DAY MEDAL LECTURE

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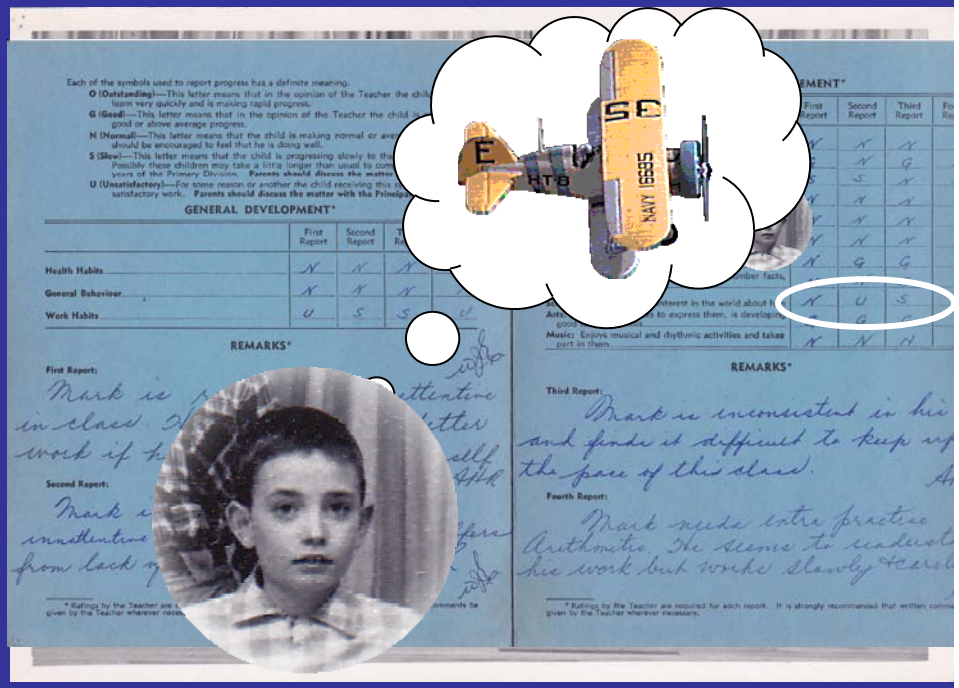
Is he stupid or just lazy?

- Born and raised in Kerrisdale, B.C.
- Chronic underachiever
- Career goal: Jet pilot
- High school grad & flyboy June '70
- Flunk out of community college & learn airline career not on
- Off to Oz!

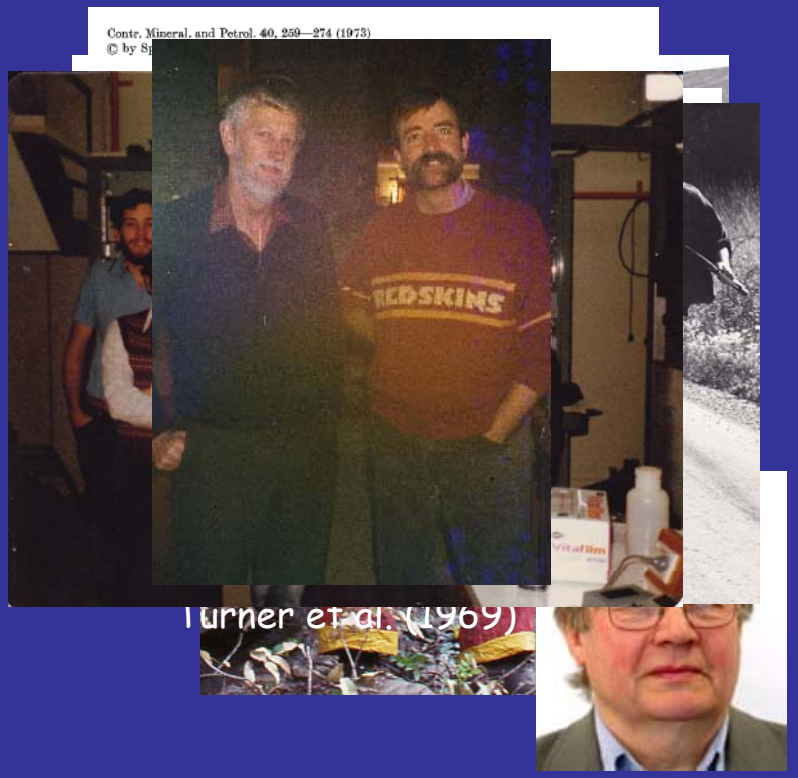


Maybe better luck in southern hemisphere?

- Made thin sections at Melbourne Uni & hung with grad students
- Show up in South Africa & meet cute Aussie redhead at Jo'burg youth hostel
- Worked at Anglo American's research lab running e-probe
- Geology is for me!

Early days of thermochronometry

- Back to Vancouver to attend UBC
- Dick Armstrong advises honors thesis; leads me to Dodson (1973)
- Take geophysics from Garry Clarke & pester him about thermal modeling
- Create first geochron cooling curve & model simulation
- Saw Turner's $^{40}Ar/^{39}Ar$ lunar age spectra & my future
- Dick orders me to ANU for Ph.D. with Ian McDougall



Accessory mineral systematics

- I watch SHRIMP being built at ANU
- Kevin Burke gives me job at SUNYA; I connect with Bruce Watson at RPI
- Inherited zircon cores with magmatic overgrowths not understood
- Zircon solubility a function of T & magma composition & zircons dissolve quickly via diffusion
- Saturation thermometry born


SHRIMP I

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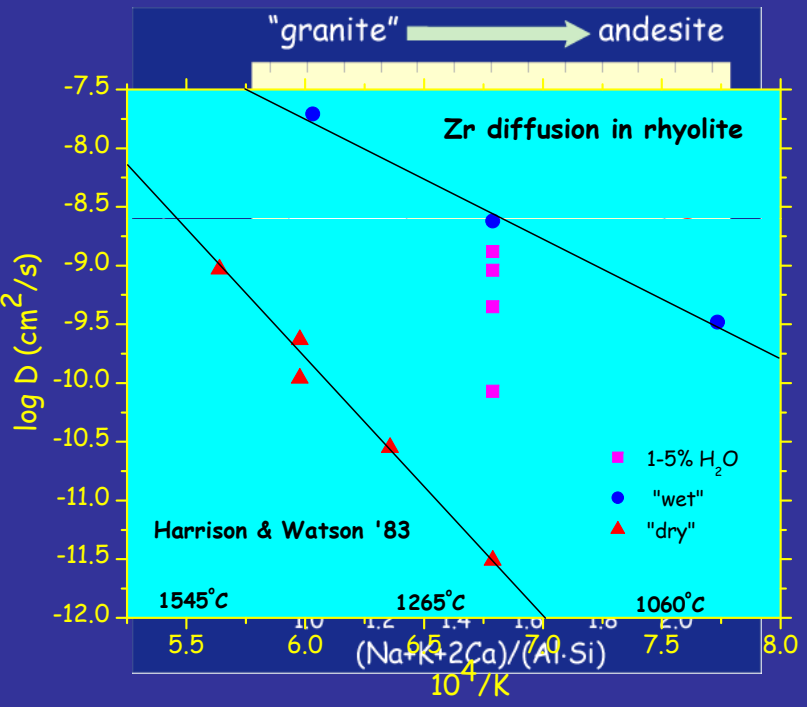
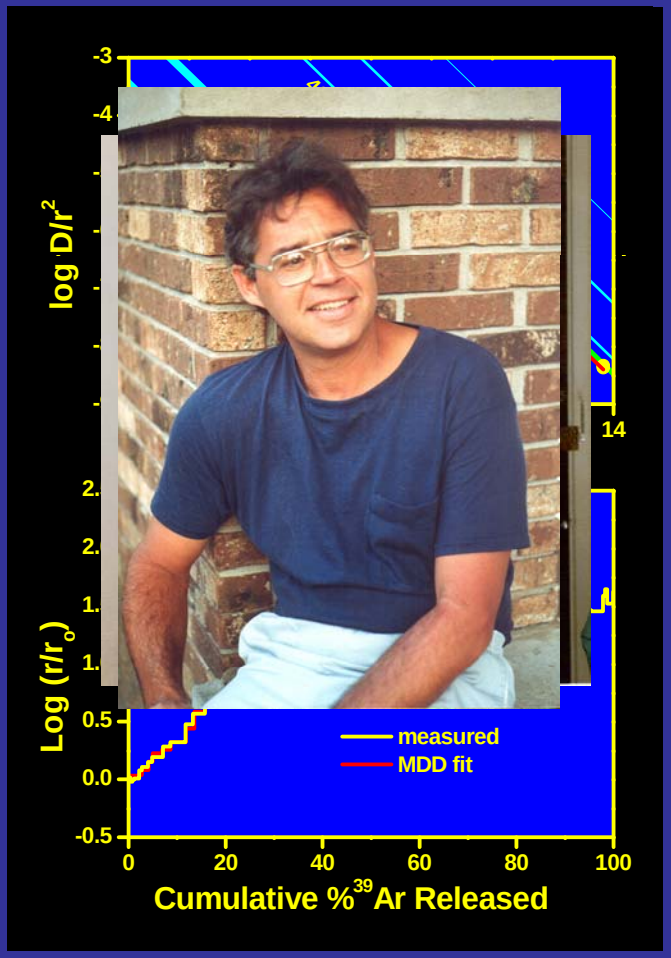


Multi-diffusion domain model

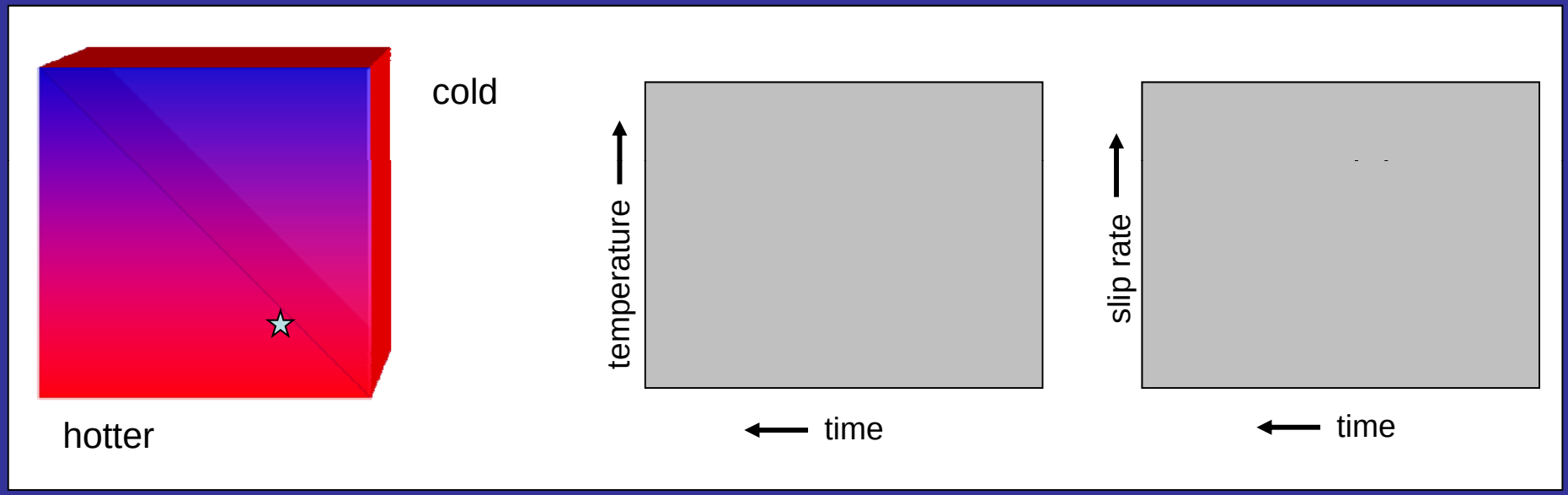
- A critical comment on Richter's '86 paper
- With Lovera the MMD model is born
- MDD explains behavior of K-spar $^{40}Ar/^{39}Ar$ age spectra and ushers in continuous thermochronology
- Off to UCLA



Tibet and the Himalaya

- At SUNYA, Bill Kidd volunteers me as Tibetan geochron 'wallah'
- Arrive at UCLA & meet Mandarin speaking structural geologist…Hmmm
- 'Golden era' for grad students
- Working in Yunnan with Rick Ryerson, we encounter Paul Tapponnier

Slip on a fault ramp juxtaposes cool block against hotter rock causing rapid cooling (and heating)…



If temperature history adjacent major fault is known, we can reconstruct its slip history using thermo-kinematic modeling

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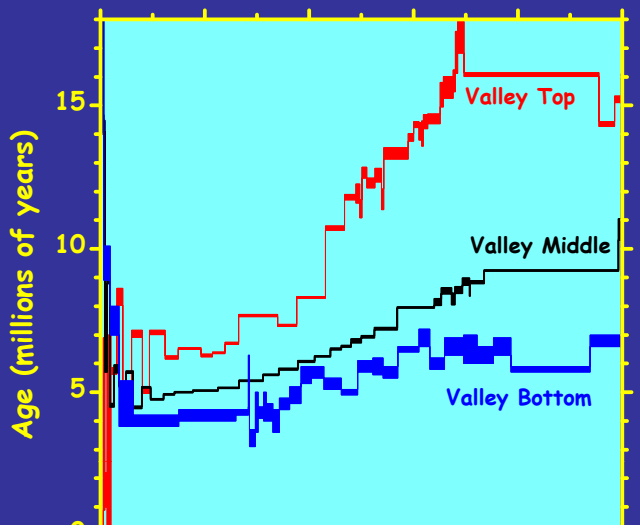
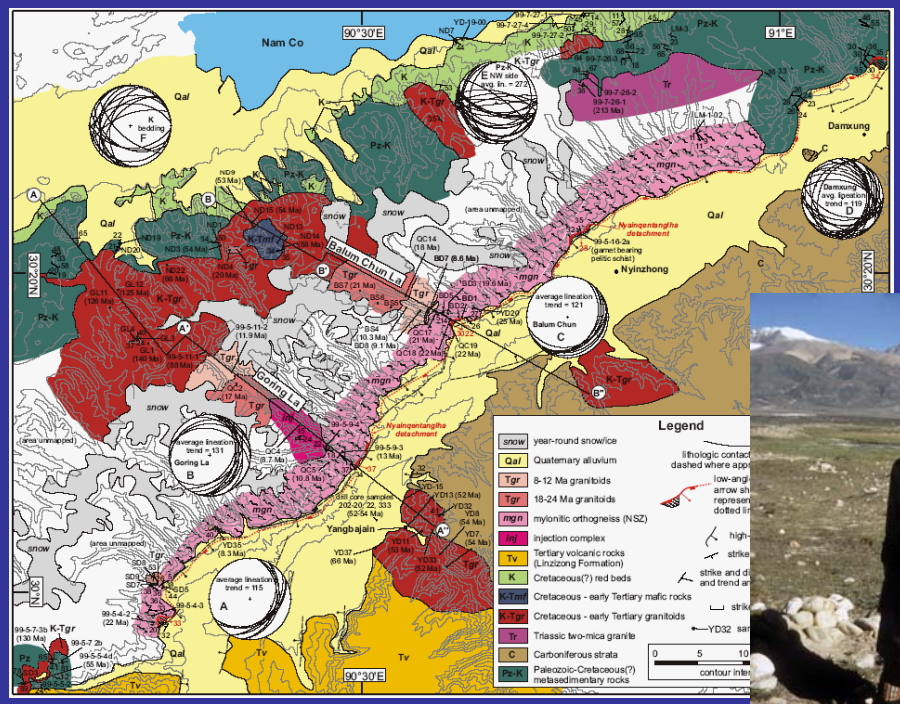
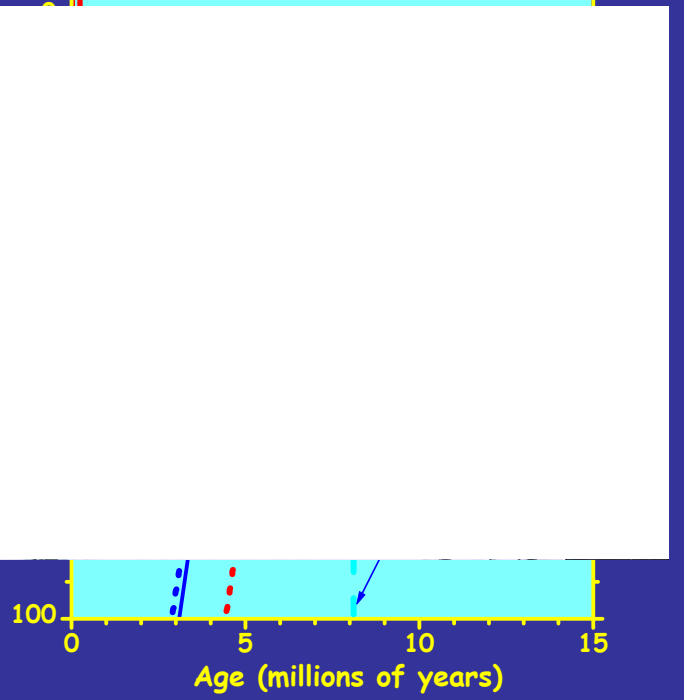
Map the geology & take samples along the glacially incised valley adjacent the fault

Numerical simulation of the cooling history indicates that rifting began at 8 Ma at 3 mm/yr







Kapp et al. (2005)

UCLA ion microprobe

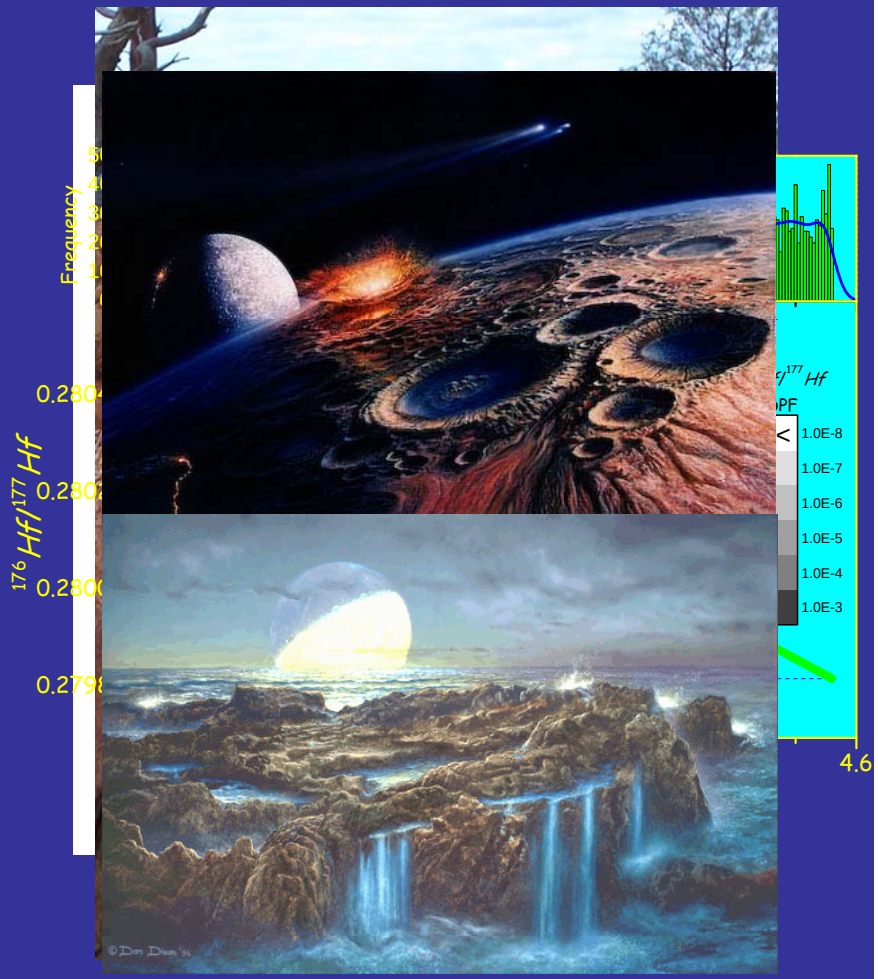
- In '90, team up with Kevin McKeegan to specify new generation SIMS

- Numerous discoveries & new methods:
  - isotopic evidence of >3.83 Ga life
  - Th-Pb prograde thermochronology
  - SIMS U-Th series dating
  - $\delta^{13}C$ of fossil taxa
  - FISH-SIMS
  - solar oxygen isotope composition
  - U-Th-Pb depth profiling
  - nuclear irradiation in solar nebula
  - ultrahigh resolution climate records
  - evidence of early terrestrial ocean
  - age of lunar KREEP

- Hosted >300 visiting scientists

Early Earth

- Dick Armstrong noted for 'crackpot' ideas about early Earth
- Hadean zircons underused in providing clues to early Earth
- Initiated 'Mission to Really Early Earth'
- >150,000 Jack Hills zircons dated!
- Results consistent with Dick's vision of early Earth



In parting

- Be kind to late bloomers
- Work with smart, visionary people
- Suspect that much of what you're told is wrong
- Thanks to family, mentors, students, collaborators,….& Australia