

Microbes to Macrobes
The Story of Frank Fenner,
South Australian Film Corporation, 2011, 60'

This documentary successfully reaches several audiences: those interested in Fenner's life and career, those wanting to understand his contribution to science, and those wanting to learn how science works. The film's success lies in the way it balances human interest with explanation of key scientific principles of virology. This ambitious task is achieved by a range of techniques: enactment of actors as his mum and dad to contemporize Frank's early life, oral history including Fenner himself, his surviving daughter Marilyn and eminent colleagues speaking directly to the camera, as well as explanation of scientific principles through the use of light hearted animation.

This multi-pronged technique makes the film more than a life story: it succeeds in encouraging young viewers to consider pursuing science as a worthwhile and rewarding career. The documentary tells why science is anything but boring:-

"Some say science is cold and dull. But we know better. Science does not dim the light of love in your eye, it enhances it"

Frank Fenner, in a letter to his wife Bobby
(a nurse who worked with him on Malaria in Queensland and
Papua New Guinea)

Using archival material and contemporaries of Frank Fenner, family members and scientific colleagues tell of his personal life and stupendous scientific breakthroughs across three significant fields: Ectromelia (Smallpox of mice), Myxomatosis and the successful global eradication of Smallpox in 1980.

Launched in the same year as this film, the Australian Curriculum in Science has three content descriptions: Science as Understanding, Science as a Human Endeavour, and Science Inquiry Skills. This film could well have been scripted to all three themes, because it succeeds in showing how Frank Fenner went about his work and life, and how he was motivated to improve the human and environmental conditions by which we live.

The film therefore has historical, contemporary and curriculum relevance. For these reasons it has high educative merit, and should be considered by science teachers in Australia today as a key resource to encourage young minds to accept similar but new challenges and follow paths of inquiry to improve the many virological and environmental challenges we continue to face today. The challenges may be different, but the methods by which we can combat them are no different now as then. They involve 1% inspiration, and 99 % perspiration.

The documentary's richness lies in the detail of the many distinguished scientists that are shown who worked with Frank Fenner: Rene Dubois ("Think globally, act locally"), Nobel Laureate Sir Frank McFarlane Burnett and Nobel

Laureate Howard Florey (who discovered Penicillin). Nobel Laureate Peter Doherty also pays tribute to the legacy of these eminent Australian scientists in the way his work was influenced and enabled by their achievements.

The use of animated cartoons that begin, end and intersperse the hour long narrative break what would otherwise be a mere retelling by inserting a lively enactment of combatants in the war of virology: rabbits start the film by declaring Fenner a public enemy because he introduced the myxomatosis virus which effectively increased the mortality rate of affected rabbits to 99% of their population. This graphic re-enactment enables high school students to easily grasp the significance of Fenner's work. This contrast is assuaged at the film's end when the rabbits reluctantly admit that their population had been out of control, and that Fenner's work had, in fact, been a blessing in disguise.

*Putting unexpected things together and seeing them anew,
that is discovery, that is science!*

Charles Fenner, Frank Fenner's father. They were both awarded the Syme Award for Scientific Research, the only father and son team to have done so.

The scope of this film chronicles a significant chapter in post war scientific breakthroughs by several Australian scientists. Had it done so by the exclusive use of archival historical material, it would not have been as successful in conveying this key message. The film had the courage to identify Fenner's work by illustrating his several challenges, and his many breakthroughs. He connected dots in ways they had never been connected before. That is what constitutes progress.

By interviewing Fenner and his family members, the human touch their voices add to his work, and not last, by championing the merit of science in our lives, this film reaches out to viewers today in several ways. Its message is simple: science is a worthy and rewarding scientific endeavour, because it improves the human and environmental condition.

Dr Michael Kindler
Principal, Stromlo High School
20 July, 2013