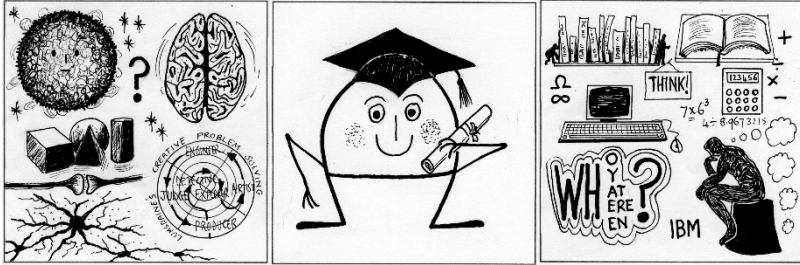
like to identify, sort, classify, and name the world around us. If everything stays the same, without changing, we can become bored. Variety is the spice of life! We need diversity.

- Do you like to collect / classify / measure things? What are they and why?
- What class of things are you good at telling the difference between?
- When is it good for things not to be different? Why?
- When is change good, and when is it not?
- How do you discriminate between people? What sort of people? Is it necessary? Is it fair? Does it help them?
- When you compare yourself with others, how do you feel when you don't have the same talents, goods or opportunities?
- In what way do children you know have the same goods or opportunities as you did? Should they have better standards?
- Dying is the ultimate physical breaking down of our bodies. How do you understand dying?

DifferentiALity in other verbs and DETERMINERS/PRONOUNS



6 – IntellectuALity



Life/ love/reality is continually becoming more conscious and able to "make sense" of its surroundings and itself.

To understand this fracALity requires a bit of thought! Not because it is in fact concerned with the mind, mental things and thinking, but because some of the ideas related to it are difficult to get one's head around. Think about this as an example: when did the Universe become conscious - at least parts of it - leading up to animals and ourselves, whom we know are self-conscious and possessing some awesome intellectual capabilities?

More questions: When do we as embryos become conscious? What, in fact, is consciousness and the mind? Are our thoughts just electrical fizz going down our neurons and across synapses? Where does memory reside? Is it possible for inanimate things like stars, rocks, or water to have consciousness and be aware of their surroundings? If so, did the Universe, right from the start of the Big Bang (or even before) have consciousness?

If reality was all started by a divine Mind, as God is sometimes described, then why shouldn't mind and consciousness form part of everything that exists, becoming more focussed as things

evolve? The philosopher Plato has suggested that there are pre-existent ideas or patterns (perhaps in the divine mind?) that determine how things appear in the Universe.

To say that stars and galaxies, rocks and water have consciousness may sound weird, but quantum science is coming up with odd ideas that support this possibility, quite apart from what religions may say on the subject. Take for instance the idea of entanglement where pairs of particles "know" the partner's state, even though completely separated by space (and maybe time). I find it all very curious, and the articles written about consciousness, the extended mind, and related topics, although fascinating, are not easy to grasp.

Never mind! Let's take it for granted that consciousness, thoughts and ideas have somehow always been part of reality, and that through the process of evolution, they have been gradually materialising and developing. From simple awareness of environmental conditions, the incipient "intelligence" of plants, through the increasing awareness of animals, we finally arrive at the full blown brain and nervous system of the self-aware human species, capable of sometimes miraculous abilities.

It's important to realise that all ten fracALities as they are expressed in us humans require this one to be functioning. The fact that this is so underlines the way all fracALities are interconnected and cannot operate in isolation of the others. But in this chapter we are just considering the brain's ability to interpret data fed to it via the other fracALities and to apply logic and in effect think about and solve problems.

My choice of the word intellectuALity to describe this fracALity is perhaps not ideal. I wouldn't say that I was an intellectual, rather a more practical person. But I'm still using my brain intelligently to be logical and solve problems, and therefore using

this ability. I could use the word *mentALity* from the word *mental* and *mens*, Latin for the mind. But these words can also have specific meanings which may not be helpful either.

An idea of multiple intelligences has been proposed by a researcher (Howard Gardner). He thought that there are eight intelligences which he describes as: musical–rhythmic; visual–spatial; verbal–linguistic; logical–mathematical; bodily–kinaesthetic; interpersonal; intrapersonal; and naturalistic. He later suggested that existential and moral intelligences might be included. The way he describes them fit quite well with the ten *fracALities* being discussed here. If there really is a correspondence, then this emphasises again the fractal nature of reality. In each of the other nine *fracALities*, you find this one.

So, as you continue to read about my characteristics of reality, try to work out which you prefer or are best at. These will be your intelligences! One of our daughters makes me think of intellectuALity, not because her siblings are any less intelligent than she is, but because she studied neuroscience at university, and knows a thing or two about how the brain works. Her particular line of research had been about Huntingdon's disease.

In fact, I'd say that all our children and grandchildren are intelligent (I would, wouldn't I?), but each in their own way as Gardner suggests. And our neuroscientist would agree with me on the basis of her understanding of the brain and personalities!

How about you? In what ways are you intellectual or intelligent? Don't do yourself down! Think of all the things you are good at, and this is where your brain will be at its happiest, exercising its intellect. Put another way, what sort of challenges or problems do you like to tackle and find an answer to?

All those questions make me consider a very important practical one. Why is it that we are so often too casual in protecting our head and brain? It seems crazy that we resent having to wear a safety belt or helmet. And why do we ignore all the advice about drugs and addle our brains with them? There's enough experience with mind-altering substances to say that the potential problems outweigh the perceived benefits. Is the problem that reality is not amazing enough without creating our own version of it?

When picking up this book for the first time, you might have fleetingly confused the AL in ReALity with AI, or artificial intelligence (maybe not!). There is a lot of research being done on that at the moment, and efforts made to see if computers can be programmed to respond in ways that would make you think they are really human. That would only be testing for limited intelligences, of course, and nothing really new.

Many fracALities have been augmented by man-made machines that have apparently super-human powers of measurement, computation or precise movement. I say “super-human”, but there are in fact many people who have machine-like powers of recollection, computation, athleticism etc. The extent to which we can use any of our fracALties, not just this one, has yet to be fully explored, and can sometimes be considered miraculous.

I'll mention here a researcher whom I follow closely. He is Rupert Sheldrake, who is a biochemist and has proposed new ways of looking at science. He thinks it has become too materialistic (an imbalanced view of reality, note!), and has had the courage to examine many so-called pseudoscientific ideas to find out which are real. A particular interest of his lies in how things develop their form (morphogenesis), and he's come up with the idea of morphic resonance based on field theory. This could help to

explain many scientific conundrums both in the inorganic and organic world.

His theories imply the idea of an extended mind such that we are not just our physical selves but also energy fields that extend beyond us in space and time, something that many religious traditions recognise. One of the conundrums this helps to explain is why things seem to get easier to learn as more and more people obtain the knowledge or intelligence required. The answer his theory gives is that it's all out there in a corporate memory, waiting to be tapped into. His ideas could also help explain how many so-called paranormal activities can happen.

Before concluding this chapter, I must mention another influential person on my thinking. And he is the palaeontologist and theologian Pierre Teilhard de Chardin. Sheldrake has also been influenced by him. Apart from proposing that the whole universe is somehow conscious, he suggests that it is gradually evolving in this respect. He thinks that the earth and its inhabitants have now created a "noosphere" or planetary mind, and this, in turn, will gradually evolve to an "Omega Point" where everything becomes one in the divine creator again. Or something like that.

All you need to know about intellectuALity

In a phrase, this fracality is the attribute of interpreting and being interpreted.

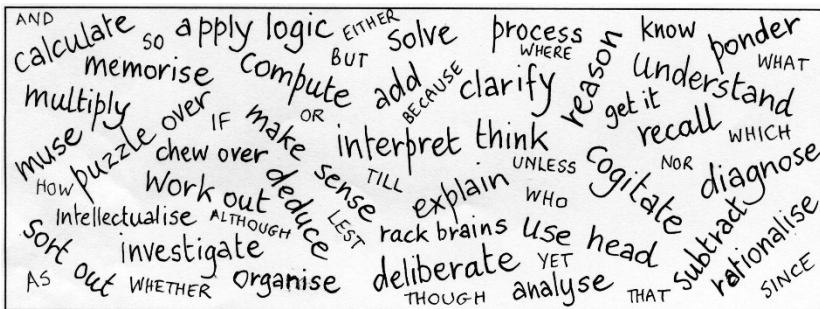
As a four letter word, it's MUSE!

And in a nutshell, it concerns the way life, love and reality is becoming increasingly conscious and able to "make sense" of other parts of itself. Our brains are working all the time. When

you want to switch off, you'll know how hard it is to stop thinking. In fact, most of the time, we need to have something to think about - some problem to chew over or challenge to meet. We're built to analyse and work things out, especially the world we live in. We're curious beings. Our brain is the most complex organ going and needs to be challenged, or it'll atrophy.

- What things are you happiest when thinking about?
- What sort of quizzes or puzzles do you like? Which are your favourites?
- If it bothers you when you can't find a solution, why is that?
- In what ways are you “intelligent”?
- How are you protecting your intelligences by following health and safety rules and guidelines?
- If you have problems concentrating and being distracted, what solutions have you tried?
- If you have problems switching off, relaxing or getting enough sleep, what are you doing about it?
- If you know someone with mental problems, how are they affected? How would their reality differ from yours?

IntellectuALity in other verbs and CONJUNCTIONS



7 – InfluentiALity



Life/love/reality is continually influenced by rules, laws and habits, and by making choices and taking decisions.

We've now considered four fracALities, and this fifth one begins to illustrate how they form pairs of opposites, which complement each other and have to be held in balance. InfluentiALity concerns laws, rules, principles, controls, judgements, habits, taking decisions or making choices. You could call it judiciALity, and it contrasts with the first - originALity - which was about creativity, freedom and absence of control.

Thinking back to our origins - stuff materialises and parts proliferate, stars and galaxies coalesce, but what determines how these phenomena form? The intellectual fracALity provided the idea or pattern, but there have to be forces which energise the parts, influence and attract them together, or repel them apart. And these forces must follow unwavering rules, or chaos will ensue and nothing will be predictable. Or maybe not?

We now know that there are four main forces or fundamental interactions, as physicists call them: gravitational, electromagnetic, weak and strong nuclear forces - all of which

follow relationships with constants that appear to be fixed at the time of the Big Bang. Now this poses another niggling and obvious question: who or what determined their value? Are they in fact constant, or could they change? Why? Why not?

There are other related questions and conundrums. If these constants varied just a little bit, then life as we know it would not exist. The so-called Anthropic Principle states that the universe appears to have been fine-tuned for our existence - we live in a Goldilocks world. If so, how did this happen? Is it just coincidence? Did life arise by chance because conditions were just right, or have conditions evolved just right for life to arise?

Lots have been written in response to these questions, and I won't try to answer them here - simply to say that the Universe is bound by laws and constants that appear not to change. But some things do change as the Universe evolves and life comes along. New laws and principles are derived that determine how evolution operates and organisms come into being. Freedom to create is balanced by constraints to form.

Eventually, our ancestors started to develop specific rules and principles that determined how they behaved towards one another, for instance as predator and prey. When *Homo sapiens* came along, controls became more complex as we formed societies, cultures, and civilisations. We now formulate our own ever-increasing number of artificial laws and regulations to control our lives.

As we explore the world we live in, we develop religions that are defined by rules and regulations, and these often underlie our moral codes. Take for example the Jewish ten commandments. To a certain extent these correspond to the fractALities, which makes me think that each fractALity should in fact be bound by a specific law.

These “divinely” inspired laws often start out, like the natural laws, as immutable. But as we develop our understanding of the natural world, sometimes our human-made laws can and should change - such as those to do with slavery or sexual orientation. But that does not mean that the underlying principles change.

Following our consciences is an aspect of judging and making judgements, and is an important part of this fracALity. If the laws that constrain us appear to be wrong, then we will try to break them, as we can do with any man-made law that we think unnecessarily constrains our freedom, rightly or wrongly. Of course, we have to expect punishment. Jump off a cliff in defiance of gravity, and we will kill ourselves. Kill someone else, and we will end up in prison or suffering the death sentence – this is the complete opposite of originality, note!

I said we can try to “break” natural laws. Can we? In reality, we can’t – but in effect, we can work around them. We humans can’t fly, we’re made the wrong way and are too heavy. But we know how to make machines that enable us to fly. When cancer strikes, natural law would determine an early death. Now we’re beginning to win the battle. Many of our inventions have originated because of our need to “break” a natural law.

I think this fracALity of reality also embraces taking decisions or making choices. These rely on our own immediate rules that we or society have developed for our own particular situations. This is something we are doing all the time. Often, these become automatic, and are the basis of habits - certain set ways of doing things that we do without thinking. They can be good or bad, and of course can be broken (though perhaps with difficulty).

I reckon that I’m a pretty law abiding person and tend to have a positive view of the police, parking attendants, the taxman, other law enforcers and authority in general. I do respect speed limits

and other road users. But I'm ashamed to say that when I perceive that other people break the rules, and inconvenience me, I can become very judgemental and indignant, even to completely losing my temper. Ask my wife about my road rage! And I don't like to be told what to think. I like the freedom to work it out myself.

My wife herself is very balanced (I think) when it comes to judgements, decisions and choices. Rather than base things on hard masculine logic she will use her feminine intuition to arrive at conclusions. She's quite happy to accept laws, and very wary when they are changed to give more power to the government, or to pander to pressure groups, for example.

If I look at our children, I see different reactions to rules, regulations and authority. Our elder son is probably the one who questions them most (often with good reason). He is the one to try and break boundaries of speed and agility. In her research into Huntington's disease, our elder daughter has had to discover the laws and principles involved, and see if there is a way to circumvent them and find some form of help for sufferers.

Our younger daughter often sees issues in black and white, and is quick to know when things are not fair – "That's not fair!" was a common cry. It now means she is even-handed in her work – teaching primary school children. Our younger son is similar to his brother with respect to laws and authority, and is also quite adventurous in breaking with norms. He is the one who has upped sticks and started a new life in Sweden.

If I look at my life, I find that many major decisions about where to live or what work to do have been made for me. My sister gave me the answer to the choice of job. A VSO representative talked about volunteering, and my mind was then made up. After Aberdeen, another representative from the Overseas

Development Administration offered studentships. I took the opportunity and went to Oxford. And that meant I had to accept an offer of a job in Nicaragua. But of course, there were many choices that I had to make where I hope I was not too influenced by those around me. That was certainly the case when deciding to propose to my wife.

Nowadays, life is so much harder for many people in my position as there are more and more terms and conditions to comply with (quite rightly, probably), and lots more conflicting influences. On some matters, there is more freedom to choose, but on others there is less. It's worth considering how different cultures, educations, politics, economies, and religions influence us in different ways, sometimes very much against our will.

How about you? How do you view all these constraints of principles, laws, rules, regulations, judging, decision making etc? It's a fact of life that this fracALity is like Marmite. If it suits your taste in a particular matter, you love it. If it doesn't, you hate it. Does that ring true? And what about decisions? Do you like making them? How free are you to take choices? I wonder to what extent your life has just fallen into place, like mine has on many occasions, or if you have had to face constraints.

All you need to know about your own influentiALity:

In a phrase, this fracALity is the attribute of judging and being judged.

As one four letter word, it's OBEY!

In a nutshell, we all need laws to live by, natural or man-made. And we all have to make judgements and take decisions about what's the best thing to do. Most of us don't like living in a mess

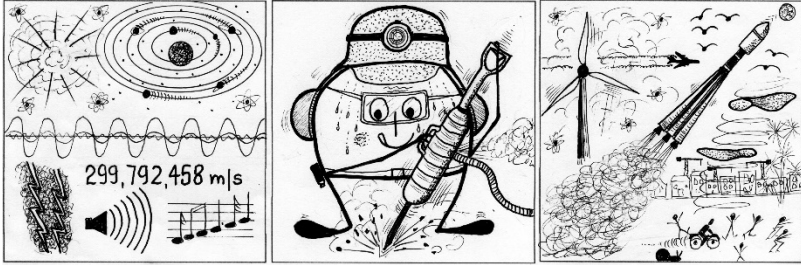
and with uncertainty. We need some semblance of order, even if it's imposed on us from outside. Everyday life means making choices all the time. We're happier if we feel in control, though of course we shouldn't become control freaks.

- How satisfied do you feel when you've made the right decision? How do you allow yourself to be influenced?
- If you make a wrong decision, in what way does it affect you?
- What laws and rules do you think are unnecessary? Why?
- How does it affect you if other people tell you what to do?
- Some people are bothered by the idea of control. Why do we need controls?
- How and when do you learn from your mistakes?
- What would happen to your freedom if there were no laws and regulations?
- How should we enforce laws? How do you understand the idea of restorative justice in reforming offenders and restoring victims?

Influentiality in other verbs and ADVERBS



8 – MotionALity



Life/ love/reality is continually moving or being moved at some level or other in time, space or scale.

This fracALity is the complement of materiALity. For matter to exist, there has to be movement. Without motion there would be nothing. At the moment of the Big Bang, there was instantaneously an immense “explosion” (maybe expansion is a better word), of seething white hot ever-expanding movement that is quite unimaginable. And it's never stopped.

Temperature is a measure of movement - how much the atoms and electrons of matter are agitated and spinning, orbiting or vibrating. Somehow, at the "time" of creation, there was an infinite amount of it. Billions of degrees. As "everything" expanded, this movement was shared among all the individual "particles" and gradually, under the "forces" that also came into existence, atoms and elements, stars and galaxies moved into formation.

In that last paragraph, I've put some words in quotes just to emphasise that time and place and matter seem to be words that don't really describe reality in the beginning and at that scale. I

guess that's where quantum physics tries to provide a vocabulary to make things more comprehensible (not very successfully!).

Although it may seem that there is no movement in some parts of the Universe and our world, on average there is still just as much - shared around in such a way that we have different degrees of motionALity. Some parts are now very cold. It's interesting to note that absolute zero is the coldest temperature but it can never be fully reached, because that would mean nothing was moving, not even the atoms and their electrons.

Einstein, in his theory of relativity, has something to say about movement. In his famous equation ($E=mc^2$), E is energy which is movement, M is for mass which is matter – materiality and C is the constant speed of light, the fastest that anything can go - apparently - although quantum physics might come to a different conclusion. So in all this movement, there are limits and set relationships (that's influentiALity).

As you can see, the whole process of star, planet, moon, asteroid, or meteor formation requires movement, from the original coalescing to the settling, jostling, consolidation and redistribution of motion until we now have the heavenly bodies of which we are so familiar. What looks stationary now is not. Those seemingly fixed stars are rushing away from us, according to the red-shift of light. Planets and moons are orbiting. Tectonic plates are shifting. Weather, earthquakes and volcanic eruptions are really moving events. Pick up a clod of earth and it is seething with life. Inanimate rock is buzzing with movement in its atoms.

Life is a very moving experience when you think about it. Indeed, the theologian Thomas Aquinas thought a lot about it, and came up with one of his "proofs" of God as a result. He came to the conclusion that there had to be a prime mover to get everything going, and that was God. I once woke up from sleep with this

thought in my head, and went through almost the same logical steps that Aquinas did, reaching the same conclusion. How's that for what Rupert Sheldrake might call morphic resonance?

On our planet, natural processes are defined by movement. The atmospheric cycle of water, via the flow of streams, rivers, oceans, then evaporation, formation of clouds, transport by wind, condensation as rain is all movement. This cycle interacts with air and ocean systems and all are driven by the heat of the sun creating different temperatures (which in turn are degrees of movement of the atoms). Once biological life came along, movement took on different forms – even more essential. Ecological systems are cycles of movement, too

Although to our eyes many living forms seem motionless, they're just moving on a different time scale. I find time-lapse photography fascinating in this respect. Plants and trees suddenly take on a new life as things are speeded up. So, too, inanimate things like clouds - they become very animated! And the opposite is fascinating too, where the frenetic pace in movement of, say, birds are slowed down and our brains can comprehend the amazing beauty and function of wings.

When human beings arrived, the process of colonisation was a march of mass movement, from localised living to creation of civilisations. If one had been an observer from space, from very early times we would have seen the effects of our agriculture and migration on the surface of the earth. What a fascinating time lapse video that would have made! Of course, we can do quite a good job with simulating it now and viewing current processes in real time from the International Space Station.

All our man-made work is in effect creating movement. Machines mean movement. That's most obvious when it comes to building, transport or farming - anything requiring manual and

mechanised work. But it's also the case for more intellectual work. We will be moving bits of paper around, tapping keys on our computers, scratching our heads, and even if stock still and pondering a problem, our neurons will be hard at work fizzing, or computer processors buzzing with electricity.

We now live in what can be called either the information or space age. Both names imply movement, and doing it faster and further. We're at a point when we can send messages at lightning speed, even to the edges of the Universe in search of extra-terrestrial beings. And we're also sending rockets and exploratory robots to far-off planets, moons, asteroids, and comets. We humans have already left earth for the moon, and soon we'll be on our way to Mars.

Back on earth, just like all of us, my life has been one of constant movement, sometimes at a greater scale than at others. As I've said, I moved home many times, moved jobs, and moved around the world in work. My wife and I, although we lived very near each other (Ealing and Hounslow) as we grew up, had to move to Central America before we actually met up. And that was only after we each had eight hours of journey before meeting.

My work has been all about the way trees colonise and form different provenances, and exploiting the resultant genetic variability by collecting seeds for distribution around the world. It's all about movement and requires a lot of it. In particular it requires that people climb trees to harvest the fruits, and much of my work concerned training people in safe methods of doing this. I'm glad to say that unplanned movement falling out of trees was largely avoided!

Given that movement is so integral to reality, it's not surprising that our lives need it. If we are to have healthy bodies, we need to give proper attention to exercise. In the past when movement was

part and parcel of daily work, this happened. But now as many people get chair-bound, we have to find different ways of getting enough movement. I've had opportunities to be an avid rower and swimmer, but now as I'm older I've discovered the delights of Nordic walking, using special sticks - which give the whole body a gentle exercise – something great for all ages.

Disabilities are worth thinking about for a moment. Physical ones almost always are a result of movement being limited or uncontrolled in one way or another. Aging itself reduces movement. There are of course many ways to help restore mobility, from zimmer frames, stair lifts, wheel chairs and scooters. My wife and I attended the 2012 Paralympics and were inspired by the motivation of participants to get moving again. It's very heartening to see how services are now much more geared to helping less mobile people.

And so, dear reader, what moves you? Perhaps you are moving as you read this, seated on a bus or train? As you go about your play and work, think about all the ways you “*live and move and have your being*”. Perhaps there are ways in which you move too much, and need to **live** and **be** more?

All you need to know about your own motionALity

In a phrase, this fracALity is the attribute of moving and being moved.

As a four letter word, it's MOVE!

And in a nutshell: it concerns movement and work - doing things. Whether it's part of our daily work, hobbies, or keeping fit, we all need to do physical things with our body. That's what our hands, legs and body are designed for. Some of us may not like taking

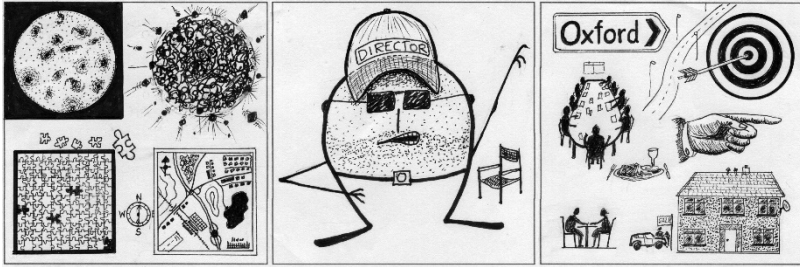
exercise, but most will agree that it increases our well-being. And we know the pain when we misuse our bodies. We're made to be constantly on the move, and if we don't, our bodies will become weak and unhealthy.

- What physical things do you like doing? In what ways could you get more of the exercise that you need?
- How do you feel while you take exercise, and when finished?
- What happens when we stay immobile for a long time?
- At what speed do you like to go about your work or play?
- In what ways do we move too much (not just physically)?
- In what ways do we not move enough, and why?
- When we sleep, the body is more or less paralysed and recuperating. Do you get enough sleep?
- Emotion is movement of the mind and body. When should we show our emotions less or more?

MotionALity in other verbs.



9 – IntegrALity



Life/love/reality is continually forming wholes which are greater than the sum of their parts, with direction, meaning and purpose.

Integral is quite an in-word these days, as is the word holistic. They suggest an essential completeness and connectedness of things, the purpose of which can only be understood by reference to the whole, which by implication is greater than the sum of the parts. This helps to explain how differentIALity is the complement of integrALity – parts vs whole.

From the instant that creation threw apart an infinite energy field and source of particles, there has been a coming together to form distinct building blocks of the universe, each with its own purpose. These in turn are continually reforming to create more complex blocks, every one with a different and distinct purpose. Following this logic, we can ask: is there, perhaps, an ultimate "whole" towards which the whole universe is being directed? People like Teilhard de Chardin think so.

The Big Bang event can be described as a singularity - everything in nothing - which boomed into a plurality - something in everything. It seems that when critical sizes are reached in stars,

they can collapse in on themselves and form other singularities - black holes - perhaps the start of other universes. If so, it seems that there must be an infinite number of wholes to which everything is directed. Well, this all seems too complicated, doesn't it?

Not to worry. Let's trace the formations of wholes and integration in our solar system. Particles, atoms, elements, compounds are one stage. Elements and compounds coalescing to form stars are another stage. Left over stuff forming asteroids, planets and moons are next. Orbiting systems such as our solar system are another stage.

All these stages seem to happen at the same time. Cooling and solidifying of Earth is another. Oceans and atmospheres, then life (or maybe the other way round?) is another process of integration and holism. Epochs pass and then finally we humans come along, and start the current so-called anthropocene era. And now we are debating what it all means, and what is the purpose or meaning of entire life, as well as its component parts.

Think for a bit about our bodies. We all start out life as the fusion of two very special cells, a sperm and egg. These form a gamete cell, which multiplies 2, 4, 8, 16, 32, 64 until there are trillions. As they multiply, these cells gradually form layers and enfold to create rudimentary organs. These differentiate and develop, eventually forming functioning systems which all form an embryo, still part of its mother. When birth comes, a separate life starts. DifferentiALity followed by IntegrALity followed by originALity and so on, an intricate dance of paired fracALities. When we eventually die, all goes back to basics.

It's wonderful isn't it? This sort of growth and development into wholes is going on in all the world. Not only at the level of organisms, but also plants and animals into ecosystems, and

ecosystems into biospheres, and biospheres into a living planet, and who knows, living planets into a conscious galaxy. We can work out the purpose of the parts, but can we understand the purpose of the wholes as they gradually evolve? What's the ultimate meaning of life? It's easy enough with systems and machines such as cars, watches and computers. But what is the purpose of a lion, mosquito or invasive weed?

OK, let's move away from this rather esoteric aspect of integrALity and look at the day-to-day ways it is expressed, for example in teams. A team is a group of people forming a whole that is directed towards implementing a plan or solving a problem and reaching a common goal. Together they can do far more than if they were operating as separate individuals. Teams can be couples, families, sports teams, as well as formal business ones.

Now here is an interesting point. There have been many studies looking at what constitutes an effective team, and the conclusion reached is that there are typically eight roles that members play who are called (in one classification) the energy plant, team worker, specialist, evaluator, finisher, shaper, implementer, and investigator. And it is these distinct roles that helped me define the idea of eight faculties (followed by two more new ones).

So, I would say that for a group of people to form an effective team, they need to exercise and integrate all their fracALities, according to their own preferences. Then you will get a real team! This is another example of the fractal nature of fracALities.

Besides team working there are many ways in which we employ this fracALity to help direct ourselves or others purposively towards goals. There are the roles of facilitator, motivator, negotiator, mediator, mentor, coach, director, encourager, teacher, manager, coordinator, pastor, parent and so on, each

requiring a different set of skills, a key one of which is empathy (that is the ability to understand the feelings of another). Think of yourself. In which way do you like to direct or be directed, exercising this fracALity?

All such roles require some form of leadership. It is said that a good leader is also a good follower. Again there are different theories about how we lead, and there are a variety of ways according to each situation. We are all leaders at different times in our lives (even in such mundane things as carrying out a conversation), and we may need different approaches at any one time, especially when acting as parents. Do we use a carrot or stick, cajole, convince, or do something else?

Participation is a buzz word in forestry as elsewhere and is part and parcel of integration. We foresters have invented participatory forest management, participatory monitoring and evaluation, participatory this and participatory that. These terms simply recognise the fact that we should effectively and efficiently involve the people we are trying to help - the beneficiaries - in the planning and implementation of projects, if they are to be successful. That seems like common sense, but it's often forgotten because we typically like to do our own things and not integrate. Think of politics, for example.

Let's look at pastimes. My brother and I used to make loads of Airfix model aircraft, carefully gluing the parts together, then painting them until they looked like miniatures of the real thing. Now, our family has the tradition of having a jigsaw to make every Christmas. Some of us methodically sort and put the pieces together. Others come in at the last moment and sneakily complete it all. Such pastimes help develop both our differentiALity and integrALity.

At the other end of pastimes and hobbies is the example of my father-in-law who retired early from the Civil Service to be able to build a family home all by himself. He learnt the necessary skills of bricklaying, plastering, plumbing, writing etc. integrating them all to create a beautiful four bedroom house.

Other examples of this fracALity at work is when we take: musical notes and compose a score; colours and paint a picture; words and write a narrative; characters and form a play. Of course, that also requires originALity if the process is to be creative. Just another example of how all the fracALities all work together and not in isolation. They themselves form a team.

I wonder how you, the reader, would rate this fracALity. It's interesting to look back over your life and work out the different ways in which you have planned your life, and found direction and purpose to what you are doing – probably in the company of friends and colleagues.

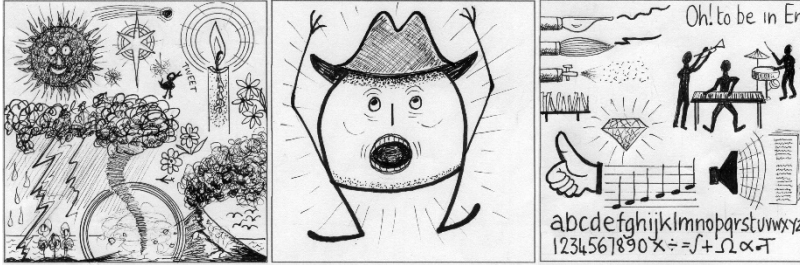
All you need to know about your own integrALity

In a phrase, this fracALity is the attribute of directing and being directed.

As a four letter word, it's JOIN!

And in a nutshell, it's about plans, goals and finding purpose. Even if it's the simplest of to-do lists and remembering appointments, we need to plan in some form or another. Long term goals can really help our need to achieve. We need to integrate all we know in setting them. It's never satisfactory to just go with the flow. Sometimes we may need to ask others for advice. We need direction or purpose to our lives, and like to see

10 – PhenomenALity



Life/love/reality is continually communicating its state of being, passively or actively, with the rest of itself.

This is an eighth fracALity, with two more to go. It complements and forms a pair with intellectuALity, and is concerned with the way reality shows or communicates itself. We can have an idea, thought or pattern, but it has to be shown or communicated, not only to the originator but also to an observer for it to really exist. A Greek word, phenomenon means *a thing appearing to view*, and that “view” can include all our senses, not just sight.

How do we know that there is a universe out there? Simply because we have, as a result of our materiALity, the senses to observe it. Electromagnetic radiation is thrown out and that's what we see... light, infrared, x-rays, radio waves. If you are spiritual, you'll resonate with the words of Psalm 19 in the Bible: "*The heavens declare the glory of God, and the firmament sheweth his handiwork*". In a manner of speaking, the Universe wants to be observed - to be listened to.

Another biblical passages states: "*In the beginning was the Word*". What are words for? Are they not to be understood?

Ancient philosophers talked of the "*Music the Spheres*", a concept in which they regarded the proportions of the movements of heavenly bodies as a form of music, to be "listened" to and understood. So we can conclude that we have an awesome phenomenal universe passively and actively communicating with us.

Actively, if you agree with the psalmist, and also, probably, because there may be other beings out there trying to send us messages. For some time there has been a Search for Extraterrestrial Intelligences (SETI), examining the radio waves for anomalies that could indicate life on other planets. And for our part, we have already sent satellites out into space with messages attached to them, just in case they are "found". Exciting stuff!

It's worth mentioning here the ancient art or science of astrology. This consists of various systems of divination (or foresight) based on the premise that there is a relationship between astronomical phenomena and events in the human world. It is a controversial subject, since much is surrounded by mystery, mistaken ideas and misinformation. But it's a fact that heavenly bodies can effect human activities. Think of the moon, for instance.

While we're on what some would call pseudoscience, we should not forget paranormal phenomena, such as ghosts, poltergeists, or angelic appearances. There are many examples of these happenings or "showings" that have no ready explanation, and which just serve to emphasise that there is a lot we observe in the world that can be misunderstood with present knowledge. Perhaps that's why we are sometimes urged not to try?

It's always fascinated me the way we can learn about the Universe just through our ability to "see" electromagnetic waves, in particular light. First of all, we have deduced that the universe is

expanding (and hence might have started with a bang), simply because of the shift in red colour of stars. We can get an idea of what stars consist of by looking at the spectra of light that they emit. There are dark absorption bands that correspond to the elements that are present. And possible habitable planets are being discovered by measuring the way they interfere with the light coming from their home sun to us. As they pass in front, the light dims – by how much and how long indicates size, position and suitability for life as we know it.

But let's get back down to earth and think of more concrete immediate effects and implications of this fracALity. With regard to us humans now, it's really about how we communicate with each other, and with the things we have made, as well as animals. And this involves language, something that has been with us for only ten thousand years or so.

Language might have started as a form of "singing" to communicate over long distances across plains or valleys, much like animals do with their calls, howls, screams, or songs. When we started to form languages, it would of course only be with sounds, but later when we worked out how to write, then words and grammar would have quickly developed and evolved in meaning, as they still do.

For me, one interesting aspect of language is the way the parts of speech, of which there are eight (at least in English), seem to be related to eight of the fracALities. There are adjectives, nouns, determiners/pronouns, conjunctions, adverbs, verbs, prepositions, exclamations - which correspond to the fracALities discussed in the chapters (see the "In other verbs" boxes). As any communication specialist will know, our messages are also put over by tone of voice and body language, which correspond to the

last two fracALities. See the end of the book for a summary of my justifications for this.

We now have, besides talking face to face and writing on paper, many electronic channels of communication, first analogue then digital, such as telephone, radio, television, and the internet with its own social media such as Facebook, Twitter, etc. and within these we have video, audio, graphics, emoticons, etc. We live in a truly informational age in which we can express ourselves in a myriad of ways.

Truth is an important aspect of this fracALity. Even when we observe the cosmos and try to understand it, we can be deceived by the information we are receiving. The cosmos isn't lying, of course, but we are not reading it aright. When it comes to human communication, there is plenty of scope for deliberate deception. Probably the main cause of conflict is not telling the truth, the whole truth, and nothing but the truth! Of course it has to be told with kindness, where possible.

Is there is a paradox here? If Truth is equivalent to Reality, as I suggested at the beginning of this book, and this fracALity can embrace untruth, then unreality is a part of reality. Do we then destroy reality by lying? Common sense use of the words says we do, doesn't it? But does this mean that fiction destroys reality? Surely not? When Jesus told Pilate that he had come to testify to the truth, Pilate asked "What is truth?" It was a good question!

There's another more subtle way that phenomenALity can embrace unreality. Let's consider our personality - that is, the way we outwardly express ourselves to others. Each of us has a genetically determined make-up, and this "genotype" modified by the environment and the way we were brought up determines our "phenotype" (our "showing ") or character. However, we can consciously hide that character, whatever it is, with a mask, and

that is our personality (persona means mask). It's all part of telling the truth.

Think about some personalities you know. What are they really like underneath the mask? How about yourself? How do you like to project yourself? Are you content with whom you are, or do you try to make people think you are a different sort of person? Over the years, one thing I have learnt that has been very valuable is to be myself as best as I can. We are all different, and that's what makes up the rich tapestry of life.

And how about communicating? I like to share my thoughts and ideas best by writing them down, very occasionally as poetry, and once as a song. If they are very technical ideas, then I enjoy drawing, making diagrams, and especially mind maps. In our family, I'm probably the quietest as most of us are pretty verbal, and very good at expressing our feelings. Our eldest prefers all communication to be by word of mouth!

Perhaps you are an actor. I have great respect for actors, as they have to get under the skin of the characters they play, and so understand them. It must be very rewarding! But perhaps the downside is coming back to reality and being themselves.

All you need to know about your own phenomenonALity:

In a phrase, this phenomenonALity is the attribute of expressing and being expressed.

As a four letter word, it's TELL!

In a nutshell, is about ways of communicating. We need to communicate our thoughts and ideas with others, even the most reserved of us. It may be by talking, writing, drawing, singing,

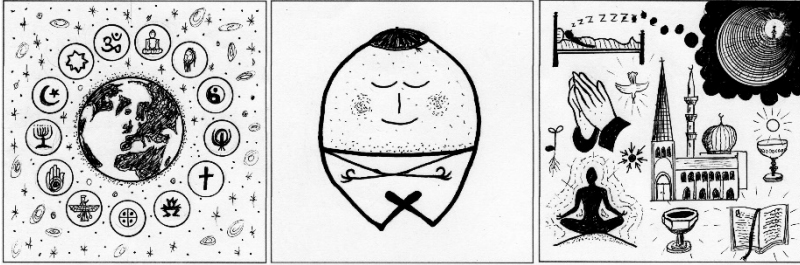
gesturing or many other channels. The way we do it will depend on our personalities. Even if we don't communicate outwardly, we will be talking to ourselves. And for all this we need some form of language, which makes us unique among animals.

- How do you like to keep in touch with people?
- What's it feel like to be alone with nobody to talk to? How would solitary confinement feel?
- How much time do you spend on your phone? How could you communicate face-to-face more?
- Why is it important to tell the truth? When might you need to tell a lie?
- When you communicate, how does your tone of voice and body language match your spoken message?
- When do you give too much information to people? Why?
- If you need to speak in public, how do you need to improve?
- When have you acted a part, trying to understand a person's character? How good were you?

PhenomenALity in other verbs and INTERJECTIONS



11 – InternALity



Life/love/reality is continually maintaining an “inner” connection with the spiritual source on which all depends.

As I explained at the beginning of this book, my understanding of reality has to include the divine. For me, the Big Bang didn't just happen for no reason at all - it was deliberate, as was all subsequent creation. We don't have to believe in a God to accept that we have an internal spiritual property or soul, as well as body and mind, but it certainly helps if we do. So if we indeed have a divine or spiritual dimension to reality, what can we call it? I've named it internALity (although it could be called spirituALity).

This fracALity, then, is concerned with the “internal” dimension of reality, which I believe has always been present in the universe. It now manifests itself in ourselves as our "inner person". It's not limited to being physically inside us, but is also "out there", perhaps in "auras" or energy fields that some religions propose. You can think of it as the way we internalise things before externally expressing them, and as such it makes a logical connection between intellectuALity and phenomenALity (see chapter 6 and 10).

As a family, we've spent five years in Nepal, which was a Hindu Kingdom, but with many Buddhists. I was always very impressed by the way that Nepalese of both religions were able to coexist side by side, and that the common greeting everywhere was "Namaste", which means "*I salute the divine in you*". These two religions, as do most others, recognise a divine dimension that is within as well as without.

There are many ways in which we use, or are used by, this fracALity (remember that all fracALities have a passive and active side to them). We can talk to ourselves (inner dialogue), focus on something (contemplate), talk to God (prayer), calm our mind (meditate), or simply relax and recreate ourselves. I'd say that this fracALity is key to sleeping and dreaming. Let's now consider some of these aspects of internALity.

When we are given a problem to solve or challenge to meet, there often comes a time when we find logic and rationale takes us only so far, and we have to "sleep on it", go for a walk, reflect or just let our unconscious work things out. Then the solution may come to us in an "AHA!" moment (helped by originALity), through our intuition or our instinct. As we do this we appear to talk to ourselves as though there are two or three of us in dialogue, pulling us in different ways. However that process operates, it's certainly one we are familiar with, that of "inwardly digesting".

Meditation and contemplation are important aspects of this fracALity. Those two ideas are often confused and can be confusing. I take meditation to be the process of calming the mind and getting in touch with the "ground of all being", maybe (if needed) using mantras, controlled breathing, or awareness creation. Transcendental meditation is when you reach an altered state of consciousness or awareness that seems to be out of this world, something that requires practice.

Contemplation is when you deliberately focus on one thing, and consider it in depth. In a way, you also let the object of contemplation consider you. For instance, you might contemplate a sunset, or a poem. It's a fact of life that our brains are always on the go, being distracted, flitting around, and it can be very difficult to switch off or focus on something. But when we can do that, we are able to get in touch with much deeper "meanings" of life, love and reality.

If this deeper meaning leads to the divine, then this fragility is key to communication with God. That includes prayer - both talking and listening to God or just being in that divine presence, just as you would with any other sentient being. It also includes adoration, worship, requesting, and confessing - all those theological ways we describe our communication with the divine.

Think for a moment about the implications of prayer. If we are "interceding" for others we are asking God for help in meeting their needs. Although we can assume that such prayers are "heard", we cannot be sure how they will be answered. But the very fact that you are sending out benevolent intentions (or good vibes) must, I believe, have a beneficial effect on the recipient. Even if you don't believe in a God, there are many people who accept the idea and effectiveness of "good vibes".

And the same goes for the reverse. If we are thinking bad thoughts about people (and most of us can think of personal examples of how such thoughts can escalate), then such "bad vibes" will be picked up (even though the originator is not immediately present).

If you are not so spiritually inclined, either in general or at a particular time and place, then meditation may simply be a key for relieving stress after a hard day's work, calming the mind, and having a good night's rest, free of those mind-worms that burrow

around and stop us getting to sleep. When we are asleep, hopefully the dreams we have will not be remembered, or if broken into, will be sweet and relaxing. Dreams are indeed an intriguing topic. Just why do we dream, and where do those crazy dreams that we remember come from?

It's worth noting that all religions embrace internALity, and the practice of meditation and prayer. It's something that the benefits of which a materialistic scientific worldview would try to explain in physical terms, which of course we can do to a certain extent. But there is plenty of circumstantial evidence that there is something more going on if one is going to explain all the beneficial outcomes.

The way I prefer to relax and take my mind off things is to go for a walk in the countryside, and let my senses roam over the landscape. It often happens that when I do that, I'm suddenly brought up short in amazement at the colours of trees, or birdsong, or fragrance of flowers, earth or wood-smoke (sometimes smells not so nice). It's what I would call transcendental, and a revelation of the divine.

When it comes to prayer, I'm not so good at vocalising it. I like to think that all life is a prayer, so there are a myriad of ways we can "pray" throughout the day, provided we keep the divine in mind. But I'm quite happy with the formal and informal ways at a church service, kneeling if needed, raising hands aloft, or talking in tongues. In such situations, I have to keep on reminding myself that these are all valid ways of exercising our spirituality, even though some of them might seem old-fashioned or weirdly whacky!

Our children are all "spiritual" in their own ways. Our eldest daughter has married a pastor and they are strongly evangelical and charismatic. She started a "God Chat" group on WhatsApp

for the whole family, challenging us to say what we think about various topics, often potentially controversial. And it's very revealing to hear all their arguments for and against things like baptism, same sex marriage, hell, or other religions. It's really helped me to keep an open mind and prepared to be challenged and defend (or modify) my own beliefs.

What are your views on religion and God? However you describe yourself (atheist, agnostic (not sure), or “spiritual”), it's important to think about what you or others imagine the divine to be like. All of us tend to make God in our own image, which will inevitably be wrong. And that is where all our religious problems stem from – fighting for our own image of God which we think is right. If you are going to get anywhere, we have to let God make us in his/her image. And that is Love, remember, if you don't believe in God..

To finish, here is a tweet from my forthcoming book “Tweets to You!” I once posted, frustrated by the recent killings in Paris, in exactly 140 characters:

The religious problems we face are when we make God in our OWN image, and then fight for what WE have created. GOD does not need defending!!

All you need to know about your own InternALity:

In a phrase, this fracALity is the attribute of reflecting and being reflected.

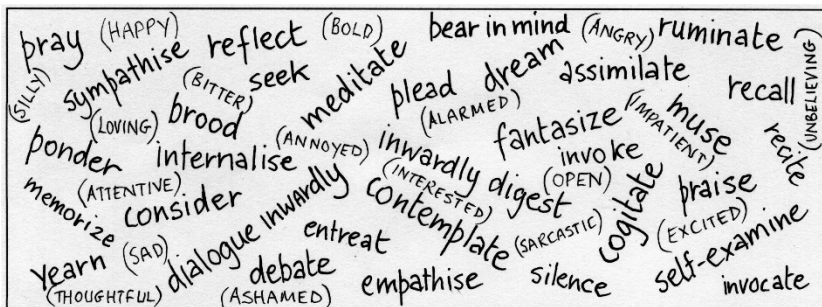
As a four letter word, it's SEEK!

And in a nutshell - life is busy! We need to stand back and reflect, rest, and recharge. We need something to believe in. This may be

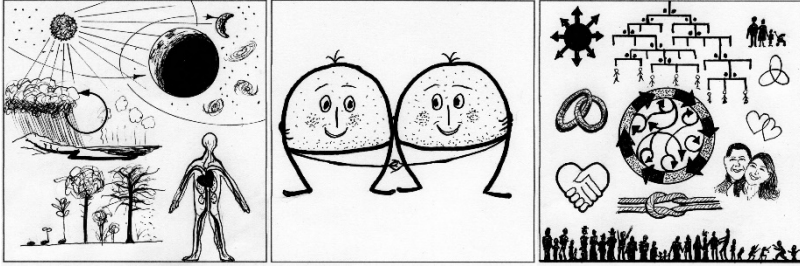
achieved by attending to our spiritual side through prayer or meditation. We need to take time to ponder on things, and sometimes switch off entirely. Sometimes we need to be alone. And we need, of course, to have adequate sleep. Who knows what the role of dreams are in our lives and what needs they fulfil?

- How do you like to relax and chill out? Do you do enough?
- What things make you tense and stressed? Can they be avoided?
- When do you get enough sleep? If not, why? How could you get more rest?
- When you take time out, what do you like to ponder over?
- What is “prayer” to you?
- What does “worship” mean? If you go to a church, in what ways does it differ from other churches you know?
- What’s your view of religions other than your own? Do all express some form of truth/reality? Are all ways to love?
- What’s your image of God? Should you have one?

InternALity in other verbs (and tones of voice)



12 – RelationALity



Life/love/reality is continually building up ever-closer networks of relationships with other elements of itself.

We now come to the last of the fracALities. This one complements the previous one. Whereas internALity takes an inward look at things, this one reaches outward and is about relationships.

Starting with the Big Bang, we can say that relationships have been forming and changing all the time. They start off with particles, then stars, solar systems, ecosystems and finally ourselves, and are basically driven by forces of attraction and repulsion. Everything stands (and moves) in relation to everything else, defined by space and time.

I have a wonderful app for my Android tablet called "Particles". With it you can simulate the way particles come together to form atoms or planetary systems, through these two forces. The size and weight of particles, and also environmental conditions such as gravity and air resistance can be varied resulting in different relationships developing. I find it fascinating to imagine how

everything we now see in the Universe started to coalesce and form relationships like this.

It would be true to say that in the beginning, all relationships were predetermined and automatic, following the laws that came into existence at the moment of creation and/or the Big Bang. Einstein summed it all up from a material point of view in his theory of relativity. Quantum physics might suggest that there is an element of chaos or randomness to the process, but in general, all is predictable if we knew all the parts and variables.

An article in the New Scientist, written in November 2015 is entitled: *Entangled universe: Could wormholes hold the cosmos together?* It suggests that what makes reality real are relationships through space-time created via entangled particles that exist either side of black holes. These form thread-like connecting wormholes between different parts of the universe that have properties akin to chewing gum. How weird is that?!

But let's get back to our reality. It was only when life came along, and freedom to make choices arose, that life became unpredictable - though some scientists would dispute if we are really "free". If you want to be very succinct about existence, you can say that all reality lies in relationships - space-time is linked by wormholes, or creation is a relation, just like God is Love.

In the next chapter I'll say more about that idea, but for now, let's think about the different relationships that exist between people, and how they work. They all depend on an interconnection between the different fracALities that we have, with constant feedback which is a feature of this particular fracALity. This feedback is not automatic like those between primeval particles.

First of all, we have the mother and child relationship, starting from conception through to birth. It's instructive to imagine

development of the foetus and how each of its fractionalities develop and are expressed and modified by those of its mother. We now know that a lot of what happens outside the womb affects the child's development.

After birth we have the parents and child relationships - hopefully with the father playing an active and positive role. Three people make the relationships a bit more complicated. And as they all get older, things will change as the child goes through puberty, adolescence and into adulthood.

If other children come along in the family, then new relationships will develop between siblings, themselves changing as they each mature and grow up. Such relationships can be very formative in different ways, depending on the number of children and their place in the pecking order, so to speak!

Yet newer relationships form as the children go to school and make friends, again changing all the time in type and depth as schools go from kindergarten, primary, secondary and maybe on to training school, into apprenticeships or university. Some will be short lived, others lasting a life time.

Then there is the workplace, where relationships can become even more complex and varied, dependent on many factors. Some may not be that good but have to be endured for the sake of the job. Again, they will change a lot as we go through middle age and into retirement (like me now!)

And finally there are all those relationships formed in our neighbourhood, in clubs and societies that we attend, at places of worship, and fleetingly while travelling or shopping. In all these relationships, we are constantly forming and reforming connections through our fractionalities. How well these

relationships form will ultimately determine the relationships between communities, regions, nations, and all humankind.

In such different and changing relationships, you can see the human loves that C. S. Lewis talks about forming complex connections themselves. To begin a life, it's very much physical *eros* love at play. Then comes familial and brotherly *storge* love which grows stronger and stronger, but then may weaken. And all the time there is *philia* love – friendship – developing. And then a full circle may arrive when *eros* takes over again.

Here's a good point to consider the different types of couples that may get together – whether they be traditional heterosexual, or less common homosexual ones – and the families they may eventually nurture. Clearly magnetic *eros* plays a big part in the first stages of many relationships which may simply be a matter of “*having sex*”. If it can be described as “*falling in love*”, the sexual *eros* element, when it happens, will be better described as “*making love*”. The other loves need more time, and develop more fully, getting deeper as the relationship goes on for longer.

It's a great shame that this deepening of “*love*” (and sometimes “*falling out of love*” or transfer of love that may happen) is misunderstood in many debates, especially religious, about the topic. Part of the problem is that in English we only have one word to describe the multifaceted aspect of “*love*”, including the divine one. And that is why there has been so much trouble trying to put into practice the idea that “*God is Love*”.

One key aspect of relationships is that of feedback. As our fracALities interact (for instance in a conversation) we need to be constantly registering how the other person is reacting and then changing our approach to them as needed. Because this involves another person whose behaviour we may not be able to predict,

this relationALity can be the most difficult to employ properly and fully.

This difficulty emphasises the need to understand how we ourselves "work" and what our own needs are, so as to be able to constructively relate to other people, who may be very different in outlook from ourselves. Many of us don't have the interpersonal skills that we would like to have, perhaps because of mental development, family problems, or simply lack of experience. But we can learn them.

I find it quite instructive to look at all the friends I have made since schooldays. For me, it's only at university that long-lasting ones formed. Some were lost as we moved from country to country, but now with the advent of the internet and social media, many have been reformed and branched out to include the friends' children whom we've not even met.

Letters, the telephone, Facebook, Twitter, good as they can be, do emphasise the need for proper feedback in relationships, and should make us question what sort of friendships we are making. Are they ones which will stand the test of time?

All you need to know about your own relationALity:

In a phrase, this fracALity is the attribute of relating and being related to.

As a four letter word, it is FIND!

And in a nutshell, it's to do with making friendships. We all have a need for friends, whether in the form of parents, family, neighbours, carers, colleagues, or maybe a partner for life. We are made for relationships in all their forms. We need to love and

13 – Perfect Love



Throughout the preceding chapters, I've finished each with a look at the need-loves associated with the fracALity described. As mentioned in the introduction, those needs can turn into wants or demands, and when satisfied are not necessarily in our own or other's interests. We love to take revenge, but that only satisfies our immediate wants. We need food, but it has to be of the right sort, not too much of it, and not denying others their needs - if everybody's health and well-being is to be satisfied fairly.

How do we ensure that things work together for the good of us all? Life is complicated, and we are by nature competitive and selfish (we wouldn't have survived evolution had we not been!). Civilisations have addressed these issues in various ways, according to their cultures and norms. But even with the best of democracies, equality of opportunity and fairness is never perfect, and some sections of society inevitably lose out.

If we don't believe in some higher divine moral authority, then the best we can do is to come up with humanistic principles of behaviour according to what we think is right and just, looking to our consciences and reason. And this is what a lot of law and legislation is based on. But as I've said, I believe in a reality founded upon a God that is Love - and this divine love shows (if allowed) the ultimate way in which we can meet all of our needs.

The last chapter discussed relationALity and how the many human loves come into play, and this is key to understanding divine love. Christians say that we are made in the image of God. Does that mean that God has all these fracALities and exhibits

these types of human loves? If it did, then that would be making God in our own image, which would immediately be limiting and not really true. But we can argue that reality lies in relationships, and that God is a relationship. To say "God is Love" implies relationship, as love requires a subject and object.

If we accept this, then the Christian idea of the Trinity begins to make sense. The three "persons" form a relationship. If you don't like the image of a Father and Son, just think of it as two beings in love - with the love being the person - the "Holy Spirit". But remember, that image is only a metaphor.

I mentioned that my father-in-law wrote a book about reality which partly inspired me to write this one. The title was: Facing up to Reality - a rational approach to the Christian faith. He wanted to call it "What Real Reality is Really about" but the publisher thought that would not sell well. In it, my father-in-law argues that we have three channels of knowledge (and only three). They are through our senses, instinct (built in) and intuition (immediate understanding without reasoning).

It is for this reason, he says, that when we try to understand "God" via the Bible, Christians come up with these three elements of the divine. The "Father" is manifest through the mind, or instinctive knowledge of God. The "Son" comes to us via the senses (i.e. as Jesus - God incarnate). And the "Holy Spirit" is the divine expressed via our intuition. He concludes, presciently, that we are in danger of losing our understanding of the divine by not exercising our intuitive faculty properly. We are becoming too materialistic, and I think he was right.

So, if we accept that God is a divine and perfect relationship of love, in whose image we are made, then it should be possible for us to know how to exercise all our faculties to meet both our needs and those of others in the best way possible. And that is the

main message of the Christian Bible, if you carefully separate it from the cultural narrative of its time. We can (and should) love God and others as we love ourselves. We just have to ask for divine help. Seek and we will find, as one passage says.

What, then, does this perfect or *agape* Love look like in reality, in practice, when we exercise all our fracALities? You just have to look at Jesus' life, and read the relevant passages in the Bible, such as St. Paul's letter to Corinthian Christians. Here is an excerpt, often read at weddings:

Love is patient, love is kind. It does not envy, it does not boast, it is not proud. It does not dishonour others, it is not self-seeking, it is not easily angered, it keeps no record of wrongs. Love does not delight in evil but rejoices with the truth. It always protects, always trusts, always hopes, always perseveres. (1 Corinthians 13:4-7 NIV)

Whether you are a Christian, follower of another faith, or none, you can't argue against that description being a model of how to employ our fracALities. It's the "glue" that holds them all together in a reALity that we would all like to see. You could probably think of many other traits that characterise *agape* – respect, forgiveness, sympathy and empathy for instance.

How about you when it comes to gift-loves? Do you like going out looking for presents to give to others? My wife has a real gift for this! Throughout the year, she will have in mind what people would like for their birthdays or Christmas, and whenever in the shops will keep an eye out and buy things that others need or want. When it comes to me, however, I'm hopeless. I'll just wander around looking at things that take my fancy and maybe buy those I'm really taken with. That's really rather selfish, and something I'm trying to improve upon.

If you read biographies, you will inevitably come across those of great philanthropists, leaders, brilliant scientists, or inspiring role models. But to what extent did they do what they did just out of altruism, wanting to benefit mankind? Occasionally you find stories of people (sometimes called saints) who demonstrate this sort of divine love in some aspects of their lives. It's worth reading them to find out what their motivation really was.

What is my motivation in writing this book? It's partly to satisfy my need to express my ideas, classify, solve problems, and feel as though I have achieved some way of improving the world we live in, and get some recognition and respect for it. Somewhere, I hope there is a purely "altruistic motivation". Maybe that is an oxymoron. Perhaps I should talk of a divine impulse or allurements, not to satisfy any need of mine, but to satisfy the needs of the life/love/reality that the divine brought into being.

In terms of time, what is the relationship between divine love and the life we've been talking about? If God is outside time, without beginning or end, then so is divine love – they are both eternal. However, material life as we know it does have a beginning and an end. We all die – from dust we come and to dust we shall return. So how do we understand the concepts of eternal life and heaven (and what about reincarnation, purgatory or hell)?

The short answer is that we don't really know. Such concepts are beyond our full comprehension, but we are told that heaven is something wonderful and our destiny, not to be missed. Part of the answer surely lies in this perfect love. To the extent that we allow it to cement our other frailties together, our expression of that love lives on in a spiritual personality that is us, but transformed and transfigured, inhabiting an eternal reality that is called "heaven". Or something like that... What do you think?

14 – End words

There are two words in the title of this book which I've not explained - amazing and awesome. They were chosen with care, so I had better explain before finishing. "Amazing", according to the dictionary, means "*causing great surprise or wonder; astonishing*". Amazeballs is the modern equivalent. I think that's a very apt adjective for all life, as I'm sure you'll agree when you really try to understand the universe, the earth and humanity. If we have lost our capacity to wonder at it all, then there's something wrong with our awareness.

Awesome needs a bit more explaining, although it's in common use nowadays, a bit like amazing. The dictionary defines it as "*something which inspires awe*" and awe is "*a feeling of reverential respect mixed with fear or wonder*". Now I'm sure you would agree that life and love can be both amazing and awesome. But what of the "fear" element? Some of life is definitely fearful and needing to be feared. But what about love? What is there to fear in love?

Well, there's quite a lot to fear in human love, if you think about it. There's the fear of unrequited love or the fear of losing loved ones. Some people would say that the opposite of love is in fact fear, not hate. There's a passage in the Bible that says that "perfect love casts out fear". Hate is simply misdirected love that results from the fear that one's own wants will not be met. Others would say that the opposite of hate or fear is actually indifference – when we just don't care about something, and ignore our fragility of differentiability.

There's also a biblical use of the word fear that needs to be unpacked, because it has led to a lot of misunderstanding. Aberdeen University's Latin motto is "*Initium sapientiae timor domini*" which means "*The fear of the Lord is the beginning of wisdom*" and comes from the Psalms. The fear in this sense is that of awe. We are not being told to cow down and quiver in fear before God (though sometimes that might be appropriate), but to have a sense of awe.

If you read about Jesus' life in the New Testament, you can't but be awestruck by his example of love (unless you think he was deluded or mad). You may not really understand the theology of why Jesus had to die, but to give himself up willingly to help people who actually hated him was pretty awe inspiring. There are plenty examples of people giving up their lives for others, and where that happens it's a reflection of what he did. That famous phrase "Amazing Grace" and hymn in relation to Jesus comes to mind - grace being theologically defined as "*the love and mercy given to us by God because God desires us to have it, not because of anything we have done to earn it*". That's what I call "Awesome Love"!

The Golden Rule found in most religions is "*do to others what you would like them to do to you*". It is found in Christianity's summary of the Jewish Ten Commandments as "*love others as yourself*". This is understandable, but the part that precedes it is "Love God and..." which is a bit more difficult. If you have difficulty in knowing how to love God (whom we've not seen), it may help to look at the Amazing Life around you, and the Awesome Love that Jesus demonstrated in his own life. They are all real, and without their divine origin, there would be no reality at all!

A thought experiment

To conclude this chapter, here's a thought experiment inspired by Rupert Sheldrake, Don MacGregor and Fr. Adrian Smith's ideas in their books (see bibliography).

The environment in which we live, move and exist as human beings can be thought of as an energy field full of infinite numbers of particles and waves.

Consider first the cosmic rays and stuff that are bombarding the earth and pass right through us from outer space. Instruments can pick up and measure them. We are peppered right through with them, but still life goes on unaffected.

Then think of all the many things around you that you can sense and recognise via your eyes, ears, nose, mouth, and skin. Perhaps there are other things we subconsciously appreciate with a sixth sense. Lots of these stimuli too, and they affect us in many ways.

Add to them all the phone, radio, WIFI, TV channels and programs you could tune into, using the right electromagnetic wave receivers – millions of bits of information vying for our attention, both good and bad. They pass through us, too.

Now imagine (as Sheldrake does) that every idea, thought or form ever created is also out there in that field, however faint, waiting to be tapped into and materialised in our lives.

How? By your mind consciously or subconsciously tuning into and resonating with them (hopefully thinking on and imitating only the positive ones!). In that way, your body knows how to grow and repair itself; you know how to start solving a problem, or you remember how to play a Beethoven piano sonata by heart.

All these things are possible because they are events that have happened in some form or other in the past and have left their imprint on the universe somewhere in or outside space or time.

We just need the right receivers to make this past reality present in our future, and this is what our mind or consciousness does for us. The more we do that, the more real it becomes.

If we accept that the whole universe is somehow conscious, then such a process of “morphic resonance” can be thought of as recreating, evolving and maintaining not only the forms of nature that we see around us, but also the laws, rules and habits of all of life, love and reality, both good and bad.

The illustration on the front of this book appeared on our Christmas card for 2015 with the biblical words "In the beginning was the Word, and the Word was with God, and the Word was God..."

Doesn't this give us a clue to how everything began? An original "Word" of "Love" uttered in the darkness from which light and form resounded and resonated everything into being, and keeps on doing so, now helped (or hindered) by us consciously reflecting (or not) that word of love?

And how can we do that? Put aside the theological complications of why Jesus lived and died, and imagine - as many Christians do (including Don MacGregor), that his primary purpose was to imprint himself on reality, and show us how to live a life of perfect love with which we could resonate, replicate and reflect. Then, like him, we become "divine" co-creators in this universe – and can do even more than he did (that's a Biblical promise).

Truly amazing and awesome, isn't it?

15 – The Octaikon schema

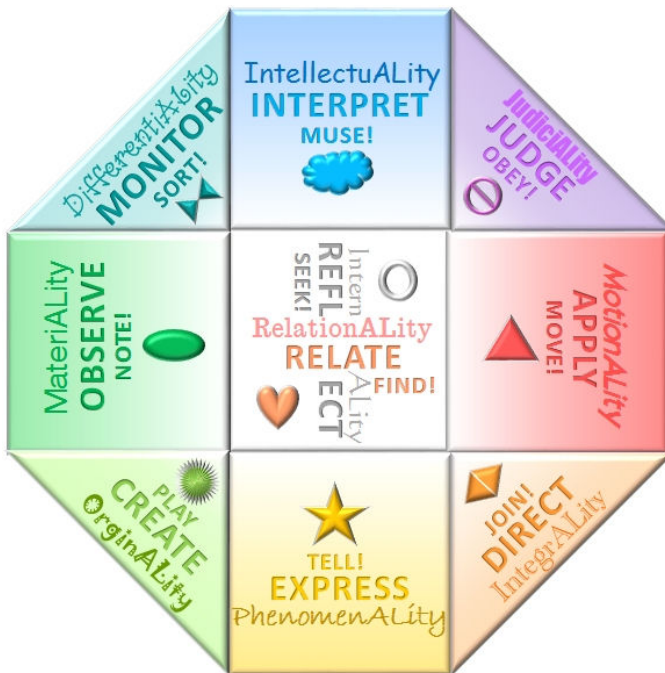
The ten fracALities and the all-embracing perfect-love dovetail together to form a schema that makes them more easily remembered and explained in relation to each other. Represented as a graphic, I call it an Octaikon, as it is octagonal in shape and (in my mind) serves to act like a window onto the spiritual side of life (hence "icon" or "ikon" in Greek). I could call it an OctaikonALity, but that is jargon too far!

OK – so this book is a result of nearly two decades that I have spent grappling with psychological, physiological, theological, and social ideas, and trying to understand, compare, contrast, summarise and synthesise them. It's only now that I've tried to bring them all together in relation to the whole universe and what is reality. I won't go into detail about that process here as I've written other booklets that explain it. Take a look at the titles available if you want to read more. Some are aimed at different age groups.

The main points about the schematic structure of the fracALities that I hope you've discovered are as follows:

- They're linked and there's a logical sequential order to them.
- They are, however, generally used concurrently.
- Four of them (the squares), can be considered as cardinal fracALities, the other six derived from them.
- They are all needed, and cannot be considered in isolation.
- None of them are "better" or "worse" than the others.
- They form pairs that complement and balance each other.

Look at the following example of the Octaikon graphic, and the coloured ones on the back cover, to get an idea of their linkages (adjacent fracALities) and complementary pairs (opposite ones). Note how there are eight around the perimeter, and two intersecting on the middle, to give ten in total. The four outer ones, represented by squares, I've called "cardinal" (like the points of a compass) because they are common to many ideas where there are just four elements.



FracALites identified by a descriptive noun and two verbs (note that JudiciALity is called InfluentiALity in this book).

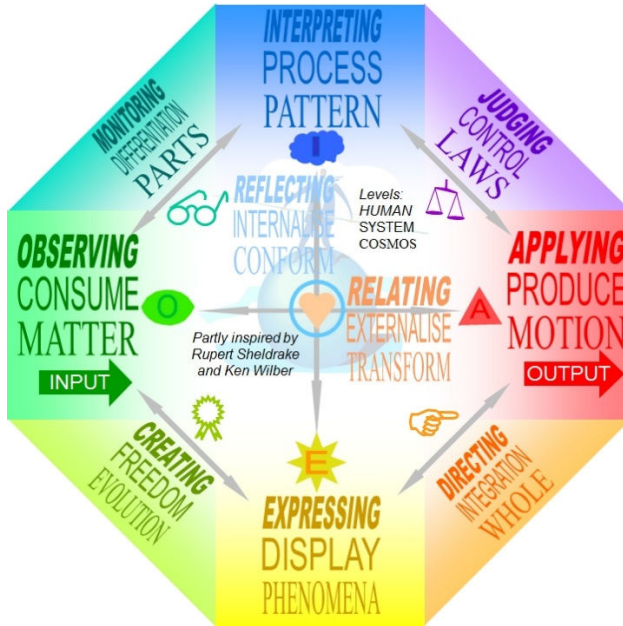
The colours are simply a way of distinguishing the fracALities and showing their relationships, using a form of colour wheel. The colours can, serendipitously, also give a feeling for each one (red for action, blue for thought, purple for law etc.). I've also used some symbols to help memorise the meanings. The letters come from the original words used to describe the cardinal faculties in early versions of the graphic, as noted.

The order of the chapters and presentation of the fracALities mainly follows what can be seen as a logical order, going clockwise around the Octaikon, finishing with the two central ones. I've tried to explain the way one follows another as I've described the fracALities, and also the way they form complementary pairs. Here's a summary with the different words /descriptions I've used, just to emphasise this important point.

- MateriALity - MotionALity: take in vs give out; observe vs apply, note! vs move!
- IntellectuALity - PhenomenALity: think vs speak; conceal vs reveal, interpret vs express, muse! vs tell!
- PartiALity - IntegrALity: split up vs join together; parts vs whole; monitor vs direct; sort! vs join!
- OriginALity - InfluentiALity: open up vs close down, freedom vs laws; create vs judge; play! vs obey!
- SpirituALity - RelationALity: internalise vs externalise, reflect vs relate; seek! vs find!

It is tempting to use the fracALities to classify people's personalities or temperaments, as is done with some of the ideas on which they are based. Certainly, there will be fracALities which we are more attracted to and prefer to engage with. However, if you think about them carefully, you'll find that we use them all, but in different ways. I've given examples already,

such as intellectuALity - all of us use our brains and have different intelligences.



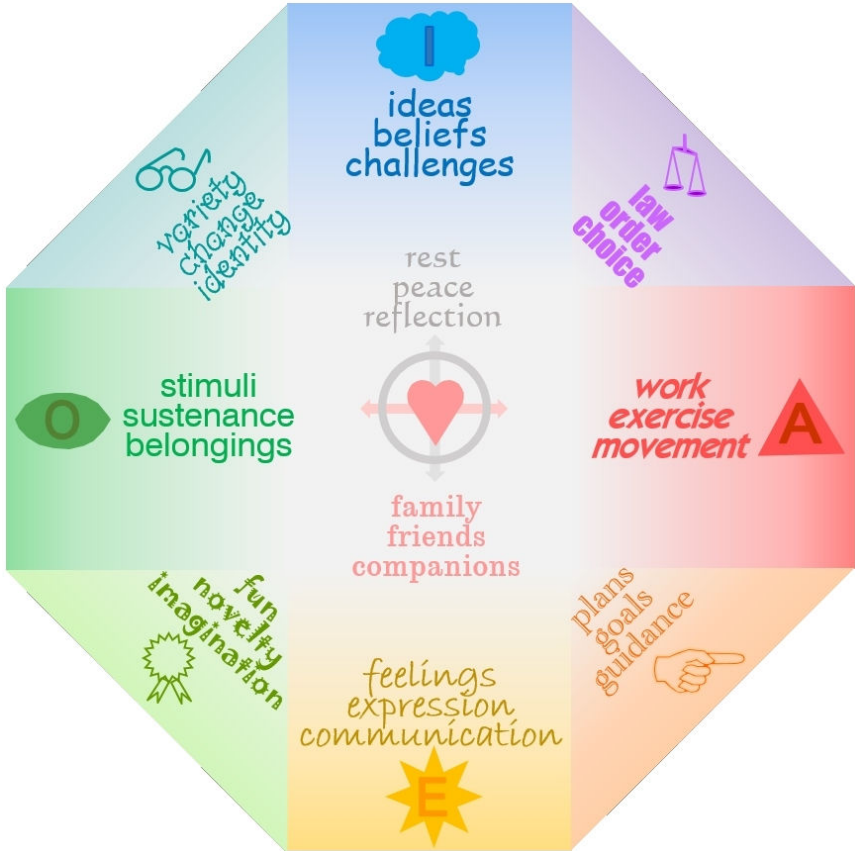
FracALities named for three systems
HUMAN / PROCESS / COSMIC

(animated audio version at www.youtube.com/watch?v=WPWsl-rQPvA)

Therefore, my suggestion is to identify how you naturally prefer to use each fracALity, and work at achieving a balance between them, once you've identified strengths and weaknesses. And then strive to use them to meet your own needs, at the same time as you do so for others, using that divine glue of agape love. Then you'll be well on the way to answering that key question I posed at the beginning of this book:

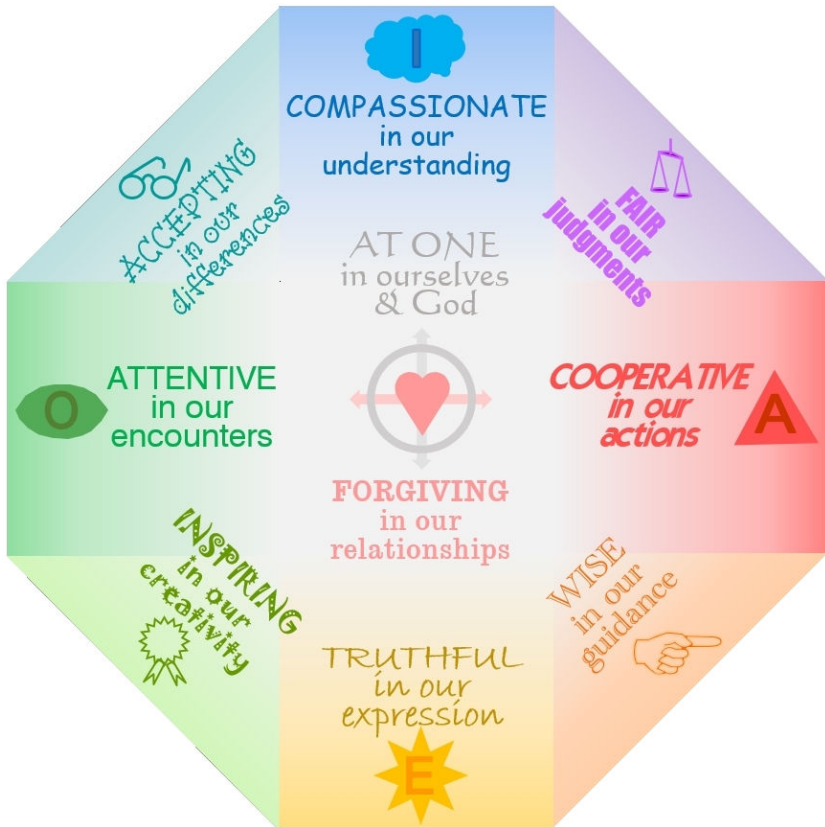
"what gives motivation/purpose/fulfilment/happiness in life?"

KEY NEED LOVES



FracALities linked to examples of basic need-loves

AN IDEAL ROLE MODEL



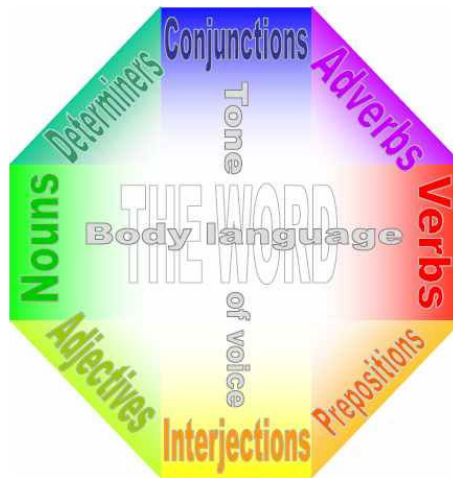
Each fracALity expressed as one ideal characteristic.

ROLES OF PARTNERS



Roles of partners grouped according to the main functionalities involved
(animated audio version at: www.youtube.com/watch?v=ZxvFQoZ41Zsk)

PARTS OF SPEECH



The functionalities linked to 8 parts of speech, tone and body language
(animated audio version at www.youtube.com/watch?v=8tyYrVFXqg)

- **NOUNS** signify a concrete or abstract entity and are those material things we **observe** (or imagine) with our senses
- **VERBS** signify an activity or process performed or undergone - that is, the things that are done or moved - **actions**.
- **ADJECTIVES** modify or describe a noun **creating** a fuller description of a concrete or abstract entity
- **ADVERBS** modify or describe a verb helping us to **judge**, evaluate or choose an activity or process
- **CONJUNCTIONS** join parts of a discourse and fill in gaps helping us to **interpret** the logic or rationale of what is being said
- **INTERJECTIONS** **express** an emotion of the speaker and can represent a particular feeling or attitude
- **PREPOSITIONS** indicate a relation between things mentioned or the way they are **directed** or positioned one to another
- **PRONOUNS (DETERMINERS)** are like adjectives, and help **monitor**, differentiate, define or number people or things
- **TONE** of voice can correspond with our inner **reflective** faculty – what we really think and can include silence.
- **BODY LANGUAGE** can correspond with our **relating** faculty – our “action” words.

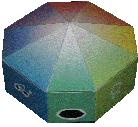
16 – More of my works

Octaikon – keeping body and soul together



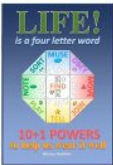
This book is my original introduction to the Octaikon. It provides a detailed look at the many ideas (secular and spiritual) from which I have derived the schema, and gives a bit of historical detail. Autobiographical anecdotes are interwoven with text taken from my life and work. I recommend this if you want to see the thinking behind the current.

Toby's Tent – making friends



This is a story that helps explain the Octaikon schema to children. I present it as an educational allegory of how we function, physically and spiritually. Toby – who is nearly a teenager – wonders why he doesn't have many friends. In a pet a colourful team of people who live in a tent. how they help to make him who he is.

Life! is a Four Letter Word: 10+1 powers to help us wear it well.



This is based on the Octaikon schema in a similar way to this book, aimed at self-improvement for younger people. I've played with the idea that LIFE! is a four letter word, which we are always wearing like a suit of "power" clothes - sometimes they fit e feel good in them, but at other times we don't have cuff, nothing looks good, and we start swearing. Ten words are used as handy reminders of the powers we

all possess, and which help us "wear" life better. A final +1 power is key and must be worn over all the others. Each section is about 1000 words, read in 5-10 minutes. At the end there are suggested ways to find out more, think about, discuss, and put the powers into practice.

A Real Tweet to You



When I came to realise that reality lies in relationships, I first wrote a short piece explaining that idea, followed by a much longer series of tweets. This book reproduces them both. I had fun doing this. The idea was very appealing, and I decided to challenge myself by developing it over a series of 140 tweets, each one of exactly the maximum 140 characters allowable.

Octaikon website

www.Octaikon.co.uk



This website is my best attempt at making all the information about the schema available online. Please explore the resources there and let me know how it can be improved.

Contact me at amj.robbins@gmail.com

Along with this current book, the above titles can be read online at https://www.scribd.com/marcus_robbins_3 or obtained as printed documents from www.lulu.com by searching for Marcus Robbins, and selecting the title you want. The printing quality is excellent and they are all available at cost price and cheap!

17 – Selected bibliography

I've read many books over the years which have led me to write this one. Here are just a few that I have found particularly formative in writing this one, with a brief commentary on each.

Brand, Dr. Paul and Yancey, Philip. 1981. *Fearfully and Wonderfully Made: A Surgeon looks at the Human and Spiritual Body.* Hodder and Stoughton. An inspiring book written by a cousin several times removed. Dr. Brand was a missionary and pioneered hand surgery for leprosy patients.

Goyder, David, 1989. *Facing up to Reality: A Rational Approach to the Christian Faith.* Churchman Publishing (out of print, but available from me as a PDF). The author is my father-in-law, and wrote this book in response to the many people who queried his beliefs.

Lewis, C. S 1960. *The Four Loves.* Collins Fount Paperbacks. A classic on what love means, according to the main Greek definitions.

MacGregor, Don, 2012. *Blue Sky God: The Evolution of Science and Christianity.* Circle Books. An excellent attempt to integrate current scientific views of reality with Christian theology, suggesting how it should be reformulated.

Russell, Edward. 1971. *Design for Destiny: Science reveals the Soul.* Neville Spearman. Out-of-print. An intriguing review of ideas about life and thought fields. Attempts to make a case for reincarnation.

Sacks, Jonathan, 2011. *The Great Partnership: God, Science and the Search for Meaning.* Hodder and Stoughton. A

stimulating look at the way our brains function in two ways – breaking things down to see how they work (science), and joining things up to see what they mean (religion).

Sheldrake, Rupert, 2011. *The Presence of the Past: Morphic Resonance and the Habits of Nature*. 2nd Edition. Icon Books. A fascinating and complete introduction to his ideas exploring the possibility that memory is inherent in nature. Includes a useful glossary.

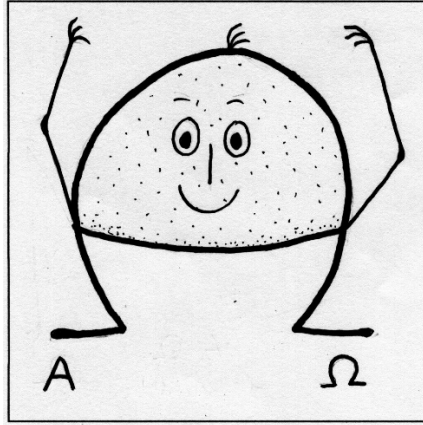
Smith, Adrian B., 2008. *God, Energy and the Field*. O books. A very good synthesis of modern science and liberal theology.

Swimme, Brian, 2001. *The Universe is a Green Dragon: A Cosmic Creation Story*. Bear and Company Publishing. An inspiring imaginary dialogue between an elder and his pupil that explores the universe's origins.

Teilhard de Chardin, Pierre, 1959. *The Phenomenon of Man*. Harper Perennial. Another classic (a bit difficult to read) that argues that humans are evolving toward an “omega point”, which is convergence with the Divine.

Wilber, Ken, 2001. *A Theory of Everything: an Integral Vision for Business, Politics, Science and Spirituality*. Shambala. An attempt by a philosopher to draw a wide range of disciplines together and see how they can be synthesised to provide an answer to our existence.

18 - Introducing Comic AL



You'll have noticed at the beginning of each chapter describing the fracALities that there's a cartoon character. This is Comic AL acting the fool in various guises.

S/he's been created and drawn by me (along with the illustrations) to help bring each fracALty ALive.

Comic AL takes his/her parentage from two well known characters: Latin Alpha and Greek Omega.

As you can see; s/he was born funny and looks like a combination of an A and an L, hence the name.

I hope Comic AL will stop us getting too serious about reALity as s/he evolves in his/her role, hopefully promoting the ideas in this book on social media and elsewhere.

19 – Questions for enquiring minds to ask about anything

(based on the fracALities)

- Where does it come from?
- Who/what made it?
- What's it made from?
- How does it affect your senses?
- How's it made?
- How does it work?
- How's it controlled?
- How does it move?
- What's its purpose?
- What does it “say” to you?
- What does it mean to you?
- What does it mean to others?

REALITY CHECK

*In Life, Love is the only thing that makes sense...
literally!*

NOTES