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AIDS in Africa

In Search of the Truth

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See graphics one and two for title illustration by Mark Ulriksen

Dear Jann,

You will be saddened to hear that Adelaide Ntsele has died. As you may recall, she featured briefly in my article a year ago about the long, twisted history of the song, "The Lion Sleeps Tonight," which was based on a melody composed by her father, Solomon Linda. While I interviewed her sisters about the life and times of their father, the great Zulu singer, Adelaide was swooning feverishly under greasy blankets. She got up from her sickbed only to have her picture taken. She was so weak she could barely stand, but she wanted to be in your magazine.

I took her to hospital afterward. We sat in Emergency for a long time, waiting for attention. Her sister Elizabeth was there, too. She's a nurse. She looked at Adelaide's hospital card and grew very quiet. Later, she told me there was a symbol indicating that Adelaide had come up positive on an HIV test. Atop that she had tuberculosis and a gynecological condition that required surgery. The operation had already been postponed repeatedly. To Elizabeth, it looked like the the doctors had decided, "Well, this one's had it, she'll die anyway, just let it happen." And so it did.

A year ago, the funeral scene would have written itself. I would have described the kindly old pastor, the sad African singing, the giant iron pots on fires for the ritual goodbye feast. I would have mentioned the eerie absence of any reference to AIDS in the eulogies and made some rote observation about the denial it betokened. I would have scanned the faces of mourners, trying to pick out the one in five who were carriers of the virus that put Adelaide in her coffin, withered and shriveled like a child. And in the end I would have turned sadly away, lamenting a society that allowed a thirty-seven-year-old woman to die because she couldn't afford the drugs available to rich white people.

Instead, I spent the ceremony thinking about viral antigens, cross-reactions and other mysteries of what Sowetans call H.I.Vilakazi, the scourge of the deadly three letters. Then, midway through the proceedings, the pastor broke my reverie; Perhaps the visitors would like to say something? I rose to my feet, straightened my tie and prepared to speak my mind, but courage failed me, so I mumbled a few platitudes instead. "It is a heartbreak that Adelaide was taken so young," I said. "She bore terrible suffering with enormous dignity," I said. "We will always remember her as she appears in that picture," I concluded, nodding toward a framed portrait of a wistful young woman with huge doe eyes and haunting cheekbones like Marlene Dietrich's. Adelaide wanted to be a model. She never made it. I extended my condolences to the family and sat down again.

It wasn't the eulogy Adelaide deserved, but then it wasn't the right time or place for a great cry of rage and confusion, either. But now the mourning is done, and there are things that must be said.

photo of Adelaide Ntsele her friends at funeral

1.

MY FIRST MISTAKE

Africa's era of megadeath dawned in the fall of 1983, when the chief of internal medicine of a hospital in what was then Zaire sent a communique to American health officials, informing them that a mysterious disease seemed to have broken out among his patients. At the time, the United States was being convulsed by its own weird health crisis. Large numbers of gay men were coming down with an unknown disease of extraordinary virulence, something never seen in the West before. Scientists called it GRID, an acronym for Gay-Related Immune Deficiency. Political conservatives and holy men called it God's vengeance on sinners. American researchers were thus intrigued that a similar syndrome had been observed in heterosexuals in Africa. A posse of seasoned disease cowboys was convened and sent forth to investigate.

On October 18th, 1993, they walked into Kinshasa's Mama Yemo Hospital, led by Peter Piot, 34, a Belgian microbiologist who had been to the institution years earlier, investigating the first outbreak of Ebola fever. A change was immediately apparent. "In 1976, there were hardly any young adults in orthopedic wards," Piot told a reporter. "Suddenly - boom - I walked in and saw all these young men and women, emaciated, dying." Tests confirmed his worst apprehensions: The mysterious new disease was present in Africa, and its victims were heterosexual. When researchers started looking for the newly identified human immunodeficiency virus, it turned up almost everywhere - in eighty percent of Nairobi prostitutes, thirty-two percent of Ugandan truck drivers, forty-five percent of hospitalized Rwandan children. Worse, it seemed to be spreading very rapidly. Epidemiologists plotted figures on graphs, drew lines linking the data points and gaped in horror. The epidemic curve peaked in the stratosphere. Scores of millions - maybe more - would die unless something was done.

These prophecies transformed the destiny of AIDS. In 1983, it was a fairly rare disease, confined largely to the gay and heroin-using subcultures of the West. A few years later, it was a threat to all of humanity itself. "We stand nakedly before a pandemic as mortal as any there has ever been," World Health Organization chief Halfdan Mahler told a press conference in 1986. Western governments heeded his anguished appeal for action. Billions were invested in education and prevention campaigns. According to the Washington Post, impoverished AIDS researchers suddenly had budgets that outstripped their spending capacity. Nongovernmental AIDS organizations sprang up all across Africa - 570 of them in Zimbabwe, 300 in South Africa, 1,300 in Uganda. By 2000, global spending on AIDS had risen to many billions of dollars a year, and activists were urging the commitment of many billions more, largely to counter the apocalypse in Africa, where 22 million were said to carry the virus and 14 million to have died of it.

And this is about where I entered the picture - July 2000, three months after South African President Thabo Mbeki announced that he intended to convene a panel of scientists and professors to re-examine the relationship between the human immunodeficiency virus and AIDS. Mbeki never exactly said AIDS doesn't exist, but his action begged the question, and the implications were mind-bending. South Africa was said to have more HIV infections (4.2 million) than any other country on

the planet. One in five adults were already infected, and the toll was rising daily. As his words sank in, disbelief turned to derision.

"Ludicrous," said the Washington Post.

"Off his rocker," said the Spectator.

"A little open-mindedness is fine," said Newsday. "But a person can be so open-minded, his brains can fall out."

The whole world laughed, and I rubbed my hands with glee: South Africa was back on the world's front pages for the first time since the fall of apartheid; fortune awaited the man of action. I went to see a friend who happens also to be an AIDS epidemiologist. He was so enraged by what he called the "genocidal stupidity" of Mbeki's initiative that he'd left work and gone home, where I found him slumped in depression. "Hey," I said, snap out of it. Let's make a deal." And so we did: He'd talk, I'd type, and together we'd tell the inside story of Thabo Mbeki's AIDS fiasco. All that remained was to consider to consider the evidence that had led our leader astray.

According to newspaper reports, Mbeki had gleaned much of what he knew from the Web, so I revved up the laptop and followed him into the virtual underworld of AIDS heresy, where renegade scientists maintain Web sites dedicated to the notion that AIDS is a hoax, dreamed up by a diabolical alliance of pharmaceutical companies and "fascist" academics whose only interest is enriching themselves. I visited several such sites, noted what they had to say, and then turned to Web sites maintained by universities and governments, which offered crushing rebuttals. Can't say I understood everything, because the science was deep and dense, but here's the gist:

Look at AIDS from an African point of view. Imagine yourself in a mud hut, or maybe a tin shack on the outskirts of some sprawling city. There's sewage in the streets, and refuse removal is nonexistent. Flies and mosquitoes abound, and your drinking water is probably contaminated with feces. You and your children are sickly, undernourished and stalked by diseases for which you're unlikely to receive proper treatment. Worse yet, these diseases are mutating, becoming more virulent and drug-resistant. Minor scourge such as diarrhea and pneumonia respond sluggishly to antibiotics. Malaria now shrugs off treatment with chloroquine, which is often the only drug for it available to poor Africans. Some strains of tuberculosis - Africa's other great killer - have become virtually incurable. Now atop all this is AIDS.

According to what you hear on the radio, AIDS is caused by a tiny virus that lurks unseen in the blood for many years, only to emerge in deep disguise: a disease whose symptoms are other diseases, like TB, for instance. Or pneumonia. Running stomach, say, or bloody diarrhea in babies. These diseases are not new, which is why some Africans have always been skeptical, maintaining that AIDS actually stands for "American Idea for Discouraging Sex." Others say nonsense, the scientists are right, we're all going to die unless we use condoms. But condoms cost money and you have none, so you just sigh and hope for the best.

Then one day you get a cough that won't go away, and you start shedding weight at an alarming rate. You know these symptoms. In the past, you could take some pills and they would usually go away. But the medicines don't work anymore. You get sicker and sicker. You wind up in the AIDS ward.

The orthodox scientists, if they could see you lying there, would say your immune system has been destroyed by HIV, allowing the tuberculosis (or whatever) to run

riot. The dissidents would say no way - the virus is a harmless creature that just happens to accompany immune-system breakdown caused by other factors, in this case a lifetime of hunger and exposure to tropical pathogens.

Incensed by this, the orthodoxy whistles up a truckload of studies from all over Africa showing that HIV-positive hospital patients die at astronomical rates relative to their HIV-negative counterparts. The dissidents claim to be unimpressed. This proves nothing, they say except that dying hospital patients carry the virus.

The orthodoxy grits its teeth. There's only one way to crush these rebels, and that's to show that AIDS is a new disease that has caused a massive increase in African mortality, which is of course the truth as we know it: 22 million Africans infected, with 14 million more already dead from it.

These frightening numbers were all that mattered, it seemed to me. Once they were shown to be accurate, further debate would be rendered obscene, and Thabo Mbeki would be guilty as charged, a fool who'd allowed himself to be swayed by a tiny band of heretics universally dismissed as wackos, fringe lunatics and scientific psychopaths. So I set out to confirm the death toll. Just that. I thought it would be easy - a call or two, maybe a brief interview. I picked up the phone. It was my first mistake.

2.

A Forbidden Thought

There was a time when I imagined medical research as an idealized endeavor, carried out by scientists interested only in truth. Up close, it turns out to be much like any other human enterprise, riven with envy, ambition and the standard jockeying for position. Labs and universities depend on grants, and grantmaking is fickle, subject to the vagaries of politics and intellectual fashion, and prone to favor scientists whose work grips the popular imagination. Every disease has champions who gather the data and proclaim the threat it poses. The cancer fighters will tell you that their crisis is deepening, and more research money is urgently needed. Those doing battle with malaria make similar pronouncements, as do those working on TB, and so on, and so on. If all their claims are added together, you wind up with a theoretical global death toll that "exceeds the number of humans who die annually by two- to threefold," said Christopher Murray, a World Health Organization director.

Malaria kills around 2 million humans a year, roughly the same number as AIDS, but malaria research currently gets only a fraction of the resources devoted to AIDS. Tuberculosis (1.7 million victims a year) is similarly sidelined, to the extent that there were no new TB drugs in development at all as of 1998. AIDS, on the other hand, is replete, employing an estimated 100,000 scientists, sociologists, caregivers, counselors, peer educators and stagers of condom jamborees. Until the attacks of September 11th diverted the world's anxieties (and charity dollars), the level of funding for AIDS grew daily as foundations, governments and philanthropists such as Bill Gates entered the field, unnerved by the bad news, which usually arrived in the form of articles describing AIDS as a "merciless plague" of "biblical virulence," causing "terrible depredation" (as Time recently put it) among the world's poorest people.

These stories all originate in Africa, but the statistics that support them emanate from the suburbs of Geneva, where the World Health Organization has its headquarters. Technically employed by the United Nations, WHO officials are the world's disease

police, dedicated to eradicating illness. They crusade against old scourges, raise the alarm against new ones, fight epidemics, and dispense grants and expertise to poor countries. In conjunction with UNAIDS (the joint United Nations Programme on HIV/AIDS, based at the same Geneva campus), the WHO also collects and disseminates information about the AIDS pandemic.

In the West, the collection of such data is a fairly simple matter: Almost every new AIDS case is scientifically verified and reported to government health authorities, who inform the disease police in Geneva. But AIDS mostly occurs in Africa, where hospitals are thinly spread, understaffed and often bereft of the laboratory equipment necessary to confirm HIV infections. How do you track an epidemic under these conditions? In 1985, the WHO asked experts to hammer out a simple description of AIDS, something that would enable bush doctors to recognize the symptoms and start counting cases, but the outcome was a fiasco - partly because doctors struggled to diagnose the disease with the naked eye, but mostly because African governments were too disorganized to collect the numbers and send them in. Once it become clear that the case-reporting system wasn't working, the WHO devised an alternative, by which Africa's AIDS statistics are now primarily based.

It works like this: On any given morning anywhere in sub-Saharan Africa, you'll find crowds of expectant mothers ling up outside government prenatal clinics, waiting for a routine checkup that includes the drawing of a blood sample to test for syphilis. According UNAIDS, "anonymous blood specimens left over from these tests are tested for antibodies to HIV," a ritual that usually takes place once a year. The results are fed into a computer model that uses "simple back-calculation procedures" and knowledge of "the well-known natural course of HIV infection" to produce statistics for the continent In other words, AIDS researchers descend on selected clinics, remove the leftover blood samples and screen them for traces of HIV The results are forwarded to Geneva and fed into a computer program called Epi-model: If a given number of pregnant women are HIV-positive, the formula says, then a certain percentage of all adults and children are presumed to be infected, too. And if that many people are infected, it follows that a percentage of them must have died. Hence, when UNAIDS announces 14 million Africans have succumbed to AIDS, it does not mean 14 million infected bodies have been counted. It means that 14 million people have theoretically died, some of them unseen in Africa's swamps, shantytowns and vast swaths of terra incognita.

You can theorize at will about the rest of Africa and nobody will ever be the wiser, but my homeland is different - we are a semi-industrialized nation with a respectable statistical service. "South Africa," says Ian Timaeus, London School of Hygiene and Tropical Medicine professor and UNAIDS consultant "is the only country in sub-Saharan Africa where sufficient deaths are routinely registered to attempt to produce national estimates of mortality from this source." He adds that, "coverage is far from complete," but there's enough of it to be useful - around eight of ten deaths are routinely registered in South Africa, according to Timaeus, compared to about 1 in 100 elsewhere below the Sahara.

It therefore seemed to me that checking the number of registered deaths in South Africa was the surest way of assessing the statistics from Geneva, so I dug out the figures. Geneva's computer models suggested that AIDS deaths here had tripled in three years, surging from 80,000-odd in 1996 to 250,000 in 1999. But no such rise was discernable in total registered deaths, which went from 294,703 to 343,535 within roughly the same period. The discrepancy was so large that I wrote to make

absolutely sure I had understood these numbers correctly. Both parties confirmed that I had, and at that exact moment, my story was in trouble. Geneva's figures reflected catastrophe. Pretoria's figures did not. Between these extremes lay a gray area populated by local experts such as Stephen Kramer, manager of insurance giant Metropolitan's AIDS Research Unit, whose own computer model shows AIDS deaths at about one-third Geneva's estimates. But so what? South African actuaries don't get a say in this debate. The figures you see in your newspapers come from Geneva. The WHO takes pains to label these numbers estimates only, not rock-solid certainties, but still, these are estimates we all accept as the truth.

But you don't want to hear this, do you? Nor did I. It spoiled the plot, so I tried to ignore it. Since it was indeed true that the very large numbers of South Africans were dying, then the nation's coffin makers had to be laboring hard to keep pace with growing demand. One newspaper account I found told of a company called Affordable Coffins, purveyor of cheap cardboard caskets, which had more orders than it could fill. But the firm was barely two months old when the story ran, and two rival entrepreneurs who launched similar products a few years back had gone under. "People weren't interested." said a dejected Mr. Rob Whyte. "They wanted coffins made of real wood."

So I called the real-wood firms, three industrialists who manufactured coffins on an assembly line for the national market. "It's quiet," said Kurt Lammerding of GNG Pine Products. His competitors concurred - business was dead, so to speak.

"It's a fact," said Mr. A. B. Schwegman of B&A Coffins. "If you go on what you read in the papers, we should be overwhelmed, but there's nothing. So what's going on? You tell me."

I couldn't, although I suspected it might have something to do with race. Since the downfall of apartheid, in 1994, illegal backyard funeral parlors have mushroomed in the black townships, and my sources couldn't discount the possibility that these outfits were scoring their coffins from the underground economy. So, I called a black-owned firm, Mmabatho Coffins, but it had gone out of business, along with some others I tried calling. This was getting seriously weird. The death rate had almost doubled in the past decade, according to a recent story in South Africa's largest newspaper. "These aren't projections," said the Sunday Times. "These are the facts." And if the facts were correct, I thought, someone somewhere had to be prospering in the coffin trade.

Further inquiries led me to Johannesburg's derelict downtown, where a giant multistory parking garage has recently been transformed into a vast warren of carpentry workshops, each housing a black carpenter, set up in business with government seed money. I wandered around searching for coffin makers, but there were only two. Eric Borman said business was good, but he was a master craftsman who made one or two deluxe caskets a week and seemed to resent the suggestion his customers were the sort of people who died of AIDS. For that, I'd have to talk to Penny. Borman pointed, and off I went, deeper and deeper into the maze. Penny's place was locked up and deserted. Inside, I saw unsold coffins stacked ceiling-high, and a forlorn CLOSED sign hung on a wire.

At that moment, a forbidden thought entered my brain. This may sound crazy to you, thousands of miles away, but put yourself in my shoes. You live in Africa - OK , in the post-colonial twilight of Johannesburg's once-white suburbs, but still, close enough to the AIDS front line. For years, experts tell you that the plague is marching down the

continent, coming ever closer. At first nothing happens, but there dawns a day when the HIV estimates start rising around you, and by 2000 the newspapers are telling you that one in five adults on your street is walking dead.

This has to be true, because it's coming from experts, so you start looking for evidence. Laston, the gardener at Number 10, is suspiciously thin, and has a hacking couch that won't go away. On the far side of the golf course, Mrs. Smith has just buried her beloved servant. Mr. Beresford's maid has just died, too. Your cousin Lenny knows someone who owns a factory where all the workers are dying. Your newspapers are regularly predicting that the economy will surely be crippled, and schooling may soon collapse because so many teachers have died.

But then you find yourself staring into Penny's failed coffin workshop and you think, Jesus, maybe something *is* wrong here...

Is this likely? Look, I believe that AIDS exists and it's killing Africans. But as many as all the experts tell us? Hard to say. In my suburb, I can assure you, people's brains are so addled by death propaganda that we automatically assume almost everyone who falls seriously ill or dies has AIDS, especially if they're poor and black. But we don't really know for sure, and nor do the sufferers themselves, because hardly anyone has been tested. "What's the point?" asks Laston, the ailing gardener. He knows there's no cure for AIDS, and no hope of obtaining life-extending anti-retrovirals. Last winter, he came down with a bad cough, and everyone said it was AIDS, but it wasn't - come summer, Laston got better. Then Stanley the bricklayer became our street's most likely case. Stan maintained he had a heart condition, but behind his back, everyone was whispering, "Oh, my God, it's AIDS." But was it? We had no idea. We were playing a game, driven by hysteria.

No one wanted to hear this. Worried friends slipped newspaper clippings into my mailbox: CEMETERY OVERFLOWS....HOSPITALS OVERWHELMED....PRISON DEATHS UP 535 PERCENT. I checked out all the evidence, but often there was some other possible explanation, like cut-price burial plots or a TB epidemic in the overcrowded jails or a funding crisis in government hospitals. After months of this, even my mother lost patience. "Shut up!" she snapped. "They'll put you in a straitjacket." Mother knows best, but I just couldn't get those numbers out of my head: 294,703 registered deaths in 1996, 343,535 four years later. I called my friend the AIDS epidemiologist and said, "Listen, I am beset by demons and heresies, can you not save me?" So we had lunch, and I aired my doubts, whereupon he pointed in the direction where truth lay, and I set out to find it.

photo of coffins

3.

A Bell is Rung

And here we are on a hilltop on the equator, overlooking the landscape where Africa's first recorded outbreak of AIDS took place. It's a village called Kashenye, which lies on the border between Uganda and Tanzania. close to where the Kagera River flows into Lake Victoria. In 1979 or thereabouts, according to local legend, a trader crossed the river in a canoe to sell his wares in Kashenye. Business done, he bought some beers and relaxed in the company of a village girl. Some time later, she fell victim to a wasting disease that refused to respond to any known medication, Western or tribal.

Not long after, according to Edward Hooper in his book Slim, a similar drama unfolded in Kasensero, a fishing village over on the Uganda side of the river. There the first victim was also a local girl, and the agent of infection was said to have been a visitor from Kashenye. In due course, several more citizens of Kashenye contracted the wasting disease. Their neighbors cried foul, accusing Kashenye of putting a hex on them. Kashenye responded with similar allegations. Soon, villagers on both banks of the river were discarding objects brought from the other side, believing them to be bewitched. But nothing helped. By 1983, the contagion was in all the cities on the Western shore of Lake Victoria. Within a few years the region became known as the epicenter of Africa's AIDS epidemic, and Ugandan president Yoweri Museveni was predicting that "apocalypse" was imminent.

His prophesy was based largely on testing done among small groups of high-risk subjects. Many factors were unknown, however, including the true extent of infection in the general populace, the rate at which it was spreading, the speed at which it killed. To formulate an effective battle plan, AIDS researchers desperately needed more data in these areas.

They cast around for a place to study, and lit on the Masaka district in Uganda, a ramshackle area just west of Lake Victoria and probably 100 miles north of Ground Zero. The rate of infection there among adults was not particularly high - just more than eight percent - but there were other considerations making it a good place to study: The district was politically stable, and there was an international airport three hours away. In 1989, a Dutch epidemiologist named Daan Mulder began to lay the groundwork for what would ultimately become the longest and most important study of its kind in Africa.

Assisted by an army of of field workers, Mulder drew a circle around fifteen villages outside Masaka and proceeded to count every resident. Then he took blood from all those who were willing - 8,833 out of 9,777 inhabitants - screened it for HIV infections and sat back to see what happened. Every household was visited at least once a year, and every death was noted and entered into Mulder's database, along with the deceased's HIV status.

The first results were published in 1994, and they were devastating. The HIV-infected villagers of Masaka were dying at a rate fifteen times higher than their uninfected neighbors. Young adults with the virus in their bloodstream were sixty times more likely to perish. Overall, HIV-related disease accounted for a staggering forty-two percent of all deaths. The AIDS dissidents were crushed, HIV theory was vindicated. "If there are any left who will not even accept [this]," commented the U.S. Centers for Disease Control upon the release of the results, "their explanation of how HIV-seropositivity leads to early death must be very curious indeed."

Clearly, only a fool would second-guess such powerful evidence, so I just visited the villages where Mulder's work was done, verified what he'd found and headed back toward the airport, my story about Mbeki's stupidity back on track. But on my way I spent an hour or two in Uganda's Statistics Office, and what I learned there changed things yet again.

In 1948, Uganda's British rulers attempted a rough census in the Masaka area and concluded that the annual death rate was "a minimum of twenty-five to thirty per thousand." A second census, in 1959, put the figure at twenty-one deaths per thousand. By 1991, it had fallen to sixteen per thousand. Enter Daan Mulder with his blood tests, massive funding and armies of field workers. He counted every death

over two years, and then five, and here is his conclusion: The crude annual death rate in Masaka, in the midst of a horrifying AIDS plague, was 14.6 per thousand - the lowest ever measured.

I was relieved to discover that there was another possible interpretation of these statistics. Daan Mulder's work began at a time when Uganda was emerging from two decades of terror and chaos. Doctors had fled the country, hospitals had collapsed and nobody kept track of mortality trends in the dark years of the Seventies and Eighties. According to British statistician Andrew Nunn, one of Mulder's collaborators, disease-related rates must have fallen to all-time low levels in the Seventies, when no one was counting, and then surged massively with the advent of AIDS around 1980.

"In fact," says Nunn, "evidence suggests it's epidemic." (Mulder himself cannot be asked to explain his findings - he has since died of cancer.)

Nunn's explanation may be so, but the same can't apply to neighboring Tanzania, which embarked in 1992 on an even larger mortality study. Like Mulder's, it was funded by the British government and supported by scientists from the British universities. The Adult Morbidity and Mortality Project recruited 307,912 participants, each of whom was visited at least once a year in the next three years and questioned about recent deaths or disease. The final results were rather like Masaka's: AIDS was the leading reported cause of adult mortality, but the average death rate in the communities studied was 13.6 per thousand - ten percent lower than the death rate measured in the census of 1988, which was rated "close to 100 percent" complete by Dr. Timaeus, the UNAIDS consultant. Timaeus is a leading authority on African mortality in th AIDS era, and it was to him that my difficult question ultimately fell.

Professor Timaeus," I said in his London office, "this study appears to show that there was no increase in the death rate between 1988 and 1995, in the heart of Tanzania's AIDS epidemic."

He shrugged. "This survey covered only part of the country," he said.

"True," I said, "but a fairly large part, with hundreds of thousands of participants."

"But were they representative?" he countered.

I had no idea. Timaeus smiled and said, "I think this is the more critical evidence."

Whereupon he produced a sheath of graphs and papers and laid them on the table. There was, he said, a "regrettable" lack of knowledge about mortality trends in Africa, attributable to "inertia," indifference and a crippling lack of up-to-date data. These factors bedeviled the demographer, but Timaeus said he knew of several ways around them, most dramatic of which is the so-called sibling-history technique of mortality estimation. It works like this:

Since 1984, researchers financed by the U.S. Agency for International Development have conducted detailed health interviews with several thousand mothers in developing countries worldwide. Among the questions put to them are these: How many children did your mother have? How many are still alive? When did the others die? Timaeus realized that close analysis of the answers might reveal trends that were failing to show up elsewhere. He set to work, and published the results in the journal AIDS in 1998. "In just six years (1989-1995) in Uganda," he wrote, "men's

death rates more than doubled." Similar trends were revealed in Tanzania, he reported, where "men's deaths apparently rose eighty percent" in the same period.

Again, this seemed to settle the matter, but again, there were puzzling complications. For a start, Timaeus' study coincided with Daan Mulder's epic mortality study, which ran for seven years without detecting any significant change in the death rate. The same is true of Tanzania's giant adult-mortality survey, which fell in the heart of the period when Timaeus says male mortality was surging upward but which failed to document any such thing.

Could there have been some problem with Timaeus' data? Kenneth Hill is the Johns Hopkins university demographer who helped conceive the sibling-history technique. Recently, he and his team embarked on a worldwide evaluation of its performance in the field, to check on its accuracy. Last year, an article co-authored by Hill reported that the method was prone to something called, "downward bias" - meaning that people remember recent deaths pretty clearly, but those from years back tend to fade. According to the article, which appeared in Studies in Family Planning, this usually leads to a false impression of rising mortality rates as you near the present. This has happened even in counties where there was little or no AIDS. In Namibia, for instance, the sibling method detected a 156 percent rise in the fourteen years prior to 1992, when the country's HIV infection rate ranged from zero to one percent. "This lack of precision," Hill and his associate wrote, "precludes the use of these data for trend analysis."

"I disagree," said Timaeus, who believes they got their math wrong. Neither Hill or any members of his team wanted to respond on the record, but I drew one of them into a conversation on another subject.

"Do you accept the high levels of HIV infection being reported by Geneva?" I asked.

"I don't have much faith," he said. "It's essentially a modeling exercise, and the exercise has always seemed to have a political dimension."

That rung a bell. I was living in Los Angeles in 1981, when the very first cases of GRID were detected. I knew men who were stricken, and I sympathized entirely with their desperation. They wanted government action and knew there would be little as long as the disease was seen as a scourge of queers, junkies and Haitians. So they forged an alliance with powerful figures in science and the media and set forth to change perceptions, armed inter alia with potent slogans such as "AIDS is an equal-opportunity killer" and "AIDS threatens everyone." Madonna, Liz Taylor and other stars were recruited to drive home the message to the straight masses: AIDS is coming after you, too.

These warnings were backed backed up by estimates such as the one issued by the CDC in 1985, stating that 1.5 million Americans were already HIV-infected, and the disease was spreading rapidly. Dr Anthony Fauci, now head of the National Institute of Allergic and Infectious diseases, prophesied that "2 to 3 million Americans" would be HIV-positive within a decade. Newsweek's figures in a 1986 article were at least twice as high. That same year, Oprah Winfrey told the nation that "by 1990 one in five" heterosexuals would be dead of AIDS. As the hysteria intensified, challenging such certainties came to be dangerous. In 1988 New York City Health Commissioner Stephen C. Joseph reviewed the city's estimate of HIV infections, concluded that the number was inaccurate and halved it, from 400,000 to 200,000. His office was invaded by protesters, his life threatened. Demonstrators tailed him to meetings, chanting, "Resign, resign!"

In hindsight, Dr. Joseph's reduced figure of 200,000 might itself be an exaggeration, given that New York City has recorded a total of around 120,000 AIDS cases since the start of the epidemic two decades ago. In 1997, a federal health official told the Washington Post that by his calculation, the true number of HIV infections in the United States back in the mid-Eighties must have been around 450,000 - less than one-third of the figure put forth at the time by the CDC.

If the numbers could be gotten so wrong in America, what are we to make of the infinitely more dire death spells cast upon the developing world? In 1993, Laurie Garrett wrote in her book The Coming Plague that Thailand's AIDS epidemic was "moving at super-sonic speed." It has stalled at just below two percent, according to UNAIDS. In 1991 All India Institute of Medical Sciences official Vulmiri Ramalingaswami said AIDS in India "was sitting on top of a volcano," but infection levels there have yet to crest one percent. The only place where the AIDS apocalypse has materialized in its full and ghastly glory is in Geneva's computer models of the African pandemic, which show millions dead and far worse coming.

Why Africa, and Africa only? I now know a possible reason. Read on.

4.

"Crap!" An Expert Declares

In many ways, the story of AIDS in Africa is a story of the gulf between rich and poor, the privileged and the wretched. Here is one way of calibrating the abyss.

Let's say you live in America, and you committed an indiscretion with drugs and needles or unprotected sex a few years back, and now find yourself plagued by ominous maladies that won't go away. Your doctor frowns and says you should have an AIDS test. She draws a blood sample and sends it to a laboratory, where it is subjected to an exploratory ELISA (enzyme-linked immunosorbent assay) test. The ELISA cannot detect the virus itself, only the antibodies that mark its presence. If your blood contains such antibodies, the test will "light up," or change color, whereupon the lab tech will repeat the experiment. If the second ELISA lights up, too, he'll do a confirmatory test using the more sophisticated and expensive Western Blot method. And if that confirms the infection, the Centers for Disease Control recommends that the entire procedure be repeated using a new blood sample, to put the outcome beyond all doubt.

In other words, we're talking six tests in all, doubly confirmed. Such a protocol is probably foolproof, but as you draw away from the First World, health-care standards decline and people grow poorer, meaning that confirmatory tests become prohibitively expensive. In Johannesburg, for instance, a doctor in private practice will typically want three consecutive positive ELISAs before deciding that you are HIV-positive. But his counterpart in a government-sponsored testing center has to settle for two ELISA tests.

In the annual pregnancy-clinic surveys on which South Africa's terrifying AIDS statistics are based, the protocol is one ELISA only, unconfirmed by anything. In America one ELISA means almost nothing. "Persons are positive only when they are repeatedly reactive by ELISA and confirmed by Western Blot," says the CDC. The companies that manufacture ELISAs agree: The tests must be confirmed by other means. "Repeatedly reactive specimens may contain antibodies" to HIV, one firm's literature says, "Therefore additional, more specific tests must be run to verify a positive result."

In parts of Africa, however, at least for the purpose of data-gathering, such precautions are deemed unnecessary. That's partly because the World Health Organization itself actually evalutates commercial HIV tests as they come on the market. In these trials, new tests are measured against a panel of several hundred blood samples from all over the world. Some of the samples are HIV-positive, some are not. The ELISAs are tested to make sure they can tell which are which. Among the scores of brands evaluated throughout the years, a handful have proved to be useless. But those manufactured by established biotechnology corporations usually pass with flying colors, typically scoring accuracy rates close to perfect.

In South Africa, such outcomes were often cited in furious attacks on President Mbeki. "HIV tests such as the latest-generation ELISA are now more than ninety-nine percent accurate." reported the Weekly Mail and Guardian. The tests have confidence levels of 99.9 percent, said professor Malegapuru Makoba, head of the Medical Research Council. Science had spoken, and science was unanimous: The tests were fine, and Mbeki was a fool, according to the Weekly Mail, "trying to be a Boy's Own basement lab hero of AIDS science."

It was a good line. I laughed, too, but there came a moment when it ceased to be funny.

My education in the complexities of the ELISA test started when I came across an article in a scientific journal published last year. It told a story that began in 1994, when researchers ran HIV tests on 184 high-risk subjects in a South African mining camp. Twenty-one of the subjects came up positive or borderline positive on at least one ELISA. But the results were confusing: A locally manufactured test indicated seven, but different people in almost every case. A French test declared fourteen were infected.

It seemed something was confounding the tests, and the prime suspect was plasmodium falciparum, one of the parasites that causes malaria: Of the twenty-one subjects who tested positive, sixteen had had recent malaria infections and huge levels of antibody in their veins. The researchers tried an experiment: They formulated a preparation that absorbed the malaria antibodies, treated the blood samples with it, then retested them. Eighty percent of the suspected HIV infections vanished.

The researchers themselves admitted that these findings were inconclusive. Still, considering that Africa is home to an estimated ninety percent of the world's malaria cases, the implications of the report seemed intriguing. I asked Dr. Luc Noel, the WHO's blood-transfusion-safety chief, for his opinion. He insisted there was no cause for concern. Then he handed me a booklet detailing the outcome of the WHO's evaluation of commercial ELISA assays. In it, I found two of the three tests that had been used in South America - the very ones that supposedly went haywire, kits manufactured in Britain and France, respectively. One was rated By WHO as ninety-seven percent accurate, the other, ninety-eight percent.

On the other hand, I couldn't help noticing that according to the literature Noel had given me, the disease police apply at least five confirmatory tests to every blood sample before such high accuracy rates are achieved. What happens if you use just two, or one? And if your subjects are Africans whose immune systems are often, as UNAIDS head Peter Piot once phrased it, "in a chronically activated state associated with chronic viral and parasitic exposure." There may be an answer of sorts.

The Uganda Virus Research Institute is possibly Africa's greatest citadel of HIV studies. Seated on a hilltop overlooking Lake Victoria and generously funded by the British government, the UVRI employs around 200 scientists and support personnel, runs an array of advanced AIDS studies, tests experimental drugs, labors to produce an AIDS vaccine and has generated scores of scientific papers during the past decade.

In 1999, the Institute screened thousands of blood samples using ELISA tests that has achieved excellent results in a WHO evaluation. Test-driven in a lab in Antwerp, Belgium, one test scored 99.1 percent accuracy, while the other achieved a perfect 100. But in the field, in Africa, it was another story entirely. There, exactly 3,369 samples came up positive on one ELISA, but only 2,237 of those (66 percent) remained positive after confirmatory testing. In other words: a third of Ugandans who tested positive on at least one of these supposedly near-perfect ELISAs were not carrying the virus. What does this say about countries where AIDS statistics are based on a single ELISA? A high-ranking source at UVRI - one who insisted on anonymity - said that the WHO estimates for AIDS in such countries "could be as much as one-third higher than they actually are."

I took this up with Dr. Neff Walker, a senior adviser at UNAIDS, who at first seemed puzzled. "The standard WHO/UNAIDS protocol calls for two tests in countries with a higher prevalence," he said.

But according to a WHO report, "Confirmation by a second test is necessary only in settings where estimated HIV prevalence is known to be less than ten percent." This means that in countries like mine, estimates are based on one unconfirmed test.

Dr. Walker conceded that, but said it wasn't particularly important given that most African counties have what he called "quality assurance" programs in place.

"I feel," he said, "that if a government found any evidence of too many false positives in their testing, they would report it. Governments would like to find evidence of a lower prevalence, as would we all, and since they have the data to easily check your hypothesis, they would do so and report it."

But would they? High AIDS numbers are not entirely undesirable in poverty-stricken African countries. High numbers mean deepening crisis, and crisis typically generates cash. The results are now manifest: planeloads of safari scientists flying in to oversee research projects or cutting-edge interventions, and bringing with them huge inflows of foreign currency - about $1 billion a year in AIDS-related funding, and most of it destined for the countries with the highest numbers of infected citizens.

On the ground, these dollars translate into patronage for politicians and good jobs for their struggling constituents. In Uganda, an AIDS counselor earns twenty times more than a schoolteacher. In Tanzania. AIDS doctors can increase their income just by saving the hard-currency per diums they earn while attending international conferences. Here in South Africa, entrepreneurs are piling into the AIDS business at an astonishing rate, setting up consultancies, selling herbal immune boosters and vitamin supplements, devising new insurance products, distributing condoms, staging benefits, forming theater troupes that take the AIDS prevention message into schools. A friend of mine is co-producing a slew of TV documentaries about AIDS, all for foreign markets. Another friend has got his fingers crossed, since his agency is on the shortlist to land a $6 million safe-sex ad campaign.

Sometimes it seemed I was the only one in South Africa who found this odd. Dr. Ed Rybicki, a University of Cape Town microbiologist, caught sight of part of this article while it was being prepared and found it alarming. "Vast inflation of HIV figures by bad tests?" he wrote in an email. "Naaaaah. The test manufacturers have done a hell of a lot of research, which is not published because it is part of quality control, rather than part of a global cartel conspiracy to make Africans HIV-positive!" He allowed that there was "probably some truth" in stories about "various factors confusing the HIV test" but accused me of stringing them together in an irresponsible way. "Crap!" he ultimately declared. "Utter garbage."

I defer to Dr. Rybicki in matters of science, but his denunciation rested on the flawed assumption that, as he wrote to me, "In South Africa, tests are repeated, and repeat positives are confirmed by another method, meaning there is a threefold redundancy." Maybe that's how it works in universities or research labs. But when it comes to UNAIDS statistics, one test is evidently enough.

photo of activists in Africa (note ACT-UP stickers on their shirts)

5.

Can You Wait Ten Years?

And so we return to where we started, standing over a coffin under a bleak Soweto sky, making a clumsy speech about a sad and premature death. Adelaide Ntsele died of AIDS, but the word didn't appear on her death certificate. Here in Africa, those little letters stigmatize, so doctors usually put down something gentler to spare the family further pain. In Adelaide's case, they wrote TB. But her sister Elizabeth had no such need of such false consolation. She donned a red-ribbon baseball cap and appeared on national TV, telling the truth: "My sister had HIV/AIDS." As a nurse, Elizabeth had no qualms with the doctors' diagnosis, and she concurred with their decision to forgo surgery and let Adelaide die. "It was God's will," she says, and she was at peace with it. I was the one beset by all the doubts.

Did Adelaide really die of AIDS? It certainly looked that way, but she also had TB, the second-most-frightening disease in the world today, on the rise everywhere, even in rich countries, sometimes in a virulent drug-resistant form that kills half its victims, according to the CIA's recent report on infectious disease. Eight years ago, the WHO declared resurgent TB a "global emergency," but the contagion continues to spread, particularly in the cluster of southern African countries simultaneously stricken by the worst TB and HIV epidemics on the planet. It takes a blood test to establish the underlying presence of an HIV infection in people with TB, and at least one scientist who knows about these things has imputed that the tests might not be entirely reliable.

Back in 1994, Max Essex, head of the Harvard AIDS Institute, and some collegues of his observed a "very high" (sixty-three percent) rate of ELISA false positives among lepers in central Africa. Mystified, they probed deeper and pinpointed the cause: two cross-reacting antigens, one of which, lipoarabinomannan, or LAM, also occurs in the organism that causes TB. This prompted Essex and his collaborators to warn that ELISA results should be "interpreted with caution" in areas where HIV and TB were co-endemic. Indeed, they speculated that existing antibody tests "may not be sufficient for HIV diagnosis" in settings where TB and related diseases are commonplace.

Essex was not alone in warning us that antibody tests can be confused by diseases and conditions having nothing to do with HIV and AIDS. An article in the Journal of the American Medical Association in 1996 said that "false-positive results can be caused by nonspecific reactions in persons with immunologic disturbances (e.g., systemic lupus erythematosus or rheumatoid arthritis), multiple transfusions or recent influenza or rabies vaccination.... To prevent the serious consequences of a false-positive diagnosis of HIV infection, confirmation of positive ELISA results is necessary.... In practice, false-positive diagnoses can result form contaminated or mislabeled specimens, cross-reacting antibodies, failure to perform confirmatory tests.... or misunderstanding of reported results by clinicians or patients." These are not the only factors that can cause false positives. How about pregnancy? The U.S. National Institutes of Health states that multiple pregnancy can confuse HIV tests. In the past few years, similar claims have been made for measles, dengue fever, Ebola, Marburg and malaria (again).

But let's put all that science aside, for a moment. Lots of people thought it was wrong for me even to pose questions such as these, especially at a moment when rich countries, rich corporations and rich men were considering billion-dollar contributions to a Global AIDS Superfund. They were brought to this point by a ceaseless barrage of stories and images of unbearable suffering in Africa, all buttressed by Geneva's death projections. Casting doubt on those estimates was tantamount to murder, or so said Dr, Rybicki, the Cape Town microbiologist.

"AIDS is real, and is killing Africans in very large numbers," he wrote. "Presenting arguments that purport to show otherwise in the popular press is simply going to compound the damage already done by Mbeki. And a lot more people may die who may not have otherwise."

Rybicki was right. But what are the facts? After a year of looking, I still can't say for sure.

When I embarked on this story, you may recall, no massive rise in registered deaths was discernable in South Africa. A year later, I decided to return to my point of departure to see if the discrepancy persisted. I wrote to the country's Department of Home Affairs, which manages the death register, and asked for the latest numbers. In response came a set of figures somewhat different from those initially provided - the consequence, I am told of people who died without any identity documents. Here is the final analysis:

Deaths registered in 1996 - 363,238.

Deaths registered in 2000 - 457,335.

As you see, registered deaths have indeed risen - not to the extent prophesied by the United Nations, perhaps, but there is definite movement in an ominous direction. Deaths are up across the board, but concentrated in certain critical age groups: females in their twenties, and males age thirty to thirty-nine.

A team of experts commissioned by the Medical Research Council has studied this changing death pattern and found it to be "largely consistent with the pattern predicted by [ours] and other models of the AIDS epidemic." Their conclusion: AIDS has become the "biggest cause" of mortality in South Africa, responsible for forty percent of adult deaths.

And yet, and yet, and yet, even this is no the end of our tale, because another governmental body, Stats SA, has challenged these findings. The Washington Post

reported that the South African census bureau called the MRC study "badly flawed," saying "the samples were not representative, and assumptions about the probability of the transmission of the virus that causes AIDS were not necessarily accurate."

And that's my story: enigma upon enigma, riddle leading to riddle, and no reprieve from doubt. Local actuarial models say 352,000 South Africans have died from AIDS since the epidemic began. The MRC says 517,000. The figure from a group I haven't even mentioned yet, the United Nations Population Division, is double that - 1.06 million - and the unofficial WHO/UNAIDS projections are even higher. I have wasted a year of my time and thousands of Rolling Stone's editorial-budget dollars, and all I can really tell you is that my faith in science has been dented. These guys can't agree on anything.

Ordinary Africans everywhere see that the scourge is moving among them. The guide who showed me around Uganda had lost two siblings. Our driver had lost three. On the banks of the Kagera River, where the plague began, we met a sad old man who said all five of his children had died of it.

But ask these people about access to health care, and they laugh ruefully. "The coffee price is collapsing," they say. No one has money. We can't even afford transport to hospital, let alone medicine." All across rural east Africa, doctors confirmed the charge: no money, no medicine. Even mission hospitals now ask patients for money.

"What can we do?" asks Father Boniface Kaayabula, who works at a Catholic mission in rural Uganda. "We have no money, too. We must ask people to pay, and only a very few can."

So what do poor Africans do if they fall sick? They go to roadside shacks called "drug stores" and buy snake oil. Chloroquine for malaria, on a continent where that former miracle drug has lost most of its curative power; nameless black-market antibiotics for lung diseases, in a setting where up to sixty percent of pneumonia is drug-resistant; penicillin for gonorrhea, administered by an amateur "injectionist" who might be unaware that the quantity needed to knock out the infection has risen a hundredfold in the past decade. For the poorest of the poor, even such dubious nostrums are beyond reach. They try to cure themselves with herbs, they fail, and they die.

What's to be done? Dr. Joseph Sonnabend is a South Africa-born physician who was running a venereal-disease clinic in New York back in the early Eighties, when GRID first appeared. He became known throughout the world as a pioneer in AIDS treatment. When President Mbeki launched his controversial inquiry into the disease last year, Sonnabend came home to participate, an experience he likens to "entering hell."

As founder of the AIDS Medical Foundation, which became the American AIDS Research Foundation, or AmFAR, Sonnabend has no patience with those dissidents who dispute the syndrome's existence or HIV's power to cause it. But he also believes there are "opportunists" and "phonies" whose chief skill is "manipulation of fear for advancement in terms of money and power." In fact, he quit AmFAR, his own group, because he felt it was exaggerating the threat of a heterosexual epidemic. A decade later, he's still fighting the lonely battle for wise policies, especially in Africa.

In Pretoria, he says, one faction argued for the bulk of available funds to be committed to the purchase of AIDS drugs. But merely dumping AIDS drugs into

resource-poor countries is pointless, Sonnabend argued, although he does believe there are limited situations where they could be safely and effectively used. The prevention of mother-to-child transmission is one; another is in people with advanced disease where facilities to adequately monitor the use of drugs are in place. Unfortunately, the cost of establishing an infrastructure to do this on a large scale would be enormous, and without this hardly anyone would benefit, save drug manufacturers.

The answer, he feels, is to eliminate conditions that render Africans vulnerable to HIV in the first place. A year down the line, Sonnabend is still trying to organize an international conference to discuss the disposition of the money lodged in the Global AIDS Superfund. The way he sees it, $1 billion a year would be enough to transform the lives of ordinary Africans and curb the AIDS epidemic, but only if it's not squandered on unsustainable "drugs into people" programs.

"There's a place for AIDS drugs and prevention campaigns," he says, "but it's not the only answer. We need to roll out clean water and proper sanitation. Do something about nutrition. Put in some basic health infrastructure. Develop effective drugs for malaria and TB and get them to everyone who needs them."

On the other hand, we have researchers like the ones from Harvard University who insist that biomedical intervention is morally inescapable. "We can raise people from their deathbeds," said professor Bruce Walker. They calculated that it should be possible to provide Africans with AIDS drugs for as little as $1,100 a year.

Granted, says Sonnabend, but this makes little sense if that one lucky person's neighbors are dying for lack of medicines that cost a few cents.

So who's right? Depends on the numbers, I guess. In the end, I attempted to bring all my unanswered questions on that topic to the man who was there when the epidemic first hit this continent, Dr. Peter Piot, who has today risen to the role of chief of UNAIDS.

But my call to him was directed instead to UNAIDS' chief epidemiologist, a physician named Dr. Bernhard Schwartlander.

The UNAIDS computer model of Africa's epidemic is in fact completely dependable, Dr. Schwartlander says because it relies on a "very simple formula. You take the pregnancy-clinic numbers. You take the median survival time - around nine years in Africa. You say this is roughly the distribution curve. Calculation of deaths is completely plausible if - and this is important - you have a good idea of the prevalence of HIV and how it spreads over time."

Why then, I asked, do we have so many different estimates of AIDS deaths in South Africa?

"I'm not shocked," he said. "The models may completely disagree at a particular point in time, but in the end the curves look incredibly similar. They're goddamn consistent."

If that's true, I said, then why would we have 457,000 registered deaths here last year when the UN says 400,000 of them died of AIDS? One of those numbers must be wrong.

"You say there are 457,000 registered deaths in South Africa?" Schwartlander said, momentarily nonplussed. "This is an estimate based on projections."

No, said I, it's the actual number of registered deaths last year.

"We don't really know," he replied. "Things are moving very fast. What is the total number of people who actually die? For all we know, it could be much higher. HIV has never existed in mankind before, and there's no anchor point set in stone." The UNAIDS numbers are, after all, only estimates. We are not saying this is the number. We are saying this is our best estimate. Ten years from now, we won't have these problems. Ten years from now, we'll know everything."

Ten years! Had I known, I could have saved myself a lot of grief. For even as I tried to track down the old numbers, bigger new ones were supplanting them - 17 million Africans dead of AIDS and 25 million more with HIV, UNAIDS now estimates; not one in five South African adults infected but one in four. Are these numbers right? Who knows. Feel free to publish this, Jann, but if it drives you as mad as it has driven me, I'll understand.

Yours,

Malan

Reply to Rolling Stone: letters@rollingstone.com

Rian Malan is the author of "My Traitor's Heart: A South African Exile Returns to Face His Country, His Tribe and His Conscience."
See also this fabulous website that contains Rian Malan's article about Adelaide Ntsele's father, Solomon Linda: "In The Jungle --- it is one of the great musical mysteries of all time: How American music legends made millions off the work of a Zulu tribesman who died a pauper. After six decades, the truth is finally told." Mbube (aka - The Lion Sleeps Tonight / Whimaway / In the Jungle, etc.)