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AWORD

time to be an Australian. I suspect that our PM and I would disagree on the reasons for this statement but hear me out. Yes, our political debate had become increasingly parlous over the last 20 years; yes, trust and faith in government have never been lower; yes, the overarching economic trend from the top-down continues to be tax-and-service-cuts-to-benefit-the-rich...

xcuse me for a moment, I'd like to co-opt a recent Turnbull-ism: It's an exciting

But I'd like to inject a touch of optimism. Around the country the din of protest and genuine debate can be heard. It seems that no topic is publicly broached without the lens of inequality being considered; community and industry-pressure continue to frustrate antiquated energy policy; even some of our political parties are sticking their heads above the parapet to oppose changes that are not future-proof.

We may still have an entrenched political culture that rewards inaction in favour of cheap politicking, but there is a feeling that with enough people-power we can be an active check on the government, and drag them kicking and screaming onto the right side of history. Hopefully this is a tipping-point we can look forward to.

Part of my reasoning for this is that our last edition on Post-Capitalism was the most popular AQ in recent memory! So I'd like to thank and welcome our new subscribers. To celebrate this (and the appetite for debate on alternative futures) I'll make the full Post-Capitalism edition available for free on the AQ website for anyone that hasn't seen it yet. Feel free to share it with your friends.

In this new edition we look beyond the horizon: what does the new Australian Space Agency mean for the country; we chat with a Nobel laureate on how redefining business could save the world; and how we can change the law to enable patients to benefit from the growing evidence base supporting medical marijuana.

We also take stock of where we've come from, with an interrogation of the 'Compact City' principles that have been an invisible hand shaping the places in which we live.

All this and more in the new AQ! Join the conversation on Facebook and Twitter.

Grant Mills

Editor-at-large

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EDITOR:

Grant Mills

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Stephen Burke

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ENQUIRIES TO:

Stephen Burke, General Manager, AIPS.

PO Box M145,

Missenden Road NSW 2050 Australia Phone: +61 (02) 9036 9995 +61 (02) 9036 9960 Fax:

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On a cold April morning, six years ago, Victor Caprio stood at the summit of Mount Warning, northern NSW, throwing his father's ashes over the rails. Rumoured to be the first location on mainland Australia to see the earliest rays of sunrise, Caprio had carefully chosen this spot as his father's final resting place.

ARTICLE BY: SUVI MAHONEN

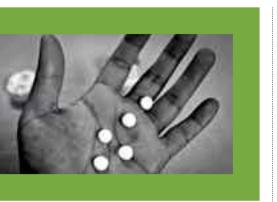
ith shards of light spreading out over the dark green vista of trees below, Caprio reached into the urn and took out a handful of ash. He leaned over and opened his fingers, eyes welling, as the ashes blew away in the strong westerly wind.

"My dad was in excruciating back pain and all he wanted was some relief," Caprio, 34, told me. "But when he asked his doctors for some medicinal cannabis to help with the pain, the doctors wouldn't prescribe it. The doctors were like, 'Have some opioids instead."

Caprio's father was living in Canada when the forklift he was operating flipped over, causing a back injury that prevented him from returning to work.

"It was a downward spiral after that,"

IMAGE: © James St. John-Flickr



Caprio, who was only 13 at the time, said. "He suffered terrible mood swings and had constant headaches and all he wanted to do was sit on the couch."

Seeing how the increasingly large dosage of opioids that doctors were prescribing was adversely affecting him, one of Caprio's father's friends gave him some marijuana to try. "It really helped," Caprio said. "He liked the fact it was a natural organic plant and, more importantly, he didn't have to take as many painkillers."

Caprio migrated from Canada to Australia nine years ago. When his father died suddenly at the age of 50, from a massive heart attack, Caprio had not seen him for over three years.

"There is no doubt in my mind that the opioids contributed to his death," Caprio said. "My father was stressed out, depressed, and taking too many prescription medications."

Cruel catch 22

Since 1989 it has technically been possible in Australia to import and prescribe medicinal cannabis for individual patients; however, in practice this has been extremely rare, partly due to the Orwellian twist that all

Since 1989 it has technically been possible in Australia to import and prescribe medicinal cannabis for individual patients; however, in practice this has been extremely rare.

forms of marijuana were classified as Schedule 9 (Prohibited Substance) by the Therapeutic Goods Administration

It wasn't until 2008 that the first application to prescribe medicinal marijuana was approved in Australia, and over the proceeding eight years only three applications on average were approved nationwide per annum.

Things changed in February 2016 when the Federal Government, with bipartisan support, made amendments to the Narcotics Drug Act of 1967 allowing the Department of Health to regulate the cultivation of cannabis for medicinal and scientific use. The following month the Therapeutic Goods Order No. 93 came into effect – setting out the standards for medicinal mariiuana and, in November 2016, the TGA down-scheduled medicinal cannabis products from Schedule 9 to Schedule 8 (Controlled Drug).

These cumulative changes meant that, for the very first time, a legalised medicinal cannabis industry could be established in Australia.

By this stage, Caprio had built a successful career as a real estate agent in Surfers Paradise, Queensland. Nonetheless, recognising an opportunity, he guit his job, pooled his savings, and founded PharmaCann, a biotech company whose aim is to produce and provide natural botanical cannabinoids for pain relief.

Despite his early optimism, months of hard work and large financial outlay. Caprio's company has only recently cleared all the bureaucratic hurdles necessary to import and dispense medicinal cannabis, and his storage safe, which is housed in a secure warehouse under 24-hour surveillance, remains empty.

"It's been an extremely frustrating experience," Caprio says.

His company was not the only one being established. Others taking advantage of Australia's emerging medicinal cannabis industry include AusCann, MGC Pharmaceuticals, Creso Pharma and the Cann Group, which harvested its first crop of medicinal cannabis in August 2017.

"We believe the evidence shows that medicinal cannabis has a role to play in pain management and we are pleased to be part of this effort." Cann Group CEO Peter Crock told me.

The pain burden

According to Pain Australia, pain is the number one reason people seek medical help.1 There are three main categories of pain: acute pain, such as following surgery or an injury; cancer pain; and chronic pain, which is defined as pain lasting for longer than six months.

An estimated 29 per cent of Australians suffer from chronic pain²,

IMAGE: © Guian Bolisav-Flickr

a condition that many doctors find particularly difficult to manage. A widely used mainstay of treatment involves the prescription of opioids, which act on the central nervous system to reduce pain impulses reaching the brain; however, these drugs can cause a number of side-effects including drowsiness, constipation, nausea, respiratory depression, mood changes and physical dependence. Sometimes these side-effects can have deadly consequences.

Figures from the Australian Bureau of Statistics show that opioids have been the leading cause of all drug-induced deaths in Australia, including those caused by alcohol, for the past 17 years.3 In 2016 nearly three-quarters of druginduced deaths involved the usage of opioids. And nearly three-quarters of these deaths involved prescription opioids such as Endone, OxyContin and MSContin.

"There's been a huge increase in the use of opioids in Australia over the last decade," Pain Australia CEO Carol Bennett told me. "Dependence and side-effects can have a devastating impact on people's lives. One of the reasons opioids are overprescribed is that there aren't a lot of alternatives in Australia."

In recognition of the dangers posed by opioids, the TGA recently made changes to the dispensing of all medications that contain the opioid codeine. As of the 1st of February 2018 codeinecontaining medications that were previously available over the counter, such as Nurofen Plus and Panadeine, are now only available by prescription in an attempt to reduce opioid addiction and overdose.

In comparison, the number of recorded people worldwide who have ever died of a marijuana overdose is zero.4

Understanding the evidence

A clinical review of medicinal marijuana published in the Journal of the American Medical Association found that 'Use of marijuana for chronic pain ... is supported by high quality evidence'5, and a recent report by the United States National Academies of Sciences, Engineering and Medicine stated that: 'There is conclusive or substantial evidence that cannabis or cannabinoids are effective for the treatment of chronic pain in adults'6. In addition, research in the United States shows that the availability of medicinal cannabis can potentially reduce opioid overdose mortality rates.7

Despite this, the use of medicinal cannabis, especially for chronic pain. remains a contentious issue within the medical community. "There are those that feel medicinal cannabis is worse than the tobacco industry 50 years ago, and those who believe this is eventually



According to Pain Australia, pain is the number one reason people seek medical help.



going to be a science-led advancement of a molecule with clear physiological properties," says anaesthetist and Director of Pain Services at Toronto General Hospital in Canada, Assistant Professor Hance Clarke.

Clarke believes medicinal cannabis can help with a number of conditions, including epilepsy, chronic pain, posttraumatic stress disorder and anxiety.

"For chronic inflammatory diseases such as psoriatic arthritis, medicinal cannabis has been an excellent choice over an opioid, without the dependence issues," he says, "There is already data suggesting that patients are preferring to substitute prescription opioids with medicinal cannabis".

However, even with the recent legislative changes, the option of substituting prescription opioids with medicinal cannabis remains limited in Australia, with only 546 approvals in total to use medicinal cannabis being granted as of April 2018. The TGA's Special Access Scheme Category B continues to be the main point of access. To obtain approval, the prescribing doctor has to submit a detailed report for each patient outlining the condition being treated, previous medications used, why the practitioner believes the currently available medications are inadequate for the patient, and the proposed dose, strength and route of administration of the medicinal cannabis being

applied for.

Alternatively, some specialists can apply to become Authorised Prescribers of medicinal cannabis for certain groups of patients. Approval from an appropriate Human Research Ethics Committee or Specialist College must be obtained, and to date, of the 31 medical practitioners that have been granted authority to prescribe medicinal cannabis, only one has been a pain specialist.

And that is before the individual state and territory barriers come into play, with each jurisdiction having their own individual requirements for approval.

In Queensland for example, an

application for an individual patient must be made to Oueensland Health by a specialist or, if by a GP, with a specialist's written support. The applying medical practitioner must have participated in formal education on medicinal marijuana prescribing; they

must have counselled and obtained the patient's written consent about the potential risks and conditions of using medicinal cannabis, including the inability to drive or operate heavy machinery; they must give details on

the condition being treated, present therapies being tried, and past therapies tried; they must give evidence for why they believe medicinal cannabis would be of benefit to the patient, and plans for ongoing monitoring; they must also provide details on the proposed medicinal cannabis to be prescribed including the THC concentration, cannabinoid concentration, composition and route of administration. Approval, if given, is valid for only 12 months and the doctor is expected to review the patient at least once every three months

Many doctors who work with chronic pain patients find these regulations

> cumbersome and excessive. Gold Coastbased general practitioner Dr Mark Jeffery has many chronic pain patients whom he is trying to wean off opioids and believes that Australia has an overly demanding process for prescribing.

"A lot of the government regulations just make no

sense," Jeffery told me when I visited his practice. "For example cannabidiol oil, which has been shown to help with pain, nausea and anxiety, contains no THC which means it has no psychoactive effects, and it has been proven



Of the 31 medical practitioners that have been granted authority to prescribe medicinal cannabis, only one has been a pain specialist.

Cannabidiol oil, which has been shown to help with pain, nausea and anxiety, contains no THC which means it has no psychoactive effects, and it has been proven to be safe even in very high dosages.

to be safe even in very high dosages. This is why the TGA classifies it as a Schedule 4 drug, the same as any standard prescription medication such as antibiotics.

"Despite this I still have to fill out reams of paperwork to obtain both Special Access Scheme and Queensland Health approval in order to prescribe it.

"It's no wonder that most doctors will just prescribe Panadeine Forte or Lyrica instead, which only require standard or streamlined authority scripts, even though they are drugs that are both addictive and more dangerous," he said.

The ethical dilemma

Recently there has been a streamlining of the application process to prescribe medicinal cannabis for doctors in NSW, a move that the College of General Practitioners has welcomed.

"For too long there has been too much political interference in patient access to medicinal cannabis," college president Dr Bastian Seidel told newsGP in March this year.8 "If I have a patient who has tried all standard treatment options without success, I should be able to consider prescribing medicinal cannabis as a viable treatment option without having to wait months."

However, not all doctors are supportive of medicinal marijuana.

"The trials that have been done

suggest that any benefits in chronic pain would be very modest and likely to be outweighed by the harms," Australian chronic pain specialist and Faculty of Pain Medicine Dean, Dr Chris Hayes, said when I spoke to him following his attendance at a Department of Health meeting on the use of cannabis for chronic pain, "More often, treating chronic pain is about stopping medications, not adding medications."

Hayes estimates that about 20 per cent of patients in his own clinic are taking illicit cannabis for their pain, and his clinical impression is that it works

"People take it in the hope that it might improve their pain or calm their mental health, but that's off-set by the fact that, from a mental health perspective, it might make things worse."

Other doctors have a pragmatic perspective. Emergency medicine specialist and lecturer at the Australian National University's medical school, Dr David Caldicott, teaches a course for doctors on medicinal cannabis. He says there is little point arguing whether cannabis can help with chronic pain.

"The more important point is that people are using it for pain," he said. "There's still an awful lot for us to know, but in the interim, if whatever is out



there, is being used to good effect, with minimal harm to the individual, it's probably unethical and immoral of us to prevent it happening."

For the foreseeable future, medicinal cannabis in Australia will not be added to the Pharmaceutical Benefits Scheme, which means many Australians, even if they can be prescribed medicinal marijuana, may not be able to afford it. With this in mind, Caprio has founded a charitable organisation that will work to provide vulnerable patients such as veterans and pensioners with affordable medicinal cannabis.

"I got into this industry to make a difference," he said. "I believe it is a human right to have access to a medicine that can help relieve a condition and it means the world to me to be able to support this cause."

I asked Caprio if he thought his father would be proud of what he has done

Caprio paused. Then smiled. Yes," he said. "Yes he would." A



Suvi Mahonen is a Surfers Paradise-based writer. Her work appears on many platforms including The Best Australian Stories, The Weekend Australian Magazine, HuffPost and Griffith Review. A portion of a longer work-in-progress was nominated for a Pushcart Prize. For more from Suvi visit her page at: http:// www.redbubble.com/people/suvimahonen

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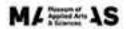










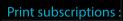






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Rural school principals: PD and getting the 3Rs correct

Remember how your school principal knew your name, the names of your siblings, parents and grandparents? No? Perhaps that's because you went to a city school. Principals of rural schools are integral parts of their communities. They work twenty-four hours a day in the "fish bowl" environment of a country town. And with all the complexities of the job, why would anyone be an isolated principal in the country? Rural school principals do an amazing job and are generally highly respected by community members; but who supports them?

KATHRYN HARDWICK-FRANCO

A new horizon: Australia in the global space race

Australia is no stranger to the global space race; we were critical in landing men on the moon, we have some of the most advanced astronomy infrastructure in the world, and until 1996 we had our own space agency. Yet with governments, businesses and moguls increasingly looking to the stars, Australia can't afford to miss the (space)ship. This year, a new Australian Space Agency has been launched and it will face numerous challenges in navigating what remains the final frontier of human exploration.

DUNCAN BLAKE AND TYSON LANGE

A nation in pain: Can medicinal cannabis help?

An estimated 29 per cent of Australians suffer from chronic pain. Often sufferers are prescribed opioids, yet opioids have been the leading cause of all drug-induced deaths in Australia for the past 17 years. Increasingly, evidence supports the use of medical marijuana for pain sufferers, yet the law in Australia has done little to support it. Orwellian laws, different requirements between states, and mountains of paperwork have all stood between doctors, sufferers and their relief.

SUVI MAHONEN

The density question: The compact city in Australia

The concept of the 'Compact City' has been around for decades in one form or another, often influencing government infrastructure choices, zoning decisions and construction imperatives. And with over 60% of Australians living in only 5 population centres, these underpinning concepts affect the lives and wellbeing of most Australians. Yet how have the principles and assumptions of the Compact Cities model actually fared in reality, and is it time to have another look at how we shape the environments in which we live?

RAYMOND BUNKER AND GLEN SEARLE