

EPILOGUE

The end of my Seventh Decade is fast approaching as I write this and it is time to put my affairs in order. *Three score years and ten* has a ring of finality about it! When my eldest son Tim is 70 my eldest granddaughter Charlotte will be 40! What wonderful things she will experience between now and then!

In my Second Decade my parents took me to see *The Music Man*. Not much is heard of the show now but it had some great songs, one of which went: *My friends, you have Trouble, yes, I mean Trouble, spelt with a capital T.*

It is sung by a salesman of musical instruments to the Town Elders, warning them that if they didn't invest immediately in a set of instruments for a brass band and start teaching the children to play trumpets and beat drums in the evenings after school, as a way of keeping them off the streets, the town's youth would degenerate into a gang of troublemakers! In our little market town of Castle Cary they apparently had the same trouble in 1779. The parishioners built a prison in the market place outside the post office; the main purpose was to house drunks, but the other villains imprisoned there were children who skipped Sunday school!



Castle Cary prison for children who skipped Sunday school!

My Trouble (spelt with a capital T) is that I am about to step into my Eighth Decade and it is a bit too late to beat a drum or blow a trumpet. One of the annoying things about getting old is that everyone around you denies the fact, which is a bore because they are obviously wrong. The doctors say that if you live for 650,000 hours you have had a full life. By dividing that number by 365 x 24, the answer is 74¼ years! Turning to the calendar I worked out that the date stamped on my departure ticket is July 12th 2009.

Approaching the end of life's journey has the same finality as climbing a mountain, because when you reach the summit you can't go any higher. All journeys should have a destination that you are happy to reach and that is how life should be, and how mountaineers presumably think about mountains. During my time on Earth I have made my own unique journey and been incredibly fortunate all along the way and I have no complaints.

I have enjoyed every minute of my time (barring a few of my school days) and possibly given some enjoyment to others as my *Children Sculptures* are turning up in shops all over England, guaranteed to be a limited editions of 100. They are even advertised in our local *Blackmore Vale Magazine!* I hate to think where they are made as they are incredibly cheap, and would cost ten times more to cast in Europe, which means Asian slave labour is involved, which saddens me.

I give thanks that my time has been so packed with diversity: creativity, fascination and friends, but more importantly, that I have been able to share my life with a 'loving companion'. When evening comes there is nothing more satisfying than to sit with Margie by the open fire or the pond in the garden, sip a drink and listen to her talk about our grandchildren, or make a few plans for the coming days that can be easily changed if necessary without causing the slightest ripple on the surface of our own, or anyone else's, existence.

We have not quite entered our second childhood, although I sometimes wonder about that as not long ago, when passing through the television room on my way to my study, I found our youngest granddaughter, Amber, aged six, had erected a Bedouin tent of rugs and chairs, underneath which, she and Margie, aged 68, were reading by torchlight to our seven-year-old spaniel.

When Kalil Gibran was asked to talk of marriage in *The Prophet* he used the metaphor of two trees growing side by side, together but apart. This surely is only half the story as trees depend on their roots. Just as important as the space between the two trees above ground is the fact that the roots are intertwined and sharing the same nutritious soil below the surface!

We love to stroll around the Agecroft orchard and admire the trees that we planted 35 years ago. The chestnut in the middle that was a seven-foot high stick when placed in the ground now has a seven-foot girth! It is so big son Mark cut out the main trunk at 20 foot and built a tree house. Since reading *Babar* as a child and seeing the illustration of the Zephyr's monkey home, I have always wanted a tree house.



A brood of fledglings in the 'Crow's Nest'

Our tree house is called the *Crow's Nest* and to reach it you have to climb two ten-foot ladders. In the summer Margie has a hammock slung between the branches and it has become one of her favourite places to go and read the newspaper after lunch. It is also the favourite place for the grandchildren to have picnic tea parties of soft drinks and chocolate biscuits.



Crow's Nest

A friend of Damon's named Michael came with us on the helicopter trip to Kimberley to look for Bradshaw paintings, and when we formed the Bradshaw Foundation, Michael became one of the Trustees. He is a member of the Bohemia Club in San Francisco and one year he very kindly asked me to spend a week at their summer-camp situated in the heart of a sequoia forest, something I have always wanted to see for myself.

On arriving at the 'Men Only Camp' around noon we went for a walk through the sequoias. If you haven't seen these trees with your own eyes you would not have believed that anything could grow that high or have such a girth. They are utterly majestic and no photograph can do them justice. It was a memorable day, highlighted by our catching a glimpse of a mountain lion as we followed a path up a ravine in the forest.

We arrived back at the lodge to find an *urgent message* asking me to call England. No cellphones are allowed in the camp so we had to go down to the office and Michael came with me, as I was unfamiliar with the American pay-telephone system. I called and talked to Kate, son Peter's wife, who told me that Margie was in hospital and that doctor son Tim was in charge and there was nothing to worry about. I put down the phone and turned to tell Michael what I had been told and found that I couldn't speak!

As my knees had turned to jelly Michael helped me across to a bench where I collapsed in a heap and rocked back and forth. Thank goodness he was a physician and immediately knew what had happened to me. He put his arm around my back while I struggled to come to terms with the news. I now understand what shell-shock must feel like!

After several tries I recovered enough to splutter some incomprehensible words, although it was another 15 minutes before I was able to talk properly. When the shaking had stopped I rang the airline and told them what had happened. "Can I get a seat tomorrow?" The girl replied, "Of course, just turn up and we will get you on the next flight." Michael kindly drove me to San Francisco and Peter collected me from the London airport and took me straight to the hospital, to find Margie sitting up in bed reading. She looked up and said, "What are you doing here?" I have never heard sweeter words.

I don't know what would have happened if Michael hadn't been there to get me through that awful time and I shall never be able to thank him for holding me together. It was as though my brain and body had stopped functioning! The event told me a lot about loving relationships!

It makes me incredibly sad to think that on every day of my life, somewhere in the world, there has been a war going on. Some wars have been greater than others, but all have caused untold misery and invariably it is the children that suffer the most. To emphasise the horrors of war books like J Holland's *Fortress Malta* should be mandatory reading. The book records how in WWII the Germans made 3,340 sorties over Malta to bomb the 275,000 citizens. During one period in 1942 the 95-square-mile island was blitzed on 117 consecutive days and in April alone 6,728 tons of bombs destroyed 29,000 homes. On one particular day the island was under attack for 20 continuous hours. To comprehend the colossal amount of devastation this caused can only be understood by comparing it to the 18,000 tons of bombs that the Germans dropped on the cities of Great Britain during the Blitz. 6,728 tons on Malta against 18,000 on the whole of the U.K.! A total of 7,000 service men and civilians, including hundreds of children, were killed. The Island of Malta was awarded the George Cross medal by King George VI for withstanding the longest siege in British history. However, the defence of the island by Spitfire and submarine turned the tide in North Africa and led to the defeat of the German and Italian Armies by the British. Winning the war in the Mediterranean cost the British Commonwealth 2,301 airmen with the loss of 547 aircraft, but in return they shot down over 2,000 Fascist bombers.



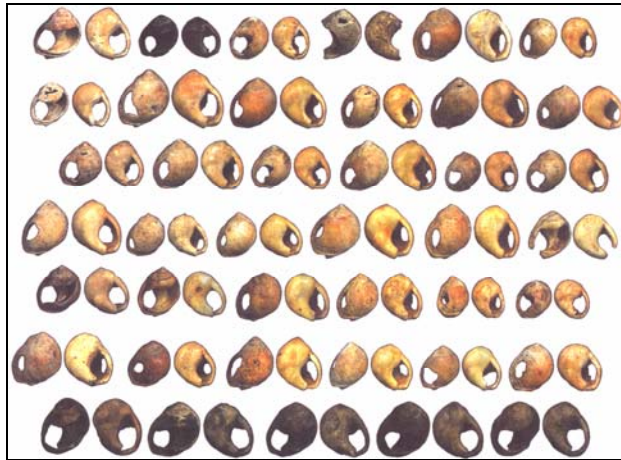
'Kimberley', the Agecroft pond fairy

Mobile telephones are the latest examples of our constant urge to communicate. Of course they are a great invention and convenient to have, but when my ears are bombarded by the asinine conversations that take place in trains I sometimes wonder if they are really necessary!

It certainly proves that ours is a communication culture! All animals communicate in one form or another so they can meet and mate, and in all probability it was the need to *meet a mate* that led to the evolution of speech. Darwin and Wallace were not the first to note that speech is the defining characteristic of humanity.

Isocrates, 436–338 BC, wrote: *In most of our abilities we differ not at all from the animals; we are, in fact, behind in swiftness and strength and other resources. But because there is born in us the power to persuade each other and show ourselves whatever we wish, we have not only escaped from living as brutes, but also by coming together have founded cities and set up laws and invented arts, and speech has helped us attain practically all of the things we have devised.*

The remarkable discovery in South Africa of a collection of 41 perforated shell beads at the Blombos Cave site near Cape Town, has been dated at 75,000 BP, making them 30,000 years older than the cave drawings of Chauvet in France. The archaeologists suggest they were a stone-age necklace.



'Blombos', 75,000-year-old pea-sized snail-shell necklace



The beads were found in clusters, the largest being 17 shells, and appear to have been selected for size. The snail, *Nassarius kraussianus*, is only found in estuaries. It is probable that the holes are man-made although there are no tool traces on the surface of the shell. However, the shells do carry traces of red ochre and show similar patterns of wear that suggest they were strung together and worn as a necklace. The ochre on the shells could either have been painted on or been transferred when the necklace was rubbed against a human chest that had been daubed with red ochre and fat to make body paint. ART!

The scientists tell us: *the shells provide powerful evidence for modern thought and the storage of information outside the human brain and that the wearing of a necklace indicates symbolically organised behaviour suggesting that the people who made them were able to communicate using a detailed and precise language. Once our ancestors adopted symbolically mediated behaviour it meant communication strategies rapidly shifted, leading to the transmission of individual and widely shared cultural values, traits that typify our own behaviour. Homo sapiens became anatomically modern about 160,000 years ago and the Blombos discoveries point towards our brains having acquired the capacity to think in abstract ways at least 75,000 years ago.*

Shells are tough things to drill holes in. Recently I helped granddaughter Lucy make a necklace out of 50 cowries she had found and needed a dentist's

diamond drill to make the holes so she could thread them onto dental floss! Whether the Blombos holes are man-made or done by nature is not as important as the wear evidence that shows they were used as a necklace because of the red ochre residue remaining on the surface. The main point is that our ancestors wore necklaces and made red ochre paint 75,000 years ago!

So right now, about to step into my Eighth Decade with little hope of seeing it through, but honestly not caring much one way or another, my only concern is to not become a burden on my family. I also would prefer not to suffer the pain others have been forced to endure because of society's apparent horror of euthanasia. My farming days taught me very early on that animals in pain should be put down immediately as it is by far the kindest thing to do. The problem is that only the person concerned can make that hard choice.

Holly had to be taken to the vet the other day for eye treatment. Rather than lift 50 lbs onto the examination table the young girl vet and I settled down to the floor with the dog. When the examination was over the problem had nothing to do with the dog, it was how to get me up off the floor! When the vet saw me struggling and offered to lend a hand, it crossed my mind that maybe it was about time for me to be put down!

Having reached this stage of life one can't help but look back and think about what it has all been about. What I have written so far shows me that I have been extraordinarily lucky and have had a life packed with interest. Writing about it has been a pleasure as I have re-lived my time, something much better than reincarnation as you know what you're going to get! I have been free to do my own thing since leaving school, first as a farmer, and then as a sculptor, and lucky to be able to make art provide an income thanks to the support of my many patrons. But, I ask myself, *What does it all amount to?*

On coming to England 35 years ago, my first bust was that of Uncle Joe, a widower for many years now living alone with his dog. When I was 15 he had shown me the Full Moon Cactus flower in Madeira and pointed out the tiny star in Ursa Major that was the Persian army eye test. (p 196) While photographing and measuring his head, I asked him a question. "If you had your life over again is there anything you would change?"

He didn't answer me for a while, but when he did his reply was unforgettable. "Change, no. It is a question of missed opportunities. The *things* not done when possible, the sin of omission." I wondered why he had not done *things* when possible? Had being a soldier in the First German War shattered his spirit like so many other unfortunates caught up in the Somme carnage? He had been lucky and survived, unlike so many. The loss of life was horrendous! Uncle Frederick Bowring was promoted to be temporary colonel at the age of 21, because he was the only officer left alive in his battalion!

I have always believed that *faint heart never won fair lady*, because surely it is better to have done something you might later regret than do nothing and then regret it. Having now reached Uncle Joe's age what have I neglected during my own life? What a question! We all make mistakes and, in my case, I am afraid more than a few! Maybe we sometimes learn from them, but one of the terrible things about mistakes is that we often repeat them! Uncle Joe's answer has never been far from my mind. So what have I learnt about living? I believe the main thing in life is to be *aware*, to take notice of everything. I am convinced that Man's greatest gift is *awareness*.



'Totem', I am aware, therefore I am

Over the course of my life I have become more and more aware of the miracle of Nature. To be able to get up in the morning and take Holly for a walk before breakfast along lanes that pass between lush green fields bordered by groomed hedges, must be one of the greatest pleasures in the world. To be out summer and winter to see the sun rising over the rolling hills of Somerset really does lift the heart. We are hardly ever worried by a passing car, but when it happens the fumes make Holly sneeze! The scientists say that people today, who live in areas of heavy traffic, have 500 times more lead in their bodies than people before the Industrial Revolution!

Sometimes we get caught in the rain, but that just makes my hot shower when I get home all the better. Occasionally I meet another dog walker, but mostly it is an hour alone with my thoughts. There is no better time to think than when walking. Holly spends her time thinking through her nose!

Invariably my thoughts are about something just read, heard or seen concerning the miracle of life and how it evolved. Recently the beautiful and distinct Orange Tip butterflies have appeared in our orchard because the wild garlic is in flower. These butterflies lay their eggs on these flowers as the garlic seed is the only food the Orange Tip caterpillars will eat, a wonderful example of *nature's synergism*. (Grandchildren: *synergism* = working together)



Dusky Blue butterfly

Take for instance the Dusky Blue butterfly! The topside of her wings is a soft powder blue while the underneath is a fawn colour. This butterfly has an intriguing life cycle, which begins with the female only laying her eggs on the crimson flower of the Great Burnet, a meadowland plant that grows on chalk hills. Weeks after hatching, the tiny larvae fall to the ground where (tricked by a complex chemical signal released by the larvae) foraging ants pick them up and carry them back to their nest. The ants adopt them for nine months and when the caterpillars hatch out they eat the ants' eggs! But that is not all! The caterpillar of the Dusky Brown can only survive in the nest of only one species of ant, *Myrmica rubra*. Now how in the world did all that come about?

Sadly the Great Burnet is disappearing as the Downs get ploughed up, an act that also destroys the ants' nests, so we seldom see any more Dusky Blues fluttering about the South Downs of England. When a child at Sandroyd we saw hundreds of blue butterflies and anthills on our school walks.

Lords and Ladies grow wild in our garden. They are a plant equivalent of the Dusty Blue because they capture insects and use them to carry pollen to other flowers. When the hood unfurls it reveals a purple finger that gives off the smell of rotten meat! This attracts tiny insects called Owl midges. The midges fall down into the kettle beneath the flower, where they are trapped by a ring of downward-pointing hairs, forcing the midges to pick up the male pollen on their bodies as they struggle to escape. The bristles wither and release the midges that fly off to find another Lord and Lady, where they go through the whole process again bringing pollen to other plants. When the hood and finger die the fertilised flowers develop into red berries that are poisonous.



Lords and Ladies

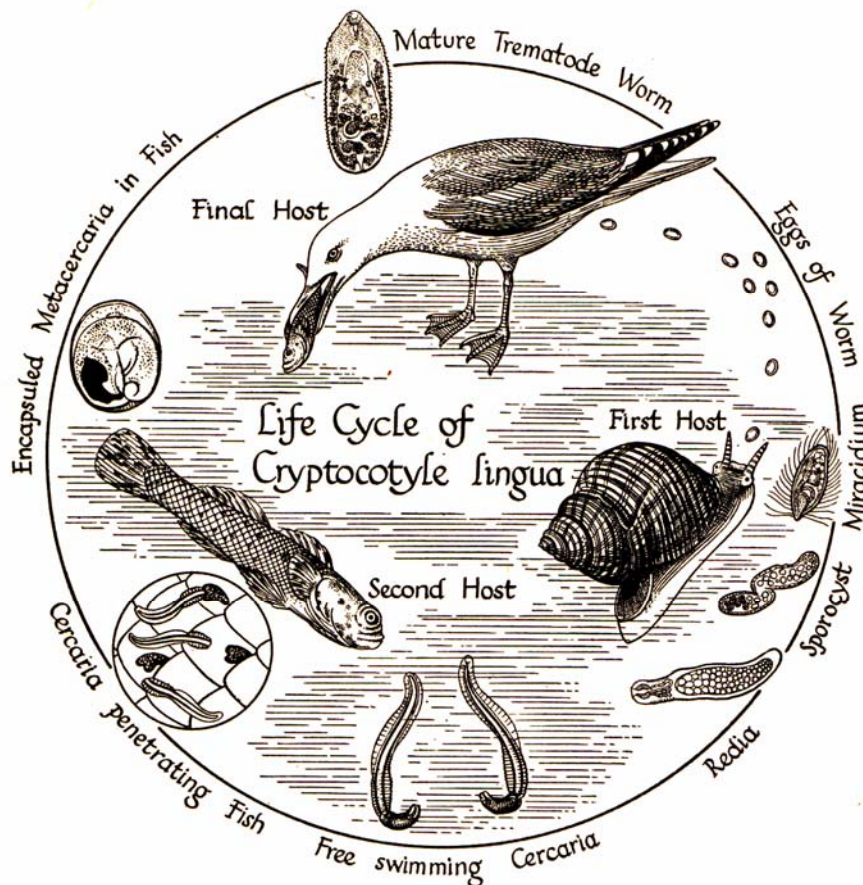
The bulb of the plant is full of starch and was used by the Elizabethans to stiffen the beautiful embroidered lace collars one sees in all the brilliant portraits we admire so much. On our walks around the lanes Margie and I often find the newly-formed hoods left lying on the road, ripped open. We have never seen the culprit but suspect that it is a bird, probably a crow, who likes nibbling the yellow finger before it turns purple. Perhaps the crows are also fooled by the smell of rotten meat like the Owl midges?

Evolution is a wonderment. The way life forms and adapts to the environment is utterly fascinating. Miriam Rothschild's book on fleas is full of incredible information. For instance, the Feather Lice that live on European white swans are white and the Feather Lice that live on Black Australia swans are black. That makes sense, but what happens to lice on South American magpie swans that are black and white? Perhaps they have lice that can change colour!

Swans are lucky as they have no fleas, but no one knows why. Fleas have a sense of smell and hate horse sweat, making not only those wonderful creatures immune to fleabites, but also the grooms who look after them!

According to Miriam a flea can jump a distance of up to 13 foot, equivalent of a six-foot man jumping 300 yards! After waiting for a year the pupae of fleas can hatch in a split second on the sound of a footfall. Birds bath in ants' nests so the ants can carry off their fleas and I am told that in the Crimean War soldiers put their clothes on ant nest to rid them of fleas!

Parasites are baffling. There is a tiny worm that likes to live under the tongue of a certain frog. Its eggs pass through the frog and sink to the muddy bottom of the pond where they are eaten by newts, hatch and are passed on into the water to find a home under the tongue of the same species of frog! There is a type of worm that uses three hosts; snails, fish and gulls.



Life Cycle of Cryptocotyle Lingua

The worst of all human parasites must be that which causes malaria fever. Scientists say that malaria kills more humans than any other disease; so beware of the mosquitoes' bite! Some historians have even blamed the Fall of Rome

on malaria. The city of Paestum [p 393] was abandoned because of malaria. The mosquito has been around forever; an amber fossil of one is dated as being 30 million years old! Fortunately newts love eating the mosquito larvae consuming up to 1,000 a night. You cannot but be amazed by the complexity of the life cycle of malaria.

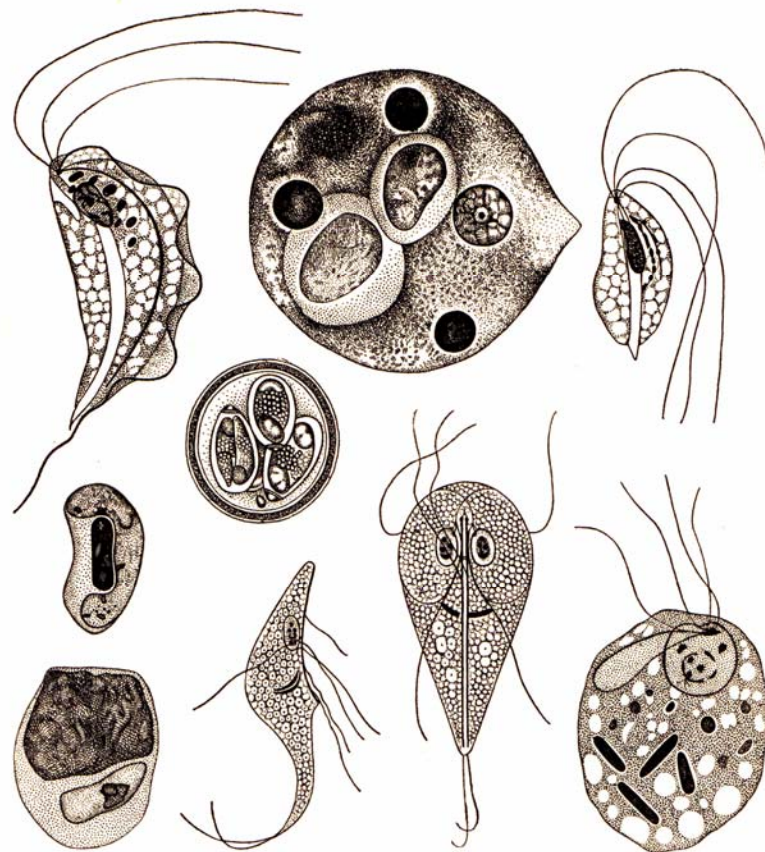


Malaria Life Cycle

We are dependent upon parasites. They live in our gut and break down our food, enabling us to digest the nutrients. An example of how they help us remain healthy can be found in our eyelashes where a tiny creature lives under the skin at the root of a lash which helps keep it moist. The only time it comes out to play is when it wants to mate with the creature that lives in the lash next door! Miriam Rothschild claims that 500 species of parasitic animals have been found living on the human body! There is a tiny fluke worm that only lives under the eyelid of the common crow! Another only lives under the eyelid of a hippopotamus, drinking its tears! Yet another lives in a groove on the arm of a starfish and crawls up to its host's mouth for lunch! The starfish lays 200 million eggs a year so there are plenty of armpits available for that particular worm. Human tapeworms can lay 36,000 eggs per day and can grow seven kilometres of segments over its lifespan, so wash your hands!

Nematodes hatch in the small intestine of humans but before they can become adult and breed they have to go on a ten-day journey around the body. After hatching they bore through the membrane into the bloodstream and get swept into the liver. In turn they travel to the heart, lungs and then trachea before returning to the small intestine via the throat and oesophagus, to develop into adults and have babies. How did all that come about and why?

Protozoa are legion in number and so minute that hundreds can live in a drop of water. Each time I cupped my hands and took up a drink of water from a pool in the Outback of Australia I must have gulped down thousands of these beautifully-crafted minute creatures with each swallow!



Protozoa

Where you find water on our planet, you find life. We have a pond in our garden that gives us endless delight, as it is not only full of native yellow Flag Irises and Jeremy Fisher water lilies, but home to some red Matisse Goldfish that the heron occasionally breakfasts on much to our annoyance. Turquoise dragonflies patrol the surface looking for prey, while newts do the same below the surface. Our grandchildren love to study the newts in a jam jar and then release them back into their water world. The newts are magnificent and have frills down their backs and glorious orange tummies.

My bedroom window looks down on the pond so I have a glorious view to enjoy when doing my doing stretching exercises! One day a female blackbird was hopping along the edge on her way to a broken stone that allows all the

different birds to step down to the water's edge to drink. Not at all, suddenly she dived into the water, snapped up a tiny newt, and took off again, water going everywhere. She ate the poor creature with obvious relish.



Summer view of the pond from my bedroom window

Television is without doubt a great invention and although it has brought mind-boggling rubbish into our homes, it has also opened up vast areas of fabulous wonderment, especially where science and Nature are concerned. David Attenborough-type nature films have allowed us all to go from tropical jungle to the frozen arctic without moving from our sofas. Hardly a week goes by when we are not transfixed by scenes that take our breath away, such as journeys into the depth of the oceans to swim with whales, or elephants entering caves in pitch darkness to scrape salt from the walls with their tusks and then eat it! There has never been such a time of public enlightenment.

In one film a scientist was talking about the now extinct Tasmanian tiger. The amazing thing about this creature is that although it evolved in Australia on the east side of the Wallace Line, when you look at its skeleton it is almost impossible to tell the difference between it and a Siberian wolf. In Australia and Asia a creature evolved to fill the same function in the food chain, one breeding with a womb and the other using a pouch. The Wallace Line runs between Bali and Lombok, two of the islands that make up the chain that runs from Malaya to New Guinea. No Asian mammals crossed it to reach Australia, or 'living' marsupials to reach Asia. I say *living* because recently a fossil of a marsupial mouse has been found in China!

The kangaroo has a unique bone structure in its foot, so is easily recognised. The oldest kangaroo-foot fossil was found in South America! Dogs originally evolved in North America, but after surviving in isolation for 35 million years they migrated into Asia via Beringia five million years ago. Single-toed horses didn't cross from America until three million years ago and African zebras are descended from them! The common crow evolved in Australia and bison evolved in Eurasia and migrated to the Great Plains of North America!

Some creatures have evolved very odd ways of rearing their young. In Queensland there is a two-inch long stream-dwelling gastric-brooding frog that

shuts down its digestive system before swallowing its fertilised eggs to hatch in its stomach. It regurgitates the tiny froglets a month later! The tiny poisonous frog in the Amazon feeds its one baby on its own unfertilised eggs!



Tiger Nautilus

The Tiger Nautilus has the most beautiful shell of all? It is often called the Living Fossil because it has not changed shape for 300 million years. However, the Argonaut surpasses the Tiger's shell in beauty. The Argonaut is no relation, but is called the Paper Nautilus. These miraculous shells can be found on the beaches of southern Australia and although it looks like a shell it is in fact an egg basket that is built by a small octopus using a sticky substance she excretes from two specially-adapted tentacles. The baskets vary in size from one to seven inches across depending on the age of the mother octopus. They are as thin as an eggshell, translucent pink-white like a fingernail and one of the most delicate things you could ever wish to see.

The mother who constructs this beautiful basket is a wonder, but it doesn't stop there! While she can grow as large as your hand the male is only the size of a jellybean and half of its weight is in his penis that he keeps on top

of his head in a coiled spiral packed with sperm. When he meets a female he detaches his penis, fires it like a missile at her and then dies. The penis swims after the female and up her nostril, where it lives for three weeks while she makes the basket in which to lay her brood. Then from another specially-adapted tentacle she spreads the sperm on the eggs! If you think I am making all this up I wouldn't blame you, but I promise it is absolutely true.



'Paper Nautilus', egg basket, actual size

The most mind-stirring nature television film that I have ever seen was about *Slime Mould*, (*Dictyostelium*), a single-cell creature like an amoeba. Slime Mould cells crawl around in the earth gobbling up bacteria by the billions. Amoebas multiply by just dividing in two and have a pretty boring sex life, while on the other hand Slime Mould *communicate* with each other by giving off a chemical attractant called Cyclic AMP. They do this when they run out of food and the chemical signal causes thousands of single cells to *stream together* and form into a *slug*, which then sets off on a journey to look for a new supply of bacteria to eat. Cyclic AMP stimulates hormones and we use a lot of it in our own bodies, especially in our brain! *Scientists think it is probably generated by hormone action on a receptor that activates an enzyme and is a messenger that carries signals from the cell surface to proteins within the cell.* Whatever it is, the use of Cyclic AMP is something we share with Slime Mould!

Being dumbfounded by this programme I wrote to John Bonner, the gently-spoken professor at Princeton University who features in the film. He was obviously very famous so I didn't expect an answer, but to try and improve my chances enclosed a book on my Symbolic Sculptures. Fortunately his son was also a sculptor so not only did John Bonner answer but he also sent me his own fascinating book on the *Evolution of Culture in Animals*.

When thanking him I asked if he could spare a photograph of a slug and in his reply he suggested that it would be best for me to write to Rob Kay at Cambridge University as he had made the film. Rob very kindly sent me two photographs as well as inviting Margie and me to visit the laboratory so we could see some Slime Mould for ourselves.

We looked through the electron microscope and saw a mass of fruiting bodies about to hatch and start a new cycle of life. To see these tiny creatures for ourselves was an unbelievable privilege.



'Slime Mould' fruiting body and a slug starting to sprout



'Slime Mould' slug

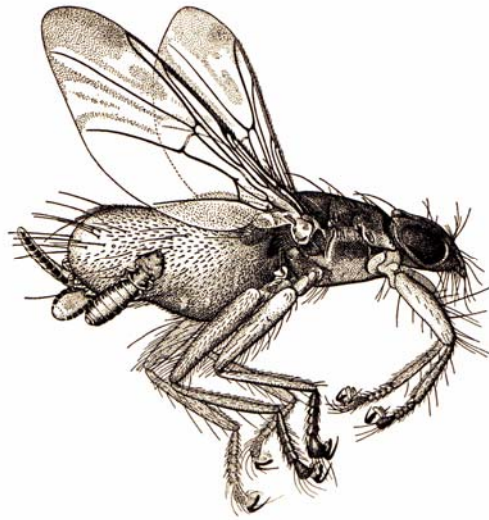
When the Cyclic AMP signal goes out a 100,000 single cells stream together to form a slug, which can then wander around for up to a week looking for a new feeding ground. During this time the slug will sacrifice up to 30% of its cells, as can be seen in the photograph above showing the slime-trail left behind by the multi-cell slug as it crawls out of its skin. By staining part of the creature red John Bonner discovered that the head end of the slug turns into the stalk that raises the fruiting body tail up into the air.

When the slugs are wandering around they can split and become twins, just like identical human twins. A slug can be mashed up, but the mess will reform into a slug if left alone and continue on its journey. In the first week a mammal embryo can suffer the same harsh treatment and reform to grow into a quite normal baby dog, cat, or human! On finding a new supply of bacteria the slug stops and has a *think*. After all, what is 'thinking' but a chemical process that goes on in the brain, and certainly at this stage a kind of chemically driven decision must be taking place within the slug.

When the slug finds more food it stops wandering and starts to grow a stalk, which on reaching a height of about one millimetre, (the thickness of a match) fills out into a fruiting body. The best way to grasp this is to think of a mature wheat plant with a head of grain at the top of a dead stalk. All the cells in the dead straw have been sacrificed to raise the head full of seed to the top. *Bonner points out that sacrificing cells for the benefit of the seed is normal in all walks of life.*

Look at our own bodies that are made up of many billions of cells that are all sacrificed for the sake of one sex cell, either a minuscule sperm or infinitesimally small egg. Humans behave in just the same way as Slime Mould! As the stalk grows it sends out a chemical message, this time a repellent warning other fruiting bodies to stay clear thus reducing competition for food. The fruiting body contains one emaciated single cell creatures who immediately wiggles off and starts eating bacteria.

Birds and bats carry Slime Mould cells around in their gut, which helps to spread them. In bat caves a species of predator Slime Mould named *Caveatum* (clever name!) has been found that preys on ordinary Slime Mould. One *Caveatum* predator in a 100,000-cell Slime Mould slug will eat its way through most of the slug before sprouting multiple stalks from the carcass, each of which develops several fruiting bodies.



Big Fleas have little fleas and ad infinitum. Here is a drawing of fleas hitch-hiking on a fly to reach another host! The wonders of evolution are endless, but as some people might be becoming bored I had better stop and return to art.

WHAT IS ART? Leo Tolstoy wrote: *Art is the highest manifestation of power in man. It is given to a few of the elect, and raises the chosen one to such a height as turns the head and makes it difficult for him to remain sane.*

Does Tolstoy mean that anyone who becomes an artist must be insane? If he did he would probably be right, because it is a risky way to make a living. When Peter Ustinov announced to his grandfather that he wanted to be an actor apparently the old man said, *Why not choose an easy career, like being a sculptor?*

I personally am intoxicated by art, from the drawings in the Chauvet cave, to Nefertari's tomb, to Hokusai's *The Great Wave*, to Matisse's *Dancers*, and sculpture from Michelangelo *Pietà Rondanini* to Brancusi's *Endless Column*. I find that it is all very heady stuff indeed!

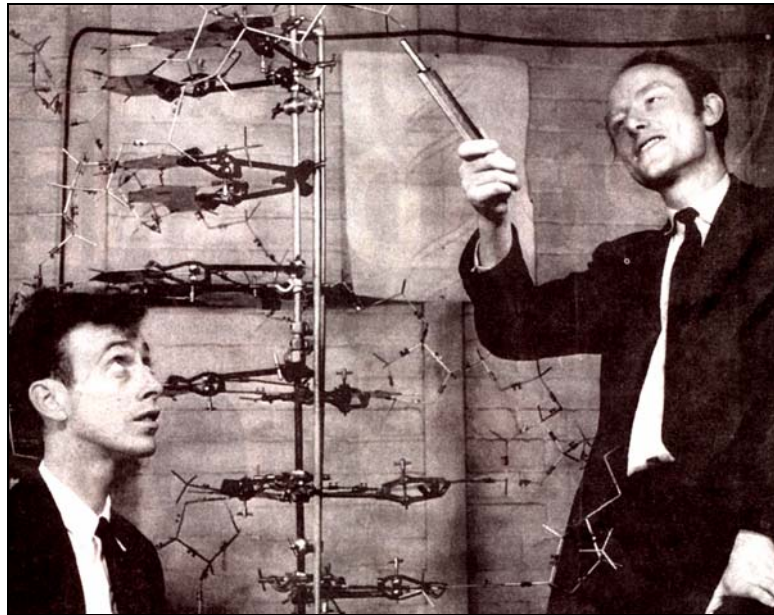
Humans' brains are genetically wired to appreciate beauty, both visual and audible, and we have a natural ability to use art to express our innermost feelings. Parents rush to the kitchen wall to stick up the paintings their children bring home from kindergarten and then boast about their talent. They also urge their offspring to follow the arts, even though they know only too well that such a career involves an enormous risk. Our museums are full of art looted by power-crazy dictators such as Napoleon or Hitler's gang of thieves, being just the latest in a long line of robbers that goes right back to the beginning of time. The British and the French have been amongst the worst offenders. Rulers throughout history have enslaved and starved their people so they could surround themselves with art, all with small reward to the artist.

Art is for sharing, not possessing. A collector once said to me that he considered himself and his wife *custodians* not *owners*. At the time we were in his sitting room looking at a painting by Van Gogh, having just admired a Modigliani, a Monet and a couple of Corots!

I think of our whole universe as a miracle of pure art. The other evening, when I was driving my six-year-old grandchild, Amber, home, the sun had just become a ball of fire on the horizon. Suddenly she cried out, "Oh look, I have never seen that before." We stopped so she could keep watching. She then said, "Look at the blue, it's just like a painting." I was overjoyed. We counted

aloud while we watched. Seventy seconds of pure magic as the sun dipped below the horizon. No wonder the Sun was a God to the Egyptians, the Aztecs, the Greeks and the Celts, to mention only a few!

As Louis Armstrong sang *Its a Wonderful World* and the more we learn about it the more wonderful it becomes. When we went to look at the Slime Mould we saw the first model that Crick and Watson built of DNA, howbeit, with the help of Rosalind Franklin's incredible X-ray photograph! All life depends on this fantastically complex structure. To actually see the original model was a treat because it is a dramatic sculpture, *Nature's Masterpiece*.



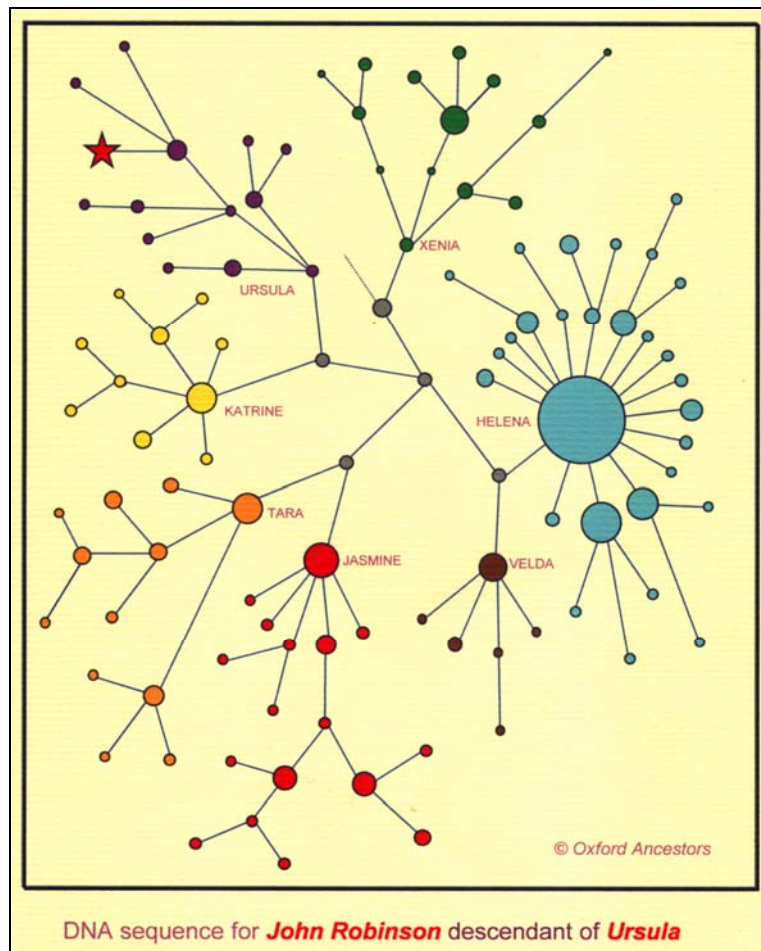
Watson and Crick with their original DNA double helix model

A new and exciting world has opened up for us by the discovery of DNA. For instance it has recently been found that the DNA of a certain coral, *Acropora millepora*, that lives on Australia's Great Barrier Reef, contains a genetic sequence that corresponds exactly to the genes that guide the patterning of the human nervous system! Common worms and flies don't have these genes so did this coral give rise to all modern-day mammals? The only animal that predates this coral is a sponge, so we could also be related to them. When you pick up a flint you are holding a fossil sponge, a fossilised ancestor!

When mitochondrial DNA came on the scene it proved that we had all descended from one of the seven daughters of an African Eve. A child's mtDNA is always the same as its mother's, which is how each of us is able to trace our ancestry back to our original grandmother Eve, who has nothing to do with the Biblical Eve, but is a term used to denote the original African female line from which we are all descended. *African Eve's* seven daughters are named: *Xenia, Helena, Katrine, Tara, Jasmine, Velda* and *Ursula*.

Robert, Damon, Margie and I couldn't resist having our mtDNA sequence analysed so we could find out the name of our Original Granny! I wrote off to Oxford Ancestors asking for some sampling kits. To take a DNA sample you merely rub a cotton wool bud on the inside of your cheek, place it in a sterile tube and mail it to the laboratory with, of course, a cheque.

Back came four family trees that show the seven arms radiating out from *Eve* to her daughters. Margie was descended from blue *Helena*; Damon from yellow *Katrine*; Robert from green *Xenia*. My mtDNA came from the purple *Ursula* branch, marked by a Red Star.



With the family tree came a history of what part of the world our particular female ancestor came from. *Katrine* lived about 10,000 years ago on the southern slopes of the Italian Alps near Venice, so Damon was related to the famous 5,000-year-old *Ice Man* who was discovered in the Alps some years ago, murdered by a stone arrowhead that was found stuck in his back!

Margie is descended from *Helena*, the largest and most successful clan found in Europe. Helena originally lived in the eastern Pyrenees near the famous cave of Le Portal where Margie proved her courage by following me a mile underground to look at a fabulous painting of a horse done 15,000 years ago, possibly the work of one of her ancestors! This clan reached England at least 12,000 years ago, a fact proved by the mtDNA recovered from a human bone found in the Cheddar Gorge cave just up the road from Agecroft.

Robert is descended from *Xenia*, the most mysterious of the daughters. She lived about 25,000 years ago in the remote valleys of the Caucasus Mountains on the eastern edge of the Black Sea. Her clan can be found all over Europe but also in North America, so the clan travelled right through Asia and joined the first humans to cross the then dry Bering Sea into the New World, some settling near Ramiilaj, Robert Hefner's home in Aspen!

My friend Rick Tudor, of Mt Agnes *Borya Subulata* fame, is descended from *Jasmine* who preferred the warmer climes and lived on the Syrian savannah. Her clan were the Celts who started agriculture by growing grain to make bread which became their staple diet rather than meat. They spread through Turkey into Greece, up the Danube and down into Spain.

My own original grandmother *Ursula* apparently lived 45,000 years ago in Northern Greece and was a member of the first *modern human* clan to set foot in Europe. *Ursula* was slender and graceful, in marked contrast to the thickset Neanderthals with whom she shared Europe for 15,000 years. Her clan possessed art, sophisticated stone tools with which to kill and butcher the abundant game, and *imagination*. 10,000 years after her arrival her descendants were the artists who drew the incredible animals on the walls of the Chauvet cave some 35,000 years ago, creating the *World's First Art Gallery!*

The Ursula Clan spread right across Europe into Britain. As the climate deteriorated 25,000 years ago the clan migrated south ending up in Spain, a land that became a refuge for them during the 5,000-year duration of the last Ice Age. As the climate warmed and the ice retreated the clan marched north following the herds. They reached Britain some 14,000 years ago and also left a record in the caves of Cheddar Gorge. In 1998 mtDNA was recovered from another skeleton in one of the Cheddar caves that showed it belonged to the Ursula clan. Margie's *Granny Helena* and my *Granny Ursula* were buried in the same caves. It makes you think!

Knowing all this when in the Chauvet cave looked at drawings done by *my Ursula ancestors*, did give me a buzz! For me the passing of genes from generation to generation is *Eternal Immortality*.



SUMMARUM SUMMA EST AETERNUM

The Sum of the Sums is *ETERNITY*