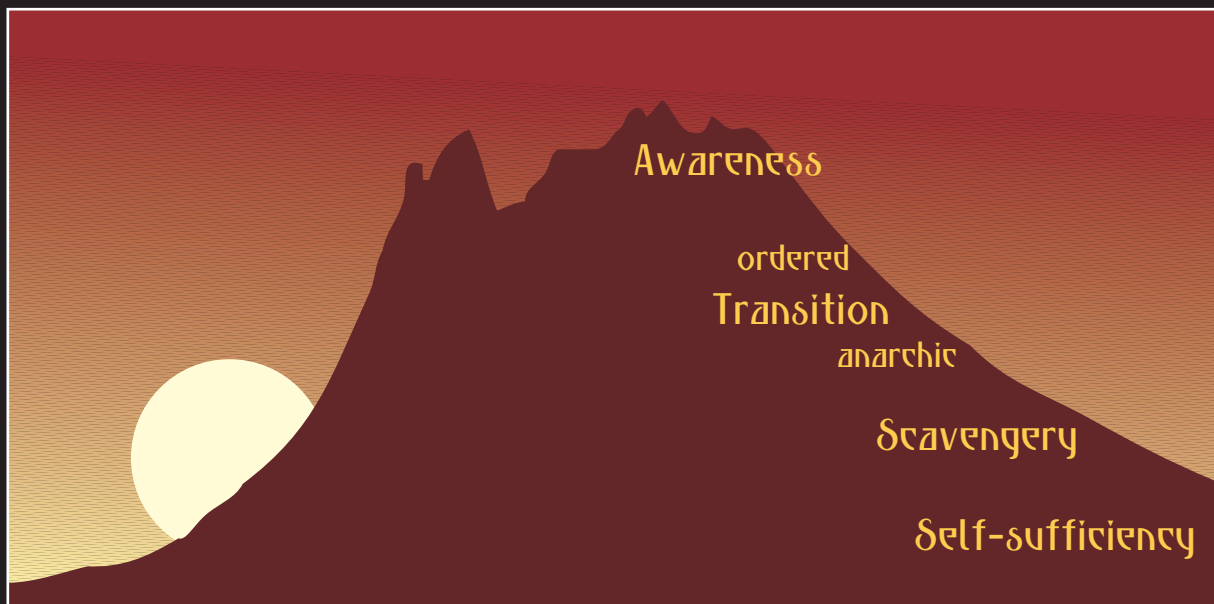


# The Twilight of the Modern World

## The Four Stages of the Post-Oil Breakdown



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*O you gods!  
Why do you make us love your goodly gifts,  
And snatch them straight away?*

William Shakespeare (*Pericles, Prince of Tyre* Act III Scene I)



### 1 Introduction

When oil depletion comes about and society breaks down, it will be unpredictable: that is the one thing that *can* be predicted. Nevertheless it is still worthwhile looking ahead and trying to forecast what might occur. In this document, I suggest a way that society might break down and some thoughts on what an individual might do.

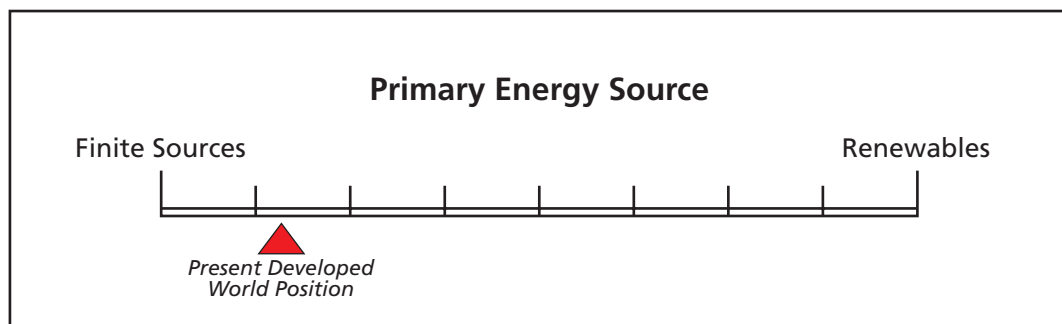


### 2 The Three Factors

The oil depletion breakdown will not be one smooth transition, gradually moving from our present ordered society to an anarchic every-man-for-himself world. Rather it can be broken down into several stages. But how to differentiate these stages? What factors should we use to determine when one stage changes to another. What are the key elements to the breakdown of society?

#### 2.1 Primary Energy Source

*Figure 1: Factor One - Primary Energy Source*



The first factor is clearly the primary energy source; it is the loss of cheap oil, after all, which will bring on the disintegration of society. The right hand side of the scale is easy: a system totally based on renewable energy<sup>1</sup> (including biomass forms of power). The left-hand side would be where all the world's energy came from non-renewable sources – oil, gas, coal and nuclear.

Of course, this situation has never existed. Before the Industrial Revolution, the world survived on renewables, either locally-based water- and windmills, or biomass such as wood. Even in the last few centuries we have retained some renewable sources: biomass still makes up something like 14% of the world's energy<sup>2</sup>. Now the technology-based renewable sources (wind, solar, geothermal and water) are increasing although starting from a small base. At present, around 15–20% of our energy can be classified as 'renewable' so are position on the chart is a little way over from the left.

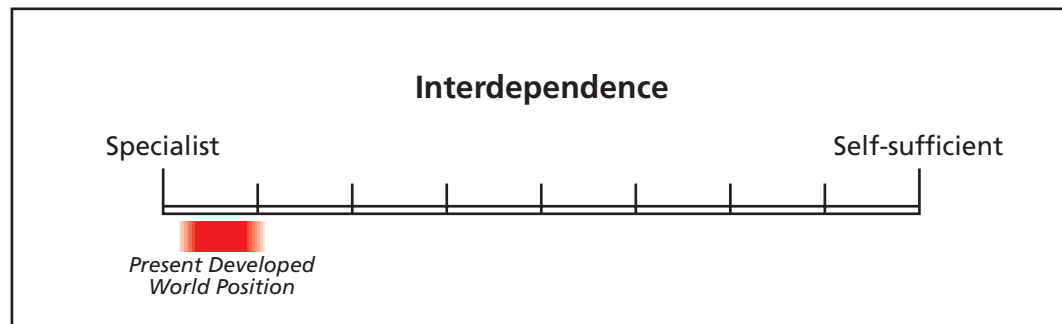
- 
1. In the real world, there will always be some non-renewable energy sources available, even if that is just the peat on moorland. So we are really talking here about the *primary* energy source, the source that makes up virtually all of our energy needs.
  2. "Energy: a Guidebook" by Janet Ramage 1997

By the end of the breakdown, we will need to be on the far right of the scale. When oil, gas, coal and nuclear are exhausted (or, at least, unable to be extracted and used), we will have no choice but to turn to renewables to supply our wants.

Primary energy source alone is not enough to categorise our position on the breakdown scale. Before the Industrial Revolution, society sat squarely on the right of the scale without resorting to anarchy and destruction. It is not impossible (in theory) for our present society to move across the scale while retaining law and order, and a civilised attitude. So it is necessary to add at least another factor.

## 2.2 Interdependence

*Figure 2: Factor Two - Interdependence*



There are many differences between a modern technological society and an historical (pre-Industrial Revolution) or 'undeveloped' one. An important factor, and one that is very useful as a guide to the post-oil breakdown, is interdependence.

Modern society is highly interdependent. This means that it is, in many ways, like a complicated machine itself with every piece having a specific task, being unsuitable for any other purpose, and being necessary to the successful working of the other pieces.

As an example with society, bread begins life as corn is grown on a farm. This needs a farmer to plant, tend and harvest the corn. He will probably be reliant on mechanics to service his tractors and other machinery. The mechanic relies on shopkeepers to sell him the tools that he needs. The shopkeeper relies on delivery drivers to bring him the tools. The delivery driver relies on the factory, etc, etc.

This web also works in the other direction. The corn is taken to a factory by delivery drivers. At the factory, workers grind the corn into flour. Then other drivers take the flour to bakeries. There the bakers convert the flour into bread which is delivered by yet more drivers to shops. The shopkeepers then sell the bread to the consumer.

Every step on this trip is performed by somebody doing a specific job that, generally only he can do. The farmer cannot bake the flour into bread, the delivery driver does not sell the bread, the shopkeeper wouldn't have the slightest inkling how to grow the corn. The majority of people in a modern society are specialists, doing one job only and doing that well.

But we are also highly reliant on each other. If one link in the chain goes wrong, the whole thing fails. When oil becomes scarce, the delivery drivers may not be able to fulfil their tasks. The corn will rot in the barn, the factory and bakery will be quiet, the shop shelves will lie empty. Modern society is not flexible enough to adapt to broken links.

It was very different in the world before industrialisation (and still is in many places around the world). In a medieval town or village, there was still the farmer, carter, miller, another carter, baker, carter, and shopkeeper who generally did their own jobs. But, if the first carter fell ill, the farmer or miller might well bring out his own wagon and replace him temporarily. The baker may well sell his bread from his own shop, some millers might even fulfil both these tasks himself!

There is always a certain amount of specialisation, of course, in every society. But people were more adaptable in earlier times. If a farmer's spade broke, he may well try and repair it first himself. Only if it proved beyond him would he call on the blacksmith. How many modern people, faced with a dripping tap, simply pick up the phone and call the plumber, even though such a task is simple enough for most of us?

At the other end of the scale is self-sufficiency. A man on his own, whether through choice or otherwise, is forced to be thus. Someone who sails alone around the world has to rely on himself for every-

thing. If a sail rips, he must repair it. If he wants to eat, he must cook it himself. He is navigator, helmsman, crew, doctor, sailmaker, plumber, electrician, mechanic, carpenter, cook, journalist. He must be everything.

Even people living together can be pretty much individually self-sufficient. In a group of people on a commune or farm, it may well be that almost everyone can do most jobs to some extent. They can probably all tend the farm, all cook, all make simple repairs. Whilst each may have his own particular skill, that is not solely his concern. They may be jacks of all trades, masters of one.

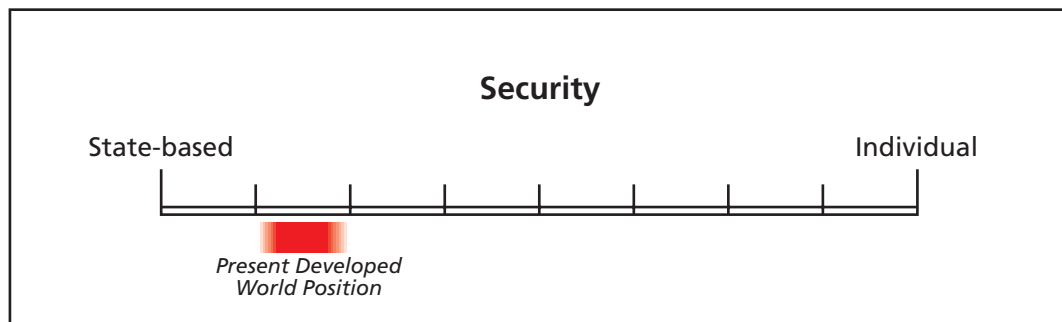
The Breakdown will lead us from one side of the scale (Figure 2) to the other. At the moment, I place our modern society very close to the left (with blurred edges since the exact position is a matter of opinion). It is hard to imagine us being any more interdependent except in some science fiction world such as *Brave New World* or *Metropolis*. By the end of the breakdown, we will all, by necessity, have become highly self-sufficient and multi-skilled. As our societies will be more 'primitive' and smaller, we will not have specialists to turn to. We will be like farmers on a commune or sailors at sea, having to deal with whatever comes along ourselves.

So now we have two factors, two scales on which to measure how society will change. But even these two are not enough. It is possible for society to become both renewable-based and less interdependent without a breakdown in society. (It is hard though to see how a modern society such as ours could lose its interdependency. Modern technology is such that specialists need to spend many years in training to understand their professions. We can hardly have half-trained airline pilots or nuclear reactor scientists treating it like a hobby.)

We can hardly expect the loss of hydrocarbons to result in a society smoothly shifting from personal motor cars and four year graphic design courses, to electric public transport and multiple personal agriculture. There is inevitably going to be a third factor, and this is security.

### 2.3 Security

Figure 3: Factor Three - Security



For a change of such magnitude in our society, it is obvious that personal security is going to change dramatically. This is likely (but not necessarily) a decrease in overall security but, more importantly, a shift from state-based to individual security.

The table above shows that our present situation is close to the far left. What this means is that most of our security is handled by the state - police, military, medical. Most of generally do not need to worry too much about our own safety. Yes, we put locks on our doors and we keep away from dark alleys at night (which is why we are not fully on the left in the scale), but we normally leave security up to the authorities and their designated bodies.

During the Breakdown, security will move inexorably across the scale. As money grows short (for individuals *and* governments) and unrest grows, the official organisations will find it harder and harder to both maintain general order, and to protect households. We will be forced to look more to ourselves for our personal security. Initially that will be extra locks and security lights, not walking alone, etc. Eventually it will lead to carrying weapons for protection, and attacking burglars rather than calling the police. Note though that society will never move fully across to the right of the scale. Few people totally on their own will survive the Breakdown so, for most of us, the security will end up partially personal and partially community-based.

National security will also suffer as countries consider attacking others to gain their energy resources. The scale could then be amended to have "International Co-operation" on the left and "Indi-

vidual Force” on the right. The USA and UK have already shown with the 2003 invasion of Iraq that they are prepared to abandon international law when it comes to securing the supply of Middle Eastern oil. If two countries previously considered democratic and staunchly ethical can willingly abandon their principles, then others with less lofty ideals will do likewise.

## 2.4 Summary

So now we have three scales which can show the descent of society during the Breakdown. At the moment, the developed world’s position lies close to the left on all three. (It is interesting to be aware that only the Energy Source factor can be measured objectively; the other two rely on interpretation and opinion.) At the completion of the Breakdown, the indicators will lie at or close to the right. Energy Source must be fully at the right since all fossil fuels are finite. As it is impossible to keep our present cheap-energy dependent society going on renewables and drastically-reduced populations, Interdependence will inevitably be slewed far across to more self-sufficiency. And the lack of communications, the reduction in transport and, again, the fall in population will drastically reduce the ability of the state to protect its citizens. Indeed, eventually, the ‘state’ as we know it will not exist.

With these three factors at our fingertips, we can look at what stages society itself will pass through as it moves beyond the Age of Oil.



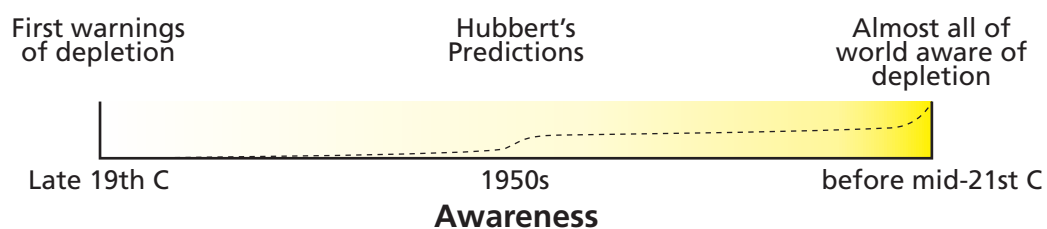
## 3 The Four Stages of Breakdown

The precursor to the Breakdown began when we extracted the first barrel of oil from the ground in 1859 by Edwin Drake (or when some unknown person realised that coal would burn). As there is only so much oil and gas in the ground, once we started extracting and using it, we were started along that Hubbert Curve which will eventually lead to oil depletion, the end of economically-extractable hydrocarbons.

Up to now, up to the peak of the Hubbert Curve, the Breakdown has not properly begun for we have enough cheap oil and gas to supply our needs. But, for the sake of convenience, we can define an initial stage which began almost as soon as we began pumping oil and can be termed Awareness.

### 3.1 Awareness

*Figure 4: First Stage of Breakdown - Awareness*

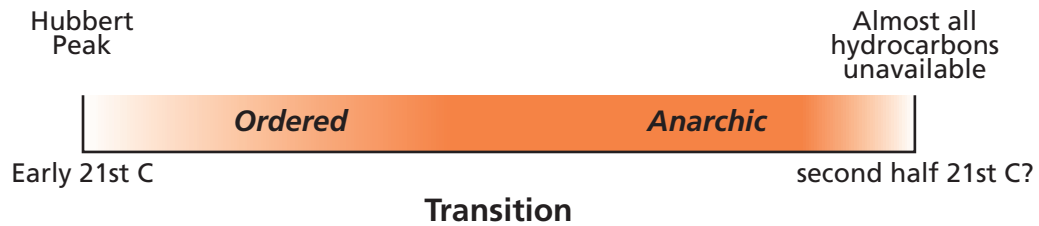


The Awareness of oil depletion, the realisation that oil and gas are finite and would eventually run out, began many years ago but it was with the predictions of M King Hubbert in the 1950s that it became a serious fear. It was not just that his prediction of US-48 oil decline was nearly spot on, but that he pointed out a very important fact: it is not the exhaustion of oil that matters but the end of *cheap* oil. People who said that there is enough oil to last until the middle of the twenty-first century were right but were looking at the wrong factor. It is when oil production begins to decline and the impossibility of halting it that our problems begin.

Awareness was given a boost with Hubbert’s work but, as of now (2004), it still remains low. 99.9% of the world is either unaware or incredulous of depletion. Unless some prominent and respected politician or scientist brings the problem to the world’s notice, most of the world is likely to remain ignorant until oil depletion begins to have a marked effect. Then, rather like climate change, it will begin to snowball until it is on every page and news broadcast. I would imagine that, before the middle of this century, all the world’s educated people would be aware of oil depletion. By that time, of course, we will be well into the next stage: Transition.

## 3.2 Transition

*Figure 5: Second Stage of Breakdown – Transition*



Transition is the long and unpredictable period when the world switches from being totally dependent on hydrocarbons to having to live without them. It finishes when just about all those hydrocarbons still left in the earth are unavailable, when we simply cannot extract them or it is not worth the effort. It is when the pointer on the Energy Source scale is flat against the right hand side. The exact date is impossible to forecast but it is hard to see it occurring any later than the end of this century.

As the first scale slides to the right, the other two will follow at different rates. The second is likely to change quickly since, the more interdependent a society is, the more vulnerable it is to breaks in that web. Anyone who recalls the UK fuel protests of 2000 or the east coast blackouts in the USA in August 2003 can easily imagine the disintegration when petrol is rationed and lengthening electricity blackouts occur. The third scale, Security, will probably move in a different way which is why I would divide the Transition stage into two.

The first phase is subtitled Ordered Transition, the second Anarchic Transition.

### 3.2.1 Ordered Transition

Initially governments will try to control and limit the effects of depletion. Public money and the medical authorities will be used to help those in need, delivering emergency food supplies and offering vouchers for heat and power for those unable to provide for themselves. Communal food stations and cheap public transport may be made available. Security will be maintained by the state, bringing in new legislation and martial law as need be. Electricity shortages will be managed, with rolling blackouts preventing people suffering for too long and allowing the emergency services to prepare for hardships and looting. Food and fuel queues will be policed so the disaffected public will tend to remain under control.

### 3.2.2 Anarchic Transition

Eventually, and gradually, governments will begin to lose control as we merge into Anarchic Transition. When the blackouts grow too long for comfort and become unpredictable, people will be forced to take things into their own hands. As the state's finances deteriorate, it will be harder to supply those in need with both food and money, and the emergency services will have more to do with less. The poor and hungry will find the power cuts ideal opportunity for finding food from others. The food and fuel queues will turn nasty and constantly occupy the police and army. Protests about the problems and government mishandling will escalate into riots.

Individuals will have to look out for themselves. Food will be grown where the back lawn once lay (the front garden would be too tempting to passers-by). Houses will become fortresses with locks on the doors and weapons beneath the pillow. People will no longer have the ability to drive long distances to supermarkets or commute to jobs. Open spaces will be turned over to agriculture to try and feed the population when foreign corn, fruit and meat can no longer be guaranteed. Rusting cars will litter the driveways.

It is during Anarchic Transition that we will face the Four Horsemen of the Apocalypse (and their offspring) at their worst. Famine will be widespread mentioned above. The power shortages and subsequent interruption to water and sewage will combine with hunger to allow diseases to spread through the towns and cities whilst the overstretched medical services will be hard put to control them. It is also now when desperate governments are likely to turn to force to attain those remaining resources, whether energy or food. Where you live will determine the effect of these: countries with few resources and little military might may well come off best: the rise of Africa?

Eventually though the Transition will be achieved. Oil and gas will be a memory. Modern civilisation will be dead. The survivors will find themselves in a pre-Industrial Age society. We will have entered the Scavengery stage.

### 3.3 Scavengery

*Figure 6: Third Stage of Breakdown - Scavengery*



Once hydrocarbons are gone, we will be forced to resort to a simpler lifestyle, growing food organically as we did for centuries and living in small communities. The state will no longer exist as a meaningful entity, interdependence will be unsustainable, security will be handled by individuals or your community.

Initially though we will have to depend on what remains of our modern society for survival, picking over its corpse as scavengers. Wood and other biomass, likely the main form of energy, will need time to be grown. Land exhausted by decades of monoculture will need to be restored to health. People will need time to relearn the essential skills of agriculture, animal husbandry, building, repair, medicine, etc. During that period, we will be able to strip vehicles, buildings and machinery for those things we cannot produce ourselves - food, glass, brick, metal, drugs, rubber, wood, plastic, wheels, nails. Some of these things, like plastics and advanced drugs, will be lost forever once they are exhausted. Even metallurgy will be extremely difficult without coal and easily accessible ores. And some will become outlaws, living a nomadic life stealing from those who are trying to rebuild society.

When these remnants of our contemporary society are finally gone, we will reach the final stage of the Breakdown: that of complete Self-sufficiency.

### 3.4 Self-sufficiency

*Figure 7: Final Stage of Breakdown - Self-sufficiency*



Sooner or later, all the remains of our existing society will have gone, to become weed-clad ruins to rival those of the Aztecs and Mayans. By now, everybody who is unable to convert to a sustainable, self-sufficient lifestyle would have died off, leaving only those living in independent communities to continue human history. The world population may have fallen to as few as a thousand million, scattered in oases of agricultural land amongst deserts of buildings, rusting vehicles and forests. The roads would be broken by vegetation and frost so that rivers may once again become the main highways as they once were.

Ordered society, a new civilisation, may once again rise. The Egyptians and Aztecs, for instance, had thriving and intricate societies without oil, gas or coal. The former did not even have trees! But an industrial world as we know it could never rise again for the oil, gas and coal will have been exhausted, never to be replaced. Without them, we can never create steam engines or railways or motor cars. And space travel will once more become science fiction.



## 4 Personal Actions

If this is how the Breakdown will occur, then how can we cope with it? How can you use this advanced knowledge to prepare yourselves and your family to survive?

Much of the Breakdown will be unpredictable which makes detailed preparation infeasible. But that doesn't mean that nothing can be done, or that we sit around, taking things as they come. An examination of the stages of the Breakdown can bring one to useful conclusions.

Personal actions will clearly depend on your own circumstances. If you are a single person with ample funds and no ties, your choices are different from somebody with a spouse, 2.2 children, a mortgage and a bank account in permanent overdraft. The most important thing to bear in mind is that our present society will not continue for much longer. Ideas of finding a job at 18, marrying, acquiring a house and a family, then retiring at 60 or 70, belong to history and the sooner you accept this, the sooner you can consider what needs to be done.

At the moment, for instance, we are constantly being harried about pensions with scare stories of how we will not have enough to live on when we retire and we need to save more. But the politicians and financial experts are assuming that our present-day society will still exist in 30 or 40 or 50 years time. It won't. Pensions are heavily linked to the stock market and, when oil prices soar and recession bites, shares will be one of the first things to suffer. If you already have a pension and are within say 15 years of claiming it, it is probably worth keeping it going (But don't add to it. Pensions make their worth by paying out over long periods - you are more likely to need that money sooner rather than later, and much of it up front.) Other investments in the stock market may be worthwhile (alternative energy companies should do very well, for instance) but remember that shares are looked upon as a long-term investment, and the financial future is very definitely not long-term. A better option would be to put money away regularly in a savings account. The returns are lower but the risks are much lower and the risks in all financial matters will increase as the years go by.

If you are planning a family, be cautious about the number of children you have. At the moment, you might have regular income and child welfare to supplement it or fall back on. State support will not always be there. Older teenage or adult children will be beneficial in the years ahead but we don't know just how fast the Breakdown will occur or how it will hit us. Trying to make it through blackouts and recessions with two young children and a baby is not tempting.

### 4.1 During the Awareness Stage

The Awareness stage will be a relatively stable period until the end when it overlaps with Transition. This gives us a chance to make preparations within a comfortable, financially-secure, relatively liberal society. It won't always be like that so we should make full use of these facilities.

We can pop down to the library or go onto the Internet to gather masses of information readily available. We can buy cheap clothes and equipment from a host of competing shops. We can fly cheaply all around the world. These are wonderful opportunities which will not last long. Air travel, for instance, will be one of the first things to suffer as oil prices rise.

Use the library, Internet or local education to learn valuable skills. Becoming a farmer may not be feasible but you can read books on self-sufficiency and gardening and have a few on your bookshelf for when you dig up the back lawn for cabbages. Car mechanics, first aid, self defence, other languages, sailing, horse riding, fishing, electronics, plumbing, carpentry - there are many evening classes and clubs which can teach you things of use.

If you are young and considering your choice of career, think carefully about the timespan. Some trades such as plumbing and mechanics will be useful both now and in the future. A doctor will always be a valuable person (but make sure you put some study into herbal medicines and surgery; knowing the names of all the fancy drugs will not be much use when they're gone). Lawyers will be (even more) useless when law and order breaks down but they could earn you enough money in the Awareness Stage to help you later. But a young person has to consider whether he can afford the five or ten years needed to learn the trade before they start earning. Time is the thing which we are desperately short of. The world is full of jobs like a shop cashier which do not pay much and afford no useful skills. While it is easier said than done for many people to give up such a job, they can at least save as much as possible and spend their leisure time at the library or evening classes. Few of us can legitimately say that we can do nothing to prepare.

## 4.2 During the Ordered Transition Stage

The Transition will come gradually, emerging out of the Awareness period while most people still do not recognise it. A careful eye on the news, especially the oil markets, will warn you of the change. Do not believe the politicians and economists. When the price of oil begins to rise, they will say that it is temporary, that it is down to a war or the weather. But watch the world oil production outputs. That will reveal the truth.

During the Ordered Transition period, adaptability will be the most useful trait. Recession and the rise of unemployment may mean changing jobs – those multiple skills and ample savings will now help you through. The costs of commuting will rise so the rosy job that pays well but takes an hour to drive to may soon take on a darker shade. A job nearer to home that allows you more time in the garden will have several benefits.

As the costs of all oil-related products rise (which is just about everything), now will be the time to start helping yourself before everyone else joins in and the things you need become more expensive. Dig up the back garden and start growing vegetables (you *did* make sure when you bought a house that it had a back garden, didn't you?). Insulate the house and install double-glazing. Make sure your house (and garden) is secure from intruders. Fit low-energy electrical equipment. Fit a clothes line rather than use the tumble dryer. Add a solar panel or water heater to the roof. Swap the car for a hybrid or a motor bike. Add a bicycle.

Think what you will do when there is a blackout. Buy lanterns, not candles, and wind-up radios rather than batteries. Add an extra water tank and keep it filled. Go down to the local camping shop and get a portable stove and sleeping bags. Stock up on food now, gradually. An extra tin a week put in the cellar or attic soon builds up and the cost is easily absorbed.

Above all, buy the things you need early, while awareness of depletion is still low. Remember, once things start to go wrong, the goods we all need will either disappear rapidly off the shelves or shoot up in price. Think of how much candles will cost when the power cuts begin.

## 4.3 During the Anarchic Transition Stage

As you realise that the Breakdown really *is* going to happen and it is not just another scare story, you may have thoughts of retreating to a couple of hectares in the wilderness where you can endure the end of the world on your own little piece of independent paradise. This should be treated with caution.

A self-sufficient community needs a certain minimum size to survive. Growing food and maintaining a farm is labour intensive – the smaller the group, the harder it is to deal with the inevitable illnesses and injuries. During the harvest, you will need every hand you can find. If the community is attacked, a family of half a dozen is going to be helpless.

But a large community needs a large area of land and substantial buildings. It will be almost impossible to remain isolated and away from envious eyes. There is no way of knowing exactly what will happen as things turn bad. The government may requisition land for much needed food or biomass, evicting you or enforcing officials to supervise your isolated, independent farm. Starving mobs might flee the cities and fall upon your fields; ruthless crooks might hold you hostage; pandemics might sweep across your area; nuclear or biological weapons may be dropped upwind. Placing all your eggs in one basket is a risky situation when there are so many uncertainties.

A farming or fishing community will be valuable, of course, for we must get our food from somewhere. But it must be looked upon as a temporary refuge. The successful survivor will need to be flexible and resourceful. If the community comes under threat, he must be prepared to abandon all those hard-worked hectares and move with the flow.

Some form of transport will be necessary. Cars and lorries may not be wise – not because of the lack of petrol and diesel but because large vehicles make tempting targets and the roads are likely to become clogged with traffic jams and abandoned vehicles, or obstructed by fallen vegetation and unmaintained tarmac. Smaller vehicles which can be easily hidden and easily taken off-road are preferable. But motorcycles, ATVs and horses all limit the amount you can carry. It is therefore necessary to have a small store of essentials, all other things being expendable. When things turn bad, the survivor must be ready to flee with these essentials, ready to start again elsewhere.

One form of transport that contradicts the view I have just given is the small sailing boat. It has many advantages. It does not rely on oil; it is designed to be independent and is proof against all but the worst weather; it can carry substantial amounts. The sea is a good place to hide and there are many islands and long stretches of coastline that are unreachable by land, and therefore safe to explore for food and

water. As for the thieves and outlaws, while piracy cannot be ignored, it is unlikely to be as great a threat as the land-based variety.

Of course, one cannot stay at sea forever and a boat-based survivor would probably look to a fishing community for his protection. If that port's fishing vessels had all been engine-powered, his wind-propelled craft may be valuable element in his favour.

The Anarchic Transition Stage will be a period of much uncertainty. Experience has shown that many people resort to selfishness and violence when the certainties of ordered society disappear. Earthquakes and power failures result in more looting and burglary, wars and famines turn ordinary decent people into murderers. The difference with the Breakdown is that those situations are all temporary, leading to a restoration of order and authority eventually. With the knowledge that society is falling apart and the 'proper authorities' will never regain their former influence, how many more will turn to theft and killing to feed themselves and their families? Or maybe people will pull together? With the realisation that no one else is going to come to their rescue, folk may decide that selfishness and disorder will only lead to disaster and they will co-operate in ways that they would never have done before. No one can know, which is why flexibility remains the essential quality.

#### 4.4 During the Scavengery Stage

By the time we reach the Scavengery Stage, much will have been sorted out by necessity. Those who remained huddled behind locked doors in the towns and cities during the Transition as food grew short and society broke down would, by their actions (or lack of them), have shown that they were unlikely to survive the hardships and uncertainties of the post-Oil world. Those who had the flexibility, independence, determination and courage to survive would have already made moves to protect themselves, whether by legal or illegal means. By the time the last drops of oil are being eked out of the last viable wells, the world's population will have been savagely diluted. While many of them will just be unlucky - "in the wrong place at the wrong time" - evolution will have weeded out most of those who are 'unfit' to survive. Those left alive will be resourceful, strong (mentally, at least), tenacious and have a good chance of rebuilding some sort of new society. Not all will turn to peaceful, co-operative existence. Unlike the Self-sufficiency Stage, there will be ample opportunities and plenty of scavengeable provisions to keep the criminally-minded alive. Communities will still be small and insecure, uncertain about what protection was needed and just how far they should go. Empty buildings would still be stable enough to inhabit; stocks of tins and dried food would still be edible; roads would still be passible.

Gradually though, things would turn in favour of the law-abiding (whatever that means in a world without laws). As the remnants of our present world are consumed, the outlaws would find it harder and harder to survive. Every attack on a community carries the risk of death or injury - the longer it goes on, the greater the chance of something going awry. Without reliable food supplies and the comforts and protection of a properly-maintained settlement through the winters, the outlaw's life is hard and brief. Few will survive the the Self-sufficiency Stage.

#### 4.5 During the Self-sufficiency Stage

The Self-sufficiency Stage will be many decades ahead, maybe not in this century, and the world will be very different by the time the remains of our society are no longer of use. It may be that nobody alive today will see it and it is meaningless to advise on how we should prepare for it. Hopefully, without the temptations of coal and oil to advance our civilisation, we can become a more peaceful world, living in harmony with nature rather than trying to conquer it. But civilisations existed before fossil fuels and many rose, became corrupt and fell. The future of mankind remains veiled.



*Alas, poor world, what treasure hast thou lost!*

William Shakespeare (*Venus and Adonis*)