

## POLIO PARTICLES 17

Mary Westbrook

### **New slant on Salk**

The world premiere of *Undoing Salk*, a play by Robert Benedetti, took place in Pittsburgh in February on the 50<sup>th</sup> anniversary of the Salk vaccine's trials on 2 million American children. In an interview in *Art and Entertainment* (4/2/04) Benedetti explains that not everyone loved Salk. The play *examines both sides of Salk's controversial personality and the behind-the-scenes conspiracy within the medical community to squash the vaccine before it was released*. Salk was the son of Russian-Jewish migrants, the first person in his family to attend college. As a medical researcher he, with his staff at Pittsburgh Medical School, devoted 8 years to developing a polio vaccine. Unlike other scientists, who were experimenting with vaccines using live virus, Salk used killed viruses. Many who worked with Salk *came to resent what they perceived as his arrogance, professional distance, quickness to place blame, reluctance to share credit and tendency to disregard established medical practices*. Salk refused to patent the vaccine. *'On one level this is like the Galileo story,' says Benedetti. 'The science which Salk based his research on was viewed as heretical and he was viewed as a heretic by the American Medical Association and the Eisenhower administration, which saw [the lack of patenting] as socialized medicine'*. The playwright says his play uncovers the undoing of Salk by a conspiracy between the profit seeking drug companies, the AMA, the government, jealous fellow scientists and Salk's own hubris. Salk never received a Nobel Prize. After several years of interviewing people who knew Salk, Benedetti describes him as *a flawed man with big dreams who continues to be hated by some and adored by others*. The Salk vaccine was used for 6 years before being largely replaced by Sabin's live vaccine. Western countries are now returning to the Salk vaccine as the safer option.

### **'Polio spreads like wildfire in West Africa'**

We had hoped that as the WHO campaign to eradicate polio nears its end we would never again see such headlines. It appeared in the Johannesburg *Mail and Guardian* on March 6<sup>th</sup> 2004. On April 16<sup>th</sup> a headline in the British newspaper *The Guardian* announced, *'Polio strikes in Botswana as virus races across Africa'*. Since late 2003 newspapers have carried numerous stories about this deepening polio crisis. Since 1988 the number of countries in which polio is endemic had been reduced from 125 to 6 (Nigeria and Niger in West Africa, Egypt, Afghanistan, India and Pakistan). WHO hoped its campaign to vaccinate 63 million children in West Africa this year would be the final push to eliminate polio in West Africa. However Muslim clerics in some Nigerian states banned the vaccine on the grounds that it was a US plot to spread AIDS and make African girls infertile. By March all Nigerian states except Kano, where the outbreak originated, had agreed to permit the resumption of vaccination programs. However by then polio has spread to parts of Nigeria that were previously polio-free and to nine neighbouring, formerly polio-free countries. The Botswana case was the first case in Southern Africa since 1997. Laboratory tests

showed that the virus in the Botswana case matched the Nigerian virus although no one in the area where the child lived had had recent contact with Nigerians. The *Boston Globe* (14/4/04) quoted Jean-Marie Okwo-Bele, senior advisor on immunisation activities at UNICEF as saying: *This shows unless the virus is eradicated everywhere, no one is protected anywhere. As long as we have a couple of pockets of transmission, we are not safe at all.* The *Globe* reported that in contrast to Nigeria the 2004 immunisation programs in the five other countries where polio is endemic are going better than expected.

### **Polio slang**

The word *polio* originated as a slang term for poliomyelitis. In an article in the Sydney Morning Herald (9/1/04) Bruce Elder regretted that *our dinkum Aussie vernacular is dying out.* He blames historical factors for the loss of expressions such as 'Wouldn't work in an iron lung', which means extremely lazy. He says it disappeared when *more modern medical equipment replaced the cure-all for polio.* If only it had been a cure-all! I've read the description, 'Empty as a swimming pool during a polio scare' in an American novel. The phrase 'scotch polio' is American slang for a hangover due to drinking too much whisky. Anyone know of other polio related slang?

### **Need for polio eradication exit plan**

The prestigious scientific journal *Nature* in its *Science Update* 27/12/03 reported research by Vadim Agol and his team at Moscow State University. They tested samples (kept from the years 1963-66 when polio vaccination was halted in a region of Russia) to examine the genetic composition of polio virus circulating in the community at that time. They found nine new, rapidly mutating, strains of polio that had descended from the live virus in the Sabin oral vaccine (OPV) which had been used in the region prior to the halt. Agol says that the 37% of unvaccinated children in the region had probably been exposed to these strains. *The findings suggest that, if countries stop using OPV, mutant virus might spread into the unprotected population from neighbouring regions, warns Agol. Deploying stockpiles of OPV to combat these infections might unleash even more potentially harmful virus. 'It's like using petrol to fight a fire'.* WHO is devising guidelines for countries on how to best wind up use of oral vaccine once global eradication is complete. WHO sees Agol's paper as another warning that countries *can't just go cold turkey.* Helen Pearson, author of the *Nature* report, says that *Public-health officials woke up to the danger posed by the live vaccine in 2000. An outbreak in the Dominican Republic and Haiti was traced back to the vaccine, followed by similar incidents in the Philippines, Egypt and Madagascar. Other studies suggest that, if a population's immunity is boosted regularly, the risk from stopping the vaccine is low. In Cuba, for example, where doctors do mass vaccinations twice a year, the live virus dies out within three months because so few children are susceptible. Continuing such 'pulse' vaccinations is one option for countries after worldwide eradication. But researchers fear diligence will dwindle once countries see the risk as small. A second option, already taken up by many countries, is to give children a jab containing dead poliovirus [Salk vaccine]. But this inactive vaccine is expensive and may not be 100% effective at stopping transition of virus in faecal matter—both problems for*

*developing countries.* Working out the most appropriate plan is a top priority at WHO.

### **Polio, every mother's fear**

From February to September 2004 the Provincial Museum of Alberta, Canada, is staging an exhibition *Every Mother's Fear: Alberta's Polio Experience*. You can visit it at [www.pma.edmonton.ca](http://www.pma.edmonton.ca). Fifty years ago 37,000 of Alberta's children participated in the field trials of the Salk vaccine, one of the largest medical experiments ever. The news release on the exhibition says: *Few diseases have inspired the same sort of fear as polio...Our cultural understanding of polio is largely defined by that fear, remembered so well by people who can recall the panic aroused by a stiff neck or a slight flu during polio season.* The curator of the exhibition, Matthew Wangler, hopes the exhibition will inform young people many of whom have no idea what polio is. Wangler says: *For me polio reveals the paradoxical essence of human beings; their bodily frailty and their spiritual and psychological strength. This research has made me aware of the great gifts that crisis and tragedy can bear—how human suffering can call forth the most remarkable resourcefulness, courage, intellect and compassion. The exhibition focuses on polio survivors and those who care for them, but it can also illuminate our own lives in profound ways...the perceived chasm that lies between the able-bodied and disabled is rooted in the fear that we all share the same bodily fragility. Once you recognise that fear—and the psychological distance it fosters—you can see polio survivors as the complex, wonderful people they are. And in so doing, we can come to a much deeper understanding of our lives and ourselves.*

### **Putting officials in wheelchairs**

Disability simulations are not in favour these days as they often result in more fear of disability than enlightenment among those taking part. However a simulation for City Council members and top administrators in Fresno, USA, had *astounding* results according to a report in the online disability journal, *Ragged Edge* (12/03). Each of the 15 officials was provided with a wheelchair, paired with a real wheelchair user and a non-wheelchair using volunteer, and instructed to spend 90 minutes in downtown Fresno. Among the results were: *A City Council member almost fell out of his chair while going down an improperly constructed red sidewalk ramp. After going through mud-lined streets he needed lots of Handi Wipes to get himself clean! The head of the Fresno transportation system was never picked up at the bus stop where he waited for more than 40 minutes. Rolling down one curb, he almost got immobilized when caught between the down curb and uplifted asphalt in the street. He is now arranging for all of his top administrative personnel to go through a similar exercise.* Another astounded official was asked by an irate attorney to leave an office building as her wheelchair was interfering with a postman's ability to deliver the mail. At the debriefing luncheon, this incident opened the way for discussion of attitudinal as well as physical barriers. The organisers think that the officials' new awareness of the importance of curb cuts will speed up their provision.

## **Wheeling comfortably in the Third World**

American Ralf Hotchkiss was paralysed in a motorcycle crash in 1966. He left hospital in a wheelchair and half a block later hit a crack in the footpath. This destroyed the front wheel beyond repair. This incident led to a hobby in wheelchair design and ultimately a career developing and supplying wheelchairs for the Third World. In an interview in *New Scientist* (20/2/04) Hotchkiss said that many westerners are still distributing wheelchairs like his first one *to the unpaved developing world and expecting them to stand up. They are unstable, unsafe and heavy when used there...they cannot be repaired with local materials.* Hotchkiss could find few innovative wheelchair designers in the west as small manufacturers were squashed by the monopoly then in place. He was inspired by the innovations of Nicaraguan teenagers who had built a wheelchair. Hotchkiss now produces a wheelchair from the cheapest steel tubing that is used for restaurant chairs and can be easily repaired by the local blacksmith. His chairs always fold, essential if you are taking a bus in Africa or South-east Asia. Chairs have a larger wheelbase so they can go down a much steeper slope without tipping over (this is the main cause of injury among wheelchair users). He has produced a special model for Russia. Most lifts in Russia are 59cm. wide while their wheelchairs are 66cm wide. Hotchkiss designed a chair that can be temporarily squeezed by pulling the lever on a horizontal folding parallelogram frame under the seat. Many people in Africa wash with a bucket and cup (which wets the wheelchair cushion) and use pit latrines. *One of the women in Kenya came up with the idea of a 'jump seat'- a second, lower seat between the footrests and the main seat. A user can hop down to wash, play with the kids or cook breakfast on the little floor stove and then pop right back up again without much of a struggle.* The jumpseat has a trapdoor fitted which can be opening when you park over the latrine. One of the Nicaraguan teenagers became Hotchkiss's best mechanic and now works on capsule design at NASA. When asked whether the rights of disabled people in developing countries, Hotchkiss said: *The attitude is different...There is less reticence in asking for help and more willingness to offer it without being embarrassed. Also people don't pretend not to see you. The disability rights movement has erupted spontaneously all over the world. In Uganda, for example, the constitution now recognises people with disabilities as a sector of the population that deserves representation in government, along with women, racial and religious groups. ...some 40,000 disabled Ugandans are in elected positions ranging from the smallest village council to cabinet level.*

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