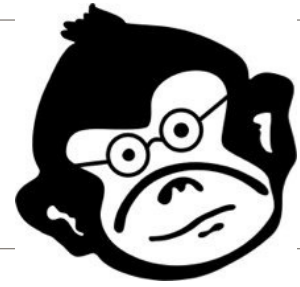


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# APE 2024

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This document provides a short summary of presentations at the 2024 Silver Star Conference. It is intended to be an aide-memoire for those who were there, and an indication of the sort of topics addressed for those who were not.

## Consciousness

The theme originated (thank you Peter) at the 2023 conference as a discussion around the value



The convenors -Dr Vida Viliunas, Dr Rod Katz

of philosophy as a hobby, an occupation and a tool for understanding why (and even “if”) we are here. Settling on the theme of Consciousness seemed like an excellent way to allow exploration of these ideas or other interpretations or connotations, for example: awareness, sentience, introspection, mindfulness etc..

## Introduction to Silver Star - Past, Present and Future

We were honoured to have Norman Kreutz welcome us to Silver Star on behalf of the SilverStar Resort and its owner, the POWDR corporation. Cassandra Zerebeski welcomed us to the mountain on behalf of Destination Silver Star and made available the excellent delegate bags.



## Associate Professor Matt Howard

Matt is Associate Professor at Notre Dame University and an orthopaedic surgeon practicing in Wagga Wagga. He has a special interest in shoulder surgery, however, disorders of the hip and knee remain a particular area of focus in his practice and he performs a high volume of anterior cruciate ligament reconstructions, patella stabilisations and arthroscopic knee procedures annually. Matt is an examiner for the RACS.



Matt's presentation started out with a significant claim - that it might save your life. He scaled this back to possibly saving your knee, but by then the audience was riveted. Discussion included the nature of awareness, selective attention, the importance of awareness in sport performance and often overlooked aspects of performance - for example the role of ankle flexion in skiing and the relative risks of skiing and other sporting activities. One area where skiing is clearly more dangerous than other sports is knee injury with an estimated trauma rate 400x other activities with 30% of these ACL injuries. This incidence should result in a more "conscious" examination of the effectiveness of ski bindings and their release mechanism. Matt reviews the history of the binding and limitations of most modern day bindings. These are still designed to allow release by lateral pressure at the toe and upward pressure at the heel. By not facilitating release at the heel with lateral pressure, significant stress can be placed on the ACL. Alternative designs (e.g. the Ettliger Knee Binder) have been proposed to address this but there has been resistance from the industry. Reasons for this resistance are unclear. In the meantime it is important to adjust bindings such that DIN (Deutsches Institute fur Normung) settings are at levels consistent with skier strength, age and weight. In addition, knee injuries may be reduced by using shorter skis (with less leverage) and doing ACL conditioning exercises pre-skiing. Another mitigating strategy is to focus on fall technique: get arms forward over skis, skis together, drop arms over skis. We rehearsed this as a group which provided some excellent photo opportunities for those quick enough.

## Prof Andrew Stevenson

Andrew was previously the director of the Colorectal Surgery unit at Royal Brisbane Hospital and is Professor at the University of Queensland. He has been at the forefront of clinical trials of different surgical approaches to colorectal cancer treatment and is internationally recognised as a leader in his field.



Andrew used a recent interview from the *Surgeons' Lives: Stuff that Matters* series, as the backbone of his presentation. The full 48 minute interview is available [here](#). The series, produced by John Momson, delves into the current lives, backgrounds, mentors and career milestones of preeminent surgeons. To date Andrew is the only Australian surgeon included in the series. The interview touches on many facets of Andrew's life including his interests outside surgery and the motivations for participation in multi-centre trials. It is this research that marks Andrew out among his peers. The importance of well constructed trials to determine the efficacy of minimally invasive surgical techniques is a particular focus. These have progressed dramatically with the development of new technology and now the introduction of robots to assist surgeons.

## Dr Mark Porter

Mark is the principal of Canberra Orthopaedics and Sports Medicine (COSM). He is an orthopaedic surgeon in private practice in Canberra specialising in sports injuries. His background includes 16 years as an international representative boxer. He has a lifetime average of one marathon per year and is rare among orthopaedic surgeons in having a doctorate.



Mark competing in the Canberra Half Marathon

Mark's presentation covers many aspects of consciousness. He draws on his extensive research in consciousness in sport, including the progression from conscious movements through practice to automaticity. This is relevant to many activities that we engage in as humans but has been studied in sport to a significant degree. Some of the measures that are used in high level sport assessments include aperture tests, endpoint matching and posture copying. Some sports require or develop greater consciousness in different domains. There is some speculation that some sports participants may, through greater training and talent, develop a super consciousness that allows super performance (Breivik G 2012). The understanding of sports psychologists in consciousness is related back to the broader consciousness research including the work of Stuart Sutherland (famous for his observation that "Consciousness is a fascinating but elusive phenomenon..."). He notes the challenge posed by the phenomenon of blindsight to the idea that consciousness is necessary for perception. Mark's observations are peppered with accounts and videos from his own career as a professional boxer - an activity that is all about maintaining consciousness while eliminating it in your competitor.

## Dr Jessica Bale - Acne and Consciousness

Dr Bale completed her Dermatology training at John Hunter and Royal North Shore Hospitals. Dr Bale has published in peer reviewed medical and dermatological journals, presented at domestic and international Dermatology conferences, and has co-edited the Dermatology chapter in the medical text Examination Medicine by Talley and O'Connor. She regularly undertakes teaching of medical students, registrars and General Practitioners, and is a Conjoint-Lecturer at the School of Medicine, University of Newcastle.

Dr Bale has particular interests in acne, rosacea, hyperhidrosis, early skin cancer detection, surgical and non-surgical skin cancer management, and cosmetic and laser dermatology. She has extensive experience in the use of energy based devices for treatment of acne and rosacea, vascular and pigment conditions and solar damaged skin.



Jessica provides an overview of acne and its management. The effects of acne are devastating to many people - it leads to social alienation and bullying as well as reduced self confidence and happiness. It is experienced by 85% of 12-24 year olds. Jessica describes the various types of acne including comedonal, inflammatory, cystic or nodulocystic, truncal, acne with PIH, female adult acne, and acne excoriated. Treatment provided through her practice are generally successful but there are many “experts”, particularly on social media, who can recommend ineffective or counter-productive advice. As a starting point in her treatments, Jessica provides recommendations on general skin care including a wash, a sunscreen and a moisturiser. These do not need to be very expensive. She then reviews acne treatments including topical, oral (including antibiotics and hormonal). A particularly effective treatment is isotretinoin which works on all acne pathways. There are important side effects with isotretinoin including in relation to pregnancy and mood. Jessica addresses the common questions regarding acne including diet and the potential for treatment using laser. She includes a number of case studies that reinforce how important treatment of acne can be in improving quality of life and reducing self-consciousness.

## Brett Dillon CFP - Financial planning: What do we need to be conscious of in 2024

Brett Dillon is a Partner of a boutique advisory business Saige Financial Planning and the Director and Responsible manager of their own license issued by ASIC, BD Financial Advisory Pty Ltd. He is also a member of the Association of Independently Owned Finance Professionals. This has proved to be a good move in light of the Royal Commission! Brett creates an achievable, goal-oriented strategy that is specifically tailored to meet short-term and long-term lifestyle aspirations taking into account investment and other risks. Brett has a diverse client base including medical specialists, GP's, business owners, retirees and expat clients. He enjoys helping clients to solve their financial complexities and to grow and protect their wealth. They can then focus on spending time doing the things that are important.



Brett takes us back to the start of 2023. At that time there was a lot of pessimism about the immediate future for markets. Interest rates were rising and everyone was waiting for the economy to crash. This has not happened - the equities market has done remarkably well. However, there have been some areas where valuations probably have dropped even if we have not been conscious of them. These are particularly in unlisted property valuations where losses may have occurred but not yet been crystallised. These losses are flowing from an acceptance that working from home for many people is not a passing phenomenon. The demand for commercial property has been affected and the supply can not readily adjust. While thinking about property it is notable that increases in mortgage interest rates have not been reflected in lower residential housing prices. Housing affordability is thus at an historically low rate relative to average income. The effects on the economy will play out in the next several years either through increased supply or through government policy to improve housing affordability. With the recent bull run in equities and the high values in real estate, it is worth considering bonds and fixed interest where the returns have improved significantly over the past year. The implementation of stage 3 tax cuts in the coming year are likely to have a positive effect on the level of aggregate demand. Given that tax rates from 30 June will be lower with these tax cuts, it is worth considering which expenses can be brought forward into the 2023-24 year. The outlook is clouded by the many conflicts and elections happening around the world in 2024 and it is important that sound financial planning principles be adopted. Brett proposes a framework to reduce the impact of irrational decision making. This framework involves understanding which structures to use for investments, be they; personal ownership, company, trust or SMSF. It also involves understanding the nature of the income generated including whether it a capital gain or being received in the form of a pension. It is important to be aware of the risk-related return on investments. If the necessary income can be achieved at a lower risk, that may well be a better strategy than seeking to maximise income at a high risk of significant loss.

## Robin Baycroft - Real Estate in a cold climate

Robin moved to Vernon 30 years ago from northern Ontario to spend one ski season at Silver Star and never left! Robin achieved the onerous qualification of level 4 ski instructor before moving into resort operation, management, sales and marketing. This background set him up for a career in real estate.



Robin tells the story of his journey from ski instructor to property professional. His business covers a large swathe of territory and he describes some of the features of the market. Robin provides a breakdown of sales over the past couple of years. Locally, the market is affected by interest rates and a number of new regulations affecting the purchase and the ongoing ownership of property in Canada; notably a purchase moratorium and an under-utilised housing tax (UHT). The moratorium on overseas buyers is in operation in urban areas until January 2026. This has some perverse aspects, for example, it operates by postcode and thus resorts such as Big White and Whistler are not affected and yet Silver Star is. This is because Silver Star does not have a postcode separate to the regional centre of Vernon. In addition vacant blocks are not affected by the moratorium so foreigners are free to buy land and build. Robin discusses the confusion and uncertainty created by the UHT that imposes a 1% tax on the value of property held if a residence requirement is not met. There are some reports that Silver Star has been determined as falling outside the UHT but this is yet to be confirmed.

These regulations are contrasted with the situation in Australia where some of the restrictions have been mooted but not yet implemented. While the different regulatory environment affects the market, there are a number of similarities between real estate in Australia and Canada, including interest rates, the effect of the pandemic on supply and persistent high prices. Of interest also is the different role of buyers and sellers agents in Canada. This involves a relatively inflexible commission structure that ensures both buyer and seller receive independent advice.



## Dr Rod Katz - Consciousness and economics



Apart from convening APE conferences, Rod enjoys working for not for profit entities with a special interest in transport and safety. Much of his life has been spent thinking about, and occasionally riding, bicycles for transport. He completed degrees in economics and law before a ten year phase working in banking and finance, both as a banker and in corporate treasury. A scholarship opportunity to return to university proved too attractive and he completed a Masters and PhD at the University of Sydney School of Business with a thesis on econometric modelling of demand for bicycle use.

Rod uses the presentation program AhaSlides to encourage audience participation in this broad ranging session. The initial audience poll asked for preferred synonyms for consciousness. The results revealed Awareness (44%) and Mindfulness (33%) as the most popular synonyms. The results of this poll were used to explore some of the conceptualisations of consciousness studies developed by David Chalmers (2002) and Nicholas Humphrey (2012). The practical relevance of consciousness studies is often questioned but it is generally accepted as important. One of the current issues around consciousness is the question of whether AI can be conscious - the case of Blake Lemoine, the Google engineer convinced that the large language model that he was working on was sentient, is a marker. Rod links the concept of consciousness to the ability to question. In this context he references Gregerson's (2018) influential text *Questions are the Answer* and poses a number of poll questions about the economic outlook in the short and medium term. These generated a significant number of interesting and varied responses. There were 436 total audience responses on AhaSlides.

## Dr Sharon Tivey - Awareness and Anaesthesia

Sharon Tivey is an anaesthetist, working mainly in the public hospital system. Her undergraduate training was at The University of Sydney followed by postgraduate training in Sydney and Virginia, USA. She enjoys teaching, is a Conjoint Senior Lecturer at the University of NSW, a Supervisor of Training (Anaesthesia) and is a past chair of the final examination committee with the Australian and New Zealand College of Anaesthetists (ANZCA).



It's hard to imagine a theme more suitable to an anaesthetic presentation than consciousness. Sharon took the bait and the delegates had the satisfaction of gaining an appreciation of the incidence, likelihood and impact of awareness during anaesthesia. Sharon uses a number of case studies. Sharon breaks down the common factors associated with awareness episodes suggesting that "depth" of anaesthesia determines whether a patient is conscious or not. In some procedures it is desirable or common practice not to seek to induce complete unconsciousness and it is important that patient expectations are set appropriately through the consent process. Some of the consequences of unexpected levels of consciousness can be significant and include nightmares, insomnia, anxiety, depression and PTSD. An anaesthetist who receives a report of awareness has important responsibilities. They should demonstrate empathy and participate in the management of psychological sequelae. They need to address medico-legal issues and manage their own personal and professional anxiety. Fortunately, anaesthesia has moved on a long way from the first demonstrations in 1846 using ether. Today, the incidence of awareness is reported as being between 1:1000 to 1:20,000 or less. Rates of awareness are determined through self reporting, direct questioning or questioning under hypnosis. Risk factors include the type of anaesthetic, the surgical procedure and characteristics of the patient. Use of muscle relaxants is associated with more reports. Failures of IV anaesthesia (e.g. pump or cannula failure or disconnection) or human errors such as mis-programming or failure to turn on the anaesthetic are also known causes. Types of surgery that have a higher rate include bypass surgery, emergency (trauma) surgery and caesarean sections where the rapidly changing scenario can create difficulties for anaesthesia. Some patients may also be susceptible including those with previous episodes of awareness, chronic substance users, some users of medication such as anti epileptic treatments and those with chronic cardiac conditions. The anaesthetist today has a range of monitoring equipment available to identify incipient awareness. The most important monitoring is observation of the patient's HR and blood pressure. Other tools include end-tidal concentrations of inhaled agents, bispectral index, and neuromuscular blockade monitoring. Sharon demonstrates what the anaesthetist looks for and how they might respond. As an associated issue she refers to studies on learning under anaesthesia. This highlights how some memory formation is prevented but how some sensory functioning persists under anaesthesia.

## Professor Paul de Souza - Consciousness at APE



Prof Paul de Souza was the University of Western Sydney's (UWS) Foundation Professor in Medical Oncology from 2011-2019. He is now a Professor of Medicine (Oncology) at the University of Sydney, based at Nepean Cancer Care Centre, and has a private practice at St George Private Hospital, Kogarah, and Southside Cancer Centre, Miranda. He graduated from Sydney University in 1986, and received his Fellowship of the Royal Australasian College of Physicians in 1992. He has longstanding interests in cancer clinical trials and translational cancer research, with a focus on developing new drugs and approaches for the treatment of urological and other cancers.

Paul demonstrates an amazing capacity to research a relatively new topic to him, to distill the crucial developments and to apply them to his own field, oncology. He picks out interpretations of consciousness from common language and then examines some of the frameworks of consciousness found particularly in the psychology and neuroscience literature. These include typologies including levels and stages of functional and clinical consciousness. A map of consciousness developed by David R Hawkins is considered. Hawkins was a polymath who participated in the Manhattan Project and went on to be a philosopher. His map suggests a matrix of consciousness where levels from bare survival to enlightenment are assessed against emotional states, “energy” requirements, views of life and religion, and associated life processes. Other eminent scientists to have considered consciousness include Stephen Hawking and Albert Einstein. Einstein’s memorable quote is “no problem can be solved from the same level of consciousness that created it”. Paul then considers the issue of artificial consciousness and where consciousness exists in the brain. Studies on the locus of consciousness have used EEG and MRI studies and compared different people and people in different states including people without functional language, image identification ability, in a coma etc.. Coming back to his own field, Paul notes some of the literature, notably from the *Journal of Psycho-Oncology*, on the improved outcomes for patients who receive some forms of mindfulness training.

## Dr Vida Viliunas OAM - Global Health Consciousness

Vida is an anaesthetist practising in Canberra. She is the current Vice President of the Australian Society of Anaesthetists. She has a wide range of extra curricular interests and activities and is particularly active in training anaesthetic registrars in preparation for College exams. Despite what might be suggested by the attached photo, her favourite run is Alder Point and she is very photogenic.



In this presentation, Vida discusses the pros and cons of medical outreach programs. This is based on her experience of multiple missions including with Mercy Ships in Africa and programs in Vanuatu, Fiji and the Solomon Islands, not to mention remote Australian communities. These programs involve delivering surgery in locations that would otherwise struggle, or be incapable of, performing the surgery. It is difficult to judge the impact of some of these missions on the delivery of care in the local environment. There are concerns that some programs may create perverse incentives for local medical systems. An important part of making sure the programs are as effective as possible is to try to include education components and to concentrate on specific types of surgery where the multiplier effects are particularly high. These may include some laparoscopic procedures, including hernias, and caesarean sections. Vida, at the time of the presentation was girding herself for an upcoming trip to Sierra Leone where she will be spending three weeks on the Global Mercy ship providing anaesthetics. She describes life on board ship, the range of medical workers who participate in the Mercy Ships operation and the model of operation including ensuring security in often volatile parts of the world. She answers questions from those who may be interested in participating in future missions.

