52° 38'31"N  8°31'39"W

“an organism for living in”
Abstract

As architecture is a culprit in physically detaching people from their surrounding environment I hope to create an architecture of layers each enclosing a particular climate or atmosphere expressed through a specific use of materials.

Given the unique climatic and ecological context of any location and by studying this at a micro level, climate becomes the main protagonist of the design and a hierarchy of spaces emerges whereby “form follows climate”.
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Introduction

It has always been understood that Ireland has a mild temperate climate, despite its position on the globe, due to the influence of the Gulf Stream and it enjoys a far more clement climate that places of similar latitudes. Although temperature wise this is very true, we also have to deal with a year-round constant rainfall and a persistent south-westerly wind from the Atlantic Ocean. As one of the primary aims of architecture is to create a shelter it appears that the solution to creating a shelter in this particular climate has always been to create impermeable architecture that hermetically seals all internal activities from external activities, without questioning whether it is necessary or not.

Along with this philosophy of architecture are the current building standards and regulations that insist on an incredible amount of material be used to prevent heat loss and reduce energy use which further exacerbates the problem and to my mind is not viable economically or environmentally. Of course the carbon footprint of the building may be reduced during its lifetime, but already a high energy cost has been paid in creating these high performance materials.

Perhaps instead of using “smart materials”, we could begin to use materials “smartly”. This would require a holistic approach to design and by analysing the unique climatic conditions of a site, together with those climates that can be created by specific materials and combine these with the activities of a programme. Within this framework I believe architecture has the potential to create/adapt an ecosystem that accommodates humans and nature symbiotically.

It is my belief that architecture is less about the design of objects and more about the design of systems and as such the starting point of this proposal must be an understanding of the entire system. Therefore it is important in the design of this system, that this thesis places itself within a theoretical context that reasserts the utopian values of architecture, the social context that acknowledges the “time” in which the proposal must operate, and the physical context of the environment and climatic conditions unique to the site.
Shannon Airport

This brief was sited on an abandoned lagoon on the Shannon Estuary beside Shannon Airport, which was built in anticipation of increasing trans-Atlantic flights before WW2, when planes landed on water. However after the war, planes used airports, so the lagoon was no longer useful even before it had been completed.

Beside it is Shannon airport which has the longest runway in Europe but is becoming less economically viable as a major airport within the country. The brief called for a cooling warehouse to facilitate perhaps an increase in commercial traffic through the airport to counter the decline in passenger numbers.

I chose the headland at the beginning of the lagoon as the most feasible site due to its proximity to existing transport infrastructure. I felt that the cooling warehouse would act like a fridge, in that heat would be pumped from the building to maintain temperature and therefore the warehouse could support another programme that could utilise this heat.

I proposed thermal mud baths in the lagoon which has silted over with reeds growing in the higher areas. The daily tides could be channeled for swimming areas. The overall concept was for a symbiotic relationship between the warehouse and its site and between the land and the water.
Model of warehouse

View of proposal in lagoon as seen from the airplane

Original concept thesis model
Templehof Airport

Templehof Airport is situated in the heart of Berlin. It has many strong associations to the people of Berlin, as it was primarily constructed as a monument of Nazi Architecture and then played an important role as a lifeline to West Berlin during the air-drops of the Cold War.

Today it is no longer used as an airport. The sheer size of the site plus the terminal building (which is over mile long), is overwhelming. It is used by the people of the city as a park and recreational area. This is an un-programmed site which is heavily used.

I considered this freedom of the public to use the park in whatever way they choose, to be a quality worth preserving and therefore did not need attention.

I hoped that by programming the surrounding area, and allowing it expand into the airport site just as far as the geometrical edge of the oval, the integrity of the park could be maintained for the future. There is an invisible powerful aspect to a strong geometry that allows differing programmes to co-exist along one another without overwhelming each other.

To develop this further I would have liked to look at the tension created at this edge.
UL Project
The University is laid out as set pieces of architecture placed throughout a park. Each building has its own department and areas of study with very little opportunity for overlapping of programme. Each building is also surrounded by a sea of lawn, which the public is discouraged from traversing.

The student accommodation likewise is in hermetically sealed buildings away from the main campus.

The proposal was to create student pods that plugged into a walkway which provided services to the pods but also a walkway for the public across the lawns, reclaiming the grassy areas as public space.
Pocket Utopias

In describing Cedric Price, Davis Allford recalls a radio interview where Price was asked “Mr. Price, what would you do about York Minster?”, to which Price replied, “Flatten it”. It was no doubt a shocking response but Allford maintains underlying his reply were 3 things: “his love of paradox, his scorn of dogma and his passionate desire to improve the human condition.” (1)

For me this flattening has an appeal and utopian desire. It suggests an equality rather than a hierarchy. Though architecture always claims to have a utopian sentiment, its rarely questioned whether or not this assessment holds true. I was recently asked to look at the National Assembly building in Dacca, Bangladesh by Louis Kahn. In particular I was asked to look at its design in terms of its manipulation of climate throughout the building. It was very easy to be seduced by its solidity standing quietly and aloof, surrounded by water and its own

Having studied architecture for 5/6 years all I can truly declare is that I understand enough to know how little I understand. In this situation the utopian method lends itself to working out my present doubt about the discipline of architecture but also question its potential for real social change. Like the character Tom in Pacific Edge,

“I still can’t escape feeling that there’s where a difference could be made”. (3)

Sargeant describes utopianism as “social dreaming” and Ruth Levitas describes it as “the desire for a better way of being”. Both of these are accepted tenets of modern architectural design. For example in 1923 Corbusier declared in “Vers Une Architecture”, that “a house is a machine for living in.” (4)

This was borne out of a desire to alleviate the chronic housing crisis after the war. It standardised building construction according to the module, affording the public clean, clear, purist architecture without unnecessary ornament. However as modernism developed this clean, efficient architecture detached people from their surroundings and cultural context. Its generic quality placed architecture in a certain time but not place. The construction industry hi-jacked the efficiency to broaden profit margins, by giving poor quality standardised spaces. One room in particular, the kitchen, high-lighted the flaws of modernism. The kitchen became a machine for the machines to live in. The colourless quality of these dwellings led inhabitants to reintroduce ornament in the form of the latest time-saving technologies. Kim Stanley Robinson might describe these as “pocket utopias”. (5)
This is in complete contrast to “Antonia’s Line”, the 1996 film which won an academy award for Best Foreign Language Film, in which a matriarchal community demonstrates its tolerance of individuals normally considered outcasts in the local village. Here food plays a central role and the activity of preparing, growing, cooking and eating food was seen as a communal activity to be celebrated and not a chore to be avoided. The courtyard space is defined by what activity occurs there, the introduction of the table defines it as the dining room for example rather than the hermetically sealed space that today defines the space where people eat.

Levitas quotes Bloch as describing utopian thought as “it is not what we think, but that we think” (6) as what is important. This might be applied to Corbusier since it was the subsequent lack of critical thinking about the dogma of modernist architecture that its utopian sensibilities were lost and it evolved into the despised period it is today. However I feel its original intentions were of sound utopian principles. Perhaps it could be revisited with the intention of creating an “organism for living in” rather than a “machine for living in.” Moving thinking away from the exactitudes of physics and chemistry to the observational field of biology. To adopt the approach of Aldo Leopold, in A Sand County Almanac, “to no longer see land as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.” (7)

The term organism is defined as,

“any complex thing or system having properties and functions determined not only by the properties and relations of its individual parts, but by the character of the whole that they compose and by the relations of the parts to the whole.” (8)

By defining architecture in terms of the design of a system allows for a broader scope of analysis, rather than a discipline that creates objects placed beside other objects to be filled with more objects. A system requires a more holistic approach where all parts are seen as having a relationship with one another and the outside world.
In fact inside and outside might disappear entirely and the porous layers of the organism might only be recognised as filters of some but not all external elements to create a diversity of spaces. The removal of, addition to and altering of parts of the organism can only be assessed on the basis of how it effects the overall organism and not just to the benefit of the individual parts. Nature and the elements would be able to move through the system.

Our relationship with plants could be seen through a more symbiotic lens. They have the potential to act as the artificial lung of a space, creating O2 for humans while we provide them with CO2. No need for air-conditioning - the mechanical to be replaced by the biological. They could also provide us with food and our waste in turn could provide their food. Materials could be used according to their performance and cultural properties reintroducing Corbusier’s original notion of efficiency. Materials could allow spaces their own autonomy according to their climates, functions. The success of any system will always depend on its porous nature being able to accommodate the individuals within that system to act autonomously while at the same time fostering an understanding of interdependence and partnership.
Politics and Problems

Of course not all systems are positive or even benign. Sometimes instead of enabling and empowering the individual as a partnership might, a person gets lost within it. We do, all of us, already exist in a system. A society. It has rules and ways of ensuring its survival by insisting on our conforming. In fact sometimes its success requires that we are not even aware of it. Of course all has changed in recent times.

Politics and Problems

It’s 2011 and for the past few years the world has been in the grips of the worst economic recession since 1929. Ireland was misfortunate to have its 15mins of fame, by essentially declaring bankruptcy as a country due to the reckless policies pursued by the banking institutions and the government. It has been forced to accept a 90 billion loan from the EU/IMF. It is becoming increasingly difficult to understand how 1.8 million employed workers can repay this enormous sum of money, while at the same time also carry the burden of running the country. Those who are unemployed are also powerless to escape this system. The statistics are extremely bleak: ”1,799,000 employed 344,000 unemployed 72% of those unemployed are male 65,000 people emigrated 2010, (the highest since 1989)” (9)

So how does a population react to this crisis? Similar situations in Greece and Iceland brought people out onto the streets and there was a public display of visceral emotion, which never fully materialised here. It wasn’t that there was apathy, certainly there were a few protests, but more that people felt overwhelmed and powerless. The recent general election, though it brought the ruling government to its knees, failed to elect a new ideology, just new parties. Several of the headlines made reference to the winds of change that have cleared out the ruling elite from Tunisia and Egypt drawing comparisons with the fall of Fianna Fail, after almost 80 years of continual governance. It feels like rhetoric though. It’s difficult to compare citizens risking their lives to attain democracy, to those quietly voting. One wonders when the self-congratulations and the euphoria has dissipated, will there be any of the real changes that people hunger for. Or is there even a hunger for change? Perhaps the majority of citizens regard change with suspicion, “better the devil you know”. This of course is a highly subjective account of what has occurred. But then again that is the only account that is possible to give.

Perhaps Ruskin has explained our reticence. “You must either make a tool of the creature or a man of him. You cannot make both” (10)

Throughout the Celtic Tiger, everyone worked harder and longer and acquired more wealth than ever before, but in doing so perhaps we had turned ourselves into tools of the system. It rewarded us with the illusion of progress, in return for our complacency. For those of us, who may be in the minority, who no longer care to be “tools”, how can we perform a political act? Clearly we are not a nation for demonstrations, and too pragmatic to risk forming a new political system, then how can we change our reality?

Can architecture become a political expression? Can eating be a political act?
It’s cold. In fact it’s freezing and no matter how close I stand to the building, it offers no shelter, no comfort.
The queue tails around the corner, but unlike waiting at the post office or at the airport, there is no jovial, light-hearted comments about the weather or Henry’s handball.

No-one makes eye contact. No-one wants to be here or be seen here.

Just as eternity appears on the horizon, the security guards open the doors and everyone quickly shuffles in. They all seem to know the routine, taking their places, getting their tickets, finding their seats.

I look to the reception for help but there’s no-one there. I decide to try information. Press the button, take a ticket, take a seat, and wait to be called. My turn arrives. I’ve queued in the wrong place and filled out the wrong forms.

Get the correct forms.

Push another button, take another ticket, find another seat and wait to be called.

I really don’t want to be here.

Try to fill in new forms but each question, is like having a layer of skin removed. To ask for help requires humility, and there hasn’t been a whole lot of that going ‘round the last 10 years.

Time passes and finally my number is up. I prepare to approach the confessional counter and apologise for my presence here.

Then it hits me.

She’s seen it all before. In fact she sees it all the time. I decide not to make it personal. It’s easier to deal with a number. It’s easier for everyone if I remain a number.

-Queueing for Social Welfare
Quantum Architecture

I am thinking about construction and of how it is represented in architecture. Not of course, in the working drawings that are handed to the builders, with specifications, dimensions and finishes all clearly defined, but rather the drawings and images that are made during the design stage. They always show a thickness, (or a thinness in the case of glass), at the edge of a space. They rarely however, show the layers. The pipe-work, electrical cables, grey water pipes, damp-proofing, vapour barriers and the cavity wall are all important elements of construction, but almost always remain hidden. It seems that it is acceptable to show a building’s structure as a way of reading how the architecture reacts to gravity. It may be because it fits in nicely with Corbusier’s “a machine to live in”. However all machines rely on systems, like energy, water, cooling etc, but to me these systems have yet to express themselves in any meaningful way.

However, before I digress, it is less the systems I’m concerned about than the discovery of a new space right there on the edge of space, in fact in the edge of space, uninspiringly called a cavity. I was quite excited to find a space in architecture that had never before been explored, a bit like a pioneer. Then I came across this text by Louis Kahn.

“In Gothic times, architects built in solid stones. Now we can build with hollow stones. The spaces defined by the members of a structure are as important as the members. These spaces range in scale from the voids of an insulation panel, voids for air, lighting and heat to circulate, to spaces big enough to walk through or live in.”

“If we were to draw as we build from the bottom up, when we do, stopping the pencil to make a mark at the joints of pouring or erecting, ornament would grow out of our love for the expression of the method. It would follow that the pasting over the construction of lighting and acoustical material, the burying of tortured unwanted ducts, conduits and pipelines, would become intolerable.” (11)

A walk through a wall

I’d like to examine the wall itself more closely and peel apart the layers one by one in an effort to understand them. I’ve chosen a timber framed home with a concrete block exterior. Why? Mainly because it’s the construction of the room I am now sitting in as I write this, and also, sadly, there are thousands of similar houses lying empty all over this country and this construction illustrates several superficialities that I’d like to highlight.

The first layer we come across is the render. It is about 20 mm thick and it’s made from a mixture of cement and fine sand. Its function is firstly to keep out the rain but mainly it serves a more important aesthetic function of covering unappealing masonry and mortar joints and gives the impression of a uniform surface to the outside world. The next layer is the block work itself. These are ordinary concrete blocks that are laid in horizontal staggered layers with a uniform 10 mm mortar joint. While they can be used structurally, in this case they’re not. In fact they have to be tied into the timber frame. They serve no function other than to provide a surface onto which the render can be applied. Psychologically it gives a sense of solidity and security to the building. For instance people might be less happy to live in a dwelling that had a skin of rigid insulation covered in render for reasons that they would feel vulnerable as one could probably cut through the structure with a sharp knife. At first glance this might appear a very reasonable excuse to use concrete blocks in such a manner until one study’s the fact that most walls have large glass covered openings that can also be easily destroyed, therefore negating the need for a solid wall on concerns about security.

The next unassuming layer is the damp-proof membrane. It is normally represented with a thin dashed line in drawings. I presume because it is so thin, it has to be abstracted. Yet this thin layer performs its function, which is to keep water out, very efficiently. It uses the least possible amount of material, is highly flexible and extremely inexpensive. It is never revealed, to the point most people don’t realise it exists. Then we come to the cavity in the construction. This space prevents the loss of heat in the building by maintaining an intermediary space between inside and outside. It is made from nothing, less material than the water-proof layer. It is the layer where the interior and exterior arrive but never meet.
Next up is the layer of insulation, which can be made from sheep wool, mineral wool or polystyrene. It essentially wraps the building in a blanket. Then comes the vapour barrier which prevents the humidity inside the building from getting the insulation damp, because, let’s face it no-one wants to be wrapped in a wet blanket. Finally we meet the encounter the plasterboard, which is made from gypsum that has been compressed between 2 fine layers of paper. This may or may not be covered in another coat of finer gypsum plaster and finished with either paint or wall-paper. The finishes on the inside of a dwelling generally tend to reflect a desire to present an entirely different aspect to the user. The function of the plasterboard is only to provide a surface on which to achieve this and as with the block work demonstrate a faux hard crust to the interior.

In contrast to the outside, which seems to reflect a strong, robust exterior, the inside is softer, lined and ornamental. But the quality that both the interior and exterior share is that they turn their backs on what is sandwiched between them. In fact if you consider the superficial nature of the external render and the internal wallpaper pasted on the unnecessary block work and plasterboard, you might surmise that as you travel through these layers towards the centre of the wall, the layers become increasingly more necessary and harder working till you arrive at the cavity which is the most honest and most efficient layer and space in the entire building.

Though with this brief description, I may only have taken you on a journey of only 300mm; there are a host of elements that I have omitted. I haven’t for example mentioned the skirting board, which runs along the base of the interior, which prevents the plasterboard from being broken through wear and tear. It also covers up the poor connection between the floor and the wall. Also contained within the wall itself, are the window openings and their respective sills and lintels, the doors with their lintels and steps, the wooden structure, the heating pipes, water pipes, electricity cables, phone lines, tv cables, plasterboard screws, wall ties, silicone seals, air vents, sewage pipes, grey water pipes, and air-conditioning ducts. In fact the entire activity of a building occurs in such a narrow space that it seems criminal to hide it.

What would an architecture that gave these elements their own autonomy look like? What would it be like to inhabit the cavity wall?
An organism for living in

My first instinct of course is to think it would be extremely cramped, then laugh foolishly and dismiss the notion. However, let’s humour the idea, what harm can it do? Let’s pull apart the external leaf of a building from the internal leaf just enough to place a person, with no fear of cramped spaces, into the cavity. What should we look at first? Well the layers to the inside and outside have already been described and they won’t have changed much save for a slight distortion to accommodate the recent inhabitant. In fact that’s probably more attention than they’ve had since Kahn wrote his paragraph in 1967. Let’s look at the person stuck in the wall instead.

If we turn them sideways there are a couple of similarities between them and their surroundings. From the side a person seems to be created in layers also, each layer performing a function similar to that of a building. Firstly, they possess a skeletal frame, a structure, a heating and cooling system, a layer of insulation (some more than others), a circulation system all wrapped inside a tight skin. The interior of a person is also very different from the exterior. But if look across the body of a person we begin to see some subtle differences.

Firstly the skeleton, or structure mostly occurs in the centre, as in the limbs or to one side as in the spine or as a cage i.e., the ribs. In other words the body isn’t surrounded by a crust or shell the bare minimum of structure is used and relies heavily on tension cables, muscles. I assume this is to facilitate growth and change in size. The organs are all placed in the core of the body, each creating a room of its own. The circulation system while serving a connective function is an autonomous corridor, and at the centre lies the cavity of the lungs, with its impossible to define edge. The skin encloses all. It is malleable, waterproof, flexible and self healing. The body appears to organise itself in such a way that evokes efficiency and flexibility. Perhaps if we organised the layers of construction in such a way we could also achieve this. What if we were to design an organism rather than a building?

Rather than comparing the layers and parts of a body to a building vernacular, maybe I should do the reverse. Rather than put a hard shell on the outside, that hinders further growth, use a skeletal structure instead. Give the systems their own autonomous space, not like the Pompidou centre, which put the shell and the systems on the outside, but in a more pro-active way. Make doorways from heating pipes and rooms from insulation. The furniture might become structural and a malleable flexible skin might cover all. In this scenario, it could be argued that the building is turned inside out, maybe it’s the layers in the walls have been pulled apart so much that the cavity wall is now the space and the rooms are islands like organs in that space. Firstly form followed geometry, then form followed function, is it now the time for form to follow climate? Can this provide a rational spatial set-up?

The bigger picture

As this examination began with introspection, can it also turn around and go in the opposite direction? Can I take my clues from my body and work outwards? Like Eames’ “Powers of Ten”(12), can I put on a jumper, then a house, then a district, a city and a country? Could this provide a spatial set-up that might be repeated endlessly? Also, if I am to be honest, I’m afraid of the potential “blobiness” of it all, it might lend itself to architectural obesity, so to speak.

I am going to return to my original thoughts regarding the layers of construction. What I admired most about some of the layers was the thinness of the damp-proof membrane for example. I enjoyed how it performed its function with the minimum of fuss and material. Maybe if I look at creating architectural organisms, as less about making globulous spaces, and more about making very thin edges, I will find a solution.

The method of construction seems to demand that rather than building in a “tetra-pack” fashion, materials should be give their own autonomy. At present all material functions are sandwiched together to form what William McDonough refers to as a “monstrous hyrid”(13), that reduces the ability to reuse construction materials or even recycle them.
Place and Potential

I started with the most basic element of architecture, the wall, and examined how it always appeared to form the hard shell of a building easily distinguishing the inside from the outside. But this solidity of this crust is made from layers of different materials, each capable of functions like insulating, reducing humidity, water-proofing etc. Each of these functions can also be described in climatic terms. By de-laminating the layers of a wall different physical climates can be created with each layer. However though they can act autonomously, each climate relies symbiotically on the layer that precedes it. So it made sense to also look at the various activities in any architecture. The climate of a busy circulation area has different climatic needs to that of an office or laboratory, so why then encrust all activities with the same climate altered only by mechanical systems?

To test this further I created 3 climates in 3 materials to measure light/temp/humidity and solar gain both inside and outside a single skinned climate. While looking for a suitable glasshouse I found 1 ½ acres and a possible extra acre, was dismantled in the adjoining meadow. I placed 3 of the boxes inside the glass house and their counterparts outside the glasshouse so I could analyse their comparative results.

The glasshouse itself is owned by a horticulturalist Bob Downe, and it was used to grow sweet peppers, tomatoes and cucumbers under single glazing so light was maximised. It has a heating system, originally ran on coal, but then changed to oil. However when oil prices rose it was not longer a viable concern against mass produced imported vegetables, so he went out of business. Stoically Bob reckons even if he had free power it would still not be viable as all produce needs coding and packaging according to EU regulations and even then it has to be sent to Dublin to be redistributed throughout the country, as supermarkets dominate the sale of vegetables.

The structure is incredibly slim and the space is made entirely from its infrastructure. I began to widen my study not just to symbiotic layers, but to symbiotic enclosure, looking at the surrounding fields. A radial field pattern began to emerge and even though some of the hedgerows had been removed, the electric fence used for strip grazing also reinforced this pattern. I looked at the “Rundale System” of farming, similar to that found on Tory Island. It was a cooperative system ensuring everyone received some fertile land, poor land and common grazing. It often emerged radially from a clachan, (cluster of houses). Although it is unlikely to be an example of the “Rundale System”, as there’s no evidence of a clachan, there is some common grazing land.

In Ireland there is a history of agriculture taking on a cooperative role, particularly in tough economic times. The Rundale System allowed for more people to live off the land than going it alone. It was also structured on a series of symbiotic enclosures, which marked out specific soils for specific purposes, in contrast to the strip grazing of monoculture, as seen in the radial pattern of the electric fence. This agriculture is almost exclusively reliant on petrochemical fertilizers, producing fodder for the ubiquitous Holstein cow. Although this breed produces vast quantities of milk, the milk has a low cream content. These breeds are ferocious grazers, and do not live as long as other breeds, which means the herd needs replacing regularly. This type of farming depletes the minerals in the soil and artificially and superficially replaces them, with the help of petrochemical fertilizers.
It has more in common with quarrying/mining than husbandry. It’s a global approach to food production. It has very little diversity. This is a country that has grown up very quickly and there is a generation (nursing home), who still have the skills and the knowledge to do things differently. Most agricultural colleges perpetuate this system of farming. Subsidies, reps schemes and grants require farmers to attend these colleges to get their green cert., in order to avail of these subsidies. Therefore the system begins to replicate itself and ultimately be the architect of its own demise.

At the epicentre of this radial system of field pattern is Killonan train station. It is now a house where you can do yoga and meditation. The road crosses the railway line also at this point. To the west of the station is Limerick and to the east, the line splits into two. I followed the route north to the Silvermines, Castleconnell, Nenagh and then to Ballybrophy where one can turn south of the Silvermine Mountains to Thurles, Limerick Junction and back to Killonan again. It is a 185km, round trip, passing through stations, large towns and small villages. It is a larger enclosure with enormous potential. The region is mainly mountainous and rural. If we could re-imagine these stations as supermarkets, the train line could be the supply line and the territory could be the growing area and develop a food culture around its own produce. Limerick could provide the large population/market and Kilonan the educational and research centre for a more bio-diverse region.

I was looking at this territory and its larger potential as a symbiotic enclosure. I started looking at Blue Zones, (areas where there are a high percentage of the population, living to beyond 100 years old. I wasn’t interested in reaching a great age so much as achieving the quality of life that many of the residents in these place manage to achieve right up until their death. Only an incredibly small percentage of them get cancer or geriatric related diseases and there’s almost no dementia. The five zones are, Sardinia, Okinawa, Icaria, Loma Linda, Costa Rica. Three out of the five are islands (the ultimate enclosure), one a peninsula and one an isolated mountain community. Out of the 21 most common reasons for this anomaly, 11 are food related.

So now I return to my site. Even though I started in the transparent light-framed, transparent, vacant glasshouse I have ended up across the road in the hermetically sealed nursing home and I can’t help feeling that both are somehow connected.
Axonometric showing physical context
Sun/shade analysis

Isotherms of glasshouse
**Glasshouse Climate Data**

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Food is one of the most basic elements supporting human life. Early utopian literature always used food as a device to display when its citizens felt replete and sated. Sargeant refers to the Greek poet Hesiod (18th century B.C.) as an example of these “body utopias”, “... They had all good things: the grain-giving field bore crops of its own accord, much and unstinting and they themselves, willing, mild-mannered, shared out the fruits of the labour together with many good things, wealthy in sheep, dear to the blessed gods” (14)

This utopian society was achieved because its people were no longer hungry, however in today’s society, our relationship with food is far more complex. The urbanisation of people removes them from an element, which is vital to life and has allowed it to be exploited and manipulated for profit. Food has always had a relationship with the market, in fact the stock-market was based on the buying and selling of grain. However, I’m referring to a system that has become entirely market-driven and in a way has become unbalanced. To source food outside the current super-market/agri-business system requires effort.

This proposal seeks to reassert humans as part of a food chain, an ecosystem, where food is considered nourishment rather than a commodity. Climate, earth, water, sun, waste, energy all play vital roles in food production, processing and consumption - a complete system.

Borasi cites architect Kengo Kuma who would “erase architecture” and recommends the gardener’s practice as a model for architects. He sees the gardener as someone who is immersed in his subject, transforming but not controlling nature...... “the garden would cease the moment he abandoned it.” (15) As landscape architect Gilles Clements puts it, “...... The gardener may not be the one who produces lasting forms that will endure over time, but rather the one who produces lasting fascination.” (16)

Finally the act of cooking itself is entire dependent on climate, temperature, humidity, ventilation and energy are all central factors to creating a meal. It is hoped that through the manipulation of the existing conditions in the glasshouse, the potential climatic altering a food programme might provide, and the climate control properties of certain materials a symbiotic system for humans and plants, might be created.
Bob Downe is the owner of the glasshouse that is the subject of this proposal. He has been a horticulturalist all his life and for the last forty years has been working in this glasshouse. Originally he used to grow tomatoes, sweet peppers and cucumbers. In order to maintain a constant supply of crops throughout the year he had to heat the greenhouse during the winter months, firstly with solid fuel and then oil. As oil prices rose, it became increasingly difficult to maintain a viable business.

Since joining the EU he has had to compete with crops from Spain which can be grown cheaply due to a more clement climate and also inexpensive migrant labour from North Africa. Changing shopping trends means that small vegetable shops have become obsolete and supermarkets hold a strong monopoly on all food sales making it difficult to negotiate reasonable prices. Also people’s eating habits have also changed from cooking with raw ingredients to heating already processed foods.

Next to his glasshouse is the remains of his brother’s glasshouse. This also covered an acre of ground but was dismantled several years ago with all aluminium parts been sold as scrap. The remains of the glass and zinc elements along with the concrete footings continue to remain on site.

These days Bob only grows food for himself and concentrates most of his effort on selling ornamental garden plants. Unlike food produce those plants that cannot be sold one year can always be sold the next. As 4/5 of his glasshouse remains unused, Bob stoically muses that “as long as it remains empty it cannot lose money”.

As with all gardeners, Bob is acutely aware of the weather and climate at all times and almost intuitively has a sense of temperature, humidity and sunlight that is uncannily accurate. All his family, many of whom are also horticulturalists have had to emigrate to find work. Although in his seventies he continues to work in solitude in the large glasshouse carrying out the seasonal rituals of growing plants.
Jim is an organic horticulturalist, working on 16 acres in Co. Clare. He works the same farm that his father and grandfather worked and often employs the same methods such as ploughing with a horse instead of a tractor. After studying horticulture, he grew dissatisfied with Irish farming and its increasing reliance on artificial fertilizers. He worked for a while in the Netherlands, where he was introduced to organic farming. These days he also holds night classes in organic gardening in the University of Limerick, as well as teaching some full-time students on his own farm.

He considers modern Irish agriculture is not viable, and farmers only continue to work the land in pursuit of EU grants and subsidies which are available mainly for beef and dairy farmers. There is no similar aid for horticulture. He considers that most Irish farms are making a loss and often it’s only with the help of grants and a second income, such as that of the farmer’s wife that keeps everything afloat. Giving an example of this, the farmer who supplies him with straw, makes less on 80 acres, after all his overheads have been paid than Jim does on a ¼ acre under plastic. He strongly advocates a low input/low output approach to food production. He considers that there is a crisis in Irish agriculture that continues to be ignored by the government, the food producers and indeed the farmers themselves, who with the exception of the few in receipt of huge subsidies are actually struggling but want to believe in the illusion that all’s well. He considers the problem is three-fold,

1. A generation of farming knowledge has been lost due to industrial farming methods encouraged by the government and EU grants.

2. Selling local produce is becoming increasingly difficult due to supermarkets’ monopoly on the sale of food.

3. There is a lack of knowledge among the general population regarding the consequences of the food they consume. 80% of our food is imported.

Although he believes that working the ground and the intuitive nature of growing food is invaluable, he is also a businessman. He advocates a model of growing to his students, of 1000m2, that accommodates a polytunnel and a propagation area, has the potential to generate an income of 15,000euro with 2/3 days work a week.
Alan works for Teagasc, which is the semi-state authority in Ireland responsible for research and development, training and advisory services in the agri-food sector and also comes from a farming background himself. He explains that when Ireland joined the EU, it came under CAP (Common Agricultural Policy), which was established to guarantee a constant, cheap food supply for all EU citizens by subsidising farmers and was replaced in 2005 with the Single Farm Payment, which is calculated on the total no. of subsidies a farmer received in 2000-2003 and then divided by three. A new system again will be introduced in 2013, but there are no details yet as to what this might be, but it is assumed that it may relate subsidy to cost, ie. if a farmer receives below a certain cost for his produce, then a subsidy will make up the difference.

Last year, excluding subsidies, beef lost 150e per hectare on average. The least profitable farms losing as much as 434e per hectare and the most profitable losing a mere78e per hectare. Without doubt beef farming is absolutely a loss making exercise. So why continue? Grants and subsidies can range from 50,000e per farmer up to a staggering 200,000e per farmer sometimes regardless of production. Most of this food is exported, injecting much needed cash from abroad into our economy but also keeping prices high at home. Dairy farming is the most profitable type of agriculture at present. Mainly due to the fact that milk quotas, limit the amount of dairy farmers and production levels so prices can be controlled.

The recession has also an effect on agriculture, naturally. Two years ago the average age of a farmer was in his 50’s and was generally one person working an average 30 hectares. The unemployed sons and daughters (mainly sons) are returning home trying to make some income off the land. Also there are part-time dairy farmers, which given the nature of dairy farming is highly unusual. Land prices are still stubbornly high. Although more farms are for sale than ever before, it is mainly banks that are selling repossessed family farms were previously remortgaged but had lost money through speculation. The price of land currently is 8,000e an acre, however, Alan points out its actual value is probably worth less than 3,000e. It’s approximately 180e per acre to rent the same land. In any case, given the current situation, where milk quotas dictate that there are no new dairy farmers, and beef is a loss-making enterprise, he cannot envisage a way of how this land would pay for itself.

In imagining a future for farming, Alan uses two words—“scale” and “efficiency”. Currently the Dept. of Agriculture, Fisheries and Food, have planned a 50 % expansion in dairy and a 20% expansion in beef over the next few years. There will only be 3 new milk quotas licensed. Presently there are 141,000 farms in the country, and he foresees that this number will be drastically reduced as a result of policy. Less farmers, bigger farms take care of the scale. Efficiency, of course, will only be achieved through massive investment in larger machinery and more artificial fertilizers, to induce productivity in the land.
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