Breast Cancer Research shines a light on
Animal Foods Being Our Biggest Carcinogen

Are the high cancer rates in the affluent world caused by pollution, chemicals or ageing or another change in environment: the environment that travels through our bodies three times a day (our food)? This is what Dr Colin Campbell (author of The China Study) believes. He states: "most cancers are caused by all the animal food consumed".

Initially focused on breast cancer, this analysis of selected cancer research finds significant support for Dr Colin Campbell's views.

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1. Foods or medications associated with increased breast cancer rates…
Increased breast cancer rates at times have been associated with (red) meat (1) (2), dairy (3) , fish (tuna) (4), hormonal medication like the contraceptive pill (5) and hormone replacement therapy (HRT) (6).

Associations are not necessarily causations. Other studies do not find any links. Dairy subsets like yoghurt or low fat dairy have even been found associated with lower breast cancer rates under certain conditions! We are presented with a very confusing picture.

Can a different perspective provide us with more clarity and remove that confusion? Let's explore further.

2. Foods associated with decreased breast cancer rates…
Reduced breast cancer rates has been associated to the consumption of legumes and nuts (7), grains (8) (9), plants (i.e. fiber) (10), green leafy and cruciferous vegetables (11)

We are now presented with a pattern of animal food at times being linked to increased breast cancer rates and plants being linked to decreased breast cancer rates. Also hormonal medication was found associated with increased breast cancer rates. The common factor between the animal foods and hormonal medication are hormones as the animals we consume, just like we do ourselves, also contain hormones.

The pattern of animal foods being linked to breast cancer while plants are found to be preventative suits one of the basic scientific principles which is that in order to find evidence we need to look for contrasts in our observations.

Only contrasts can give us evidence of causality. E.g. if we looked for lung cancer in smokers alone we would not be able to draw any meaningful conclusions as we really need to look at both smokers and non-smokers for lung cancer contrasts.

As far as food goes there are no bigger contrasts than between the animal food and the plant food. Plants contain fiber, vitamins, minerals and anti-oxidants, some proteins, most of them very little fat and often starches which can give us energy. Animals contain lots of proteins, fats (many highly saturated) and the animal's hormones. Animal food contains no fiber, is mostly low in vitamins, minerals and anti-oxidants. Dairy also contains a significant amount of calcium.

Some additional notes to this statement on animal food:

- Animal liver can actually be that high in vitamin A that consumption could potentially kill us through vitamin A poisoning (Hypervitaminosis A). Plants normally do not contain vitamin A but the precursor beta carotene which we can convert into vitamin A as we need to. (12)
- Animal meat contains significant amounts of iron. However, this can lead to iron overload in some individuals. This is called hemochromatosis. If left untreated, it can damage joints, organs, and eventually be fatal. From the omnivore perspective hemochromatosis is a genetic defect. However, human omnivorous behaviour does actually not prove that the omnivorous diet is ideal for us. Till we have studied, observed and measured health and longevity outcomes from the omnivore, plant and animal food perspectives, we actually do not know what the optimum human diet is and hence the genetic defect could be an assumption.
- Dairy is high in calcium but if we look at bone fractures (13) (14) and dairy consumption (15) than a high dairy consumption does not protect against broken bones. In contrast, we see high fracture rates in those countries consuming a lot of dairy.

Comparing the animal and plant foods might be an interesting path to follow. But first let's explore further. Is there an agent that definitely causes breast cancer?

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3. What agent has been found to definitely cause breast cancer…

An observation of a random control trial linked Hormone Replacement Therapy (HRT) directly to breast cancer.

In 2002 an experiment in the Women's Health Initiative (WHI) of HRT using estrogen and progestin was ended prematurely because the researchers became convinced that HRT caused higher incident rates of breast cancer in the population. Subsequently also breast cancer mortality rates and even all cause mortality rates were linked to the use of HRT which strengthens the evidence of breast cancer causality by HRT (6).

It is estimated that about 65% of the women in the US stopped HRT after this fear inducing announcement in 2002. In 2003 the breast cancer rates in the US dropped by 6.7% while up to that point the rates had been generally going up. The unprecedented drop in breast cancer rates added further evidence of breast cancer causality through HRT. In the years following 2004 breast cancer rates in the US were stable while no further significant HRT quitting rates were likely. Again this observation adds evidence of the use of HRT causing breast cancer.

In 2002 the US National Toxicology Program labelled estrogen (found in HRT) as a known human carcinogen in their Tenth Report on Carcinogens (16).

Following these events, the estrogen component in HRT has also been identified and consequently labelled by the World Health Organization (WHO) as a class one human carcinogen meaning that it is definitely carcinogenic to humans (17).

An graphical display of the US breast cancer incident rates around the WHI event in 2002:

Breast Cancer Figures 2011-2012 (18)
Estrogen is a hormone found in all animals including fish and because of this, in effect, the WHO has indirectly stated that

**all animal food is carcinogenic**

Hence the WHO partially supports Dr Colin Campbell's statement that all animal food we consume causes most of our cancers.

Key points so far:
- Consuming plants appears to reduce breast cancer rates
- Consuming animals appears to increase breast cancer rates
- Consuming HRT containing estrogen definitely causes breast cancer rates to go up
- All the animal food we consume also contains this hormone estrogen

How could a natural hormone like estrogen possibly cause cancer?

### 4. A bit more about estrogen…

Estrogens belongs to the group sex hormones and all mammals produce it. Fish also produce estrogens. If estrogen is natural and we produce it ourselves, how could estrogen possibly be a problem?

How can we make sense of this situation?

Consider that homo sapiens, the great modifier, has modified estrogen levels away from the natural ones, the healthy levels we have been designed for.

In order to understand this better we will initially distinguish between the endogenous and exogenous hormones. The endogenous ones are the ones produced by our own body. The exogenous ones are the extra ones we get through consuming animal food and medication like hormone replacement therapy and the contraceptive pill.

But it is not that simple. Our endogenous hormones have been going up as well…. Our women produce estrogen for longer in their lives because since the start of the industrial revolution the age of menarche (first menstruation) has been coming down and the menopausal age has been going up. This exposes our women for longer to the elevated estrogen and progesterone levels from their fertile period.

Apart from estrogen being a definite human carcinogen, there are other hormones being suspected to increase cancer rates. These include progesterone (19), prolactin (20), testosterone (21), IGF-1 (22), VEGF (23). What is special about all these hormones is that they promote growth in different tissues (think different cancers).

**But aren’t these hormones fully broken down by the digestive system?**

Considering the following observations, likely not all hormones are fully broken down:

- oral hormonal medications follow that very same digestive track and they do work
- the fairly strong association between the consumption of animal food and most cancers. If we define affluent cancers as those with a positive association to the animal food, the static perspective shows us a 7 fold difference in affluent cancer rates between those countries consuming the highest and the lowest amount of animal food. The dynamic perspective shows us that as countries increase their affluence, their affluent cancer rates go up. Currently in China cancer is a fast growing problem. This includes lung cancer despite that in the mid 90s the cigarette consumption started to come down slightly. Notably air pollution in China has increased as well of course.
- the average height increases as populations consume more animal food when becoming more affluent. With the average income going up in China currently, the Chinese are getting taller fast. A height increase potentially points at more growth hormones which might well come from the increased animal consumption.

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5. How could the extra intake of (exogenous) estrogen cause cancer?
There is no known pathway of estrogen causing DNA damage and we produce it ourselves. How could it be carcinogenic? What are the mechanics behind extra estrogen intake increasing our cancer rates?

Please consider the following:
- Looking at DNA damage as the only factor in cancers might be like looking at inhaling the flu virus and expecting 100% of people to get sick from the flu.
- In reality only about 15 - 30% of people infected with the flu virus, will actually get the disease.
- This is where the role of the human immune system comes into play. Our immune system changes the outcome from 100% flu infections to a 15-30% flu disease rate.

The following important question then arises:

*Could the immune system play a role in cancers too?*

- Interestingly currently a lot of promising cancer research utilizes stimulation the body's immune system in fighting cancer one way or another. These types of immunotherapy include: Monoclonal antibodies, Non-specific immunotherapies, Oncolytic virus therapy, T-cell therapy and Cancer vaccines (24) (25) (26)
- We can also see that undermining the immune system through medication (like organ donor rejection drugs) increases cancer rates (27). Increased cancer rates through undermining the immune system are often linked to (mostly viral) infections but also skin cancers and other cancers. A Japanese study found significantly more renal and thyroid cancers in immune compromised patients (28). Another study found 50% higher lung cancer rates after a renal transplant and the associated treatment with immunosuppressants (29)
- We can see also that undermining the immune system through diseases like AIDS increase cancer rates. This includes non-virus related cancers like lung cancer. Lung cancer rates can double in AIDS patients (30).
- The first successes of cancer immunotherapy came from 1891 by Dr William Coley who has been called the father of immunotherapy (31).
- Decision Resources Group expects the immunotherapy market in the United States, France, Germany, Italy, Spain, United Kingdom and Japan to increase from $1.1 billion in 2012 to nearly $9 billion in 2022 (corresponding to 23.8 percent annual growth) (32). The global market of cancer immunotherapy might reach 145 billion in 2024 (33). (There is significant money to be made from sick people!)
- We know our immune system fights cancer through killer-T cells and through apoptosis (programmed cell death)
- The only known pathway that explains the spontaneous remissions that sometimes occur in cancer patients is through our immune system winning the cancer battle.

Hence our immune system is definitely an important factor in the final cancer outcome after repeated DNA damage has initiated a cancer cell. The progress of DNA damage leading to lethal tumors is co-determined by our immune system. Cancers are a multifactorial disease like any other disease.

There is more to dying from cancer than the DNA damage initiating the cancer
We can visualize this concept as follows:

While the cancer is trying to grow, our immune system is fighting it.

We can visualize this also in a seesaw balancing version:

- If we suppress the Immune System, the Cancer Growth (left) will tend to go up.
- If we stimulate the Immune System, the Cancer Growth will tend to come down.
Next let's consider the other side of the scales. The Cancer Growth side....

As is determined appropriately, our oncologists suppress the Cancer Growth through
- Chemotherapy
- Radiotherapy
- Surgery
- Hormones like Tamoxifen
- Immunotherapy

(While tamoxifen decreases breast cancer mortality rates, tamoxifen stimulates endothelial growth resulting in a small increase in endometrial cancer (34). One study estimated the endometrial cancer odds ratio to be about 4 (35) for women over 35).

Hence the hormone tamoxifen increases endometrial cancer and estrogen increases breast cancer and both stimulate growths of sorts which leads to the following:

And since the carcinogen estrogen (and possibly other growth stimulants) occur not only in HRT but also in all animal food, this would cause all animal food to stimulate the cancer growth which might make it hard for our immune system to fight cancer growth and win the battle for us.

Specific cancers that started from different cells in the body will respond differently to the different growth promotors found at different levels in different animals consumed at different stages in their life cycle raised in different ways creating a complex picture. Add to this complex picture hormonal medication consumed at different rates in different parts of the world and we end up with a very complex picture indeed.

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What percentage of cancers could possibly be caused by our diet?
In 1980 British epidemiologists Richard Doll and Richard Peto produced a landmark review of factors known at the time to affect cancer risk. The report had been commissioned by the US Congress Office of Technology Assessment to help determine the percentage of cancer of avoidable causes. The 117-page document was published in the Journal of the National Cancer Institute in June 1981 (36).

Summary of Doll & Peto, JNCI 1981:

<table>
<thead>
<tr>
<th>Text section No.</th>
<th>Factor or class of factors</th>
<th>Percent of all cancer deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Best estimate</td>
</tr>
<tr>
<td>5.1</td>
<td>Tobacco</td>
<td>30</td>
</tr>
<tr>
<td>5.2</td>
<td>Alcohol</td>
<td>3</td>
</tr>
<tr>
<td>5.3</td>
<td>Diet</td>
<td>35</td>
</tr>
<tr>
<td>5.4</td>
<td>Food additives</td>
<td>&lt;1</td>
</tr>
<tr>
<td>5.5</td>
<td>Reproductive and sexual behaviour</td>
<td>1</td>
</tr>
<tr>
<td>5.6</td>
<td>Occupation</td>
<td>4</td>
</tr>
<tr>
<td>5.7</td>
<td>Pollution</td>
<td>2</td>
</tr>
<tr>
<td>5.8</td>
<td>Industrial products</td>
<td>&lt;1</td>
</tr>
<tr>
<td>5.9</td>
<td>Medicines and medical procedures</td>
<td>1</td>
</tr>
<tr>
<td>5.10</td>
<td>Geophysical factors</td>
<td>3</td>
</tr>
<tr>
<td>5.11</td>
<td>Infection</td>
<td>10</td>
</tr>
<tr>
<td>5.12</td>
<td>Unknown</td>
<td>?</td>
</tr>
</tbody>
</table>

Hence Doll and Peto estimated at that time in the USA:

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potentially diet was a bigger factor (70%) in cancer death than tobacco (40%) and alcohol (4%) combined!
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In their range of acceptable estimates, diet could be more than double that of tobacco! Despite this significant cancer cause potential of diet, there was no known pathway for our diet to cause high cancer rates which is a reason why there was such a wide tolerance margin in their assessment.

Doll and Peto's conclusion supports Dr Campbell's stating that over 80% of all cancers are avoidable through lifestyle changes (37). The main lifestyle change necessary moving towards a plant based diet.

From the author's own research using WHO data for 72 countries and looking at the influence of animal food on cancer rates only, the author believes that indeed the cancer rates could be lowered by at least 70% through the single factor of adopting a plant based diet. 72 countries containing about half the world's population is a truly big study…

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If we stimulate the immune system we end up with less cancer
If stimulate the cancer, we will end up with more cancer.
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Animal food appears to stimulate cancer growth and we could be putting fuel on the cancer fire!
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The animal food might be the main factor behind most detected cancers. The animal food could be the white elephant in the room. Homo sapiens might be a plant eater in denial!

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From a cancer perspective we shouldn’t talk about sex hormones being linked to cancer but growth hormones being linked to cancer as this explains the likely carcinogenic mechanism much better.

An analogy of the relationship between cancer cause and cancer growth:

DNA damage from smoking is the original cancer cause, it is like a little girl whispering into a microphone. The much higher cancer rates are the result of the cancer growth following the DNA damage from smoking. The cancer growth is like the girl's whisper amplified voice coming out through the speakers. The little girl's whispering sound can become deafening!

The animal food is like an amplifier turning a DNA damaged cancer cell into a life threatening problem. The animal food is a second causal factor, another cancer rate contributing factor, but of a completely different nature than the DNA damaging factors. It has the potential to be the biggest factor on the undesirable outcome. If we want to reduce cancer, we might need to turn the amplifier off!


Question: If growth stimulation is a major factor in cancer rates, is there an association between cancer and body size?
Yes, there is. The British 1,000,000 women's study found an increased risk with increased body height for 15 of the 17 cancer sites assessed and a statistical significant risk for 10 sites: colon, rectum, malignant melanoma, breast, endometrium, ovary kidney, CNS (brain), non-hodgkin lymphoma and leukaemia (39).

A Swedish study of 5,500,000 million people studying specifically breast cancer and melanoma found total cancer going up by 18%, breast cancer go up by 20% and melanoma go up by 32% for every 10 cm increase in height (40).

Research data suggest that bra cup size (and conceivably mammary gland size) may be a risk factor for breast cancer (41).

A research quote: "There is direct and indirect evidence that breast size is an important factor in the risk of developing breast cancer" (42).

As the amount of animal food consumed increased in populations with increased affluence, both the cancer rates go up and so does the average height of the population.

We might be getting taller nowadays not because a better diet but a worse diet!

Do people with more breast cancer indeed have more of these hormones in their bodies?  
Yes serum levels have been found to be higher among those having higher breast cancer rates (43) (44) (45)

If breast cancer increase with both early menarche and growth, has early menarche found to be associated with growth too? 
Indeed a Taiwanese study found a significant association between height and age of menarche (46)  
Other researchers find that height is closer associated with early menarche than weight increase (47).

7. Estrogen associations with other cancers…
Question: If growth stimulation is the carcinogenic characteristic of estrogen, are there estrogen associations with other cancers?  
We saw a study finding an increased risk with increased body height for 15 of the 17 cancer sites assessed. This raises the question if estrogen has been associated with other cancers.  
And yes there are more estrogen associations with other cancers and with estrogen containing products. Many studies below are from low income countries. These countries are less polluted by extra estrogens caused by increased affluence leading to increased animal food consumption. We will see in section 11 dealing with the limitations of reductionism that Systematic Reviews and Meta-analysis using a reductionist approach also containing high income countries can dilute the evidence presented by low income countries. When using reductionist approaches, bigger is not always better, bigger can be worse!

- A study of 66,661 women in Shanghai China found a 68% increase in colon cancer and a 238% increase in gall bladder cancer with ever use of oral contraceptives (48).  
- A WHO (IARC) study found the risk of cervical cancer increased up to four fold with duration of oral contraceptive use in women with human papillomavirus infection (49).  
- A study of 267400 women in Shanghai China found the use oral contraceptives for over 3 years associated with a 156% higher chance to get colon cancer (50).  
- Cisplatin is a chemotherapy drug used to treat testicular cancer, ovarian cancer, cervical cancer, breast cancer, bladder cancer, head and neck cancer, esophageal cancer, lung cancer, mesothelioma, brain tumors and neuroblastoma. Estrogen and progesterone have been found to prevent Cisplatin induced apoptosis in lung cancer (51). Apoptosis is one of the body's cancer fighting tools of our immune system.  

**Note: This means that**

| the consumption of estrogen containing animal food or medication undermines the efforts of chemotherapy! |

- Anti-estrogen therapy was found to have a positive affect on the prognosis of patients with lung cancer (52).  
- A review of the current knowledge around estrogen and lung cancer found estrogen to be an important factor contributing to lung carcinogenesis, lung cancer growth, metastasis, and affecting the prognosis (53)  
- A knowledge review finds increasing evidence supporting a close relationship between estrogens and melanoma growth and progression (54).  
- If we look at lung cancer (which is normally strongly connected to smoking), we find research linking lung cancer to both the animal food and estrogens (55) (56). A 44% reduction in lung cancers with higher vegetable intake and lower animal fats has been observed (57).  
  - Getting lung cancer is definitely not just a matter of smoking!  
  - How much more than 44% would lung cancer rates be influenced by consuming a plants only diet?

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We find research linking melanoma to breast cancer (58), omega 6es (the highly processed "healthy" kitchen oils!) (59) and estrogen (60) and hence the animal food again. A significant preventative influence found were the plant foods (61). Getting melanoma is not just a matter of too much sunshine! Also significant melanoma rate changes over time not matched by radiation changes, indicate other melanoma causes. The Dutch melanoma death rates went up from 0.2 per 100,000 in 1950 to 4.9 in 2015. An impressive 24 fold increase over 65 years (62). Connecticut too reports significant increases in both melanoma death and incidence rates (63)

- Estrogens have been linked to breast, endometrium, ovary, colon and prostate cancers (64)
- Also kidney cancer has been linked to sex dependent growth factors (65) (66)

**If growth stimulation would cause both more breast cancer and other cancers, breast cancer itself would be linked to more other cancers, not?**

Indeed such evidence does exist:

- One Israeli study reports that breast cancer patients are at higher risk of other primary cancers: "Significantly increased risks of a second primary colorectal, uterine, lung, ovarian, and thyroid cancer and leukemia were observed" (67)
- Another study: "A cohort of 525,527 women with primary breast cancer was identified from 13 population-based cancer registries in Europe, Canada, Australia and Singapore, and followed for second primary cancers within the period 1943-2000" and found an increased risk for stomach, colorectal, lung, soft tissue sarcoma, melanoma, non-melanoma skin, endometrium, ovary, kidney, thyroid gland and leukaemia (68)

**If growth stimulation would cause both more breast cancer and other cancers in humans, it would cause more cancer growth in other mammals as well, not?**

Indeed researchers found that cancer growth can be regulated through adding or removing animal protein from the diets of research animals (69) (70) (71)

Dr Colin Campbell describes the effect being that strong that cancer growth is "turned on and off" respectively with the introduction and removal of animal protein into the diet. Casein from dairy was used in the studies that "turned cancer on and off".
8. Are aging or genetics a potential cancer cause?

The biggest part of on average living longer comes from the dramatic reduction in child mortality. Hence those living currently only live a little longer than those that survived childhood in the past.

Let's have a closer look at death in childhood (72):

![Graph showing infant, neonatal, and postneonatal mortality rates: United States, 1940–2013.](image)

Next we will have a look at the percentage of humans surviving by age also coming from the Center for Disease Control (73)

![Graph showing percentage surviving by age: Death-registration states, 1900–1902, and United States, 1949–1951 and 2006.](image)

Both previous graphs tell us that dying below the age of 5 would have been a very significant contributor to the much lower life expectancies that existed around 1900. Populations apparent aging because decreases in infant mortality does not support ageing as a strong causal factor for higher cancer rates. However, there has been some real aging effect as well. We need to have a closer look at this.
Consider the following data coming from the author's own 72 Country Cancer Study:

<table>
<thead>
<tr>
<th></th>
<th>Life expectancy at 5 years of age</th>
<th>AS Affluent Cancer Incident Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>80</td>
<td>380</td>
</tr>
<tr>
<td>China</td>
<td>78</td>
<td>117</td>
</tr>
<tr>
<td>Vietnam</td>
<td>78</td>
<td>88</td>
</tr>
</tbody>
</table>

Where:
AS = Age Standardized rate
Affluent Cancer = a cancer of the following group: Breast, Prostate, Colon, Uterine, Ovarian, Testicular, Pancreatic, Melanoma, Lung, Kidney, Bladder, Thyroid, Hodgkin lymphoma, Non-Hodgkin lymphoma, Leukemia, Multiple Myeloma. All these cancers had a positive association with the animal food consumed and they make up nearly 90% of all cancers in the affluent world.
The remaining cancers from the data source did not show a positive association with the animal food consumed: Lip, oral cavity, Nasopharynx. Other pharynx, Oesophagus, Stomach, Liver, Galbladder, Larynx, Kaposi sarcoma, Cervix uteri, Brain, nervous system
Data source = WHO, IARC, data taken of interactive world map in March/April 2015.

The affluent cancers were grouped together in order to move away from the reductionist approach while remaining focused on the dietary influence on cancers. This approach maximizes the ratio of the dietary cancer signal to spurious cancer noise.
Interestingly lung cancer was part of the affluent cancer group while smoking rates are very high in countries like Vietnam and China which have a much lower affluent cancer rate! Again supporting that there is much more to lung cancer than smoking.

Between countries with similar life expectancies but consuming different amounts of animal food we find significant contrasts in the affluent cancer rates (like e.g. breast cancer). Research found migration from low to high income countries changes these affluent cancer rates indicating that genetics does not play much of a role in most cancers but it is the environment that causes the higher cancer rates (74) (75). Hence most of us are not born to get cancer which means we can take control ourselves. Of course, genetics as a significant cause of cancer, does not make sense from an evolutionary perspective. Millions of years of natural selection would have driven cancer rates down and make us more “cancer resistant”. Or from a creationist point of view: humans created as a copy of this perfect being God getting high cancer rates because of a fault by the great creator God again does not make sense.

The greatly varying cancer rates we can find in populations with similar life expectancies tell us that:

| Cancer rates increase with age primarily because we expose ourselves for longer to carcinogens (like possibly the animal food) rather than the ageing process itself. |

9. Is obesity as a potential cancer cause?

![Adult obesity rates, 1990 to 2017](Graph by State of Obesity (76).

We see that all US states have had a strong upward trend in their obesity rates from 1990 to 2017. West Virginia currently ranks number one.

Here we see the total cancer death rates coming down slightly from 1990 onwards.

![US Cancer Death Rate](77)
Hence the obesity rates continue to go up strongly from 1990 till 2017 while the total cancer death rates started to come down at about 1990. While the author does not dispute the existence of a correlation between obesity and cancers, the very different trends over two and a half decades appear to indicate that obesity's association with cancers is only weak. Obesity would appear more likely to be another dependent variable of the real cause of cancer. In other words: whatever causes cancer to some extent also causes obesity. The high fat animal food being a prime suspect.

An IARC (WHO) statement on obesity and cancer supports this: "IARC recently estimated that close to 4% of all new cancer cases in adults were attributable to a high BMI" (78)

In any case the question should be asked if metabolic and endocrine abnormalities associated with obesity are driven by the high fat animal foods supplying the body with exogenous hormones rather than just assuming that obesity itself causes these associated abnormalities.

### The role of obesity as a cancer cause is very small

### 10. What about the chemicals in the environment as a cancer cause?

In the previous section we saw the total US cancer death rate going up till about 1990 and then slightly coming down. Consider that we are continuing to produce the chemicals invented in the past, we are continuing to produce new chemicals and in many cases carcinogenicity of these chemicals is only discovered after decades of population and occupational exposures. Because of this it is unlikely that the chemical cancer burden on the human body is diminishing. Most likely it is continuing on the way up still. E.g. in 2015 Monsanto's weed killer glyphosate was given the status of "probably carcinogenic" by the WHO after glyphosate production started in 1974.

While the chemical burden on the population increases, the total cancer death rate has been coming down for more than 2 decades. It would appear that

### Chemicals are not a strong driver of our high cancer rates

### 11. Have we adopted the wrong belief?

We believe that it is possible to adapt to an omnivorous diet. But if we look at health and longevity we see that even after 500,000 to 1,000,000 years of humans consuming meat, we appear still better off consuming mostly plants.

From both longevity and health perspectives the optimum human diet would appear to be a fully whole plant based diet (A B12 supplement is recommended since we used to get B12 from soil bacteria before the invention of hygiene). Feeding an animal an omnivore diet of both plants and animals could be like running a car on both petrol (gas) and diesel at the same time! Trying to do the impossible is not a healthy thing!

Research by Dan Buettner (39) (40) and Craig and Bradley Willcox (41) (42) (43) show us that the ones living the longest on the planet are not the rich with their extensive healthcare but those consuming a simple mostly whole plant based diet. Research by Nathan Pritikin (44) (45) (46), Dr John McDougall (79) (80), Dr Dean Ornish (47) (48) (49) and Dr Caldwell Esselstyn (50) (51) and Dr Neal Barnard (52) (53) show us reversal of heart disease, diabetes-2, hypertension and raised cholesterol levels and even prostate cancer through a fully plant based diet. When we put the body into optimum conditions, it becomes self healing for these serious diseases. This means that the diseases were caused through the wrong diet in the first place! This type of evidence we can call verifiable qualitative evidence. Verifiable because different researchers at different times and places have demonstrated the same quality of reversibility of these diseases or disease burden trends and doing so exposed the underlying cause: the process and animal foods we commonly consume.

In the end beliefs are assumptions and assumptions do not make good scientific sense.

**The Current Chinese Experiment:**
China's meat and dairy consumption 1978 – 2010 has been going up strongly (81), the age of menarche is coming down fast (82), the Chinese are getting taller rapidly (83) and the total cancer rates are going up (84). A lower age of menarche has also been associated with more premenstrual complaints (85), more breast cancer (86), more endometrial cancer (87), more heart disease (88).

All this is rather ironic since The China Study done in the 1970s already demonstrated the health advantages of a more plant based diet.

**12. Where common cancer research fails: the limitations of reductionism**

Why doesn't all cancer-diet research find these associations? What causes the inconsistency?

Back to basics:
In science the best way to establish evidence between cause and effect is to:

1. Gathering all evidence from all possible different perspectives and next evaluated the total evidence in one single step as not to introduce evaluation bias concluding each bit of evidence to be insufficient without ever considering the contribution to the accumulated (total) evidence.

The second best way to establish evidence for cause and effect is a short cut to this:

2. The scientific experiment or its medical equivalent the random control trial (RCT). The scientific experiment looks for a change while all but one variables are kept the same or the RCT version randomly spreads all but one variable across the experimental and control group. This gives us a degree of confidence that a change we see is caused by the one changing variable.

The first method of establishing evidence is an important way of establishing evidence in epidemiology and this requires an enormous amount of discipline from the researcher. It was exactly this method (using e.g. the Bradford Hill Criteria for causation) that established smoking as the most likely causal link for lung cancer. One has to be very patient, diligent and open minded in gathering all evidence from all different perspectives and when more evidence is found later on, one has to re-evaluate again from new.

**Considering All evidence and the Experiment are the only two ways for establishing evidence for cause and effect in science.**

**Reductionism.**

Looking at all evidence can be a monstrous task and we like to look at more detail for evidence because this is easier. Looking at details is called reductionism and it is great at finding traces of possible evidence. However, reductionism, by definition, cannot find total evidence since it doesn't look at the all observations.

There are a number of issues with reductionism:

1. The maximum potential contrast in research is compromised through the reductionist approach which is an issue because it is precisely contrasts that leads to evidence. Hence reductionism will struggle to find conclusive evidence.
2. Adding up all the reductionist results still does not lead us to the total accumulative evidence as the compromised contrast hides evidence from the researcher. The mechanism of this will be explained further on.
3. Reductionism might give us glimpses of evidence but might not indicate where to look for the stronger total evidence that we need to interpret causality. In the end we still need to do the hard yards!

Hence reductionism has some explorative purpose that might lead to full blown research.

Some examples to illustrate reductionist limitations:

If we only look at green frogs in research, we might well end up concluding that all frogs are green. Not looking at all evidence can easily distort our conclusions.

If we only take advise from those experts that believe the earth is flat, we might end up believing ourselves that the earth is flat. Not looking at all evidence can severely distort our conclusions.

If we only consider the beliefs from the Christians around us (or Muslims/Hindus/Buddhists etc.), we will end up being Christians ourselves (or Muslims/Hindus/Buddhists etc.). This would put us in a position of contributing to a divided world and hence we would be carrying the root of violence (being the divisions associated with intolerance and lack of understanding) within ourselves.

The "smoking and lung cancer relationship" reductionist example:

Consider a population smoking the following cigarette brands:

![Cigarette brands](image)

If you want to find out if the Cowboys brand of cigarettes causes cancer how should you approach this question?

If you just looked at the cancer link of Cowboys and compared them to the rest of the population which also contains smokers of the brands Horses, Donkeys and Silly Duffers and which would also include some lung cancer among the non-smokers, than the lung cancer rate contrast ratio of Cowboys to the rest of the population will be diluted by the lung cancer caused by Horses, Donkeys and Silly Duffers as these lung cancers are mixed up with the lung cancer rates of non-smokers. We would have taken a polluted sample!

A visualization:

![Visualization](image)

To the above: Lung cancer incidences in pink. Cancer victims from Cowboys smokers (left of the vertical red line) compared to the rest of the population containing non-smokers and non-Cowboys smokers.
Comparing lung cancer victims of Cowboys, Donkeys, Silly Duffers and Horses to Non-Smokers is a much better initial approach. To get back to the original question of the Cowboy's cancer contribution: the Cowboys' lung cancer rate contribution will need to be assessed separately after the smoker's contribution has been established first. We need to start with the bigger picture and work our way in. The epidemiological onion needs to be peeled starting from the outside.

In science we need to ask the right question and we need to ask the right questions in the right order. The first right question is centered around the biggest possible contrast concerning the potential cause which is between smokers and non-smokers.

**Discussion:** Now you might think just looking a Cowboys for lung cancer would be a silly approach to take but

*this is exactly what is commonly done in the cancer-diet research!*

We do not gab the maximum contrast between animal food and plant food and see what we get from that. No, we look at red meat, or white meat, or eggs, or fish, or dairy, or milk, or cheese etc. separately. The common perspective of ignoring contrasts limits evidence and hence our potential conclusions! This insight severely reduces the value of most cancer-diet research…

**Most cancer-diet research is reductionist in nature and appears to have taken a les advantages approach!**

*What does this mean for breast cancer?*

If we are looking for breast cancer connections with e.g. red meat consumption while the population also consumes dairy, fish, eggs then all these other foods also contain the carcinogen estrogen (and likely other cancer associated growth factors). This less than optimum perspective limits (dilutes) potential evidence!

**The other estrogen sources are polluting our population sample and are reducing contrast in our observations**

This is how research can find that e.g. low fat dairy is "protective of breast cancer"!

Statistics can be misleading through manipulating either (or both) the numbers or the qualities of the research. For the truth to be revealed we need to think big: big numbers (ideally the world population!) and big contrasts. And science is about finding the most likely truth… In the end science is about being honest with ourselves…
Even the WHO appears to be using the reductionist approach as their press release no. 240 indicates (89). In this bulletin red meat is reported as probably carcinogenic. There are two worrying aspects to choosing to research red meat and cancer.

- It is contrast that leads to evidence and the contrast is not between red and white meat but the big contrast is between consuming plants and animals
- Red meat contains the carcinogen estrogen just like all other animal food. Looking at red meat only reduces the evidence caused by this carcinogen because of the cancers caused in the rest of the population caused by the other estrogen sources of white meat, dairy products, eggs, fish and medication.

It is remarkable that the WHO itself reported estrogen as a definite carcinogenic and then continues on this reductionist path.

In cancer-diet research

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looking at detail (reductionism), has us all confused
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We saw evidence that red meat is associated with more breast cancer but the estrogen carcinogen sources other than red meat, reduce the contrasts in these studies and doing so the

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Other estrogen sources hide evidence from the researcher
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**What does this mean for Systematic Reviews and Meta-Analysis?**

If there are multiple causes at play, a reductionist Meta-analysis and Systematic Reviews can lead to *dilution* of evidence through the stronger effect of the alternative causes.

Hence through evidence dilution resulting from a reductionist approach….

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making a study bigger can result in weaker (cancer) evidence…
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**13. What does this mean for odd observations?**

*What does this mean for so far unexplained observations?*

We now have a likely explanation for

- why we encounter big variations in contraceptive pills and breast cancer associations between the low income countries like China and India than in the high income countries. The high income countries consume so much exogenous growth promoters like estrogen that there is less room for contrast leading to evidence. E.g. in Denmark the increase in breast cancer rates from the contraceptive pill has been measured at 20% (90) while in China 70% (91), Iran 210% (92), in Thailand 300% (93) and India they found a whopping 950% increase (94). Similar variations had already been noted by the WHO in 1990 (95).
- why around 1990 the cancer mortality rates stopped going up in many western countries. The consumption of plant food reached a low and there was no room for exogenous hormone increase through consuming more animal food.
- why lung cancer rates often tend to go up in many populations for more that two *decades* after the population smoking rates come down but in North Karelia (Finland), the total women cancer rate went down by 27% from 1971 – 2006 (96) while the number of women smokers went up from 10 to 18% from 1972 – 2007 (97).

The continuing lung cancer rate increases for two decades following smoking rates coming down coincides with increased animal food consumption in those populations. In contrast, during the North Karelia project during 1972 - 2006 (Finland), the population moved away from saturated fatty animal

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food through a government program aiming to decrease heart disease and despite an 80% increase in female smoking rates, the total female cancer rates went down! This strongly supports smoking not being the main cancer cause but the animal food we consume. It would appear that an increased exogenous hormone consumption through increased animal food consumption supports an increasing lung cancer rate even if the tobacco consumption is going down.

There are many reductionist studies reporting significant lower lung cancer rates when consuming more plant based foods. One such study reports an up to 44% reduction in lung cancers with increased plant consumption (57). Because of the reductionist nature of these studies, the true influence of a plant only diet would have to be greater than 44%.

- Why northern countries like Canada, Norway, Sweden, Finland, the UK and The Netherlands have very high melanoma mortality rates despite not having much skin damaging sunshine. The western lifestyle high in animal food potentially drives up the melanoma rates (98).
- Why in The Netherlands the (raw) melanoma death rates per 100,000 went up by a whopping 24 fold over a 65 year period from 0.2 in 1950 to 4.9 in 2015 (62). The country became more affluent, animal food became more affordable potentially driving up the melanoma death rates. Connecticut also reports incidence rates rises per 100,000 of more than 17-fold in men (1.9 to 33.5) and more than nine-fold in women (2.6 to 25.3) between 1950 and 2007. The mortality rates more than tripled in men (1.6 to 4.9) and doubled in women (1.3 to 2.6) (99)
- The highest melanoma mortality rates are found in New Zealand and Australia which can be explained through the higher UV rates from the southern hemisphere effecting the mostly white skinned populations more than e.g. the white Europeans. However, the melanoma rates here to have been changing strongly (2-3% per annum for NZ males and females mortality rates between 1969-1993 (100)). Since the UV rates have not been changing that much, this raises the question: Why has the increased sensitivity to melanoma occurred?
- Dr Colin Campbell reports in The China Study that in some areas of China in the 1970s the breast cancer rates were less than 0.5 per 100,000 per year while currently in high income countries this figure can be over 100. This is a more than 200 fold difference. Of course The China Study already concluded that it was the animal food that was the most likely cause of this difference. Dr Colin Campbell and The China Study were the inspiration for the author's own research.

14. Cancer discussion and conclusions

Discussion breast cancer:

- We encountered associations with most types of animal food and some hormonal medication
- We encountered inverse associations with most types of plant foods
- We noted the strong contrast between the animal food and plant food
- We noted that it is exactly contrast in science that leads to evidence
- We noted that the communality between the animal food and hormonal medication is hormones
- We encountered convincing evidence of the hormonal carcinogen estrogen causing breast cancer. Estrogen occurs in all the animal food implying that all animal food will promote higher breast cancer rates.
- From observations and logical deductions we found that the most likely mechanism behind estrogen being a carcinogen is undermining the efforts of our immune system through cancer growth promotion.
- We encountered body growth being linked to breast cancer supporting the growth hormone hypothesis.
- We encountered raised serum estrogen levels among populations with higher breast cancer rates supporting the estrogen-breast cancer associations
- We encountered experimental animal cancer research supporting the growth hormones hypothesis
- We considered the main other potential explanations for the high (breast) cancer rates like aging, obesity, genetics and the chemical burden on our bodies but found the evidence linking them to increased cancer rates to be weak.
- Reductionism means subdividing all (e.g.) estrogen sources into meat, dairy, fish, eggs, contraceptive pill and HRT. We found reductionism weakening contrasts in observations as convincing explanation for the
inconsistency of the animal food breast cancer association and we identified reductionism as causing unnecessary confusion through being an inferior scientific approach.

**Discussion cancers other than breast cancer:**

On top of all the observations already discussed under breast cancer:

- We encountered body growth being linked to most other cancers expanding our growth hormone hypothesis to other cancers.
- We encountered increased rates of other cancers being associated with breast cancer supporting a potential common causal factor between most other cancers and breast cancer.
- We found estrogen associations with many cancers other than breast cancer identifying one common causal factor for most cancers.
- We know of growth promoting hormones other than estrogen like progesterone, prolactin, testosterone, IGF-1, VEGF also of being suspected of a carcinogenic effect. These hormones potentially also reduce evidence linking animal food to most cancers through the effect of reductionism.
- Most cancer rates have been going up during the industrialization process and increased affluence. Those few cancer rates that have gone down during this period can mostly be explained through better hygiene, immunization and education.
- The growth hormone hypothesis can explain many previously unexplained or not well explained cancer observations including cancer rates changes (mostly increases) over time, cancer rate differences between populations and the complex exogenous hormonal picture can explain inconsistencies between these observations.
- In section 11 we found an *analogy* between high cancer rates and other diseases like heart disease, diabetes-2, raised cholesterol levels and hypertension as all these also have strong associations with the animal food consumed. *Analogy is one of the nine Bradford Hill Criteria for causation* and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis. The omnivore assumption appears to have mislead mankind.
- Many cancer observations demonstrate inconsistent results but most if not indeed all of these inconsistencies are caused by the scientifically inferior reductionist approach these observations have taken. However, we found different *types* of observations by different researchers in different places having different objectives all fitting into the same bigger perspective which still demonstrates a degree of *consistency*. *Consistency is one of the nine Bradford Hill Criteria for causation* and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis. If we look at the whole cancer scene from the growth hormonal perspective used in this document and take into account the evidence undermining effects of not doing so (the reductionist approach) we indeed get a very consistent view on our high affluent cancer rates.
- In this document we considered pollution, ageing, genetics and obesity as alternative causes of our high cancer rates but found the hormonal animal association to be significantly stronger. Hence the cancer associations appear to be more *specific* to the hormone theory. *Specificity is one of the nine Bradford Hill Criteria for causation* and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis.
- Our cancer findings are *coherent* with our understanding of homo sapiens as the great modifier and homo sapiens‘ cancer rates going up steeply after the start of the industrial revolution leading to changes and resulting in increased access and consumption of animal food.
- Our cancer finding of cancer also being a multifactorial disease like most if not all other diseases also supports the BHC of *coherence*. *Coherence is one of the nine Bradford Hill Criteria for causation* and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis.
- We found the strong control of cancer development supported by *animal experiments*. *Experimental evidence is one of the nine Bradford Hill Criteria for causation* and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis. Dr Kelly Turner contributes *human experimental evidence* in her book Radical Remission as she identifies one of the common denominators among patients experiencing spontaneous remissions is moving towards a plant based diet (101). Dr John Kelly reports the halting of cancer growth in his GP practice with his patients adopting a plant based diet (102). Earlier plant based cancer successes come from the macrobiotic diet (103) (e.g. 30 cancer survivors stories (104) and Ann Wigmore's living food diet (105) (106)
• We found a plausible mechanism in growth stimulation being a causal factor in the high cancer rates. We also found a plausible mechanism (reductionism) which explains why most common cancer-diet research does not find significant evidence. Plausibility is one of the nine Bradford Hill Criteria for causation and hence these factors contribute to the total evidence encountered supporting the growth hormone hypothesis.
• Dr Colin Campbell found that "most cancers are caused by all the animal food consumed". Most is more than 50% and hence this indicates a definite level of strength of association that Dr Colin Campbell encountered.
  I confirmed his conclusion through the non-peer reviewed 72 Country Cancer Study which found a 6 to 7 fold difference in affluent cancer rates between those countries consuming a lot of animal food combined with using modern dairy techniques and those that consume a little combined with more traditional dairy techniques or no dairy. The affluent cancer group are the cancers with a positive association with animal food consumption and they make up nearly 90% of all cancers in the high income countries. Milk yield per cow per year was used to estimate the level of modernization of the animal industry. Modernization of the animal industry is a factor that has been driving up animal hormone content through e.g. selection for growth and selecting for milk yield resulting in increased exogenous hormonal consumption. A 6-7 fold difference between the highest and the lowest rates means potentially more than 70% of cancers are directly avoidable through consuming a plant based diet.
  **Strength (effect size) is one of the nine Bradford Hill Criteria for causation** and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis.
• Dr Colin Campbell reports a dose response between the animal food and cancer rates in China at a time when animal food consumption was relatively low. A dose response was confirmed in my 72 Country Cancer Study looking at a world scale. A biological gradient (dose response) is one of the nine Bradford Hill Criteria for causation and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis.
• We consistently see countries or populations (like China currently) increasing their animal food consumption and their affluent cancer rates increasing. The effect has to occur after the cause.
  **Temporality (order) is one of the nine Bradford Hill Criteria for causation** and hence these observations contribute to the total evidence encountered supporting the growth hormone hypothesis.

Considering all the above, the most likely explanation we currently have for our high breast cancer rates are the animal foods we consume. This significantly supports Dr Colin Campbell's understanding of breast cancer causes.

Considering all the above, the most likely explanation we currently have for our high affluent cancer rates are the animal foods we consume.

It would appear that

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all cancers are a multifactorial disease co-driven by exogenous growth factors coming primarily from the animal foods we consume
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We found considerable support for Dr Colin Campbell's cancer view of animal food being our biggest carcinogen causing most of our cancers. This includes support from all those nine Bradford Hill Criteria which played an important role in identifying smoking as a major cause of lung cancer.

### 15. Qualitative and quantitative evidence & the hierarchy of evidence

This is a more technical sections helping to unravel the complex confusing medical scientific research perspective mankind has created. If the technical analyses are of less interests, the reader may choose to skip this section.
Qualitative evidence is at times ignored nowadays but qualitative evidence was a significant evidence contributor in some of the greatest epidemiological steps mankind has ever made. Qualitative evidence describes a characteristic (a quality) like e.g. a change in disease rates. In qualitative evidence the numbers observed are much less important than the observed quality change or a consistency in quality observations under different conditions. Indeed at times important conclusions can be drawn from a single observation of a quality change.

Consider the following three medically significant discoveries:

1) In the 1850s in London John Snow had been claiming that cholera was a water born disease. John Snow had gathered a lot of evidence supporting his claim but when the handle of the Broad street pump was removed on his recommendation and the cholera epidemic halted, actually something remarkable happened. In earlier cholera outbreaks in 1932 over 55,000 people died in Britain and 6536 people in London (107). The 1854 Broad street pump epidemic with its 616 victims was part of the London cholera epidemic claiming the deaths of some 12,000 people in 1853/54 (108). While the number of new cases had already started to come down in the Broad street area before the pump handle was removed, it is interesting that the epidemic stopped around that time.

This links

- the quality of the pump handle being removed and as such
- the quality of accessible drinking water, and following this again
- the understanding of cholera possibly being a water born disease, to the cessation of the epidemic.

These single qualitative observations add to the evidence (support) of John Snow's observations around the Broad street pump water quality and the links with cholera.

It was not a random control trial containing 1,000,000 people, it was not a systematic review and it was not a meta-analysis but a number of small but different observations of qualities that led to our understanding of cholera being a water born disease. The newly gained understanding was a crucial factor in containing future further epidemics. Interestingly John Snow had a hard time convincing his contemporaries who believed in the miasma theory (disease transfer via the air) (109) (110).

2) In 1847 Ignaz Semmelweis was teaching at the Allgemeine Krankenhaus hospital in Vienna. There he observed that women delivering with the assistance of physicians and medical students had a much higher rate (13–18%) of post-delivery mortality (called puerperal fever or childbed fever) than women delivering with midwife trainees or midwives (2%). He associated the quality of exposure to dead bodies during autopsies by physicians with an increased risk of childbed fever. Dr Semmelweis initiated a mandatory hand washing policy for medical students and physicians in order to change the effects of this quality. He initiated a change in cleanliness quality of the hands. Using a chloride of lime solution for washing hands, the mortality rate fell to about 2%—down to the same level as the midwives. Later he started washing the medical instruments and the rate decreased further to about 1%.

Interestingly his superior, Professor Klein, did not accept his conclusions. Klein thought the lower mortality was due to the hospital’s new ventilation system, an idea that fitted the then popular miasmatic (bad air) theory of disease (111).

Both the clean and not clean qualities of the state of the physician's hands were consistently associated with different percentages of women dying in childbirth. It was not a random control trial containing 1,000,000 people, it was not a systematic review and it was not a meta-analysis but observations of qualities and quality changes in relatively small groups that lead to a change in the rate of child birth deaths and eventually our modern hygienic practices.

3) Edward Jenner verified the quality of previous cow pox infections causing protection against small pox infections in one single human(!) experiment when he on a inoculated an 8-year-old boy, James Phipps, with cow pox and later with small pox. The boy did not get the highly infectious small pox disease which strongly supported the notion that previous cow pox infection protected against the often deadly small pox infections. It was not a random control trial containing 1,000,000 people, it was not a systematic review and it was not a meta-analysis but a few different observations of the quality (and lack of quality change for Phipps) of cow

The small number of observations around cholera, the small number of observations around hand washing and
the small number of observations around small pox would not rate very high in the hierarchy of evidence. The
observations would have been labelled as case studies not counting for much because of their low number
counts. However, they have led to very important insights. The hierarchy of evidence strongly relies on the
RCTs (Random Control Trials) for qualitative evidence input but in epidemiology often RCTs are not available.
This is one factor that limits the value of the hierarchy of evidence in epidemiology. Another factor limiting the
value of the hierarchy of evidence in epidemiology is the tendency to see qualitative evidence from a quantitative
perspective. This severely undermines the value of the evidence. This incorrect perspective can distort the
contribution of this evidence to the total evidence.

The lesson to be learned here is that we can find strong qualitative evidence outside of RCTs and we need to
look for this evidence and assess it appropriately if we want to find the most likely truth. Appropriately means
separately from quantitative observations as these different types of evidence need to be evaluated in different
ways.

Qualitative evidence is very different in nature to quantitative evidence. In quantitative evidence more
observations add (to the quality of strength) of potential causality through increased statistical significance which
in turn happens because of the increased number of studies, or increased numbers of observations, possibly
through increased numbers of positives in the observations or through a detectible gradient (dose response) in the
numbers. The numbers are the key to the quality of strength of evidence.

In qualitative evidence more observations in a way means more of the same as we see more of the same
quality. However, more observations can add strength to the potential causality through the observations being
done by different researchers at different times and in different settings increasing our confidence in the
observed quality being true.

Summarizing: quantitative and qualitative evidence (confusingly) both deal with evidence qualities but
find validation (support) in either quantities (for the quantitative evidence) or qualities (for the qualitative
evidence).

Qualitative and quantitative evidence are very different in nature and need to be analyzed separately for their
contribution to the total evidence. The hierarchy of evidence is not geared up for assessing these very different
types of evidence as it is very much centered on the single quantitative perspective. This includes the Systematic
Reviews which are looking at all evidence but – except for the RCTs contribution - only from the quantitative
perspective!

In some research disciplines Systematic Reviews can be qualitative in nature but they never assess at both
together: the qualitative and quantitative evidence and hence they never assess the true total evidence. The true
total evidence being one of the only two ways to establish scientific evidence as detailed at the start of section
12. Systematic Reviews' claiming to consider all evidence can be correct in their claim but the (quantitative only)
perspective on the evidence is incorrect!

Evaluation of both quantitative and qualitative evidence separately can be done through the Bradford Hill
Criteria (BHC). The Bradford Hill Criteria offer nine different perspectives on evidence. According to Bradford
Hill in his article "The Environment and Disease: Association or Causation?" finding the quality of reversibility
or direction change of a trend can potentially reveal the strongest support for the causation hypothesis (113).
Indeed in random control trials it is the reversal (or change) of the trend that we hope to see. However in
epidemiology we need to keep in mind that RCTs are not the only place were we might observe reversals or
trend changes. We need to consider all evidence and if we find a trend change in a case study than this could
actually be significant rather than "just an insignificant single case or a few cases".

Most of the nine Bradford Hill Criteria of causation (114) are qualitative in nature rather than
quantitative. This means that Meta-analysis, which use statistical methods and hence work in quantitative way
only, can assess only a fraction of the total types of evidence one can encounter. In other words Meta-analysis,
like Systematic Reviews possibly ignore significant evidence.
The true hero of the hierarchy of evidence are not the Meta-analysis and Systematic Reviews but the Bradford Hill Criteria.

That still leaves to find out where the qualitative perspective on observational studies fit into the total picture, and hence also the different evaluation methods to be used for the qualitative and quantitative evidence. However, for this argument it is more important to understand the inherent limitations of the commonly accepted hierarchy of evidence.

**Further issues:**
Systematic Reviews and Meta-analysis are by many considered strong evidence and the least biased, but if Systematic Reviews and Meta-analysis are based on a reductionist approach, they can actually hide and reduce evidence as we saw in section 12. An example of such a reductionist approach would be a Systematic Reviews or Meta-analysis on the association between oral contraceptives and breast cancer as oral contraceptives are not the only source of growth factors potentially influencing breast cancer rates.

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<th>The current commonly accepted hierarchy of evidence can unnecessarily limit our perspective through</th>
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16. Why has research not concluded earlier that all animal food causes most cancers?

Apart from Dr Colin Campbell, the author encountered no other researchers linking all animal food to most cancers. Why is that?

One reason for us being slow on the uptake has to do with the divide and conquer approach of our cancer-diet science:

- We’ve divided the animal and plant based foods into 1000s of products to be found on the supermarket shelves
- We’ve divided cancers into about 200 different types
- We've divided the animal's growth stimulants into many different types of hormones

While we've been dividing cancers and its potential causes in many different ways, we've been conquered by cancer

In science this is called reductionism and we already discussed it in section 12. Reductionism limits contrasts and hence evidence. Reductionism hides evidence from the researcher. Reductionism by itself easily leads to a biased and confused view.

Another reason for us being slow on the uptake has to do with the complex exogenous (extra) estrogen picture.

The additional carcinogenic estrogen (i.e. exogenous), unbalancing our natural normal and healthy production levels, we get from:

- dairy like milk, cheese, yoghurt, buttermilk, butter
- processed meats like ham, salami, sausages
- white meats and red meats like chicken and beef
- fish
- hormonal medication

The amount of the carcinogen estrogen further increased by farming practices like:

- selecting animals for growth (chickens, turkeys, ducks, pigs etc.)
- selecting animals for a high milk yield
- milking during pregnancy
- slaughtering while young

On top of that it appears that the consumption of other animal hormones further increased our own lifetime hormone production upwards.

- Since the start of the industrial revolution, the average age of menarche (first menstruation) has come down in the affluent countries.
- At the same time the age average of menopause has increased.

The most likely explanation for these changes are also hormones from animal consumption. While women are fertile, many of their hormone levels including estrogen are higher. Both observations increase the length of fertility.

The human estrogen sources are rather complex.

To this complex picture can be further added other growth promoting hormonal affects like progesterone, prolactin, testosterone, IGF-1, VEGF, GH…
Our beliefs, especially in ourselves, in turn feed into our human arrogance which is another reason why we have not concluded earlier that all animal food causes breast cancer.

- Arrogantly homo sapiens has taken over just about all the life supporting resources on the planet. The respect for other creatures and the efforts of their creator is not very great.
- Arrogantly homo sapiens has put himself on the top of the food chain while being in denial about the health issues this brings.
- Arrogantly homo sapiens at times believes he has been created as a copy of a higher being, a copy of God.
- Arrogantly homo sapiens has been trying to conquer chronic diseases through witchcraft in past primitive societies and medication in our modern world as a first option in stead of looking first at those things that support health (e.g. a whole plant based diet and exercise) and undermine health (e.g. processed foods and animal foods). His excessive belief in himself has lead to modifying nature's (or God's) chemistry through medication as a first option without considering the basics first.
- Arrogantly homo sapiens is controlling the future of this planet that carries all know life in the universe and that only for his own short term goals
- Arrogantly homo sapiens calls himself "homo sapiens", the one that knows. But do most of us really know those facts that count? Does homo sapiens know himself? Is homo sapiens prepared to face himself? I believe most of us have a sufficient degree of honesty in ourselves to answer this with a yes! It should be noticed that the main notion behind science is to keep ourselves honest.

17. Why are the benefits of a plant only diet not commonly known?
As stated in the previous section, we are basically hijacked by our omnivorous belief system. We belief that we need to consume animal food because we are omnivores. However, we are only omnivores from a behavioral perspective, not from health nor longevity perspectives.

This omnivorous belief is kept in place by our desire to fit in with the people around us and our desire to follow in the footsteps of tradition. It is kept in place by our pride of (currently) being the dominating animal on the planet.

This omnivorous belief system is further kept in place by commercial interests which have hijacked our culture through targeting our leaders like politicians, doctors in medicine, and what we perceive as science including research publications and the media. This force aiming to maximize profits is a conservative and corruptive unfortunately undermining personal health, public health and the health of the planet. Commercial forces marginalize veganism to feather their own interests.

The commercial interests have an enormous influence over our culture and our values. A great example of this is the tobacco industries. According to Dr Alan Brandt from his book "The Cigarette Century" 100,000,000 people died prematurely from smoking between 1900-1999. This figure is higher than the total number of victims of world war one and world war two together!

In 1994, 30 years after the American governor general announced tobacco being a health hazard, 7 CEOs of tobacco companies stated in court that in their opinion smoking in moderation is not unhealthy. Denial and doubt are the persistent games of industries seeking profits. The other industries appear no different in their behaviour.

The tobacco companies have not halted or even reduced their production; nowadays they concentrate more on new third world markets. Corporations are all about profits and not about people and we've been accepting corporations as part of our culture. We've accepted the corporate culture to be part of our culture. But it doesn't have to be that way and we might have to reconsider the position of corporations in our societies.

While we currently dominate all other animals, the ones we eat control our health and lifespan in a negative way. Commercial interests have been supporting cultural blindness and bias in many different ways.

18. What about xenoestrogens and phytoestrogens?
What about the role of xenoestrogens and phytoestrogens in breast cancer?
Xenoestrogens can come from grains and phytoestrogens come from other plants. While these do have an estrogen like affect, their relative strength compared to the types of estrogens produced by animals (or produced artificially to be animal alike), is extremely weak. Because they use up the cell's estrogen receptors but their affect is so small, they end up blocking the affect of the much stronger estrogens. In a way this gives a protective affect. The same will hold true for the mostly weak estrogenic affects coming from plastics.

19. What about the many cancer charities that exist?

Commercial science focus
While perhaps well intended, the focus of many charities is on collecting money in order to fund the research industries (often linked to the pharmaceutical industries) that look for answers within the omnivorous belief system (this is where the money is). True science questions everything when looking for the truth. Commercial science supported by these charities focuses on investment returns and puts a commercial bias on the research. In effect the charities support the status quo rather than finding a better vantage point.

Deception
Some of these charities might well have been set up by industries in order to spread misinformation and keep business going while the public is kept confused. These tactics were already used by the tobacco industry as Dr Alan Brandt points out in his book “The Cigarette Century”.

The Tobacco Industry Research Committee (TIRC), which was later called the Council for Tobacco Research, was established in 1953. It was an extension of the Tobacco Institute, and it was set up as a shield for the industry, serving as a public relations front by allowing the industry to claim it was funding research to find answers to “questions” of smoking and health.

In 1964 the TIRC changed its name to Council for Tobacco Research (CTR).

The Master Settlement Agreement (MSA) is an accord reached in November 1998 between the state Attorneys General of 46 states, five U.S. territories, the District of Columbia and the five largest cigarette manufacturers in America concerning the advertising, marketing and promotion of cigarettes. The MSA put an end to the "research" institutions set up by the tobacco industries to keep the public confused. Non-tobacco "research" institutions could well still be among us as only the tobacco industry was a party to the MSA.

Public science:
Science paid for by the tax payer or unfunded self motivated individuals or groups has more chance to be free of commercial bias and interests. This is where Dr Colin Campbell comes into play. Through grants his research has been tax payer funded. Driven by his social conscience, Dr Colin Campbell is very keen on the tax payer getting value for money. He is very keen on making this world a better place. He wants the results of his research to get to the people but our old belief systems together with commercial interests are in the way. Commercial forces are opposing the tax payer's interests.

It is through Dr Campbell's open minded approach, his determination to fully understand all major aspects of cancer and it is thanks to the tax payer's money that funded him that we have received his important insights. The pharmaceutical industries, the medical diagnostic and imaging industries, the processed food industries, the dairy industries, the meat industries, the fish industries all have been built on shaky grounds and they are fighting back! One often finds strong links between charities and the corporate world through direct donations or the corporations collecting for the charities. One does not want to bite the hand that feeds! Likely we could well be better of paying tax contributing to unbiased research than donating to commercially set up "not-for-profit" organizations. Through our own donations we could well be paying for our own deception……!
20. What are the potential implications of a plant based diet for cancer prevention and cancer cure?

It is not only possible to live of a vegan plant based diet but according to e.g. the American Dietetic association it actually can have great benefits for health (115). This happens if whole plants are consumed rather than processed foods like sugar, oils and white flour. Plants are the human natural food providing optimum nutrition. Health and longevity research tell us that this is the food we have been designed to consume!

From my own research looking at the influence of animal food only and using cancer incidence rates from the WHO for 72 countries, I estimate that a minimum of 70% of all cancers in the affluent world can be prevented through a plant based diet alone. Dr Colin Campbell found that over 80% of cancers can be prevented through removing smoking and alcohol as well (37).

Removing carcinogens like the animal food from the diet increases our remission chances. This has been studied and documented by Dr Kelly Turner (116) (101) and by Dr John Kelly (117) (118).

Some of the first reports of plant based diets being potentially beneficial for cancer remission came from the macrobiotic diet in the 1980s (119).

Dr Dean Ornish and his team even did a random control trial on prostate cancer using a plant based diet and found that cancer growth can be controlled through diet to the extend that debilitating prostate operations are not necessary anymore (120). The PSA levels in the intervention group went down while the PSA levels in the control group continued to go up.

21. What else might be linked to the consumption of animal food?

1. There are reports of the animal hormones being linked to:
   - Infertility, preeclampsia, morning sickness (121) (122) (123)
   - Endometriosis (124) (125)
   - Lowering of the menarche age causing premature sexual maturity in our young girls and more lifetime estrogen production. The lifetime estrogen load has been linked to both increased breast cancer rates and increased estrogen exposure.
   - Increasing the age of menopause. This too increases the lifetime estrogen load and has been associated with increased breast cancer rates (122).

2. There are many case reports linking animal proteins to autoimmune diseases like diabetes-1, MS, arthritis, crohn's and lupus and also to osteoporosis

3. There is irrefutable evidence that animal fats are a major causal factor in heart disease and diabetes-2 as leaving out of the diet of the animal foods and the high fat plant foods in the majority of cases reverses these diseases together with the risk factors of raised cholesterol and blood pressure levels.

Consider that our western women often have oversized breasts and at times feel to have to resort to breast reduction operations because of 1) the extra exogenous hormones from:
   - The industry seeking more profits selecting for high milk yield resulting in bigger udders which through the dairy hormones is passed on to the female breasts
   - The dairy industry seeking more profits resulting in increase "stomach" share and
   - The meat industry seeking more profits through selecting chickens, turkeys, ducks etc. for growth

And the 2) extra fats from
   - the processed food manufacturers aiming for high fat contents in the food as this sells well (126)

These considerations lead to seeing obesity and breast reduction operations as Frankenstein like consequences of industries aiming for profits!

We are subject to population experiments by the industries seeking profits that would make Frankenstein proud!
Our cows nowadays produce up to 5 times the natural amount of milk and the breasts of our dairy consuming western women have taken on the oversized udder aspect of our cows. Western female breasts appear to reflect the non-natural cows udders!

22. Can we live of only plants?

### As mentioned before it is not only possible to live a vegan plant based diet but according to the American Dietetic association a plant based diet can have great benefits for health (115)

If we choose whole plants rather than processed foods containing sugar, oil (including no olive oil) and white flour, we can actually live more healthy than if we were consuming animal food and processed foods. The only thing to be added is a vitamin B12 supplement. B12 is only produced by bacteria and we would miss out on this ingredient through our hygiene. After perhaps 1,000,000 years of omnivore behaviour, humans are still plant eaters.

A starch based low fat variety of whole food plant based diet contains plenty of calcium, iron and proteins for our needs. This optimum human diet avoids calcium leaking away through consuming too many proteins acidifying our bodies (see potential renal acid load or PRAL) and it avoids iron leaking away through a leaky gut caused by incorrect nutrition. There is no need to combine different types of proteins as just about all plant food contains enough of all amino acids in the right proportions for our needs.

23. The three types of carcinogens

It would appear that there are three pathways for increasing population cancer rates resulting in three different types of carcinogens.

1. Carcinogens causing DNA damage
   Examples: cigarette smoke, benzene, viruses like HPV, Epstein-Barr, Hepatitis B and C, Herpes virus 8, Human T-lymphotrophic virus, MCV, radiation therapy.

2. Carcinogens suppressing or undermining the immune system
   Examples: chemotherapy, AIDS virus (Acquired Immune Deficiency Syndrome) and immunosuppression drugs used in organ transplants. By the same token if you do have cancer your oncologist might be able to give you a type of immune therapy which boosts your immune system and can increase your survival odds.

3. Carcinogens stimulating (cancer) growth
   Examples: hormones stimulating growth like Estrogen, Progesterone, Prolactin, Testosterone, Somatropin and growth factors like IGF-1, VEGF. Research has linked increased levels of all these factors to increased cancer rates. In total there are 40-50 of these substances naturally occurring in the animal food. Sometimes they are added as well by meat producers or increased through animal selection for growth. By consuming these growth factors we add to our own hormone production and upset natural regulation processes.

24. Financial investments versus social investments

The two main aspects of being a human that have made the homo sapiens species so successful on this planet are:

1. The human brain, our intelligence
2. The co-operation amongst tribe members, contemporarily and over time through oral and written history

**Brain, intelligence, competitiveness, capitalism, financial investments**

The human brain has allowed us to outcompete all other animals on the planet. We dominate the water and food resources, we dominate this planet as the human body mass outstrips the mass of all other species combined. Culturally this translates into capitalism. To advance capitalism we need financial investments.
Our competitiveness combined with our selfish side can also result in the intelligence being used for destructive wars, jealousy, deception, crimes, domination of others. Hence the human brain is not only at the root of the human highs, it is also at the root of some of the most destructive human lows.

That is where the second aspect of human strength comes into play. It has the capabilities to counteract the negative uses of our intelligence.

**Co-operation, socialism, religions, countries, the common good, social investments**

The co-operative culture amongst humans has created the very complex technological and medical advances we have. At the base of all our complexities is always a significant group of tribe members involved in the creating of the observations and the interpretations of them that eventually lead to breakthroughs although at times individuals might propel the interpretations rapidly.

Culturally the co-operative culture translates into socialism (note: this is NOT communism, socialism is a culture of volunteer co-operation for the benefit of the group. A communist dictatorship is the enforced co-operation mainly for the benefit of the leaders). Socialism sprouts from the notion that working together can achieve better levels for the individual than any individual could ever achieve by himself.

Social investments are often centered around the common good:

- Being a country means working together and hence is a social institution of sorts. Paying tax is a social investment that the citizens make.
- Being part of one of the modern religions like Buddhism, Hinduism, Islam or Christianity teaches one honesty, some forms of respect and some level of care for others. Compared to the old pagan religions the modern religions as a social investment that the believers made.

Humans are not always co-operative and socially respectful. Think of deception, rape, theft, murder, wars, world wars, genocide.

Social investments lead to increased trust, the glue of our relationships, which supports harmony.

Common good:

* Truth – foundational principle of ethics, peace, science, justice

"Evil is something different. Evil is the conscious attempt to make the conditions of existence more pathological than they have to be and it's motivated by conscious intent. The motivations arise because people pay a terrible price for their self conscious awareness and that awareness is their awareness of their vulnerability and that is a terrible thing to be aware of. That vulnerability can be confronted forthrightly, accepted and the appropriate decisions made alternatively people can retreat into their own rationalistic arrogance and attempt to deceive themselves and everyone else about the nature of their own existence and about the nature of reality that pathway leads to nothing but destruction. I think that there is good reason to assume that it's too late in our developmental course as a species for that path to be acceptable anymore because we're too powerful and if too many people stay on that path we're going to do ourselves in”  

https://www.youtube.com/watch?v=IleI5kBypI  

Jordan Peterson

25. **Political leadership, corporations and culture**

A culture is a community centered around the **common good** (also called the greater good or public good) which is all that is shared and beneficial for all or most members of that community.

The **common good** exists of:

- The common good, then, consists primarily of having the social systems, institutions, and environments on which we all depend work in a manner that benefits all people. Examples of particular common goods or parts of the common good include an accessible and affordable public health care system, an effective system of public health...
safety and security, peace among the nations of the world, a just legal and political system, an unpolluted natural environment, and a flourishing economic system. (127)

The industries have been very effective in keeping the most likely truth about cancer quiet and the industries have been great at guiding us towards non-action on the massive climate change issue that is rapidly developing. The industries also have been very successful at hiding the cause of our number one killer (heart disease). The first person showing us the path to reversing heart disease through a simple diet change was Nathan Pritikin in 1979 (128). Leave the animal food and processed foods out of the diet and people get better! However, there is no money in diet, no money in healthy people and no money in dead people. The money to be made comes from the sick.

There is nothing wrong with capitalism apart from that it has been allowed to corrupt the human interests. To the industries, as the tobacco industry still demonstrates, populations are to be manipulated and milked for profits like cows are herded for their milk. Once there are no more profits to be gained, like a dairy cow after 5 years, humans are dispensable as they can no longer can serve their bottom line. The tobacco industry has done nothing positive for its health victims! It hasn't even reduced production or closed down factories. It simply has been seeking new markets in the uneducated third world. The marketing machines try to minimize and hide anything in the way of profits. There is much more to marketing than advertising! (129) (130) (131) (132) (133) Peter Gotzsche argues that pharmaceuticals are nowadays the third leading cause of death (134). Hence the tobacco industries kill us while seeking profits and also the pharmaceutical industries kill us while seeking profits. The processed food industries with their addictive fats and sugars are no different as they too sent us to an early grave. And as we've just seen the meat, dairy and fish industries fall into this category as well. We've created a capitalist monster!

We live in a capitalist world and capital is the central focus, not the human being. Capital, money, is power. We see this through the lack of action on climate change, lack of serious action on heart disease and we can also see it on our high cancer rates. The corporate world has us fooled. Mostly not intentionally but the outcome is still the same.

Corporate influence on politics
The connections between politicians and the corporate world are strong through political donations in countries like Australia and the USA and also through lobbying in its many different forms. The corporate world has infiltrated our universities influencing the beliefs and attitudes of our intellectual leaders.

Privatization
The corporate world has been quite successful at extracting public monopoly interests like power generation, water and sewage systems, roads and social institutions like old age care, education and public transport from the public world. Monopolies are not only great money spinners, they also give control over public interests like health, the environment and climate change. It is 1000 times easier to change a coal generation plant to renewables when in public hands than when in private hands. All those monopolies are great milking cows for the corporate world. Also cancer research has been a great way for the corporate world to extract public money as a lot of cancer research has been outsourced by governments. The corporate world has great interest in keeping all of us on their profit track!

Tax reduction
Public scientific institutions like universities and science organizations have been starved of funds so they have become dependent on the corporate world for functioning. This dependency compromises the integrity of the public interests they are supposed to fulfil. Knowledge gets skewed by corporate interests. The institutions will be reluctant to publish anything compromising the profits of their sponsors and hence become self-censoring. An example of this is the Australia's leading supposedly public scientific organization called the CSIRO. They produced the "Total Wellbeing Diet" book. Geoff Russell filled a book called "CSIRO Perfidy" with at times the CSIRO's own research contradicting their Total Wellbeing Diet publication. The CSIRO has

been starved of funding and has been receiving funds from the Meat and Livestock Association through cooperative programs (135).

Free to air tv provides news that tends to support their sponsors, the advertisers. This causes in effect the "free-to-air" programs and news to be self censoring in nature. Of course the public pays for the products advertised and hence still ends up paying for their programs. However, the public control on the contents has been relinquished to the private sector.

Public broadcasters that in the past were a great watch dog for looking after the interests of the public, the tax payer that supplied their funding. Nowadays they need to get more and more funding through advertising which compromises their programs as they need to attract the corporate world for survival. Saying things against the corporate world would well undermine their (corporate) funding! The public pays less tax, looses control of the public broadcaster but still pays for the broadcaster through buying the products advertised. It is a win-win for the industry and a loose-loose for the public. The public broadcasters have become self-censoring too.

Full and partial privatization and introducing corporate dependency has been a great boost for the corporate world but it is at the cost of public health (cancer, heart disease, diabetes-2, osteoporosis and autoimmune diseases). It is at the cost of the planet's future with all its current inhabitants. It is at the cost of the animals we farm through the animal holocaust we've created.

Yes governments can be inefficient in spending tax payer's money but give the power to a self regulating corporate world and populations will be milked for the last drop they can spare. Life is a compromise and I'm not convinced the current compromises are all that great. I believe mankind can achieve much more by being lead by politicians that truly serve the public interests and are not puppets of the corporate world. In order to get a democracy to work on that level we need social education underpinning values like honesty, truth and the common good. Living together harmoniously does not come by itself as human behaviour like wars, rape, deception, theft, domestic violence, public violence like mass shootings, protests, uprisings and revolutions have shown us. It takes investments of time and effort of all parties involved. We need less financial investments but more social investments in order to secure world peace with a healthy population on a healthy planet.

Fascism
Fascism is the marriage between business and politics. The second world war had fascism at its core through Germany, Italy and Japan. Fascism is characterized by an arrogant belief in one self while labelling other groups/beliefs/values/religions etc. as inferior through many different perspectives. That would probably mean that there is a little fascism in all of us if we are honest.

American statesman Franklin D. Roosevelt, who led the US into war with the fascist Axis powers, wrote about fascism: "The first truth is that the liberty of a democracy is not safe if the people tolerate the growth of private power to a point where it becomes stronger than their democratic state itself. That, in its essence, is fascism — ownership of government by an individual, by a group, or by any other controlling private power"

In her book "Fascism", Madeleine Albright quotes President Harry Truman from his address at the founding conference of the United Nations, shortly after the Germans surrendered in World War II: “Fascism did not die with Mussolini,” Truman warned. “Hitler is finished, but the seeds spread by his disordered mind have firm root in too many fanatical brains. It is easier to remove tyrants and destroy concentration camps than to kill the ideas that gave them birth.”

The capitalist world has the same problem as what the communist world had: corruption of public interests. It is just more subtle and sneaky about it.

### In economics, a free market is an idealized system in which the prices for goods and services are determined by the open market and by consumers. In a free market the laws and forces of supply and demand are free from any intervention by a government, by a price-setting monopoly, or by other authority.

self-regulating

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adjusting, ruling, or governing itself without outside interference; operating or functioning without externally imposed controls or regulations:

### Neoliberalism sees competition as the defining characteristic of human relations. It redefines citizens as consumers, whose democratic choices are best exercised by buying and selling, a process that rewards merit and punishes inefficiency. It maintains that “the market” delivers benefits that could never be achieved by planning. Attempts to limit competition are treated as inimical to liberty. Tax and regulation should be minimised, public services should be privatised. The organisation of labour and collective bargaining by trade unions are portrayed as market distortions that impede the formation of a natural hierarchy of winners and losers. Inequality is recast as virtuous: a reward for utility and a generator of wealth, which trickles down to enrich everyone. Efforts to create a more equal society are both counterproductive and morally corrosive. The market ensures that everyone gets what they deserve.

26. Discussion
We've encountered
- We can note that our societies are being driven and guided in subtle but definite ways by commercial interests.
- We can note that we ourselves are driven by cultural and social habits of the people around us.

Historical and cultural perspective perspective:
* flat earth
* 70-80% of all people are religious, their values and decisions have roots in their beliefs
* In order to find common ground, the discipline of science was born out of philosophy. Science does not deal with beliefs but only verifiable observations. Other than observations, there are no "facts" in science, only "the most likely interpreted truth according to current knowledge" which means the mind must be kept open for new observations which would lead to a complete new re-evaluation of all observations.
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**All animal food contributes to high (breast) cancer rates**

**Most cancers are caused by all the animal food we consume**

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A final word:
This paper came about from insights gained over the last 5 years using the BHC in order to check Dr Campbell's cancer statements. I believe that offering Dr Campbell a Nobel price would still be undervaluing his skills, efforts, courage, determination, achievements and his principle values that undermine his important work!
34 For the latest version of this document: http://users.tpg.com.au/freestro/breastcancer.pdf – theidealdiet @ tpg.com.au Peter Strous
Science seeks peer reviews in order to establish the most likely truth but if the most likely truth is on the other side of the accepted (omnivore) belief system, then peer reviews do not work anymore. As the struggles to move from creationism to Darwinism has shown and also the struggles to move from the commonly (and defended by the church) accepted flat earth theory to the round ball or planet understanding, the majority might not be able to or does not have to see the most likely truth. Peer reviews do not work if the majority of contributors have preconceived ideas.

Indeed science can be limited by the cultural bias that exists in a world that has an incorrect understanding. The situation here is like the Europeans believing not all that long ago that the world is flat. It is like the resistance Jenner, Snow and Semelweiss encountered. It is great to be conservative when you are on the right track but it can be disastrous when you are on the wrong track. We need to open our eyes and apply appropriate brain power to find out what is happening. In epidemiology there are no easy way out or short cuts.

No animal has made more changes to his own environment than homo sapiens. This includes the food we consume. We invented refining and manufacturing processes resulting in processed foods. We invented weapons, traps, abattoirs and animal husbandry leading to omnivorism. Can we really expect all our brain children to be without consequences? Could we be victims of our own intelligence? Could we be victims of our arrogant behaviour of being above nature or made as a copy of God? Or our assumption that God made this world for us and it is all ours to take?

While experiments on animals are often frowned upon, the corporate world is doing mass experiments on the human population resulting in many health issues and obesity. Considering climate change, the corporate world is doing a mass experiment on the whole planet!

Breast cancer screening is not breast cancer prevention. Breast cancer screening means early detection which also results in longer anxiety times. True prevention is not getting cancer in the first place. The full breast cancer picture extends to other cancers, human behaviour, the limits our emotions put on scientific research, animal cruelty, world peace, domestic and cultural violence and climate change. We will not properly address any of these issues unless we address the core of these issues which lies within ourselves. We thoroughly need to change our culture raising the level of our social behaviour through social education. After all we are all better off socially working together rather than competing and making each others lives difficult. We need to reserve the difficult behaviour costs for those conditions that really need them and not for social, cultural, religious or groups colour coded differently.

Science is about honesty with oneself, it is about finding the truth and not about wishful thinking, it is about avoiding biases. If we want a future for our species in this planet, it looks to me like we should have an honest look at ourselves.

Mankind, I wish you good luck! You have a job to do.

Peter Strous, Adelaide, theidealdiet@tpg.com.au

It is business as usual: the big cancer business continues; the fish, meat and dairy sales continue; the medical imaging and diagnostic industries continue; the pharmaceutical industries continue. The divide and conquer approach to cancer has us all confused and is in the interests of many an industry.

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