

Princeton Memes

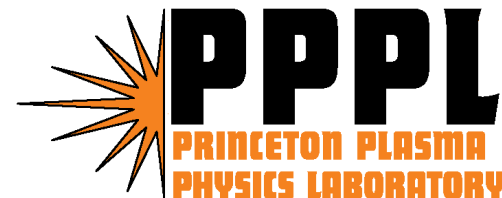
(or, rather, meme-vectors)

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Memes

Richard Dawkins in *The Selfish Gene* & *The Blind Watchmaker*:

... new replicators are not DNA ... patterns of information that can thrive only in brains ... or books, computers and so on ... called ***memes*** to distinguish them from genes ... passed from brain to brain ... As they propagate they can change — mutate ... memic evolution ... (see Wikipedia for much much more)

Or maybe they're like viruses or microbes transmitted by *people* — ***meme-vectors***?

My meme tracing attempts

- R. L. Dewar, R. Mills and M. J. Hole, *MHD Memes*, J. Phys.: Conf. Series, **169**, 012004 (2009),
<http://dx.doi.org/10.1088/1742-6596/169/1/012004>
 - KaufmanFest (Allan at 80 as meme-vector between Rosenbluth and Newcomb in the '60s)
 - R. L. Dewar and D. Leykam, *Dressed test particles, oscillation centres and pseudo-orbits*, Plasma Phys. Control. Fusion, **54**, 014002 (2012),
<http://arxiv.org/abs/1107.5201v2>*
 - DewarFest (RLD at 65 trying to trace evolution of ideas on separation of smooth from fluctuating motion)
- *Published version has “memes” removed!

Possible memetic influences

- Pre Princeton days
- Grad Student days
- Postdoc days
- Research staff days
- Visits
- The future

MSc Melbourne '65-'67,

- Geoff Opat (Penn): QED... Nöther's Thm etc
- Ken Hines (ORNL): MSc advisor... EM, relativity, test particles
- Plasma group students: Norm Frankel (ex Atlantic City & MIT) ... stat mech, US unis; Jeff Marsh *'69?; Andrew Prentice ... Landau damping; Graeme Lister ...
- ANU summer school '67: Freeman Dyson (IAS)... quantum chaos meme
- Senator Fulbright ... Bilateral exchange → airfare to US



PPPL Grad Student Days '67-'70

- Lyman Spitzer Jr: Director PPL & Chair, Astrophysical Sciences Dept ... PPPL students had office in Peyton Hall
- Tom Stix: Director PPPL grad prog
- Ed Meservey: C Stellarator exptl project
- Russell Kulsrud: PhD Advisor ... MHD, cosmic rays, Petschek reconnection, adiabaticity etc etc!
- Lecturers: Martin Kruskal, Carl Oberman, John Dawson, Ed Frieman, Predhiman Kaw

PPPL Grad Student Days contd.

- Class Mates: Ernie Valeo, Eric Jamin, Barry Newberger, Joe Orens, Carl Spight, Rick Ellis, Dan Jassby, Horst Pacher ...
- Older students: Ron Davidson ... Wave-wave coupling, André Rogister ... Weak turbulence theory, Bill Kruer ... Laser plasma simulations
- Younger students:... Claire Max, Glen Bateman...
- GC students: Richard Madden ... Statistics; Bill Unruh ... General relativity; Jay Atlas ... Philosophy

PPPL Postdoc Days '71-'74

- Bill Kruer, Ernie Valeo ... adiabatic trapping papers
- Ron Cohen ... solar wind
- Ray Grimm, Manickam, Jay Boris ... computational physics
- John Johnson, John Greene ... MHD
- David Potter's paper in same volume as PEST-I writeup ... his MHD waterbag model infected me with the MRxMHD meme?

PPPL Staff Days '77-'82

- John Greene, Roscoe White, Phil Morrison, Charles Karney, Robert Mackay *'82 ... nonlinear Hamiltonian dynamics
- Carl Oberman, John Krommes ... turbulence
- My Princeton students: Amitava Bhattacharjee *'80... Generalized Taylor relaxation; Eliezer Rosengaus *'82... High-order Lie perturbation theory
- MHD collabs: Ray Grimm; John Johnson; Paul Rutherford; Don M & Manickam (L'ville Carpool!); Alan Glasser; Steve Jardin

PPPL post-return to Oz '83-...

- Multiple visits over the years
- My ANU students: Alex Pletzer; Stuart Hudson (ARC Grant Partner Investigator)
- Fulbright Alumni Initiative Grant (FAIG)?
 - Supports Fulbright Alumni and their original home or host institutions to *develop innovative projects that will foster institutional linkages and sustainable, mutually beneficial relationships*
 - The projected visit must last from 2 to 6 weeks
 - A number of grants of AUD\$5,000 are awarded each year depending on budget.

Conclusion

- My Princeton grad student experience has had a lasting impact on my life & career
- Apologies for the superficiality of this overview and to those whom I haven't mentioned but should have
- Thanks & best wishes to Nat in his 65th (?) birthday year!