

# (The Copernican Shift in) Space Tourism and its Implications for Tourism in the Great Karoo

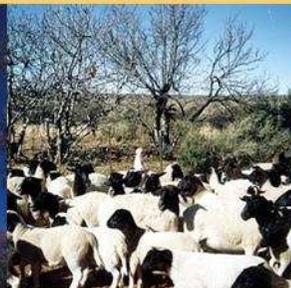
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[www.aridareas.co.za](http://www.aridareas.co.za)



# VOLKSBLAD SURVEY 29 JULY 2008

<b>Sir Richard Branson glo dat Jan Alleman binne 2 dekades vakansies in die ruimte sal kan bekostig:</b>		
<b>Sit my naam op die lys!</b>	74	40%
<b>Ek sal dit glo as ek dit sien</b>	109	60%
<b>Totale aantal stemme :183</b>		

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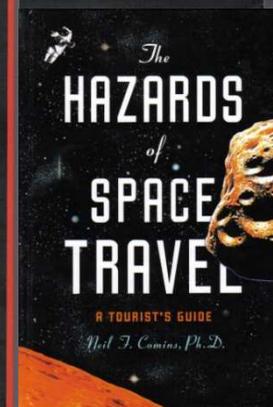
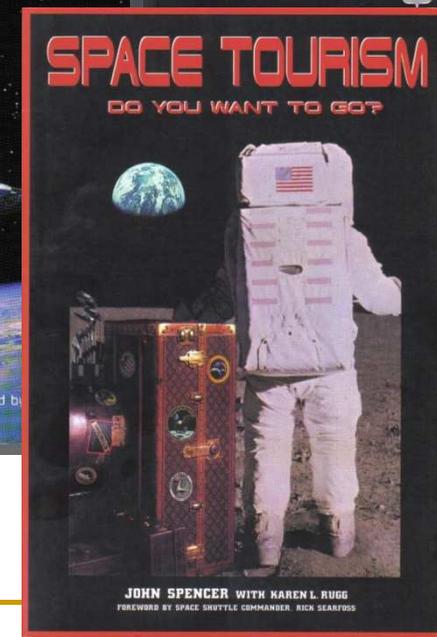
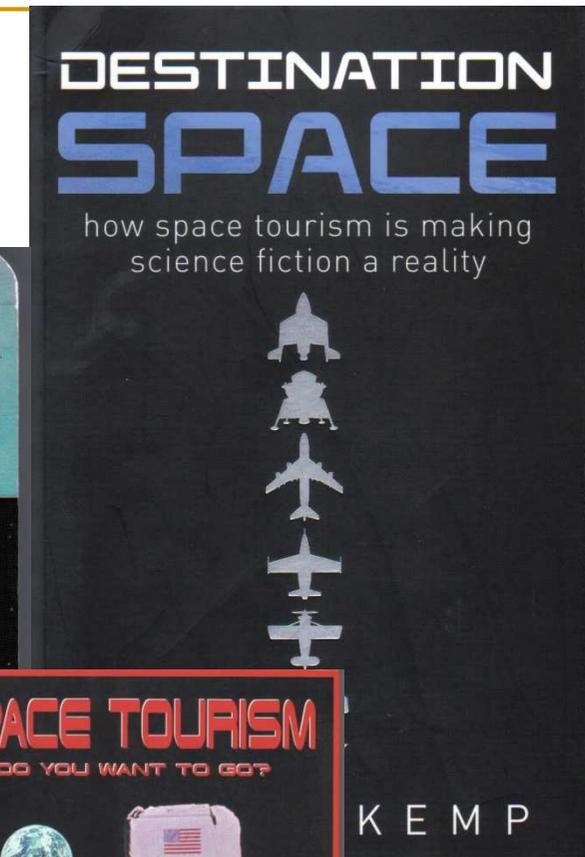
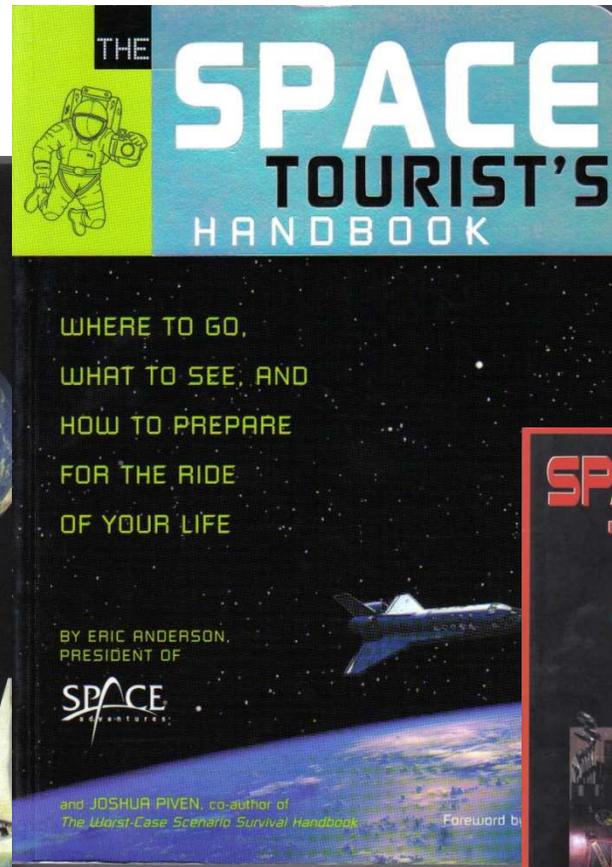
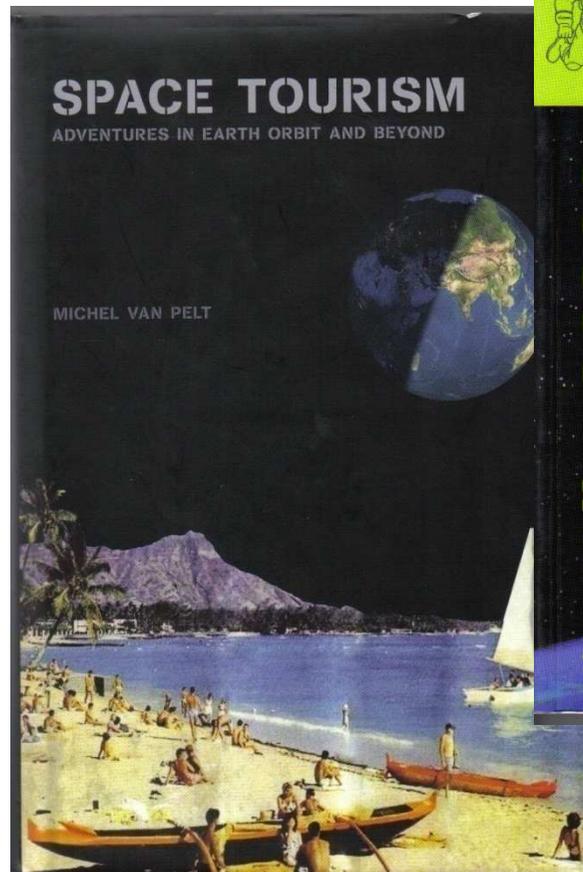
# UNPACKING BRANSON'S CLAIM

- There will be space travel for private citizens
- There will be 'space tourism'
- Tourists will either stay in orbital 'space hotels' or on the Moon

**SEEMS FAIR ENOUGH BUT...**

- *Typical* households will be able to afford extended stays in space [?]
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# Some Space Tourism Publications



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# TYPES OF SPACE TOURISM

- Earthbound (simulations, spectators at launching pads, meteor sites, star gazing, exhibitions, tours etc)
  - 'Zero gravity' (Boeing 727) and 'edge of space flights' in for e.g. MiG-25 Foxbats - duration about 30 min
  - **Suborbital flights (e.g. Virgin Galactic's SpaceShipTwo set to launch commercial service 2010 but many other offerings/modes being developed). Duration about 2 hours. Price US\$200 000**
  - Orbital (Soyuz taxi to International Space Station); 'space hotels'.  
Duration = days to months. Mark Shuttleworth, Dennis Tito etc.  
Price anything up to US\$35-million for Soyuz. Space hotels projected at about US\$1-million a day.
  - Interplanetary (Moon, Mars?) – still at Science Fiction level
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# Virgin Galactic's Branson with model



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# SUBORBITAL SPACE TOURISM

- Mothership carries SpaceShipTwo (SS2) up to 25km
  - SS2 disengages – fires rocket engines – at 100km+ “the motor shuts down and the spaceship coasts into space for a few minutes” describing a parabola in an ethereal whisper-quiet realm (Kemp, 2007)
  - 4-5 minutes weightlessness – great view
  - Pilots then activate SS2’s “angel wings”, where “the ship splits itself in half” to facilitate the critical re-entry phase (Belfiore, 2007).
  - SS2 descends from its apogee and re-enters the Earth’s atmosphere – a progression from absolute silence through an ever more insistent susurrus until it feels as though the craft is in the grip of a powerful waterfall’s flow (Kemp, 2007).
  - SS2 falls like a giant shuttlecock until pilots glide it into base
  - Whole package – 4 days – 3 days training – simulations – jet flights – flight in WK2 – celebratory party afterwards – luxury accomm – US\$200 000pp.
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# Mothership (WhiteKnightTwo) with SpaceShipTwo



*Top right:* The future of space tourism: a mock-up of Virgin Galactic's spacecraft. (Picture: Virgin Galactic)

*Top left:* Virgin Galactic founding astronaut Lina Borozdina who has re-mortgaged her Californian home to buy a \$200,000 ticket into space. (Picture: Virgin Galactic)

*Right:* Virgin Galactic President Will Whitehorn who has driven the project in the United States. (Picture: Virgin Galactic)



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# **SUBORBITAL ISSUE AREAS**

- **Cost**
  - **Safety**
  - **Environment**
  - **Regulatory environment**
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- **Critical factor = reusability (imagine how aviation industry would have stalled if aircraft junked after every flight!)**
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# SPACEPORT REQUIREMENTS

- **Restricted airspace from the ground to infinity in order to secure an unobstructed pathway into orbit**
  - **High elevation (Virgin Galactic's spaceport in New Mexico is at an elevation of about 1600 metres).**
  - **Sparsely populated surrounds to minimize insurance and risks. The surrounds should also be considered ineligible for appreciable development in the future.**
  - **A high predominance of clear bright days in order to ensure reliability of launch schedules.**
  - **Dry air to minimise corrosion**
  - **Hosted by a stable country with "rational and enabling laws"**
  - **Secure an anchor tenant in the interests of commercial sustainability.**
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# SPACEPORTS INTERNATIONAL

- “Localities... around the world are doing their best to attract the emerging commercial spaceflight business. **To some places with plenty of open space – in the middle of nowhere, in other words, and typically left behind by traditional businesses – spaceports look like economic salvation.** Locales in Singapore, the United Arab Emirates, Sweden, and Scotland all hope to host spaceports in the near future [while] in the United States, New Mexico, Wisconsin, Florida, California, Virginia and Texas all play host to embryonic commercial spaceports” – Belfiore (2007)
  - There are already functioning spaceports in Alaska, Australia and Kazakhstan (Anderson, 2004) and Israel, Brazil, China, Russia, India, Japan and the Ukraine also have embryonic spaceport capabilities (Kemp, 2007)
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# SPACEPORT KAROO?

- **WHY NOT A SPACEPORT IN THE KAROO? – surely inevitable – SA subcontinent cannot *not* have a spaceport**
  - **Cost R2-3bn – is that a *big* number? No – consider costs of military hardware. Public/private partnership? Listed company?**
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# Spaceport Sweden

open for business

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**OUR MISSION**

The aim of Spaceport Sweden is to become Europe's first and most obvious place for personal suborbital spaceflights. **We are open for all operators!**

Spaceport Sweden is based in

**NEWS**

6/20/2008

**Spaceport Sweden at the Symposium for Private Human Access to Space in Arcachon 2008**

Take part of our presentation "Spaceport Sweden - Open for business" and read more

**FIRST FLIGHT**

2012 we will give ordinary people the opportunity to become non-professional astronauts by taking off from Spaceport Sweden. We will do this together with Virgin Galactic, the world's first commercial space line. as they have

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# IMPLICATIONS FOR KAROO TOURISM -1

- Synergies between astro-tourism and many other niches e.g. palaeo-, research-, geo-, conference-, photo-tourism etc. all available in Karoo.
  - Steady stream of high net-worth visitors assembling and then dispersing at central point (spaceport serves as hub – like Alice Springs?)  
Periphery > centre > periphery
  - Foreigners highly unlikely to jet in and out again without looking around.
  - Hitherto undreamt of possibilities will emerge (cf. IT industry - PCs and how distributed processing [and internet] challenged mainframe model)
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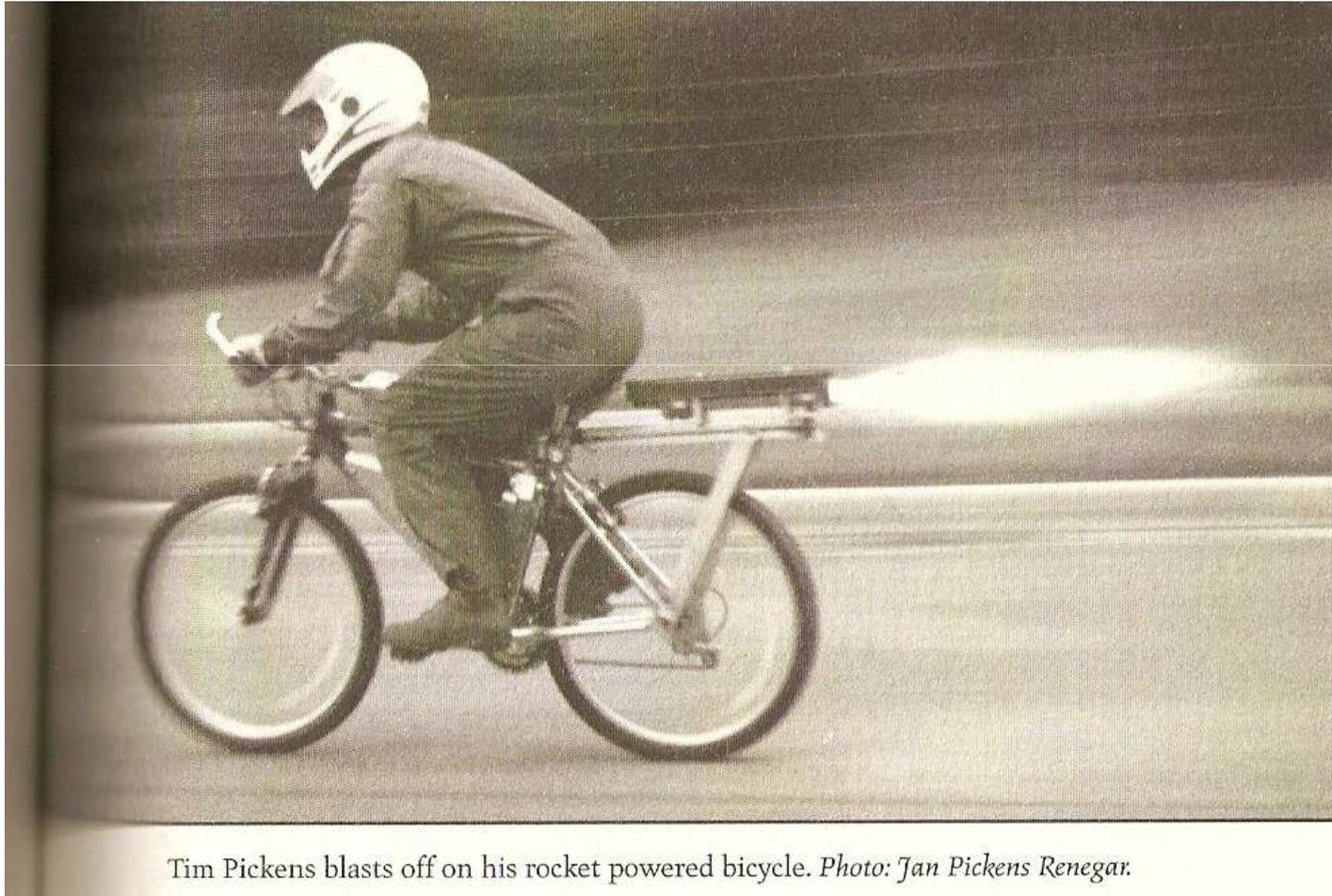
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# IMPLICATIONS FOR KAROO TOURISM -2

- **Wealthy tourists' choices are increasingly determined by the need to make "lifestyle statements" and to buy "into an emotional relationship... with high conversational and celebrity value" (Morgan & Pritchard, 2004 on destination branding)**
  - **Suborbital flight > 'peak' experience > strong positive associational attachments with (Karoo?) environment**
  - **Space industry becoming very entrepreneurial (Musk, Bezos, Allen etc) > lots of 'collateral', spin-off opportunities and benefits**
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# The spirit of entrepreneurship: walking (zero to 100kph in 5 secs) the talk



Tim Pickens blasts off on his rocket powered bicycle. *Photo: Jan Pickens Renegar.*

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