

**THE PRESIDENT'S ADDRESS TO  
THE SYSTEM DYNAMICS SOCIETY  
July 1996**

John Morecroft

## **IMPORTANT MILESTONES IN 1996**

### **40 Year Retrospective**

**1956 Jay Forrester Moves to Sloan bringing the new ideas of feedback systems and computer simulation to the design of business and social enterprises, discovering the versatility of feedback and simulation, establishing and disseminating the discipline of system dynamics**

### **25th Anniversary of System Dynamics in the UK**

**1971 Geoff Coyle forms the System Dynamics Group at Bradford University in England, bringing together the first critical mass of faculty and students in system dynamics outside North America**

### **16 years of the System Dynamics Society**

**1980 David Andersen brings together friends at the MIT faculty club overlooking the Charles River to share his vision of a new society**

**A Personal Anniversary - 10 years at London Business School since MIT**

**1st birthday of two new Society Chapters:**

**Japan (Professor Shimada) and Italy (Habib Sedehi)**

## **A DECADE OF DEVELOPMENTS 1986 TO 1996**

### **From System Dynamics to Learning Organisations and Back Again**

#### **The CEO as Designer**

**the vision of the senior manager as model builder, simulator and enterprise designer**

#### **Feedback Systems Thinking as the Fifth Discipline**

**a shift of mind - seeing interrelationships and processes of change, appreciating system dynamics modelling as a discipline of the Learning Organisation, intimately linked to team learning, mental models, shared vision and personal mastery**

#### **Misperceptions of Feedback - Structure and Dysfunctional Behaviour**

**behavioural decisionmaking, bounded rationality and 'invisible' forces that shape outcomes of well-intentioned policy, communicating our discipline seriously to academic peers**

#### **Modelling for Learning**

**mapping and qualitative system dynamics, microworlds and gaming simulation, model-supported case studies, transitional objects (and processes) for individual and team learning**

#### **Powerful Graphical Modelling and Simulation Software**

# THE GROWTH AND DISSEMINATION ENGINES OF SYSTEM DYNAMICS

## Capitalising on a Decade of Development

**ACADEMIC  
BASE**  
institutions  
faculty teams  
degree level courses  
PhD programmes

**COMMERCIAL  
BASE**  
software developers  
microworld developers  
distributors  
training providers  
consultants

**THE 'MARKET'**

## **EVIDENCE THAT GROWTH AND DISSEMINATION ENGINES CAN WORK**

### **MIT and 'East Coast Network' - Jay Forrester's Entrepreneurs**

**MIT system dynamics group** - John Sterman

**Sterman protegees** - Anjali Sastry, Michigan

- Nelson Reppenning, MIT

**MIT Organisational Learning Centre** - Peter Senge, Dan Kim

**Commercial R&D (practice research & software developers)** -

High Performance Systems, Ventana

**Specialist niche consultants and trainers** - Pugh Roberts, GKA,

Innovation Associates

**Dissemination specialists** - Pegasus Communications

### **History and Experience of the Bradford group under Geoff Coyle**

**Bergen Network** - Paal Davidsen, Magne Myrtveit

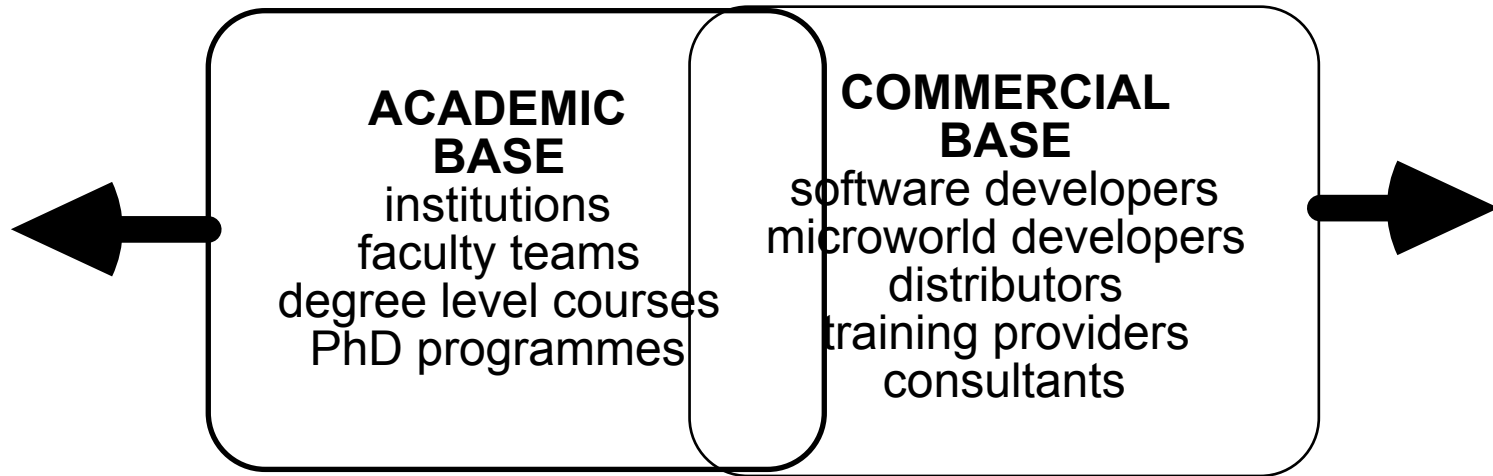
**Bergen European Masters degree in system dynamics**

**ERASMUS European exchange programme**

**Modelldata and Powersim**

# MANAGING DISSEMINATION

## Role Identity, Competition and Collaboration



## **CHALLENGES - LOOKING INSIDE THE ACADEMIC BASE**

### **Academic Traditions and the Virtuous Circle of Acceptance**

#### **ACADEMIC BASE**

institutions -  
norms for 'recognised' academic discipline

faculty teams -  
critical mass, publications, funding, 'integration'

degree level courses -  
transferrable core knowledge, attractive content

**PhD programmes -  
faculty champions, funding, research projects**

## CHALLENGES - LOOKING INSIDE THE COMMERCIAL BASE

### The Players

#### COMMERCIAL BASE

software developers -  
proliferation of powerful graphic packages

microworld developers -  
interface design and training

distributors -  
combining distribution with training and support

training providers -  
systems thinking or system dynamics?

consultants -  
proliferation of companies selling mix of 'hard' and 'soft'



## **BUILDING BLOCKS FOR THE FUTURE** **Europe as a Microcosm**

**London**  
PhD, MSc, MBA  
incorporating  
System Dynamics

**Bergen**  
European MSc  
in System  
Dynamics

**Commercial R& D**  
Practice  
and Software  
Development  
Companies

**Consultants**  
Major  
Companies

**Other European  
Universities**  
Bogazici, Leeds,  
Mannheim, Nijmegen  
Plymouth, RMCS,  
Sevilla, Stuttgart  
and more ....

**System  
Dynamics  
Society**

**Consultants**  
Specialist Niche  
Companies

## **INITIATIVES AND RESEARCH - FORGING THE FUTURE**

### **A New Home for Society Administration**

**the search for a new professionally funded office - President's request for proposals**

**building on a generous history of volunteer administration by Julie Pugh**

### **A New Image - Some Tangible Steps**

**virtual proceedings - WWW site with complete conference information**

**proactive growth of the journal as premier quality publication**

**broader geographical representation on the Policy Council**

**extra annual meeting of the Policy Council to be held in November in Europe**

**VP member and chapter activities - leverage from new chapters**

### **Research - Modelling for the 'Living Company' and the Learning Society**

**scenario modelling and the dynamics of strategy**

**organisational dynamics and change programmes**

**computational organisational theory**

**non-linear dynamics**

**research and development in modelling methods and software design**

**microworld design and the measurement of learning**

**modelling for learning and group decision support**

**K-12 educational projects**

## **VIRTUAL PROCEEDINGS**

**1996 An Experiment** (launched by George Richardson and John Sterman)  
**WWW site with complete conference information including call for papers, registration form, session schedule, list of authors etc.**

**voluntary supplement to printed proceedings**

**broad geographic and institutional representation**

**nations:** China, Croatia, Germany, Italy, Korea, Netherlands, Norway, Singapore, Spain, UK, USA

**institutions:** academic, corporate, personal author pages

**links to full papers, models, related work on authors' servers**

### **1997 and Beyond**

**web becomes cheaper, more widely accessible**

**virtual proceedings are main record of conference**

**one page abstracts are basis of paper acceptance and will be printed as a guide to the conference**

**Society administrative office maintains server, updates contents**

**future features:** searchable index (by author, title, content), email links to all authors, links to other SD related sites (e.g. SD Society page), cumulative record of conferences

## **RESEARCH AND LINKS TO OTHER DISCIPLINES**

### **The Need for Communication and Identity**

#### **RESEARCH THEME**

scenario modelling and the dynamics of strategy  
organisational dynamics and change programmes  
(part of) computational organisational theory  
(part of) non-linear dynamics  
R & D in modelling methods and software design  
microworld design and measurement of learning  
modelling for learning and group decision support  
K - 12 educational projects

#### **RELATED DISCIPLINES**

strategic management, economics & dec'n sci  
operations management and org behaviour  
organisational behaviour and strategic mgment  
decision sciences and applied mathematics  
decision sciences and computer science  
computer science, educational & cognitive psych  
soft OR and strategic management  
educational and cognitive psychology

### **Opportunities and Challenges in Future Research**

many established disciplines are hungry for dynamic theories and simulation  
need to communicate our discipline through academic peer groups with high  
quality publications  
a discipline not a technique  
need for System Dynamics Society to maintain our shared identity and to  
nurture the discipline