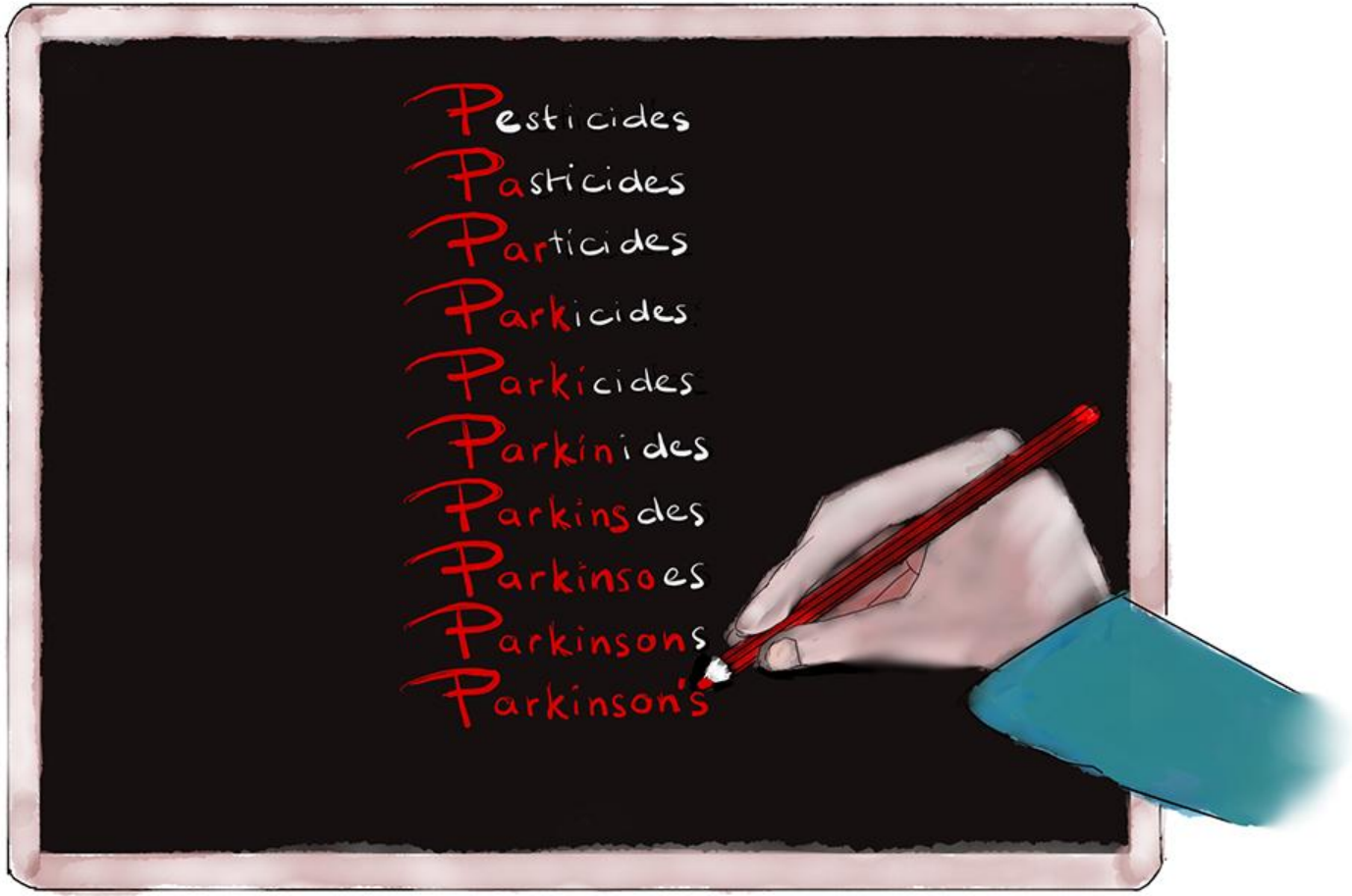
Pesticides & Parkinson's

A visual summary of this blog in 27 slides

CLICK PLAY OR SCROLL THROUGH THE SLIDESHOW YOURSELF


Pesticides
Pasticides
Particides
Parkicides
Parkicides
Parkinides
Parkinsdes
Parkinsoes
Parkinsons
Parkinson's

A PILE OF LITERATURE & 3 CONCLUSIONS

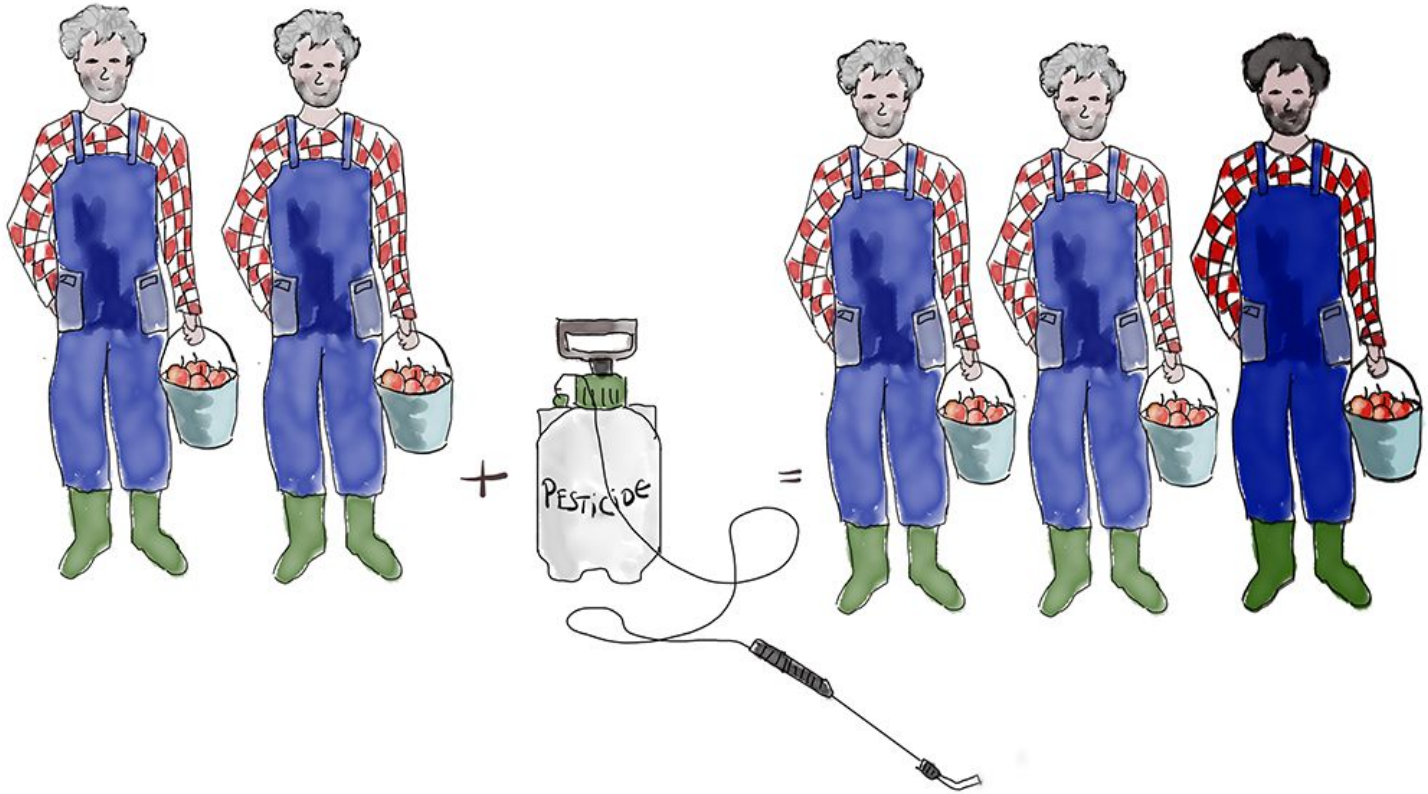
Conclusion I

exposure to pesticides

increases the chances of getting parkinson's

For every 2 people who contract Parkinson's anyway …

… 1 extra gets PD while working with pesticides



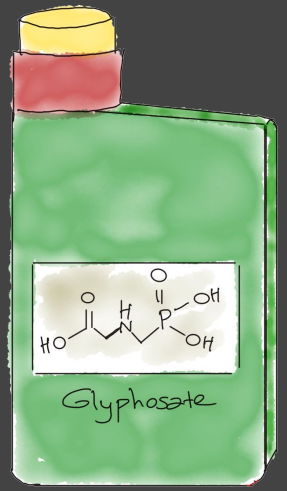
Conclusion II

exposure to pesticides

hastens the age of onset of parkinson's

PEOPLE WITH PARKINSON'S DISEASE
THAT HAVE BEEN CHRONICALLY EXPOSED TO
PESTICIDES IN THE PAST....

... HAVE - ON AVERAGE - CONTRACTED THE
DISEASE FIVE YEARS EARLIER THAN THEIR
NON-EXPOSED PARKIE COLLEAGUES



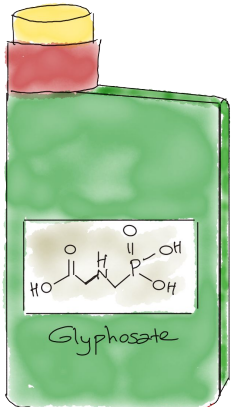
Conclusion III

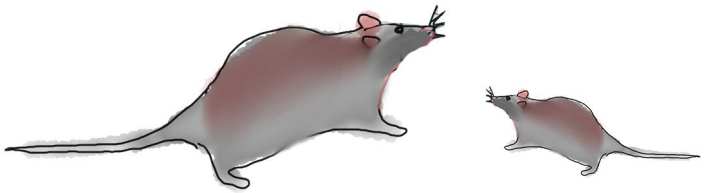
THE TWO MOST COMMONLY USED PESTICIDES IN THE NETHERLANDS

HAVE (NEURO)TOXIC EFFECTS

GLYPHOSATE

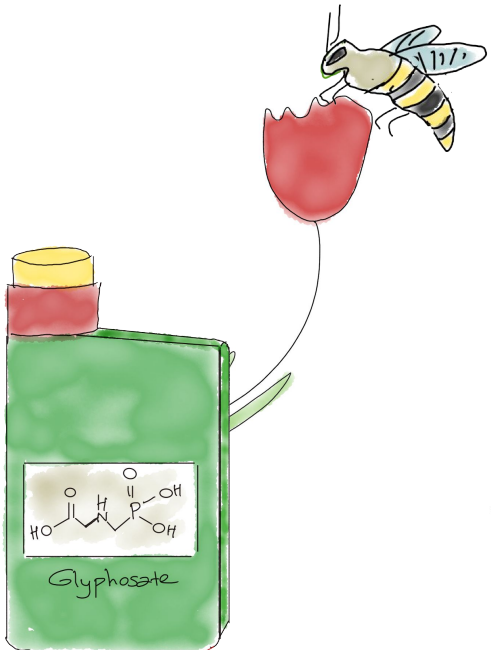
- AFFECTS THE ZEBRAFISH'S MEMORY AND MAKES IT PASSIVE
- IS LINKED TO CASES OF PARKINSONISM
- LEADS TO HEALTH EFFECTS IN FUTURE GENERATIONS OF RATS THAT HAVE NEVER BEEN EXPOSED THEMSELVES

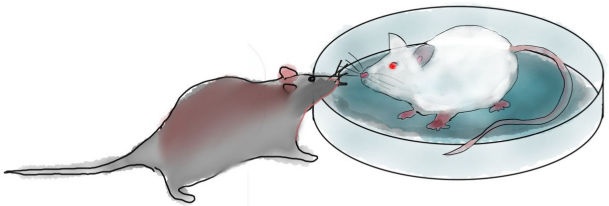


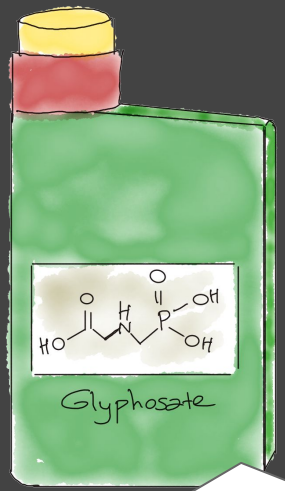


GLYPHOSATE

- CHANGES THE INTESTINAL FLORA OF BEES AND INCREASES SUSCEPTIBILITY TO DISEASE AND DEATH
- LEADS TO A DIFFERENT COMPOSITION OF THE INTESTINAL BACTERIA IN MICE, RATS AND CHICKENS AS WELL. THIS LEADS NOT ONLY TO VULNERABLE HEALTH BUT ALSO TO ANXIOUS AND DEPRESSIVE BEHAVIOUR

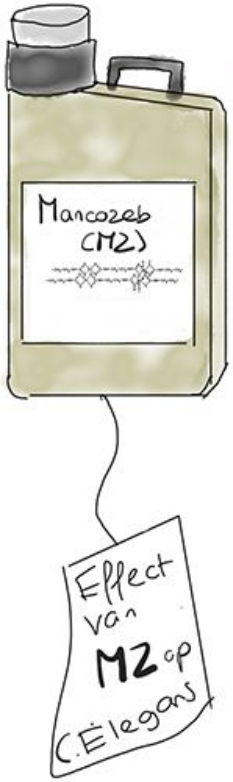




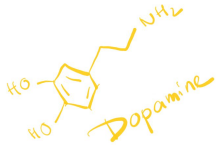


Glyphosate is associated with neurotoxicity, behavioural change, transgenerational toxicology and impairment of the microbiome (intestinal inhabitants) of various organisms. In addition, case studies of Parkinsonism in humans are known.

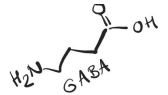
MANCOZEB



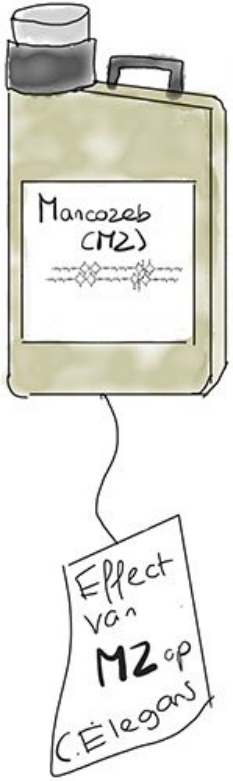
- MAKES THE WORM C.ELEGANS STOP LAYING EGGS
- MAKES ITS GABA NEURONS VULNERABLE (EVEN AT SINGLE EXPOSURE)
- MAKES ITS DOPAMINE NEURONS VULNERABLE (BUT ONLY AT CHRONIC EXPOSURE)



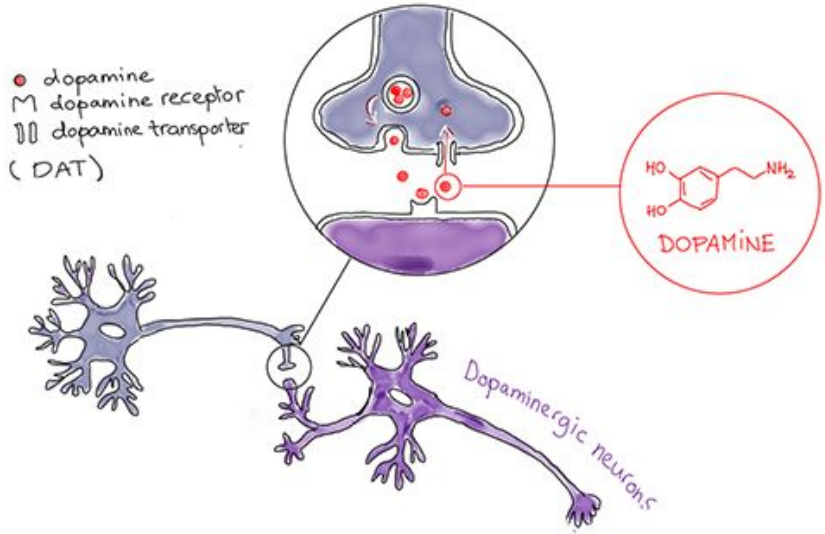
GABA (GAMMA AMINO BUTYRIC ACID) IS A NEUROTRANSMITTER (SIGNALING MESSAGES BETWEEN NEURONS)



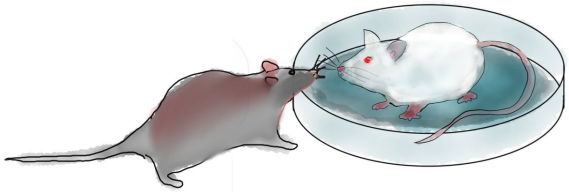
MANCOZEB



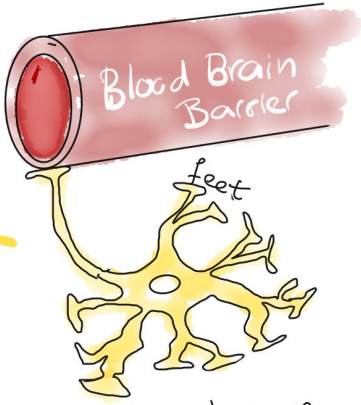
- PRESUMABLY ENTERS DOPAMINE NEURONS THROUGH SO-CALLED DOPAMINE TRANSPORTERS



MANCOZEB



- LEADS TO THE DEATH OF ASTROCYTES IN THE HIPPOCAMPUS OF RATS

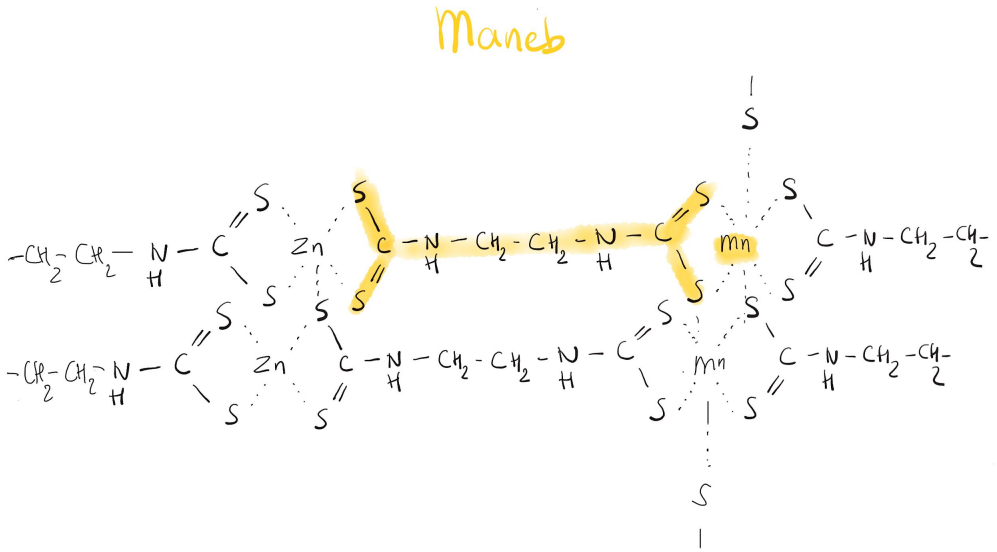


Astrocytes are 'helper' cells with their 'feet' in the blood brain barrier

- DISTURBS THE IMMUNE SYSTEM AND INCREASES THE RISK TO CONTRACT PARKINSON'S DISEASE

MANCOZEB

- IS SUSPICIOUSLY SIMILAR TO MANEB (ALREADY BANNED IN THE EU). BY THE WAY …

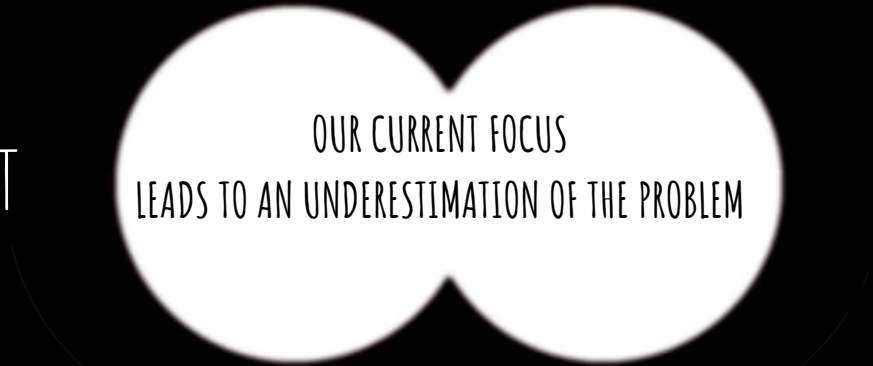


Exposure to mancozeb is associated with an increased risk of Parkinson's disease and immunotoxicity in humans. In addition, exposure leads to neurodegeneration, genotoxicity and behavioural disorders in a variety of organisms.

HOW TO PROCEED?

SOME OF THE THINGS THAT OCCUPY ME

STATEMENT

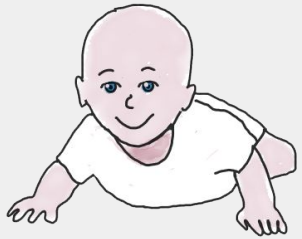


HOW IMPORTANT ARE THE THINGS WE CURRENTLY *DON'T* SEE?

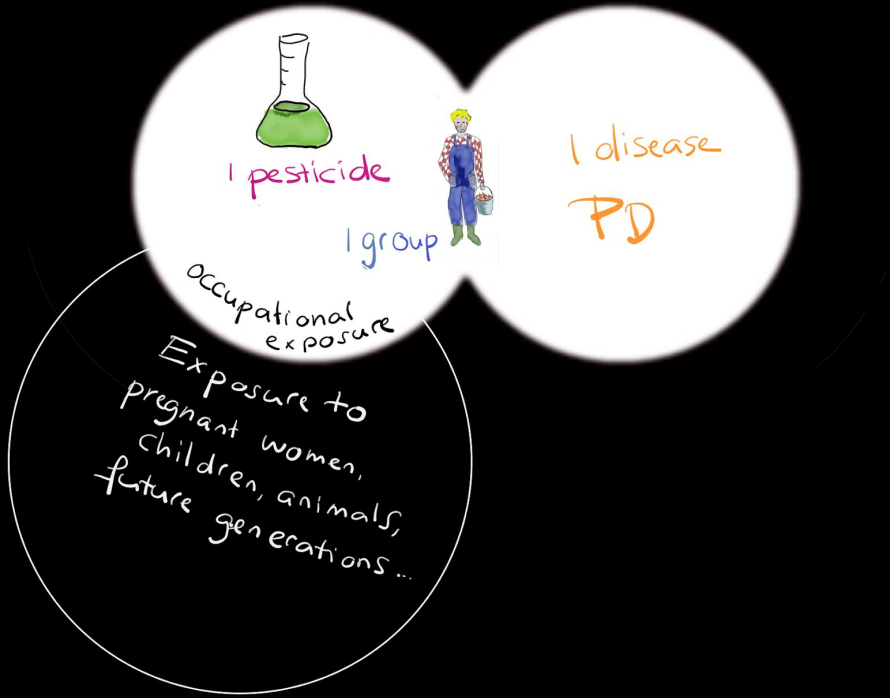
Do we take the effects of
combined and prolonged exposure
to a cocktail of pesticides
Seriously enough?

LOOKING AT THE EFFECTS OF ONE PESTICIDE AT A TIME DILUTES THE PROBLEM

Are we sufficiently protecting the vulnerable?



LOOKING AT 1 GROUP OF EXPOSED, DILUTES THE PROBLEM



Are we doing justice to the complexity of neurodegenerative diseases such as Parkinson's disease?

Parkinson's disease is a 'visible stage' of a disease that has been developing for much longer.

Do we sufficiently consider the symptoms which precede this stage?

AN EXAMPLE:

PEOPLE WITH PARKINSON'S DISEASE HAVE A DIFFERENT COMPOSITION OF INTESTINAL BACTERIA THAN HEALTHY PEOPLE.

IF A PESTICIDE CHANGES THE INTESTINAL MICROBIOME, WHAT DO WE DO?

WE SHOULD DEFINITELY LOOK AT TOXICITY TO NEURONS,
BUT *ONLY* LOOKING AT DYING NEURONS DILUTES THE PROBLEM

NOW, CONSIDER THIS ...

WHILE WE ARE WAITING FOR:

- SCIENTIFIC RESEARCH THAT ASSESSES THE EFFECTS OF EXPOSURE TO PESTICIDES IN MORE DETAIL
- A GOVERNMENT THAT TAKES DECISIONS AND/OR ORDERS FOLLOW-UP RESEARCH ON THE BASIS OF RESEARCH OUTCOMES
- NEW PESTICIDE APPROVAL PROCEDURES
- RE-EVALUATION OF EXISTING PESTICIDES CURRENTLY ON THE MARKET

EXPOSURE CONTINUES

THE QUESTION IS:

ARE WE WILLING TO WAIT FOR IT?

OR IS DOUBT SUFFICIENTLY SOWN
TO WANT TO HARVEST INNOVATION?

THE END (FOR NOW)

You are free to use this presentation and the illustrations in any way you like. Just mention the source. That's all :)

Sparks