## Probing the pill pushers

The seemingly universal acceptance of the health benefits of vitamins is questioned by an Aussie filmmaker.

By GRAEME BLUNDELL

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ilmmaker Sonya Pemberton, one of Australia's leading factual TV producers who specialises in beguiling, innovative science documentaries, returns with a new film, *Vitamania*, which looks at the long-running controversy about vitamin supplements and whether they do indeed fill nutritional gaps, improve general health, help prevent chronic disease and are worth the few cents a day they cost.

The film is from her Melbourne-based award-winning company Genepool, which has produced highly acclaimed science documentaries that include *Catching Cancer*, the Emmy-winning *Decoding Immortality*, *Jabbed: Love, Fear and Vaccines* and, most recently, *Uranium: Twisting the Dragon's Tail*. In *Vitamania*, this accomplished filmmaker subtly straddles the categories of art and journalism, entertainment and knowledge in a centuries-old story of claim and counter-claim.

Pemberton once more teams up with Australian-born, Canadian-raised science presenter Derek Muller, creator of the hit YouTube channel Veritasium — which, rather spectacularly, has more than five million subscribers and notched up half a billion views. Muller also hosted Pemberton's *Uranium*.

The new feature emerged from *Jabbed*, her feature-length special on immunisation, during which she says she met many people who identified as being vaccine-hesitant, seeing little benefit and significant risk, so they refused or delayed vaccinating their kids. "These same people often said they 'took vitamins' and sometimes gave them to their children because, despite not knowing what vitamins were, where they came from, how they were made and regulated, they perceived significant benefit and no risk," she says.

"I was struck by the fact they rejected the heavily researched and demonstrably lifesaving science behind vaccines, and yet accepted the highly debated and often dubious marketing that promotes vitamin pills and other dietary supplements."

So began a three-year "dive" into the world of vitamins and other dietary supplements as she investigated just why the perception of risk versus benefit was so skewed.

"The perception of risk versus benefit was back-to-front — at least according to the vast majority of scientific evidence," she says. "I wanted to know, why do millions of people trust that vitamins are doing them some good? Why is there this 'health halo' around them, where did it come from? And how did a group of 13 chemical compounds launch a global industry worth over \$100 billion a year?"

For Muller, the *Vitamania* journey started "as a story about molecules, pills, hype in place of evidence, lack of critical thought, lack of need for more of these things — a story of unwary consumers duped by the sheen of science, the halo around a word". What he uncovers challenges those on both sides of the question of vitamins: those who continue to consider the vitamin a benefit to human health, and others to whom these small coloured pills are little more than a fraud perpetrated on a gullible public.

He calmly and rationally addresses each argument he encounters on what really is an epic quest, his breezy and empathetic style not about exposing or confronting, more about demystifying the science surrounding the vitamin industry, which continues to thrive as consumers seek to become healthier by making up for undetected deficiencies, or even believing that if a little is good then a lot must be better.

As he did in *Uranium: Twisting the Dragon's Tail*, Muller succinctly explains complex notions, telling us a prodigious amount through the sparest of means, at every moment exhibiting a physicist's understanding of science combined with a historian's passion for telling detail. This time he finds himself in even more situations where he needs to explain some complex science: he does this through short, tight grabs where he illustrates, demonstrates — he even tries shearing at one point, describes, and situates himself in all sorts of environments, often with the appropriate gear, to reveal the meaning behind the ideas he discusses.

Pemberton's script immerses him in the life and times of the subject as he investigates how vitamins were discovered (the word vitamine first appeared in print in 1912 in an article by Polish-born biochemist Casimir Funk), what they actually are, how we learned to build them and how safe they really are. He never seems to stop moving, yet he and his subjects are beautifully filmed by director of photography Harry Panagiotidis, who somehow manages to keep pace.

Muller travels inside the Arctic Circle in Norway, the coldest place on earth, where the smell of fish blankets entire villages, to eat rotten fish and trace the game-changing story of cod-liver oil, the hottest vitamin on the planet. In the US, he attends an immense "natural health" trade show, regaled by industry retail buyers, spruikers and exhibitors, and diverted by the hype and hysteria that drives the multibillion-dollar global trade. And in Melbourne he discovers that the quantity of each vitamin the human body needs daily to survive is tiny — in some cases, barely visible to the naked eye.

What are the real benefits, he asks, of a collection of molecules, equally beloved by medicos and marketers, that are required by the body in tiny amounts for a variety of essential processes? Why, if they are perceived to be, and marketed as, risk-free, are there complications and side-effects and bad products? Is the scientific testing before they go on sale rigorous enough? Why is it non-existent in some cases?

Again in her latest film what Pemberton calls "a massive amount of science" underpins her cleverly structured narrative, but never intrudes upon or dislodges the central story's momentum. (Five researchers, four associate producers and three scientific fact-checkers were employed over three years to ensure accuracy and scientific rigour.) She once told me that she sees

herself not as having any special claim on truth, but as a kind of translator, digging into seemingly impenetrable ideas and research to explain and articulate their complexity in a way that can easily be understood.

She prefaces her production notes with a telling quote from TS Eliot: "We shall not cease from exploration /And the end of all our exploring / Will be to arrive where we started /And know the place for the first time."

Pemberton makes films of civic inquiry and argument, though borrowing cleverly from what critic John Corner calls "the documentary of diversion", using a range of entertaining techniques to find and hold her audience. She attempts to translate the complexities of social problems, viewed and researched from a scientific point of view, into readily understandable stories that viewers can contemplate and maybe act upon.

In *Vitamania* she uses quirky graphics and animations that constantly, mischievously at times, invade the screen while Muller is talking, filling in gaps in the science, simplifying complicated information, animating between scenes and sometimes creating a beguiling stereoscopic effect. The original music from Rafael May highlights the quirkiness of the presentation and there is even a kind of strolling musical player, Casey Bennetto, who appears throughout the film, a droll troubadour providing songs that illustrate aspects of Muller's investigations, with the presenter joining him on occasion to add the odd harmony. It's very diverting.

Pemberton appreciates that the mere gathering of material isn't enough for resonant storytelling. "You can have an orchard and you can fill your apron with apples but that doesn't mean you've just made an apple pie," the great documentarian Ken Burns says. "You need the recipe, and that takes a little bit more time and attention and diligence and selection and editing and years of practise to make sure that pie is super delicious."

Pemberton's scientific storylines cleverly intervene in social politics, not only delivering information about her chosen subjects but humanising the debate, making the arguments accessible to a wide and diverse audience.

In her own way, she and her collaborators are trying to reclaim the territory of trust at a time when scientific denialism is still rife and when that territory has been shrinking.

This complex, dense, ultimately benignly enlightening and always fun to watch documentary is what truth-seeking looks like: a group of filmmakers pursuing ideas with curiosity, openness and discipline.

Vitamania, Sunday, SBS, 8.30pm.

**Graeme Blundell** Actor, director, producer and writer, Graeme Blundell has been associated with many pivotal moments in Australian theatre, film and television. He has directed over 100 plays, acted in about the same number, and appeared in more than 40 films and hundreds of hours of television. He is also a prolific reporter, and is the national television critic for The Australian. Graeme presents movies on Foxtel's Fox Classics, and presents film review show Screen on Foxtel's arts channel with Margaret Pomeranz.

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Vita mania is a fascinating book by Catherine Price so I thought the name would be copyright? Live Longest Newtrition also covers this territory. Looking forward to this program.