# Germ theory of disease fails Virus-AIDS hypothesis and

HIV-AIDS hypothesis out of touch with South Africa – a new perspective

Peter Duesberg RA conference, Oakland, Nov. 6-8

#### Historic evidence for Germ theory

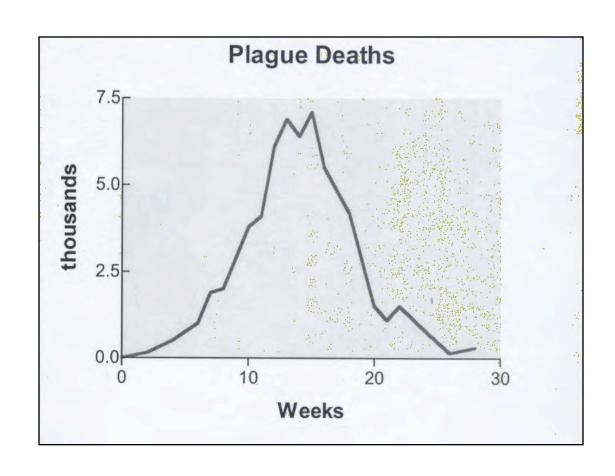
Seasonal epidemics have decimated mankind from its very beginnings (Stewart, 1968). Examples are the plague-, the flu-, the polio-, the cholera-, the pox- and the syphilis epidemics.

All these epidemics had the following in common:

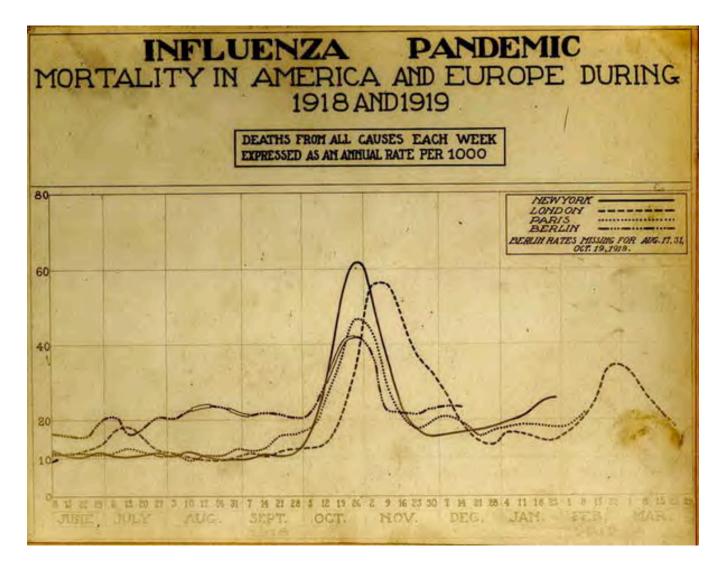
- (1) They increase exponentially over several months and then decline exponentially, forming the classical "bell-shaped" curves as originall described by W.Farr). [Slides: London plague 1665; Global Flu's 1918; US Polio 1942.]
- (2) They spread randomly between the sexes.
- (3) Infected individuals develop these diseases only after short latent periods of several days, typically recover within weeks, and rarely die. [Slides: Measles]

## Bell-shaped curve of first recorded plague epidemic, London 1665

The plague epidemic of London in 1665 was the first contagious epidemic that was statistically recorded. It is a perfect example of the exponential rise and subsequent fall over weeks, forming the classical bell-shaped curve typical of new infectious epidemics.



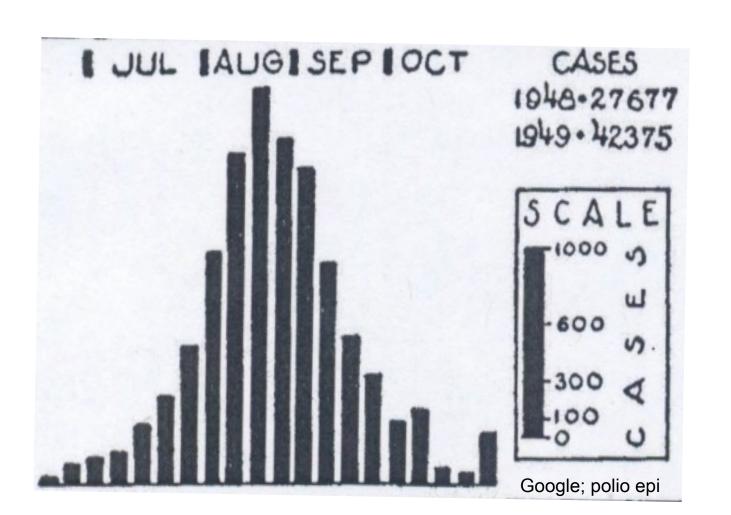
## Classical bell-shaped Flu epidemic of 1918 in the US and Europe



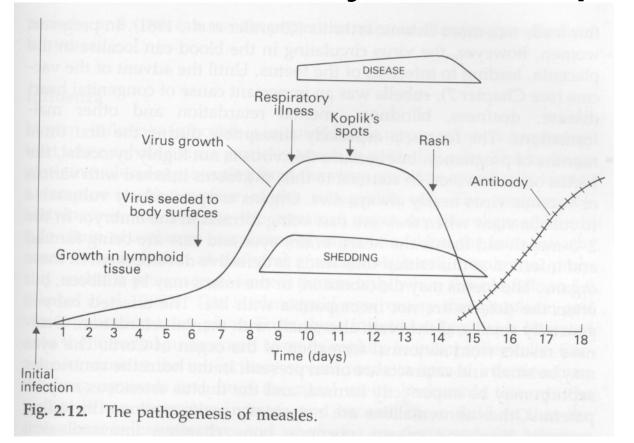
Short incubations, Self-limiting by immunity

Note: Abscissa in months.

### Seasonal polio epidemics, US 1948 and 1949



# Time course of individual measles-virus disease in days: Short latency, virus-specific



From: Viral Pathogenesis and Immunology, Mims & White, 1984

> Note, time in days

#### 1882, Koch proves germ theory

The seasonal epidemics of plagues and Flus and polios were long suspected to be caused by germs, alias "contagion", but were unexplainable and unpreventable until in 1882.

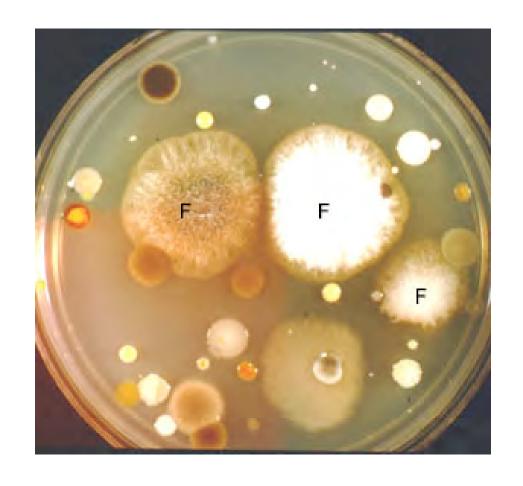
In 1882 Koch proved that a specific bacterium, which he had "cloned" from tuberculosis patients, caused tuberculosis in guinea pigs.

The key to his discovery was the isolation of the bacterium from a plethora of mostly harmless human microbes (term includes bacteria, viruses and fungi), by cloning them from single microbial cells on agar gels.

S / ide: Cloning bacteria on agar gels.

With the discovery of the Tuberculosis-bacterium Koch had started the golden age of the germ theory.

### Koch 1880s: Isolation of pathogenic microbes (TB





Bacterial and Fungal Colonies. This plate was inoculated with a cotton swab that was wiped over a shower drain. Fungi usually produce large, "fuzzy" colonies (marked F).

#### Koch's postulates

1. Associate

2. Isolate



The postulates define, whether a microbe or a virus causes a disease.

4. Reisolate

3. Inoculate

- 1. The same microorganism must be present in every case of the disease.
- 2. The microorganism must be isolated, alias cloned, from all other microbes of the host and grown in pure culture.
- 3. The microorganism from pure culture must cause the disease when inoculated into a healthy, susceptible laboratory host\*.
- 4. The microorganism must be isolated in pure culture from an experimentally infected host.
- \* The incubation period from infection to disease is determined by the growth rate of the microbe.

Years of research have been spent on organisms never proven to cause particular diseases. One should always seek to find out if Koch's Postulates were performed. The microbe could be a passenger instead of a cause. Examples are: leprosy / helicobacter / HIV / Cervical ca virus.

#### Triumphs of the germ theory

- The identification of the bacterial causes of childbed fever, syphilis, cholera, pneumonia, salmonella and the viral causes of influenza-pneumonia, measles, mumps, herpes, polio, yellow fever, etc.
- 2) Discovery of the laws of microbial and viral replication (violated by HIV-AIDS).
- 3) Cures of bacterial diseases with antibiotics that kill the bacteria without hurting the host. Prevention of viral epidemics with vaccines.

In the light of the germ, the mortality from all infectious diseases combined had dropped from over 50% in the days of Koch to about 1% in the 1970s in the "western world" (Cairns, 1978).

According to 'RA-activist' Gordon Stewart, the germ theory had thus become "the most powerful single force in the development of medicine in the past century" (Lancet, 1968).

## So what are the laws of the germ theory?

The germ theory explains the once mysterious *microbial epidemics* and *diseases* as wars between attacking bacteria or viruses and the defending immune system.

Like in all wars speed is critical.

The microbes must be fast enough to replicate in sufficient numbers to survive. They do this by infecting and killing millions of host cells - before the host's immune system strikes back.

The immune system must be able to overtake the microbes in order to save the host.

The following laws govern these wars:

- The generation times and multiplication rates of pathogenic bacteria or viruses.
- The rapid recruitment and clonal expansion of numerous anti-microbial immune cells.

## Generation time and multiplication rates of bacteria

1) Bacteria. Under optimal conditions one bacterium doubles (= multiplication rate) in 30 min (= generation time).

Accordingly, 1 bacterium goes from  $1 \rightarrow 2$  in 30 min, from  $1 \rightarrow 2^2$  (=4) in 60 min, from  $1 \rightarrow 2^3$  (=8) in 90 min, etc.

The **clinical threshold** of bacterial disease is about 10^8-10 bacteria depending on the site.

Thus a single bacterium can cause disease after only 15 hrs, or 30 bacterial doublings:

 $10^{10}$  bacteria =  $1 \times 2^{15}$  hrs/0.5 hr (generation time) =  $2^{30}$ .

This is the formula for diarrhea by a conventional Salmonella infection.

## Generation time and multiplication rates of viruses

2) Viruses. Animal viruses, including HIV, replicate in susceptible cells in 8-24 hrs (generation time), and each infected cell produces at least 100 new viruses (multiplication rate). Thus HIV is a fast "lentivirus"!

The clinical threshold of viral disease is about 10^9-12 infected cells, depending on the infected tissue.

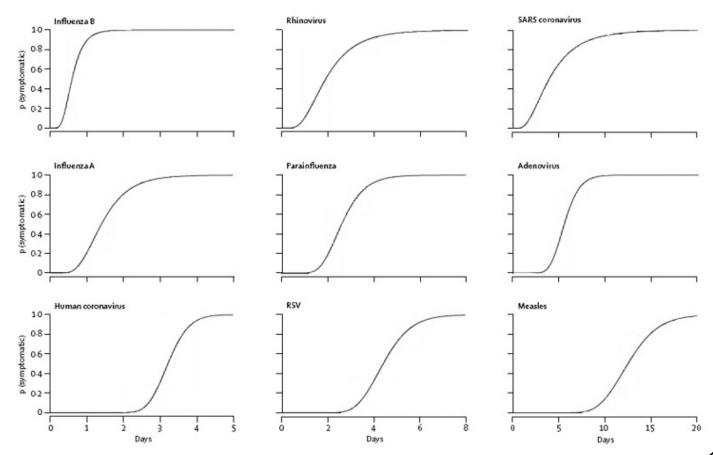
Accordingly, a single blood-borne virus, like HIV or mononucleosis virus, can cause disease by infecting about 10<sup>12</sup> blood cells (1/5 of the total) in only 6 days.

 $10^12$  infected cells = 1 (infected cell) x  $10^2$  x 6 (= 6 days).

Thus mononucleosis virus (EBV) and HIV should cause diseases within a week after infection: Indeed, EBV does – but HIV does not, perhaps later?

The asymptomatic 6-day-period prior to clinical disease is called "latent period". It is typically 5-10 days for viruses. [Slide 9 viruses]

### Latent periods of nine different human viruses



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## How does the immune system catch up with viruses and microbes?

3) Antimicrobial immunity. During a microbial infection, numerous immune-cells (i) with distinct anti-viral or bacterial anti-bodies (namely i1, i2, i3, ...) are recruited over time.

These cells expand clonally, much like bacteria, with generation times of about 12 hrs, or 2 generations per day, as follows:

I@n (immune cells at n days) =  $(i1 + i2 + i3 + ix ...) \times 2^n$  days/12 hrs + many antibodies per cell.

Within weeks, the multiplicity of distinct immune cells, and their ability to make numerous antibodies (= anti-viral bullets) per cell make up for their initial disadvantage of lower than microbial growth rates.

In "grown-ups" the immune cells are the only ones (besides cancer cells!) with the potential to grow exponentially on demand! 15

## Summing up the laws of the germ theory

- The germ theory explains the exponential rises and falls of microbial diseases within weeks, and epidemics within months as blitzkriegs between microbes and blitz-defenses of the immune system.
- Initially the attackers have the advantage for several days or weeks.
- W ithin several weeks, however, the host's immune cells typically overcome the invading microbes by clonal expansions of numerous microbe-specific immune cells, making hundreds of microbe-specific antibodies.
- If this happens before the microbes reach clinical thresholds, the infections are asymptomatic (only 1 in 1000 polio infections are symptomatic.). Still, the host becomes immune ("antibody-positive").
- If there is no immune defense as in "nude" (immunodeficient) mice or in humans with inherited or acquired immune-deficiency, the host is killed within weeks after infection.

The balance between the microbes and the immune system is a classical Darwinian system: By selecting for immunity the microbes ensure the persistence of their hosts. (Only HIV is said to kill everybody.)

#### The iron age of the germ theory

By the time the polio epidemics were ended with the vaccines of Salk and Sabin in the 1960s, the germ theory had explained and brought under control virtually all major infectious diseases.

There was no more *microbial terra incognita* left for the microbe hunters to discover and to make careers with.

Therefore, the microbe hunters postulated new "slow viruses" that cause **slow diseases**, which were previously thought to be non-microbial – namely cancer, leukemia, neurological diseases, and acquired immuno-deficiency.

## Viruses of slow, not self-limiting diseases are incompatible with the

The viruses found in slow, not-self-limiting diseases have the following exotic properties in common:

- 1) Anti-viral immunity does not limit or cure the slow diseases.
- The viruses of slow diseases are neutralized by antibody, latent or defective, only fragments of viral nucleic acids are detected.
- 3) The same latent and defective viruses, are also found in numerous normal controls.

All of these properties are inconsistent with the germ theory.

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## Since there are no inconsistencies in nature, the slow-virus-theory

The classical test of a theory is the merit of its predictions.

According to the HIV-AIDS germ theory, the AIDS-virologists have predicted, right after the discovery of the AIDS virus in 1984, that Americans and Europeans would soon be decimated by epidemics of sexually transmitted AIDS virus.

Only their vaccine could help.

Since this did not happen in 25 years, they "moved forward" to Africa, where epidemics are easier to pass and harder verify than in the US and Europe.

### Fabricating an epidemic in Africa

To minimize objections to the evidence for an African epidemic, those who question the slow AIDS virus theory and the African epidemics are intimidated as "mass murderers" (Discover magazine, 2008).

If that is not enough to silence objections, even published papers advancing evidence to the contrary will be censored.

I assume you think I am exaggerating now, having illusions about the holy inquisition. So, please watch the last three slides.

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#### HIV-AIDS hypothesis out of touch with South African AIDS - A new perspective

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SUMMARY

#### ARTICLE INFO

#### story: A r

Article history: Received 9 June 2009 Accepted 11 June 2009 Available online xxxx A recent study by Chigwedere et al., "Estimating the lost benefits of antiretroviral drug use in South Africa", claims that during the period from 2000 to 2005 about 330,000 South African AIDS-deaths were caused by the Human Immunodeficiency Virus (HIV) per year that could have been prevented by available anti-HIV drugs. The study blamed those who question the hypothesis that HIV is the cause of AIDS, particularly former South African President Thabo Mbeki and one of us, for not preventing these deaths by anti-HIV treatments such as the DNA chain-terminator AZT and the HIV DNA inhibitor Nevirapine. Here we ask, (1) What evidence exists for the huge losses of South African lives from HIV claimed by the Chigwedere study? (2) What evidence exists that South Africans would have benefited from anti-HIV drugs? We found that vital statistics from South Africa reported only 1 "HIV-death" per 1000 HIV antibody-positives per year (or 12,000 per 12 million HIV antibody-positives) between 2000 and 2005, whereas Chigwedere et al. estimated losses of around 330,000 lives from HIV per year. Moreover, the US Census Bureau and South Africa reported that the South African population had increased by 3 million during the period from 2000 to 2005 instead of suffering losses, growing from 44.5 to 47.5 million, even though 25% to 30% were positive for antibodies against HIV. A similar discrepancy was found between claims for a reportedly devastating HIV epidemic in Uganda and a simultaneous massive growth of the Ugandan population, Likewise, the total Sub-Saharan population doubled from 400 millions in 1980 to 800 millions in 2007 during the African HIV epidemics. We conclude that the claims that HIV has caused huge losses of African lives are unconfirmed and that HIV is not sufficient or even necessary to cause the previously known diseases, now called AIDS in the presence of antibody against HIV. Further we call into question the claim that HIV antibody-positives would benefit from anti-HIV drugs, because these drugs are inevitably toxic and because there is as yet no proof that HIV causes AIDS.

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#### Introduction

Based on the hypothesis that Human Immunodeficiency Virus (HIV) is the cause of a recent AIDS epidemic in South Africa, Chig-wedere et al. estimated that 330,000 died unnecessarily from AIDS caused by HIV during the period from 2000 to 2005, "because a feasible and timely antiretroviral drug treatment program was not implemented in South Africa" [1]. The HIV-AIDS hypothesis postulates that HIV causes around 27 previously known diseases, but only 5 to 10 years after infection and induction of antiviral immunity [4,11]. Accordingly, Chigwedere et al. blamed all those who question the HIV-AIDS hypothesis for the failure to use anti-HIV drugs to prevent the estimated losses of lives, above all South African president Thabo Mbeki and even one of us. Moreover, they suggest that about 30,000 newborns could have been saved annually by preventing "mother-to-child transmission" of HIV by brief

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treatments to all pregnant mothers with the inevitably toxic anti-HIV drugs AZT and Nevirapine (see below).

In view of our goal to solve the AIDS epidemic, and the specific accusations that those who question the HIV-AIDS hypothesis may be responsible for the loss of hundred thousands of lives we ask here, (1) What evidence exists for the huge losses of South African lives from HIV claimed by Chigwedere et al.? and (2) What evidence exists that South Africans would have benefited from anti-HIV drugs, such as AZT and Nevirapine?

#### A new perspective of South African AIDS

No evidence for huge losses of South African lives from HIV

Since 1984 a steady flow of publications has advanced the hypothesis that a new epidemic of HIV is decimating Africa and that high percentages of Africans are already infected by HIV [2-4]. In view of this and the recent study by Chigwedere et al. "estimating" about 330,000 preventable deaths from HIV per year, be-

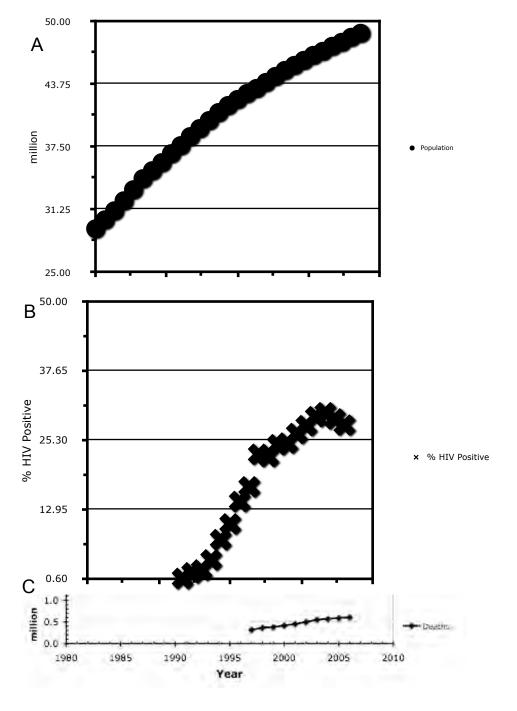
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### Table 1, Vital statistics South Africa, 1980-2008

Voor	Donulation	HIV+	Dootho	UIV Dootho
Year	Population	пiv+ %	Deaths x 10^-3	HIV-Deaths
1000	x 10^-6	70	X 102	x 10^-3
1980	29.3			
1981	30.2			
1982	31.1			
1983	32.1			
1984	33.2			
1985	34.3			
1986	35.1			
1987	35.9			
1988	36.8			
1989	37.6			
1990	38.5	0.7		
1991	39.3	1.7		
1992	40.1	2.2		
1993	40.9	4.0		
1994	41.6	7.6		
1995	42.2	10.4		
1996	42.8	14.4		
1997	43.3	17.0	317	*
1998	43.9	22.8	365	*
1999	44.5	22.4	381	10
2000	45.1	24.5	415	10.5
2001	45.6	24.8	453	***************************************
2002	46.1	26.5	500	
2003	46.6	27.9	554	*
2004	47.0	29.5	572	13
2005	47.5	30.2	591	14.5
2006	47.9	29.1	607	15
2007	48.4	28.0		
2008	48.8			<u>.</u> -
* not reported because HIV-deaths were below 10th rank.				

<sup>\*</sup> not reported because HIV-deaths were below 10th rank.

#### To prove viral AIDS:

- 1) Explain, why anti-viral immunity does not protect against AIDS.
- 2) Find contagious AIDS in drug free subjects.
- 3) Show that in two matched groups of US soldiers only HIV-positives get AIDS.

### **END**