# "I wish that I knew what I know now when I was younger"

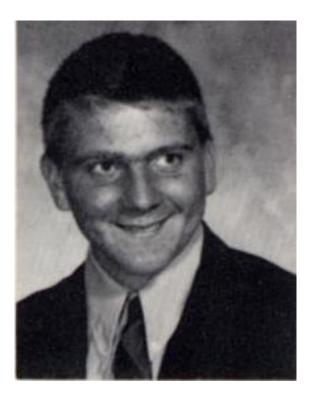
An Entrepreneur's Tale and musings on the songs of Rod Stewart<sup>1</sup>

Cambridge Entrepreneurial Post Docs • 21 January 2015

1 - Ooh La La by Ron Wood & Ronnie Lane on The Story So Far: the Very Best of Rod Stewart

### The exception, not the rule





### Why is this man still smiling after all these years?



1983



2015

#### The startup laboratory of my professional life, after a 'blue chip' start: Cambridge, Harvard Business School, IBM & McKinsey

#### • Cotag International – first startup [1983-98]

- £1.4Mn in 1984; several follow-on rounds
- Sold in 1994 to Amtech for £4.5Mn
- Cardkey Systems first acquisition as part of Amtech [1994-98]
  - Purchased 1994 for \$18Mn; later sold in 1998 for \$44Mn
- **Plastic Logic** second startup; spin-out from Cambridge [2000-06]
  - £1.8Mn in late 2000/early 2001; massive follow-on funding but still essentially pre-revenue
  - Story not over, but who knows where it will end
- **Novacem** third startup; spin-out from Imperial College, London [2008-2012]
  - £1.1Mn in July 2009; £1.8Mn in Dec 2011
  - Assets sold/company shutdown in Sept 2012. This story is over.
- **Reduse** fourth startup; spin-out from Cambridge [2014 -]
  - Story just starting. Role now part-time Non-Executive Chairman rather than CEO

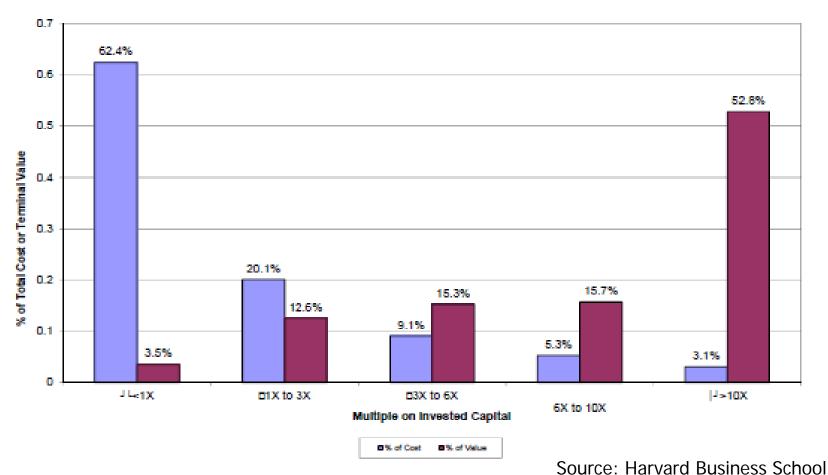


#### It was then and it is now



The Reduse Four – August 2014

Venture Capital: more luck than skill?



Venture Capital Return Profile 1995 - 2009 636 Investments - \$1.28 -> \$3.08

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Definition of Entrepreneurship

## Pursuit of opportunity beyond the resources currently controlled

A way of managing

Source: Howard Stevenson, Harvard Business School

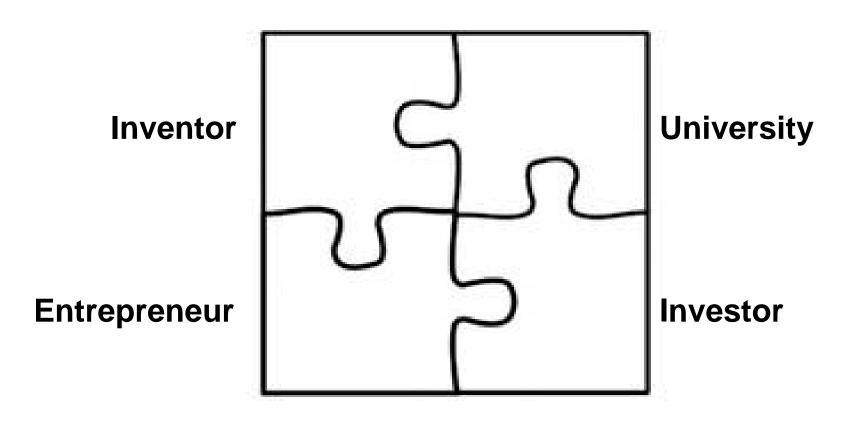
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Technology Transfer from Universities: horses for courses

|  | Physical<br>Sciences | Internet | Life<br>Sciences |
|--|----------------------|----------|------------------|
| Commercial partners                    |                      |          |                  |
| Spin-outs                              |                      |          |                  |
| Non-commercial partners <sup>(1)</sup> |                      |          |                  |

(1) Charities; social enterprises; NGOs; public sector

University Spin-outs: jigsaws can be fun but also tricky



#### Its almost never really a Prototype: Definitions of Product Development Stages

- Proof of Concept demonstrates fundamental capability to meet Product Requirement Specification (PRS) but is not the form of the final product
- Demonstrator demonstrates the functionality required by the PRS but does not necessarily contain all the final embodiments of product (e.g. may not use final display driver, or have final packaging)
- Alpha model/ Prototype Meets the requirements of the PRS and is in the final form of the product but will be made by the development team in very small volume. Employ formal engineering change control.
- Beta model Will be made as much as possible by production team on production equipment and will be made in batches where yield and lifetime can be assessed. These units will represent final product and will be used in the customer sites for trials.
- Pre-production will be a period where the final product is made in the factory where suppliers, processes, yields, costs, manpower can be verified before production ramp takes place
- **Production** period where product is made in volume.

Source: John Mills – Plastic Logic

#### Issues for Post-Docs and topics for discussion

- What have you got: a research project or a business opportunity? What kind of impact?
- You can stay in Academia and still be Entrepreneurial
- Patents **vs.** Papers. Role of Intellectual Property
- Full-time **vs.** Part-time. Is it a one way journey?
- Part of a team vs. a solo performer
- Going where you want vs. Going where you are told. But start-ups sometime 'pivot'
- Massive difference between being a true Founder vs. 'just' an early Employee
- Don't kid yourself if its your company, 24/7 is never enough
- Scientists vs. Engineers; Academics vs. Industrialists; Professionals vs. Managers. Experience?
- Non-Economic vs. Economic rewards; running yield (salary) vs. capital gains (shares/options)
- Why analogue entrepreneurs are still important in a digital world. Not all the world's problems will be solved by an App!

#### /...more general reflections

- Being the stupidest person in the company
- Rich vs King
- Learn from but don't expect to ape Silicon Valley
- Raising money for start-ups is harder than its ever been, especially in Physical Sciences. In fact, almost as hard as making a success of your start-up
- Most (although not all) accelerators/mentor programs etc are rather disappointing
- Public sector support (Innovate UK; SBRI; EU programs) is broadly significant and sensible
- Industrial investors/collaborators can be great, but also sometimes a great disadvantage
- An Exit is not the End
- Giving up is sometimes (eventually) the right thing to do
- Having a Life as well as a Job; Work-Life balance; Happiness. And all that stuff

#### Useful people/resources on my 21<sup>st</sup> Century entrepreneurial journey

- A life-time's work by Howard Stevenson of Harvard Business School
- Noam Wasserman Founders' Dilemmas
- Steve Blank/Bob Dorf **The Startup Owner's Handbook**; also www.steveblank.com
- Eric Ries The Lean Startup
- Katharine Campbell Smarter Ventures
- Alexander Osterwalder & colleagues Business Model Generation
- Henry Chesbrough **Open Innovation**
- Bill Aulet Disciplined Entrepreneurship
- Sam Altman Y-Combinator [best accelerator in the world?] and How to Start a Startup

/... plus everything I learnt in the 20<sup>th</sup> Century!

## Thank you!

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#### **Stuart M Evans**

stuart.evans@cambridgegreen.com www.linkedin.com/in/stuartevans 67 Gough Way, Newnham, Cambridge CB3 9LN, UK mob +44 7771 966297 tel +44 1223 316631