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Paradigms, Poverty and Adaptive Pluralism

Robert Chambers
July 2010

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Robert Chambers

Summary

In earlier analysis, two paradigms were identified in development professionalism, thinking and practice: one, often dominant, associated with things; and one, often subordinate, associated with people. Current development thinking and practice have diverged into two clusters, with procedures associated with the paradigm of things imposed by powerful actors and organisations in tension and contradiction with participatory methodologies (PMs) associated with the paradigm of people. A binocular vision sees both. This sets out to see further, and whether participatory methodologies (PMs) can bridge these binaries with both – and complementarities and win-wins.

In recent years, PMs have proliferated. Contributing factors have been the way methods have multiplied, their versatility, adaptability and combinability, the explosion of applications of Information and Communication Technologies and Web 2.0, and more speculatively an increase in the number of people working in a creative participatory way. PMs that combine methods have proved increasingly versatile and adaptable to contexts and purposes.

PMs are well suited to understanding and expressing the local, complex, diverse, dynamic, uncontrollable and unpredictable (lcdduu) realities experienced by many poor people. These contrast with the controlled conditions and universalities sought in much high status professionalism. Paradigmatically and practically, four domains have increasingly converged and cohere: PMs; poor people's lcdduu realities; technology; and complexity.

Paradigm can then be defined as a coherent and mutually supporting pattern of: concepts and ontological assumptions; values and principles; methods, procedures and processes; roles and behaviours; relationships; and mindsets, orientations and predispositions. Empirically, a paradigm of adaptive and participatory pluralism can be inferred from experience and examples. This fits with the realities of poor people as adaptive agents and with PMs seen through lenses of technology and complexity. It contrasts with a paradigm of neo-Newtonian practice.

Adaptive pluralism embraces, underpins and expresses ideas and practices of reflexivity, continuous learning, value and principle-based eclectic improvisation, co-evolution and continuous emergence. Conceptually, it embodies paradigmatic synergies. Practically, it offers win-win solutions and generates an agenda for action.

Keywords: adaptation; complexity; diversity; paradigms; participatory methodologies; poverty; pluralism; professionalism; realities; technology.

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Words, meanings and acronyms

In this paper, I use words and acronyms with these meanings. I am not asserting that this is what they should mean, only that this is how I try to be consistent in using them.

Adaptive pluralism

Paradigmatic elements and relationships associated with people as adaptive agents, with eclectic and participatory methodologies, and with ontological assumptions of complexity such as non-linearity, unpredictability and emergence. Adaptive pluralism subsumes and is broader than participatory pluralism.

Approach

An orientation of behaviour, attitudes, and mindset associated with a method, methods or methodology.

CLTS

Community-Led Total Sanitation (www.communityledtotalsanitation.org).

Complex

Complex is used in its popular meaning, a synonym for complicated – having many parts, categories, linkages and relationships within a system and between a system and its environment, except when explicitly referring to the Cynefin framework, for an introduction to which see www.en.wikipedia.org/wiki/Cynefin and pages 34–6.

Method also tool and technique

A discrete and named activity, a way of doing things to achieve a purpose. Some methods can also be considered methodologies. The distinction is not always sharp.

Methodology

A system of methods, principles and practices. Some methodologies can also be considered methods. The distinction is not always sharp.

Mindset

A person's mental orientation, predispositions and ways of construing, framing and interpreting experience. It is informed by training, education, professional norms, ideology and personal life experiences. Paradigmatically, it interacts with (influences and is influenced by) concepts and ontological assumptions, values and principles, methods, procedures and processes, roles and behaviours, and relationships.

Neo-Newtonian

Neo-Newtonian refers to paradigmatic elements, methods and methodologies deriving from or analogous to those of a Newtonian physical universe with implicit ontological assumptions of regularity, linearity, and predictability.

Neo-Newtonian professionalism

Professionalism that is based on or analogous to characteristics and relationships associated with the physical universe. It values standardisation, control, measurement and precision. In many professions it is accorded high status and rewards (see Chambers 1997: 34–42) has what are termed best practices.

Ontology

Ontology refers to the nature of things and being.

Paradigm

In 1997 I used paradigm to mean ‘a coherent and mutually supporting pattern of concepts, values, methods and action, amenable, or claiming to be amenable, to wide application’ (Chambers 1997: xv). Towards the end of this paper this is expanded and extended to become ‘a coherent and mutually supporting pattern of concepts and ontological assumptions; values and principles; methods, procedures and processes; roles and behaviours; relationships; and mindsets, orientations and predispositions’.¹

Participatory method

A discrete type of activity, usually facilitated, usually carried out interactively by a group of people. Many participatory methods are visual and tangible. Examples are social mapping, pairwise ranking, matrix scoring and visual diaries. There is not always a clear line between methods and methodologies: for example, participatory theatre, participatory photography, and participatory video can be described as methods when combined with other methods, or as methodologies when they stand alone.

Participatory methodology (PM)

A combination of approach and methods through which people do things themselves interactively. What they do may be appraisal, analysis, planning, action, learning, changing, monitoring, evaluation or other activities. Many PMs have been named, for example PRA, Reflect, Appreciative Inquiry, Participatory GIS, and Community-Led Total Sanitation. These have distinct approaches and combine several or many methods.

1 See also *Revolutions in Development Inquiry* (2008) pages 172–3.

PLA

Participatory Learning and Action.

Post-Newtonian professionalism

Professionalism that accommodates emergence, unpredictability, and other elements of complexity (see Uphoff 1996). It has fitting practices.

PRA

Participatory Rural Appraisal.

RCT

Randomised control trial.

Technology

Following Arthur (2009: 28), a means to fulfil a human purpose. Many technologies are physical, but a technology may also be a method, a process, or a device, or an assemblage of practices and components. As means to fulfil a human purpose, participatory methodologies are technologies.

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Purpose and limitations

This paper is work in progress. Its purpose is to take stock at a stage on a personal journey. It is a pit stop not an arrival. It is limited to parts of the landscape through which I have travelled and which I can see now. The journey may have led or be leading somewhere significant; or I may have lost the way. I trust the reader to judge.

The start is with ideas from a decade and a half ago. Five major developments since then inform the paper. First, change in almost every dimension has accelerated, most obviously in communication technology and Web 2.0, but also changes in the conditions, awareness, priorities and aspirations of those who are marginal and vulnerable and live in poverty – and such changes show no signs of slowing. Second, in much public administration and in the aid sector, there has been a shift from the more participatory and permissive approaches of the 1990s to a more control oriented upward accountability, as with results-based management and ‘rigorous’ impact assessment. Third, in parallel, in contrast and conflict with that trend, and largely unnoticed, participatory methodologies (PMs) have multiplied and diversified and changed in their nature. Fourth, theoretical understandings of the nature of technology and of complexity provide lenses, language and insights for understanding and interpreting the ontology of development. And fifth, the significance of power and relationships, including interpersonal power and relationships, has become more visible and acknowledged.

Taken together, these five present problems and opportunities. They interplay to constitute and underpin a descriptive and prescriptive paradigm of adaptive and participatory pluralism. This combines participatory approaches, the personal dimension, and complexity. The paper concludes with implications for policy and practice.

1 Paradigms

1.1 From Kuhn to things and people

The word paradigm was popularised by Thomas Kuhn in his classic *The Structure of Scientific Revolutions* (1962). For him a paradigm was a strong network of commitments – conceptual, theoretical, instrumental and methodological – in physical sciences such as astronomy, physics and chemistry. In his analysis of paradigm changes, he analysed many examples besides those that are better known like those associated with Galileo, Copernicus, Newton, Lavoisier and Einstein. In his new historiography of science, Kuhn showed how revolutionary transformations had taken place, meeting at first resistance, especially among older scientists, and then increasingly with a ‘gestalt switch’, a transformation of vision, a conversion experience that could not be forced. The new paradigm then became ‘normal science’, implanted and sustained through textbooks, generating research which sought to solve puzzles within the paradigm. Kuhn was little concerned with biology or with the social sciences apart from noting that they were different. His main focus was on the physical sciences.

In both definition and scope, any analysis of paradigms in development discourse and practice has to take a broader view than Kuhn’s. In 1997 I used paradigm to mean ‘a coherent and mutually supporting pattern of concepts, values, methods and action, amenable, or claiming to be amenable, to wide application’ (Chambers 1997: xv). The implicit hypotheses were that these elements were all related and linked, and that change in one was likely to influence change in the others. There was a contrast between a paradigm of things (where Kuhn and the traditional physical sciences apply) and one of people (where Kuhn was less applicable). This binary contrast drew on the seminal insights of David Korten (1980) who polarised blueprint and learning process approaches to development action. His blueprint corresponded with the things paradigm, and his learning process with the people one. Related binary lists have had many elaborations and incarnations, for example (see for example Watts *et al.* 2007: 8).

Dimensions of the two paradigms as I understood them in 1997 are presented in Table 1.1.

The things–people binary is useful for identifying and understanding relationships between many phenomena and for diagnosing problems. It points up contrasts between disciplinary and professional orientations: the things paradigm is more associated with engineering and economics, the people paradigm more with anthropology and sociology. And the contrasts in the two columns indicate differences which are evident in much practice. At the same time, there are many cross-overs and cross-applications.

Table 1.1 Two paradigms – of things and people

Point of departure and reference	Things	People
Mode	Blueprint	Process
Keyword	Planning	Participation
Goals	Pre-set, closed	Evolving, open
Decision-making	Centralised	Decentralised
Analytical assumptions	Reductionist	Systems, holistic
Methods, rules	Standardised, universal	Diverse, local
Technology	Fixed package <i>(table d’hote)</i>	Varied basket <i>(a la carte)</i>
Professionals’ interactions with local people	Instructing ‘motivating’	Enabling, empowering
Local people seen as	Beneficiaries	Partners, actors
Force flow	Supply-push	Demand-pull
Outputs	Uniform, infrastructure	Capabilities
Planning and action	Top-down	Bottom-up

Source: Chambers (1997: 37).

Applications of the things side to health and to agriculture can make the point. Consider controlled standardised conditions. In the case of health, these are vital in operating theatres for safe surgery on people, but note that the people – patients – are anaesthetised to become ‘things’ for the work to be done. Uniform inputs – immunisations – work because the inside of the human body is a highly predictable and homeostatically controlled environment. In the case of agriculture, the Green Revolution of standard packages of inputs for wheat cultivation spread with dramatic success in Northwest India because the conditions on farmers’ fields (low rainfall, reliable irrigation water, flat fields, good access to inputs) could be controlled and were similar to those of the research station. The things paradigm works in contexts, including human contexts, in which inputs and receiving environments are relatively uniform and controlled, and there is clear causality leading to desired outcomes.

1.2 Things and people in development: tensions and shifts

That said, many of the errors and failures of development policy and practice have stemmed from the dominance of the things paradigm. This dominance goes back at least to the Marshall Plan, to International Bank for Reconstruction and Development, to development projects in the 1950s and 1960s devoted to infrastructure such as harbours, railways, roads, communications, dams and irrigation projects, and the idea that Third World countries had to catch up with capital investment in 'infant industries'. These all gave primacy to things. Engineers and economists were in charge. It was they who set norms and procedures. For the infrastructure projects of the time, these largely made sense. But the things paradigm was then embedded in the values, culture, hierarchies and staffing of the World Bank and of bilateral and other organisations. Non-economist social scientists were few, of low status, and regarded at best as useful to call in to deal with any 'people problem' in implementation once the planning had been done. So top-down, standardised approaches and methods came to be imposed on diverse, uncontrollable and unpredictable people and conditions, often with bad results.

There followed a long and continuing struggle for a better balance that put people first, with their participation from the start and throughout in projects and programmes. There were calls for a new professionalism to shift the balance, effectively from things more towards people (Chambers 1983; Cernea 1985; Pretty and Chambers 1993). There was progress. For many reasons the balance did indeed shift. In 1988 DFID had two social development advisers. This rose to over 60. Some attempts to introduce top down routinised procedures were abandoned: the flagship Training and Visit system for agricultural extension with its rigid and mechanistic routines (Benor and Harrison 1977), extensively and expensively imposed by the World Bank, first in Asia and then in Africa, was among those abandoned and relegated to the history of development failures. Participation and empowerment became part of the rhetoric even if less often of the reality of development. Local people were much less regarded as a residual. People living in poverty, women, children, those who were vulnerable, marginalised and socially subordinate, were given more priority. Though there remained far to go, their knowledge, aspirations, capabilities and priorities were better recognised and brought more into development processes. The list to celebrate could be lengthened. Especially in the 1990s, the centre of gravity of the balance between things and people began to shift towards people.

But the 2000s brought reversals. Things procedures were increasingly imposed on processes and people. In much development practice, problems were aggravated by the way linear logic, assumptions of predictability, objectively verifiable indicators, impact assessments, logframes and results-based management were more and more required by donors and lenders. More and more the assumption took hold that 'we know what to do' and all development required was more money. Good practice and performance, so often dependent on intangible personal and inter-personal unmeasurables like commitment, honesty, energy and trust, were undermined and sapped by the spreading culture in much development of targets, indicators and measurement, and the

implicit and even explicit orientation of ‘If it can’t be measured, it won’t happen’. ‘Rigorous’ impact assessment was increasingly demanded. The so-called gold standard for this became randomised control trials (RCTs). These can make sense for medical research where there are many highly standardised units (people and their bodies) and inputs (immunisations, medicines, treatments) but misfit the realities of the complexity of social and much other change, with their uncontrolled conditions, multiple treatments, multiple and indeterminate causation, and unpredictable emergence. In such contexts, RCTs are liable to postpone and limit learning, and to be costly, slow and inconclusive. Another contested manifestation of this control orientation has been the logframe (see e.g. Wallace *et al.* 2006). Thought by many in the late 1990s to fit realities and programme and project needs so badly and to have so many defects that it would die a natural death, the logframe has to the contrary flourished and spread to become a methodological monoculture in donor requirements.

So in the name of rigour and accountability what fits and works better in the controllable, predictable, standardised and measurable conditions of the things and procedures paradigm has been increasingly applied to the uncontrollable, unpredictable, diverse and less measurable paradigm of people and processes. The misfit is little perceived by those furthest from field realities and with most power. But then all power deceives. Recipients do not tell donors what they experience. They think about future funding. Because funds and power are involved, these tightening and constraining shifts pass largely unremarked and unchallenged. And what can be called ‘things procedures’ like the logframe are convenient for understaffed donors: they transfer transaction costs and any blame to those whom they fund. Recipients are like frogs in the proverbial slowly heating pot and they adapt; but more than the frogs, they increasingly feel the pain. They do less and do it less well. They would like to jump out but fear for their survival if they did.

Against this background, this paper is a small part of the search for ways forward that could better meet the needs of all development actors, at all levels.

1.3 Binary and binocular

The binary contrasts of things and people have limitations. In comparing the two columns in Table 1.1 there can be the temptation of the Animal Farm ‘four legs good, two legs bad’. Reductionism, on the things side, is for instance often painted as bad, and inclusive systems as good, but it depends on context and purpose. There are also many useful cross-overs between the paradigms, applying things approaches to people, and vice versa.

The binary is also blinkered and misses much. It lacks subtlety and nuance. Biology, encompassing as it does organisms, evolution, emergent and social behaviour, ecology and much else, does not fit. Complexity science has also opened up new ways of seeing and understanding phenomena. Recognising this, I struggled to construct a third column, after things and people, for complexity. I could not make it work because many of the entries under

complexity were the same as, or similar to, those under people. At the same time I had to note that there were senses in which complexity science had origins on the things side. It was time to revise and refine the formulation but I could not see how.

One lead came from Norman Uphoff. As he put it (1996: 283):

We can benefit by learning to think in both both-and and either-or terms. These can be contrasted as, respectively, *binocular* and *binary* ways of looking at the world. The latter may give clarity from its simplicity but the former gives focus and depth of vision [*italics in the original*].

This opened the door to this search for broader formulations, binocular as well as binary.

At the same time, thinking about development practice (see Eyben 2006a and b) had moved on to recognise the importance of relationships, and linked with these, of roles, behaviours and attitudes. An expanded definition of paradigm followed: a coherent and mutually supporting pattern of concepts; values and principles; methods, procedures and processes; roles and behaviours; relationships; and mindsets, orientations and predispositions (see Figures 7.1 and 7.2).

Values and principles take us to the purposes of development. Any paradigmatic reformulation must then relate to basic values. I take these as equity and wellbeing.² The concern is then the realities and aspirations of people who are deprived, powerless, living in poverty, and suffer ill-being, the conditions they experience, their lives and livelihood strategies, and how they can be better off. In this search I try to see through lenses which are binocular, even polyocular,³ as well as binary, drawing eclectically on recent sources for insights, analogies, comparisons and complementarities.

Besides the things–people binary as starting point, there are four others: the realities of poor people; the nature and experience of participatory methodologies (PMs); and two lenses – from views of technologies and of complexity. I shall explore how these resonate and can combine and be mutually illuminating. This will lead to a more broadly defined and emergent pro-poor or per-poor⁴ paradigm that can be described as adaptive and participatory pluralism.⁵

2 These two words open up huge scope for debate and definition which I am passing over. What follows in the rest of the paper can accommodate a range of definitions, but should be questioned by anyone who considers that development is not about equity and wellbeing.

3 Polyocular meaning seeing in more than two different ways is not a recognised word. Like monocular, binocular and television it is a Greek-Latin hybrid.

4 Simon Batchelor (pers. comm. 25 May 2010) usefully distinguishes pro-poor (for, on behalf of, poor people), para-poor (accompanying them) and per-poor (through them – encouraging and enabling them to do things on their own and for themselves). The words of elaboration are mine, not Batchelor's.

5 If the concept of this paradigm has a life after writing, and evolves, another name may turn out to be better.

2 Realities

2.1 Of poor people

To be grounded, pro-poor development policy and practice must start with the realities of people who are marginal, vulnerable and living in poverty. These realities can be described in terms of the conditions they experience, and their awareness, aspirations and priorities. In at least 20 workshops I have asked participants from governments, international agencies, NGOs and universities, to reflect and then raise hands to show whether they consider change for poor people in these dimensions is faster, about the same, or slower, than 10 to 15 years ago. Overwhelmingly they have raised their hands for faster.

An earlier metaphor for the strategies of poor people came from Archilocus in Ancient Greece: 'The fox knows many things, but the hedgehog knows one big thing' (Berlin 1953). Poor people who are foxes contrive a living and strive for a better life often with versatile opportunism through many different enterprises and activities. Members of a family often do different things, at different times of the year, in different places.⁶ In the language of complexity, they are highly adaptive agents (Ramalingam *et al.* 2008: 42–7). In contrast, hedgehog livelihoods are based on doing one thing: to mix biological metaphors, hedgehogs put all their eggs in one basket.

Given the acceleration of change, have these strategies changed or changed in their proportions among poor people? In character, they have not changed. Hedgehog strategies were and still are followed by many of those in full time employment, outworkers for a single urban-based business, many beggars, bonded labourers, domestic servants and sex workers. To the extent that hedgehogs are urban, their numbers may have increased, but urban foxes are also numerous. Rural hedgehogs may have declined with fewer bonded labourers and as more opportunities have opened up for rural non-farm activities. The proportions and trends vary locally.

Perhaps more rarely than ever is small-scale farming a wholly hedgehog strategy. In any case, within its context, it is a fox-like performance (Richards 1985) with continuous balancing of priorities, adaptation to changing conditions and exploitation of opportunities. The common stereotype of the small farmer can also mislead, as so many of them diversify their livelihoods outside farming when they can, and in many rural areas in the developing world have increasingly done so over recent decades in response to the expansion of rural non-farm opportunities.

An earlier listing of common elements in fox strategies of poor urban and rural households (Chambers 1995: 25–7) was: home gardening, exploiting common property resources, scavenging and gleaning, processing, hawking, vending and marketing in the informal sector, share-rearing of livestock, transporting

⁶ For more on fox and hedgehog strategies, see Chambers (1983): 142–5.

goods, mutual help, contract outwork, casual labour, domestic service, child labour, craft work, mortgaging and selling assets, family splitting, including putting out children to others, migration, remittances, seasonal food-for-work, public works and relief, stinting in many ways with food and other consumption, begging, theft, and triage and discrimination within the family, especially with girl children and weaklings.

The list is long enough to make the point. Regular employment in a job may be an aspiration but is not a reality for many, often the majority. Instead many poor people seek strenuously and with ingenuity to reduce the risks inherent in their poverty and vulnerability from the uncontrollable and unpredictable conditions of their lives, by diversifying and multiplying their sources of food, materials and money and varying and exploiting these through the seasons.

In sum, poor people more than others continue to face conditions that can be described as local, complex, diverse, dynamic, uncontrollable and unpredictable (lcdduu for short).⁷ Living is an improvised performance. Continuously they adapt to changing conditions. And those conditions change faster than ever.

2.2 Of high status professionals

We can now compare these experienced realities with those sought, created and used by many high status professionals.

The often dominant 'things' professionalism of universal standards is often accorded high status.⁸ It seeks and values conditions, especially for research, operating and living conditions, which are the opposites of the lcdduu realities experienced by poor people: the universal rather than the local; the simplified rather than the complex, the uniform rather than the diverse, the controlled rather than the uncontrollable, the stable rather than the dynamic, the predictable rather than the unpredictable. Poverty as defined by many professionals has been the reductionist poverty of income, and the solution jobs and employment; poverty experienced by many poor people has been and remains multidimensional deprivation, and it is in livelihoods that they seek material solutions.

These contrasts in the tendencies of the realities sought and constructed by many professionals and those experienced by many poor people are summarised in Table 2.1.

7 For an extended illustration and elaboration of this point see Chambers (1997 chapter 8: 162–87) 'Poor people's realities: local, complex, diverse, dynamic and unpredictable'.

8 For elaboration of this point about status between and within professions see Chambers (1997: 34–6).

Table 2.1 Contrasting tendencies in the realities of many high status professionals and of many poor people

	Sought and created by many high status professionals	Experienced by people living in poverty
Applications sought	Universal	Local, specific
Working realities and conditions	Simplified Reductionist Standardised Stable Controlled	Complex Holistic, systems Diverse Dynamic Uncontrollable
Outcomes	Predictable Measurable	Unpredictable Hard to measure
The bad life expressed and described by	Income poverty	Multi-dimensional deprivation
Concepts for solutions	Employment, jobs	Livelihood

Of course, the contrasts can be overdrawn. The table almost caricatures the differences. And as with other such tables, there are many cross-overs and qualifications. All the same, together with the Things–People contrasts, this provides a sharp view of problems of professionalism that need to be addressed and where to look for solutions.

From the argument so far, four challenges stand out. These are to find ways:

- To improve on the binary of things and people
- To transform top-down development practices, procedures, accountabilities and relationships
- To be in touch and up-to-date with accelerating change in the conditions experienced by poor people, and their awareness, aspirations and priorities
- To bridge the chasm between much high status professionalism and the realities of poor people.

To help in this search let us turn to participatory methodologies (PMs), and ask whether they can provide ways of turning these challenges into opportunities. I will start with a review of PMs and how they have been evolving. This will begin empirically with the remarkable developments of recent years. These will then be looked at through two lenses – of the nature of the evolution of technology, and of complexity and emergence – to shed more light on what has been happening. New paradigms will emerge and point in practical terms towards win-win practical solutions, and finally an agenda for action.

3 Participatory methodologies

Participatory methodologies (PMs) can be defined as combinations of approaches and methods through which people are facilitated to do things themselves. What they do may be appraisal, research, analysis, planning, action, monitoring, evaluation or other activities. The people may be in communities, in small groups, or in large or small organisations. In the past, PMs have often been named: examples are PRA (Participatory Rural Appraisal), Appreciative Inquiry, Reflect and Community-Led Total Sanitation. Typically they have distinct approaches and combine several methods. Most of those considered here have evolved and spread first in developing countries.

PMs in this definition include, overlap with, share many values with, and interact with other traditions: action research (Greenwood and Levin 1998), participatory or participative action research (Reason 1994; Reason and Bradbury 2008), and systemic action research (Burns 2007), among others. While these other traditions are not drawn on empirically in what follows, much of it applies also to them. I hope to show that PMs have commonalities which make them a useful clustering for purposes of analysis.

3.1 The proliferation of PMs

First we need to take stock of recent developments.

The recent history of PMs is remarkable. A prehistory could no doubt be traced back to ancient civilisations. More recently, precursors of current PMs can be found in the Community Development movement in colonial territories which followed the Second World War. Any history of PMs is vulnerable to attributing novelty to rediscovered wheels. All the same, something quite new in its diversity, creativity and spread has happened in the past three decades. It requires an effort to recognise what has happened and is happening. In the 1980s, the mapping and visuals of agro-ecosystem analysis (Gypmantasiri *et al.* and Conway 1980; Conway 1985) came together with the semi-structured interviewing of RRA to provide more powerful and versatile ways for outsiders to appraise and analyse rural realities (Khon Kaen 1987). In parallel, farmer participatory research in its many manifestations, farmer field schools, integrated pest management and the many forms of visual analytical diagramming, scoring and ranking all took off and went rapidly to scale, as did other participatory methods and PMs. This happened very fast.

One indicator is labels and acronyms but this can mislead: they can refer to a single quite integrated methodology or to a whole family. With that caveat, an impression of what has happened can be given by listing some of the more prominent and widespread PMs in rough sequence of their substantial initiation and introduction from the early 1980s to the present:⁹

Farmer Participatory Research (FPR)
Immersion
Participatory Seed Breeding
Participatory Technology Development (PTD)
Integrated Pest Management (IPM)
Farmer Field Schools
Participatory Forest Management (in India, Joint Forest Management)
Participatory Video (PV)
Participatory Monitoring and Evaluation
Participatory Rural Appraisal (PRA) (late 1980s, early 1990s)
Participatory Irrigation Management
Appreciative Inquiry
Most Significant Change
Participatory Poverty Assessments (PPAs)
Participatory Learning and Action (PLA)
Planning for Real
Reflect ¹⁰
Stepping Stones
Report cards (Paul 2002)
Participatory Budgeting (PB)
Participatory Geographic Information Systems (PGIS) ¹¹
Community-Based Development (CBD)
Community-Driven Development (CDD)
Internal Learning System (ILS) (Nojonen 2007)
Participatory Action Learning System (PALS) (Mayoux 2007)
Participatory Human Rights Analysis (Jupp 2007: 108–9)
Participatory 3-D Mapping
Participatory Vulnerability Analysis
ALPS (Accountability, Learning and Planning System) (David, Mancini and Guijt 2006)

9 These are in very approximate sequence. Initially I had a bar chart and then a listing by decade. Dates are quite clear for some PMs and less so for many others. Dating is often very problematic for reasons of evidence, progressive evolution and emergence, and time of labelling.

10 www.reflect-action.org Archer (2007).

11 www.iapad.org, and www.pgis.net

Community-Led Total Sanitation (Kar with Chambers 2008)

Social audits

Monitoring of service delivery

Participatory Value Chain analysis

STAR (Stepping Stones and Reflect)

Budget tracking

Reality Checks ¹²

Participatory approaches with Web 2.0 and ICTs (see 3.3.5. below)

In the 1980s, agriculture was a fertile field for innovation. In the 1990s poverty and the community level were conspicuous. And in the 2000s, applications in governance became more prominent (pers. comm. John Gaventa). The latter 2000s were marked by the explosion of innovation through Web 2.0 and ICTs.

3.2 Proliferation and spread

Named approaches or methodologies have multiplied.¹³ This partial listing suggests that there may have been more innovation in the 1990s than in the 2000s. In terms of the scale of PMs this would probably be misleading because of the extraordinary and continuing spread and innovative adaptation of some of them. During the 1990s and 2000s, many of the earlier PMs spread exponentially. Some went to scale in between 30 and 100 countries, and very extensively within some of these: FPR, IPM, FFSSs, PRA, Reflect, PPAs, PGIS, PV, PPAs, CLTS and PVA among others. More conjecturally, there may have been a trend towards improvising and inventing methodologies *ad hoc* one-off for specific context and purpose, a point to which I will return. While few of the new generation of (especially Northern) development professionals know much about the participatory methodologies and methods of the 1990s, worldwide these have continued to spread and become thicker on the ground. An indication of this came in a participatory review by Action Aid International (2006) of participatory approaches being used in 22 of its country programmes. Fourteen of these were listed (numbers of country programmes using them are in brackets): PRA (22), Reflect (20), Participatory Vulnerability Analysis (16), Participatory Budget Analysis (16), Participatory Action Research (15), approaches with children (15), Participatory Poverty Assessments (14), Stepping Stones (14), STAR (12), Participatory Video (12), Social Audit (11), Immersions (10), Public Hearings (9), and Citizens' Juries (6). AAI's annual

12 For Reality Checks in Bangladesh for 2007, 2008 and 2009 visit www.sida.se For 2009 see also Sida and GRM (2010).

13 In the early 1990s there was a similar proliferation of variants of PRA with over 30 labels. But these differed from the current explosion: they used similar 'PRA methods' (often group, participatory and visual) and were similar, a bit like species in a genus, while what we have today is more like a proliferation of genera with accelerating horizontal transfer of 'genes' (methods).

Participatory Review and Reflection Processes (PRRPs) were so integral to AAI's practice and culture at all levels that they were not even listed. Other indications come from *PLA (Participatory Learning and Action)* and its predecessors *PLA Notes* and *RRA Notes*. These date back to 1988 and are now in 2010 going beyond the 60th issue. This periodical provides a historical record of the proliferation of participatory methodologies and their applications, with issues dedicated to domains as diverse as children's participation (twice), performance and participation, animal health care, sexual and reproductive health, learning and teaching, local government, poverty reduction, literacy and empowerment, community water management, popular communications, immersions, community adaptation to climate change, and Community-Led Total Sanitation, to mention but some. So diverse are the contexts and so varied the combinations and inventions that it would seem that there are few areas of human social activity where PMs have not been or could not be evolved and applied.

3.3 Explaining proliferation and spread

A sense of the future potentials of PMs can be gained by examining the nature of this proliferation. One view could be that the multiplication has peaked and will now die down. Another could be that it is moving into new spaces with almost unlimited transformative potential. For what has happened so far, five explanations can be suggested.

3.3.1 The multiplication of methods

First is the multiplication of methods and tools. The repertoire or suite of methods or tools has grown enormously. Increasingly, the scope for borrowing has been recognised and exploited. The most obvious example is the visual and tangible methods of PRA. More and more genetic material, as it were, in the form of methods and approaches has become available from PRA and many other sources, to be used in innumerable applications. Drawing mainly on a PRA repertoire, both Neela Mukherjee (2002) and Josh Levene (International HIV/AIDS Alliance 2006) have listed 100 tools, and Mukherjee has (2009) published *Speaking to Power* which gives '27 Voice Tools for building bridges for participatory learning, action and policy-making'. As with ingredients in cooking, not everything can be combined with everything else,¹⁴ but the number of potential viable combinations has risen exponentially.

3.3.2 Versatility, adaptability

The second contribution to proliferation has been the versatility and adaptability of most of the methods and methodologies and their application to different purposes and contexts.

A few methods are quite specific and focused in application, like visual diaries¹⁵ (Nagasundari 2007; Narendranath 2007; Noponen 2007). But most of them, especially those stemming from the original core PRA methods that are

visual and tangible, have many actual and potential applications. Ravi Jayakaran, one of the early innovators in the PRA tradition, has demonstrated the versatility of just one of these, the 10 Seed Technique, in which participants estimate, judge, value or score by allocating 10 seeds between categories (Jayakaran 2002). Applications of this one technique have been as varied as: patterns of distribution among a population like health care, incidence of diseases, HIV/AIDS, birth control practices, sanitation practices, education levels and housing needs; water resources; rapid damage assessment in disasters; and analysis of trends, seasonality, livelihoods, expenditure, and problems. And Jayakaran has shown in 'Wholistic Worldview Analysis: Understanding Community Realities' (2007) how the method can be applied to enable members of communities to distinguish, within their categories of livelihood analysis, problem analysis and uncertainty analysis, the relative extents to which issues are within the control of the community, depend on outsiders, or are uncontrollable.

Perhaps the most widely adopted and adapted method has been participatory mapping.¹⁶ Applications since 1990¹⁷ have been innumerable – social mapping to show households, people and their characteristics; resource and land use mapping (in a case in Gujarat of underground aquifers); facility mapping; and mapping of mobility, wellbeing, social networks, vulnerability, stigma and drunken husbands, to name but a few. Starting with mapping on the ground and on paper, applications are now numerous also with GIS and GPS and 3-D modelling (see PLA 54, 2006 and below). The number of participatory maps made since they began to spread in 1990 possibly runs into millions.¹⁸

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- 14 Incompatible mixtures, like salt in sweet, are at best unpalatable. Participatory methodologies that have a preset quasi-didactic mode are in contradiction with PMs which encourage or provoke people to do their own analysis and take action. An example of such a misfit of PHAST – Participatory Hygiene and Sanitation Transformation, which has a thick manual, a long preparation period, numerous sessions facilitated with preset cards, and a mode of didactic participation, and CLTS – Community-Led Total Sanitation, which abjures teaching, criticising or instructing, and quickly facilitates appraisal and analysis by communities to come to their own conclusions about open defecation. Attempts are being made to merge the two; but the behaviour, attitudes, relationships and time scale of PHAST conflict with those of CLTS and experience has been negative. Readers can make their own comparisons. For PHAST visit www.who.int/water_sanitation_health/.../phastep and for CLTS www.communityledtotalsanitation.org (both accessed 22 May 2010).
- 15 Noponen makes the point that the visual diaries of the Internal Learning System were evolved independently of PRA visual and tangible methods (Noponen 2007: 55).
- 16 For a fuller review of mapping see my book *Revolutions in Development Inquiry* (2008) chapter 7 pp133–50 'Whose Space? Mapping, Power and Ethics'. Developments have been so rapid that this already needs updating.
- 17 Participatory mapping began to take off in India in 1990 and then spread to other countries. There was a prehistory of isolated cases, but nothing like the wildfire spread from 1990 onwards. See *Revolutions in Development Inquiry* pp 134–5.
- 18 This estimate is a personal guess based mainly on estimates for South and Southeast Asia and sub-Saharan Africa. 15,000 collines in Rwanda alone have made their own cloth maps (pers. comm.. Sam Joseph), and these will have been based on earlier maps made by communities on the ground. All the communities in which the very large INGO Plan International works have been making participatory maps during at least the past decade. And many communities have made maps many times. A visitor

Some methodologies as well as methods have also proved versatile and have been used for different applications. For some, the evolutionary pattern is like a Darwinian branching tree with speciation through local adaptation. Reflect, for instance, 'has been adapted to meet local circumstances and there is now a huge diversity of practice. In some places, the focus is on literacy and empowerment, as in the first pilot projects, but in many cases the focus is on social change without an explicit literacy element' (Cascant I Sempere 2009). Whether considered a methodology or a method, Appreciative Inquiry has been widely used.

3.3.3 Combinations of methods and methodologies

Combinations of methods and of methodologies have multiplied through hybridisation and eclecticism, and combinations of these.

Hybridisation has occurred when distinct PMs have substantially merged. Reflect is a hybrid of the popular education of Paulo Freire and the visual methods and behaviour and attitudes of PRA. Stepping Stones evolved in parallel, and then Reflect and Stepping Stones came together as further hybrid – STAR (**S**tepping **S**tones and **R**eflect).¹⁹ A recent example is Reflect with ESOL, the teaching of English for Speakers of Other Languages (Taylor 2009). The participatory mapping and modelling of PRA formed a hybrid with GIS (Geographic Information Systems) to become Participatory GIS (*PLA* 54, 2006) and Participatory 3-D modelling. The Community Scorecard Process in Andhra Pradesh is a hybrid or compound of 'various participatory rural appraisal (PRA)/participatory poverty assessment (PPA) tools and citizen report cards' (Kumar and Shah 2004: i). The annual Reality Checks on primary healthcare and primary education in Bangladesh combine immersions (*PLA* 54) with participatory methods associated with RRA (Rapid Rural Appraisal) such as wandering around, key informants, listening and observation (Sida 2008, 2009, 2010).

The eclectic pluralism manifest in these hybrids is taken further in other PMs that are created. This can occur within a genre like PRA visuals and tangibles, themselves multiplying – for example with new forms of diagramming and methods like card sorting combined in innumerable ways. It also occurs between genres in sequences and with complementarities adding depth, insight and power. This has been shown by mixes and sequences of popular and forum theatre and drama in their many forms, by drawings, by

to a village in Nepal was met by a man who took out a piece of paper and started drawing a village map. 'Have you done this before?' 'At least a hundred times.' (pers. comm. Yam Malla).

19 An intriguing analogy comes from the recent discovery of horizontal gene transfer, in which viruses carry genes from the genome of one organism to another and species can combine. Not only does this add a more credible source than random mutations for the variability needed for natural selection, but it also postulates that organisms with two different lives, such as caterpillars and moths, are hybrids of two species. The 'Uprooting of Darwin's Tree', complementing or superseding a progressive branching with lateral transfers, resonates with the shift of balance from the things to the people paradigm, with horizontal networking as well as top-down transmission and dissemination.

conversations and stories by focus groups, by participatory numbers and statistics, by immersions... and these have been accelerating.

3.3.4 Facilitators

Whether facilitators are a fourth factor is a call of judgement. There may well have been an increase in the numbers of people who work in a mode of participatory facilitation, and who have varied repertoires and a capacity for performative and interactive improvisation and invention. This sort of eclectic pluralism and creativity does seem to have become more common, and more common in some countries like the Philippines than others. The more creative facilitators, many of them consultants,²⁰ have become versatile in drawing on, combining and inventing methods and approaches *ad hoc* for context and purpose. And they add to the range of things they know how to do. At the same time, facilitation as a style has become more common in some, perhaps most, large International NGOs. ActionAid International is no longer alone in having regular annual participatory processes which require facilitation. And facilitation on a much greater scale is found in parts of the private sector, and facilitator has (for better or for worse)²¹ become a profession.

Less speculative is the multiplication of people, hundreds of thousands of them, who have been trained in facilitation for PMs which have gone to scale. Examples are IPM, Farmer Field Schools, Stepping Stones, Reflect, STAR, CLTS... for all of which facilitator training and good facilitation are recognised to be of central importance. Reflect alone in 2009 is used by over 500 organisations in some 75 countries (Cascant I Sempere 2009). To varying degrees, these field level facilitators follow routines or innovate, but unless they regress into routinised didactic modes, they will adapt and improvise, as good PMs encourage them to do.

3.3.5 Combinations with ICT and hardware

A fifth, recent and powerful driver of proliferation and spread has increasingly been the participatory use of hardware and ICT technologies and innovations. This has built on the recognition, so widely validated, that 'They can do it' – that ordinary, local people's capabilities far exceed what many outsider professionals have supposed. It has been driven at breakneck speed by accelerating technological innovation, plummeting costs, and remarkable champions. Looking back, some of the more conspicuous manifestations have been:

20 See chapters in Brock and Pettit (2007) *Springs of Participation* by Dee Jupp, Sarah Levy, Linda Mayoux, Kate Newman, Helzi Nojonen, and Alice Welbourn. Strikingly, and more widely than these six, almost all the creative participatory freelance consultants I can name are women.

21 As an amateur facilitator I have noted, and resented, the intrusive approach of some professional facilitators (by no means all) who justify the high cost of their contracts not by keeping quiet, but by intrusively disrupting lively groups that are happily muddling towards coherence with questions like 'Are you sure that you have achieved clarity about your objectives?'

- *Community radio*. An early example was community radio, now so wide spread that there are reported to be 20 such stations in the Cape Town area alone. Children's radio followed in Ghana (Lamprey 1998) and elsewhere.
- *Participatory television*. In a participatory mode people have made their own television programmes. In Ghana, although adults helped on the technical side, children designed the programme and selected the presenters (Lamprey 1998).
- *Participatory photography* has become easier and cheaper with the advent of cheap disposable cameras. On an SDC initiated immersion activity in Tanzania, very poor people were given these cameras, shown how to use them, and invited to take photographs to show what was important in their lives. Their pictures were exhibited in Berne and seen by elected politicians and other policymakers (SDC 2003; Jupp 2004). They reinforced the point, also made verbally, that shelter mattered a great deal to poor people and much more than professionals had supposed.
- *Participatory Video (PV)* has exploded in the past few years. Even before lightweight video camcorders became available, and at a time when editing was still slow and laborious, a Nepali woman was invited to Cambridge for six weeks to edit a video of her community (pers. comm. Rachel Hinton). Lars Johansson, Mwajuma Masaiganah and others in Tanzania and P.V. Satheesh of the Deccan Development Society in Andhra Pradesh were early pioneers. Satheesh showed that women who could not read or write could become expert in making videos: some of their films were shown on Doordashan, the Indian national television channel, and the women also trained women from other countries. In parallel, there were other initiatives with PV by Kamal Singh in Zanzibar, and through him by Praxis in India, and by Chris and Nicholas Lurch (Lurch and Lurch 2006). Its rapid spread has been helped by lower costs, convenient camcorders, the streamlining of computer-assisted editing, and the ease, pleasure and empowerment to which it gives rise. Its applications are now innumerable, such as, to pluck out a recent example, amplifying the voices of children concerning climate change (Plush 2009).
- *PGIS (Participatory Geographical Information Systems)*²² have evolved, diversified and spread through energetic promotion by champions, driven by their commitment to empowering and defending marginalised and vulnerable communities, and made easier because GIS and GPS (Geographical Positioning Systems) have become cheaper and more user-friendly (Participatory Learning and Action 54, 2006). PGIS

is the result of a spontaneous merger of Participatory Learning and Action (PLA) methods with Geographic Information Technologies and Systems (GIT&S) to compose peoples' spatial knowledge in the forms of virtual or physical, 2 or 3 dimensional maps used as interactive

22 See www.iapad.org and www.PPgis.net (accessed 7 June 2010).

vehicles for discussion, information exchange, analysis and as support in advocacy, decision making and action taking. PGIS practice is usually geared towards community empowerment through measured, demand-driven, user-friendly and integrated applications of GIT&S, where maps become a major conduit in the process.²³

One of the more remarkable applications is *P3DM* (Participatory 3-Dimensional Modelling) evolved in the Philippines by Giacomo Rambaldi and others (Rambaldi and Callosa-Tarr 2002). With this, over a period of days, local people make their own spatially referenced models of their environment. Jean-Christophe Gaillard and others have applied this to participatory vulnerability analysis in which individual households and their relative vulnerability are shown by coloured pins, and communities make their own disaster prevention and management plans (Gaillard and Maceda 2009).

- The *mobile phone* revolution (Samii 2009) has been spectacular. In sub-Saharan Africa there may now be over 300 million mobile phones, or roughly one to every three people. In India some 600 million people have access (Barun Kanjilal pers. comm. 24 May 2010) to them.²⁴ Widespread sharing multiplies the numbers of people who are able to use them, and when voice recognition comes in those who are not literate may gain new forms of access. Mobile phones provide opportunities for many empowering applications²⁵ such as gaining market information, medical advice (one call centre staffed by doctors receives 10,000 calls a day),²⁶ agricultural advice, and use for video and for photographs and their transmission. They can enable field staff to communicate with, inform, encourage and mentor local leaders and support participatory change processes in communities, as now commonplace with follow up to CLTS triggering. A frontier of Participatory Monitoring is being explored in Kenya with CLTS to see whether through mobile phones there can be continuous updates from communities to map their progress towards total sanitation (Sammy Musyoki, pers. comm.).

23 www.iapad.org (accessed 7 June 2010).

24 Statistics are bedevilled by rapid change, and difficulties of definition – whether numbers of phones, numbers functioning, numbers of people in families with one or more phones, numbers of people with ready access, or numbers who use a mobile at one time or another. Round numbers once cited acquire a sustainable life of their own. But that the spread of mobile phones in developing countries has been spectacular is beyond any doubt.

25 Not all empowering applications are PMs in a strict sense – money transfers through M-Pesa in Kenya and Zambia, for example, which provides cheap, quick and effective means to transfer money. But it will be surprising if they are not harnessed one way or another as elements combined in PMs. Users of M-Pesa, a Kenyan innovation, went from zero to 7 million in 2 years. It is used now to bribe police to avoid *matatu* (minibus) delays at check-points (pers. comm. Simon Batchelor 25 May 2010) (though before this innovation I have observed it repeatedly taking only about 30 seconds).

26 The Telemedicine Reference Centre www.trclcare.com (accessed 8 June 2010).

- *Internet access* and *email* have rapidly improved, for example through the fibre-optic cable to Kenya, Rwanda and other countries.²⁷ For those who search the web there is a cornucopia of hundreds of guides, manuals and sourcebooks on participatory methods, approaches and methodologies.²⁸

A recent application illustrates the participatory potential of the new connectivity. An evaluation of Reflect showed how powerful and inclusive an online discussion can be for sharing and creativity. It engaged 88 practitioners from 42 countries in 4 languages. It collected tools and created new tools. Countries took ideas from each other: Pamoja Guinea Bissau adopted the 'census of circles' tool from Madagascar, and CIAZO in El Salvador used tools from Sierra Leone and the DRC. Among those tools integrated in the final framework were

'the motivation tree' and the 'dissemination of evaluation results map from Angola, the 'I joined Reflect because...' tool from the DRC, the 'literacy dice game' from Lesotho, the 'seeds analysis' from Sierra Leone', and 'how much did I talk' tool from the UK.

(Cascant I Sempere 2009)

- *Web 2.0 for development* (Web2.0fordev) is a new community of practice (Addison 2009; Barth and Rambaldi 2009) with 'dozens of emerging interactive web services' (Ashley *et al.* 2009: 8) and many actual and potential participatory applications. Web 1.0 was (and remains) the web as information source. Web 2.0 is interactive, has a participatory culture and is sometimes called 'the participatory web'. In contrast with the first generation of websites which were more hierarchical, Web 2.0 enthusiasts substantiate the claim that it is bringing in a new, more informal, interactive, transparent and accountable means of communicating (PLA 2009 *passim*). Web2.0fordev is applications for development. It takes many forms such as Wikis and online social networking (Macqueen 2009) which are probably the most common and versatile. Vlogging (video blogging) developed by the Ghana Information Network for Knowledge Sharing, is a new form in which short video clips are posted and commented on (Deh 2009). Ushaidi, pioneered by Ory Okolloh (2009) first as a personal blog during the post-election crisis in Kenya in late December 2008, is a means of crowdsourcing information. The Ushaidi platform allows anyone to gather distributed data via mobile phone SMS, email or the web and visualise it on a map or timeline. It was the basis of the system used in the

27 Over the past eight or so years I have asked participants at the annual international workshop convened by Praxis in India to stand in a line indicating the quality of their email and internet access. Eight years ago broadband was so rare I did not even ask about it, and a large majority had slow access often with unreliable electricity, while a substantial minority had none at all. In the past two years a majority have a combination of reliable electricity and broadband, and the only participants without any access or access for which they have to travel a distance have been from Afghanistan. The change has been visible, year on year. Even if this is to some degree explained by changes in the composition of participants, there is no doubt that the underlying transformation has been dramatically rapid.

28 See for example www.eldis.org/home/topics/resourceguides

Haiti earthquake for locating where people were trapped under the rubble and for other geo-referencing, with volunteers helping from all over the world. Many more innovations and applications can be anticipated, with epicentres of innovation in Kenya and other developing countries.

With Web2.0fordev, and its cornucopia of potentials through email, internet, video conferencing, participatory GIS, mobile phones, SMS, blogging, Twitter and beyond, a whole new domain of participatory interaction has opened up. MAP Kibera²⁹ is a project in Nairobi in what is widely said to be Africa's largest slum. In November 2009 young Kiberans created the first public digital map of their community using OpenStreetMap techniques³⁰ and surveying with GPS. A Mapping Geek Community meets weekly. There are Twitter weekly updates. The explosion of activity is based on open source technology and philosophy and participatory approaches, with continuous and multiplying volunteer contributions from within and outside Kibera. It illustrates the runaway empowering potentials of new combinations of technology and volunteer commitment, energy and creativity. We are in a new space.

3.4 The scope and style of PMs: without boundaries?

These five developments, interacting and combining, go a long way towards explaining the rise and spread in participatory methods, approaches and methodologies. As methodologies have become less territorial and more inclusive, they have embraced more and more methods: Reflect's practical resource materials, compiled and published in 2003, has 19 methods under Written Word, 18 under Numbers, 11 under Spoken Word, and 13 under Images (Archer and Newman *et al.* 2003). To these can now be added much from Web 2.0 and applications of mobile phones. The proliferation, combinations and inclusiveness of these trends manifest a pluralism adaptive to context and purpose, which promises further proliferation.

In assessing potentials definitional boundaries must not get in the way. I have chosen examples with which I have some familiarity. There are other PMs, approaches and methods with other provenances, labels and literature which have much in common and overlap with those PMs that have been noted above, including different forms of Action Research and Participatory Action Research (Reason and Bradbury 2008) and of Participatory Monitoring and Evaluation (PM and E) (Estrella *et al.* 2000). There are approaches to different degrees co-created by outsiders and communities. With forest management, this has taken the form expressed in the title of a book *Negotiated Learning: Collaborative Monitoring in Forest Resource Management* (Guijt 2007). This describes practices pioneered by the Centre for International Forestry Research (CIFOR) in which outsiders and forest dwellers work out how to learn together. In this and other approaches, methodological design is not preset but

29 <http://mapkibera.org> (accessed 7 June 2010).

30 See www.OpenStreetMap.org (accessed 7 June 2010).

emergent and evolving (Burns 2007). Typically there are many activities and methods, with action research as a hub for a mixture of methods. New elements can be constantly added into ‘a collaged inquiry’ (*ibid.*: 119). Adaptation and improvisation exploit ‘opportunity spaces’ as they arise, all this as part of an ‘embedded learning process’ in everyday action. The approach can be characterised as collaborative, evolutionary, emergent, adaptive and pluralist. In such modes, and beyond identifiably named and branded methodologies, there seems to be almost unlimited scope for creative mid-wifery, improvisation and invention.

4 Two lenses: technology and complexity

What has happened and is happening with PMs can be seen through two lenses. These can further illuminate the nature, utility and relevance of PMs in our twenty-first century world and contribute to reformulating paradigms.

4.1 Technologies and participatory methodologies

Light can be thrown on the paradigms by Brian Arthur’s book *The Nature of Technology* (2009). He is concerned mainly with physical technologies, belonging paradigmatically thus on the things side. Arthur himself began as an electrical engineer, and writes that the fields he knows best are engineering and economics. He gives three definitions of technology:

a means to fulfil a human purpose which may be a method, process, or device;

an assemblage of practices and components; and

the entire collection of devices and engineering practices available to a culture.

All three formulations include practices, which implicate methods and methodologies as ways of carrying them out. Further, in his definition, a technology may be material, like an electrical generator, or non-material, even if materially embedded, like an algorithm for digital compression or for speech recognition.

Social methodologies are not within his universe of concern, but PMs can be seen to cohere as what he calls a domain. This is a grouping of technologies that works naturally together and is based on a natural phenomenon – photonics based on light, electronics on electrons, radio engineering on radio waves, digital technologies on binary logic, and so on. Seen like this, PMs are a domain based on the natural phenomenon of individual behaviour and social interactions, mediated verbally, visually and/or virtually.

PMs as described and analysed in this essay have characteristics in common with Arthur's technologies.

First, both have been accelerating in their evolution, in their changing nature, variety and versatility. The speed of change with ICTs and Web 2.0 is a commonplace. The parallel acceleration in the evolution and proliferation of PMs, outlined above, has also been marked but much less recognised.³¹

Second, both have been similar in what Arthur calls *combinatorial evolution*. This is the way in which new technologies (or PMs) evolve through combinations of existing technologies (*ibid.* 18–23, 167–183) (or PMs, approaches or methods). Arthur is quick to acknowledge that this is not a new idea: he cites Joseph Schumpeter's description of such combination as 'a source of energy within the economic system which would of itself disrupt any equilibrium that might be attained', and an American sociologist, William Fielding Ogburn, who wrote in 1922 'It would seem that the larger the equipment of material culture the greater the number of inventions. The more there is to invent with, the greater will be the number of inventions'. Thus new technologies become building blocks for yet other new technologies. The metaphor of building blocks belongs to the paradigm of things and may not fit well, but in other respects, combinatorial evolution has been a major, widespread phenomenon with PMs: methods and approaches have been repeatedly combined to produce new PMs and variants of existing ones, often combined with improvisation, invention and eclectic borrowing and adaptation.

Third, the potential for combinatorial invention and evolution of PMs has been enhanced by the broad shift taking place in the nature of technologies, from being physical and fixed in place to becoming more mobile and easier to combine. For example

Global positioning technology provides direct location, but it rarely stands alone. It is used as an element in combination with other elements to navigate aircraft and ships, to help survey territory, to manage agriculture. It is like a highly reactive building block in chemistry – the hydroxyl ion, say, doing little on its own, but appearing in a host of different combinations.

(ibid. 25)

Arthur points (*ibid.* 24) to a broad shift in character of technologies taking place that is 'as much biological as mechanical': technologies are 'mechanistic almost by definition' 'with parts that interact in predictable ways' but they have evolved as have PMs towards greater combinability.³² Technologies of the digital revolution, of modern genetic engineering, and of nanotechnology 'can be fitted together in endless combinations that can be configured and

31 For attempts to summarise and explain what has happened, see Chambers (1997 and 2008). *PLA Notes* 50 'Critical Reflections, Future Directions' is a good source by sector and topic.

32 Combinability is not a term that he uses as far as I can see. In PMs, combinability is a useful concept. Participatory mapping, for example, is more combinable than, say, visual diaries.

reconfigured on the fly for different purposes as conditions demand' (*ibid.* 25). In this light, participatory mapping is versatile, combinable and adaptable for PMs just as global positioning technology and the hydroxyl ion are for their contexts. PMs are created both through combinations which may be relatively stable and through processes increasingly *ad hoc* for specific purposes; and they are expressed and take form through performance, improvisation and interactions even more 'on the fly', and unique each time.

The shift in new technologies to becoming more mobile and combinable opens up new areas which span things and physical technologies on the one hand and people and participation on the other. Physical technologies have more and more participatory applications, as we have seen; PMs increasingly make use of the new mobile communication technologies. Recent digital and communication linked technologies – radio, video, GIS, GPS, mobile phones, email, internet – have hybridised with and been used by PMs. With ICTs and Web 2.0 the potentials for combinations open up a whole new range of opportunities. With the big proviso that they must be accessible and usable by poor people, which they increasingly are, digital technologies multiply the range and number of elements and ideas available for new PMs and applications. Through the opportunities for combinations opened up, PMs appear likely to continue to proliferate, perhaps exponentially.

4.2 Complexity

Let us turn now to complexity theory and thinking and see what they can contribute. There is now a vast literature.³³

The emergence and evolution of complexity science, and its multifarious insights and analogies span the physical world, digital computer technology, biology, ecology, economics and other domains. It opens up contrasting worlds beyond the certainties of the paradigm of things and fixed procedures. Newtonian physics is still needed and used for engineering to build infrastructure like roads and bridges. But the discovery of the now familiar new worlds and concepts of complexity like edge of chaos (see e.g. Waldrop 1994), emergence (Johnson 2002) and critical mass (Ball 2004) have illuminated and validated the creativity, diversity and unpredictability of the paradigm of people and processes. In consequence, these now have a new legitimacy in science.

Edge-of-chaos systems where complex and unpredictable behaviour emerges from active agents and simple rules are found both in computer simulations and in human organisation and behaviour. It is a commonplace now that complex, diverse, unpredictable behaviour can emerge on computer screens by

33 For relevance to development, a clear overview is given by Ramalingam *et al.* *Exploring the Science of Complexity: Ideas and Implications for Development and Humanitarian Efforts* (2008). For a brief review see Scoones *et al.* (2007) *Dynamic Systems and the Challenge of Sustainability*: 10–12. I have found the more accessible overview literature (e.g. Waldrop 1994; Johnson 2002; Ball 2004; Gribbin 2004) fascinating and useful and to be recommended to other interested laypersons.

programming random blobs with three instructions which lead them to flock about the screen. And the analogy of social processes with the edge of chaos is far from new, emerging as it can through people as adaptive agents acting within few simple rules.³⁴ I earlier puzzled whether this represents ‘a deep paradigmatic insight, an interesting parallel, or an insignificant coincidence’ (Chambers 1997: 200). Do these parallels represent deep ontological realities that have always been there waiting their time to be expressed in different contexts? Or are they merely a coincidence?

There is scope for speculation and doubt. In my view now there is probably deep ontological significance, meaning that we have here relationships representing a reality inherent in the universe that we know and explore. Were there intelligent life on another planet, the same phenomena could manifest, as could the same parallels. Perhaps more importantly, even if there were no deep ontological significance in the parallels, there is paradigmatic significance (in the sense in which paradigm is used in this paper) in how the insights of complexity and emergence can change our ontological assumptions, concepts, behaviours and relationships, and through these our mindsets, values, behaviours and procedures. The very fact that we are asking these questions means that they have entered our minds. And they change our language and how we are able to see our physical and social world, and frame and interpret it. Our experiences and mindsets feed and are fed by not only different concepts but different ontologies. Alongside concepts, then, ontologies are part of what constitutes a paradigm.

Besides edge of chaos, other ideas and ways of thinking and seeing things from complexity science take us into a new realm. Among the more striking and relevant are the concepts of non-linearity, adaptive agents, co-evolution, and sensitivity to small differences in starting conditions. These make it easier to appreciate, legitimate and accommodate uncertainty and unpredictability.

Concepts and lenses like these from complexity science are especially useful for understanding and validation in two domains: the realities of poor, marginalised and vulnerable people; and the misfit of ‘things’ methodologies for complex conditions and processes.³⁵

34 I have too often cited the example of women’s savings groups initiated by the NGO MYRADA in South India, where two conditions were insisted on – transparent and accurate accounting, and rotating leadership, leaving the women in each group free to make their own decisions about how much to save, what to lend for, what interest rates to charge, how to deal with defaulters, and so on. Minimal conditions were empowering and allowed an emergent flowering of diversity. Football, chess and other games are obvious examples of unpredictable outcomes from motivated agents acting and interacting within simple rules.

35 I set out to write this paper about complexity, starting with complexity theory and leading from that to applications. Reading, thinking and writing have turned that on its head, leaving complexity to the end, after the empirical evidence of poverty and of participatory methodologies and the lens of the nature of technology.

4.3 Complexity and poverty

Non-linearity, adaptive agents, and unpredictability are three concepts which resonate with, illuminate and confirm the realities of poor, marginalised and vulnerable people, and their lives, livelihoods and aspirations. The conditions of the lives and livelihoods of many of them are non-linear, as we have already seen, typically local, complex, dynamic, diverse, uncontrollable and unpredictable. To survive they have to be active and adaptive agents, often with 'fox' strategies (see page 16). The farming systems of many small farmers have been characterised as CDR – complex, diverse and risk-prone. Farmers in these conditions complicate and diversify their farming systems in many ways to reduce risk³⁶ as many poor people do in other conditions. A largely valid stereotype may be that to survive, to be more secure and less vulnerable, and to achieve a better livelihood and life depends for them on a committed and energetic search for opportunities, being aware of and sensitive to changing conditions, open to communication and learning, and adapting, improvising, diversifying, complicating and multiplying the activities and linkages in their livelihoods.³⁷ And most critically, their future is unpredictable.

As we have seen, these realities of poor people contrast with the conditions which many professionals assume or seek to create and where they can exercise their expertise. In common usage, and also for Arthur (2009 see e.g. page 135), *complicated* and *complex* are used as synonyms. However, David Snowden has framed discussion usefully in his Cynefin framework which differentiates these. This framework³⁸ (Kurtz and Snowden 2003; Snowden and Boone 2007) (see Figure 4.1) is a model used to describe problems, situations and systems. It has a four part differentiation of domains as simple, complicated, complex and chaotic (with disorder as a fifth). Simple and complicated are ordered, and complex and chaotic are un-ordered.³⁹ *Complicated* has stable though multiple cause-effect relationships which are in principle knowable, whereas *complex* is a domain where patterns emerge through the interaction of many agents and elements: the number of agents and interactions defy categorisation or analytical techniques and emergent patterns are perceived but not predicted.

Simple and complicated are especially the domains of competence of professional experts. The worlds they try to create for themselves are ordered, controllable and predictable. Engineering as mode and metaphor applies in the simple domain and systems thinking in complicated. In contrast, the worlds that many people living in poverty experience are in the complex and chaotic

36 This was a major theme of the 1987 conference which led to a book – *Farmer First* (Chambers, Pacey and Thrupp 1989). I later tried to further substantiate this with more examples (Chambers 1991).

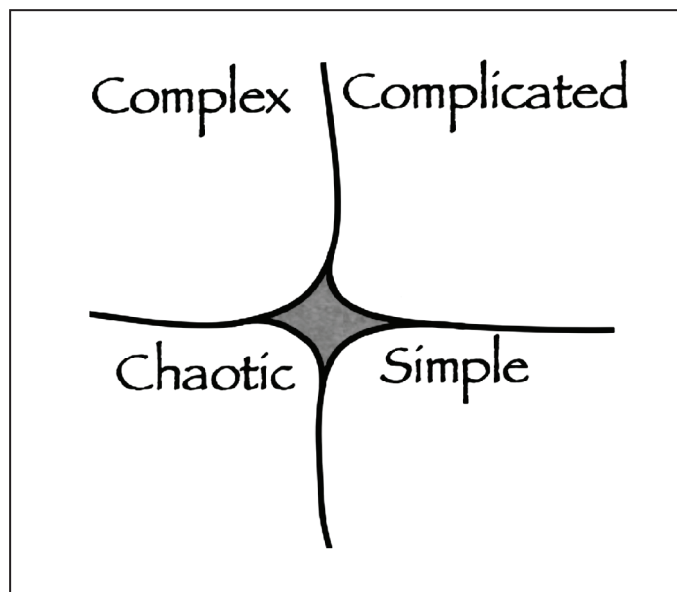
37 Examples to support this statement can be found in Chambers (1991).

38 Cynefin (pronounced kun-ev'in) is a Welsh word with meanings combining 'space' and 'habitat' with a sense of multiple pasts – cultural, religious, geographic and so on – of which we are only partly aware. See www.en.wikipedia.org/wiki/Cynefin (accessed 23 May 2010).

39 For explication of meanings of un-ordered, see Kurtz and Snowden (2003: 4–5). It includes emergent order in complexity.

domains – un-ordered, uncontrollable and unpredictable. Complex adaptive systems apply as mode and metaphor in the complex domain, and crisis management in the chaotic. For professionals there are best practices in simple and good practices in complicated. For poor people in their day-to-day more complex and chaotic contexts, practices are – have to be – adaptive, improvised and emergent.⁴⁰

Figure 4.1 The four domains of the Cynefin Framework



Source: Adapted from www.en.wikipedia.org/wiki/Cynefin

The Domains are

Un-ordered	:	Ordered
Unpredictable	:	Predictable (in principle)
often as		
experienced	:	sought, created and perceived
by poor people	:	by professionals

Neo-Newtonian professionalism belongs in the simple and complicated domains. The complex and chaotic domains demand a post-Newtonian professionalism.

⁴⁰ I question myself with what authority or credibility I can write such *obiter dicta*. Statements like these are intended as provocative working hypotheses about conditions that are common, not assertions with any sort of universal validity.

The Cynefin framework illuminates major misfits in much current donor development thinking and practice. ‘Things’ procedures like the logframe and results-based management originate in the simple and complicated domains where cause and effect are in principle knowable. They are then applied in the complex domain of unpredictability which prevails in most development. This is demanded and driven by the increasingly imperious demands of upward accountability. This forces fabrication of the future as if it were controllable, manageable and measurable, as though development initiatives were immunisation programmes *manqués*.⁴¹ The misfit has high costs: in misdirected effort which does not respond well to changed conditions; in demotivating those who live and work with those changes; in prudent editing and massaging what is often misinformation (‘All power deceives’) passed up the chain of power; and in learning foregone.

These frames and procedures, and the mindsets and practices that go with them do not correspond with the complex, emergent realities of the lives and livelihoods of poor people. In policy, project and programme planning, strenuous efforts are made to treat the complex as simple or complicated and the diverse as uniform. Poor people, who are adaptive agents, and their conditions, which are complex or chaotic, are then treated as if these were controllably simple or complicated.

Reverting to the non-technical sense of complexity, we can then ask: whose complexity counts? Or, in Snowden’s terms, is it the *simple* or *complicated* controlled and predictable realities, mindsets and approaches of a neo-Newtonian professionalism that count, or the *complexity* of the emergent, uncontrollable and unpredictable realities of poor people? The word ‘counts’ is critical. For this is about power, the power to define, to frame, to value. Are the lccduu realities of poor people to be experienced, appreciated and understood by powerful professionals? Are they to count? Or are they to be seen through a blurred telescope from a distance, and then imagined and constructed as conveniently universalised, simplified, standardised, and stabilised?⁴²

41 This idea is from Rosalind Eyben.

42 In the words of the verse

The World Bank, highest of us all
Looks down to see poor people small
Like atoms all the same, a size
For which it's right to standardise

But this applies not always or only to the traditional fall guy of the World Bank, but also much more widely.

5 PMs: integration and win-wins

Resolution of some tensions, contradictions and misfits can be sought in the capacity of participatory methodologies to span domains and integrate, accommodating the complexities of poverty while speaking to the prevailing values of much professionalism.

Used well PMs both empower and inform. Used badly they disempower and exploit: and ethical issues have received a good deal of attention (see e.g. Rambaldi *et al.*: 2006). Well used they can enable poor people to analyse their realities and conditions. They inform local people when they learn from each other. They extend and deepen their awareness and understandings. They can also enable them to make their voices heard, to take action, and to influence what happens to them.

They also have a powerful capacity to generate knowledge of realities, often otherwise inaccessible, for outsiders. This is well documented. Since the first Participatory Poverty Assessment in Ghana in 1993, hundreds of PPAs using PRA methods have presented surprises, indicated priorities, and influenced policy and practice (Booth, Holland *et al.* 1998; Norton *et al.*: 2001; Robb 2002; Praxis 2008). PPAs in sub-Saharan Africa strikingly showed the priorities given by poor rural people to health, seasonality, all weather roads, shelter and poverty of time (Booth, Holland *et al.* 1998). PPAs and other PMs shed light on the lives and livelihoods of poor people to substantiate and illustrate their realities. There are many sources for understanding these.⁴³ The Voices of the Poor project (Narayan *et al.* 2000) used participatory approaches and methods and involved some 60,000 poor people in focus groups in 23 countries. In that study, the two causes of poverty most commonly identified in causal linkage diagramming by rural participants in Africa were sickness and theft.⁴⁴ The study reinforced the understanding that the conditions poor people experienced in many, many places, besides exposing them to insecurity, sickness, exclusion, suffering, anxiety, humiliation and other bad experiences, could indeed be characterised as local, complex, diverse, dynamic, uncontrollable and unpredictable.

In ways like these, PMs promise many win-wins, with gains both for poor people and for professionals. They can challenge what have been the dominant reductionist views of poverty and at the same time empower poor people to define and redefine their changing priorities, aspirations and values. A remarkable illustration comes from Bangladesh.

43 See for instance Chapter 8 pp 162–87 in *Whose Reality Counts?* (Chambers 1997) 'Poor People's Realities: Local, Complex, Diverse, Dynamic and Unpredictable'. Also *Poverty Research: Methodologies, Mindsets and Multidimensionality* (Chambers 2007).

44 This finding was not published. It derived from causal linkage diagramming of perceived causes and effects of poverty in rural areas in Nigeria, Ghana, Somaliland, Ethiopia, Malawi and Zambia. When I have asked workshop participants to guess what the two were, they sometimes eventually get sickness but hardly ever theft.

Box 5.1 A win-win in Bangladesh

Measuring Empowerment? Ask Them (Jupp with Ali 2010) expressed Icdduu realities, defied conventional professional wisdom, proved popular and empowering, and enabled groups of poor people to define and co-evolve their ideas of social change they wished to achieve. The story is this.

Sida as a funding agency wanted an evaluation of empowerment in a large social movement it supported in Bangladesh. Donors tried to impose logical frameworks and standard monitoring and evaluation approaches but the Movement resisted. When outside design consultants were asked to suggest indicators for empowerment they came up with membership characteristics, leadership and group cohesion, collective action and wider networking, autonomy and maturity, and key benefits achieved. Then a team led by a consultant used an array of PRA tools, a listening study, and drama to generate value statements from members of the movement. The over 8,000 resulting key statements from groups and committees were 'peppered with perspectives which had never occurred to staff'. When grouped, the statements emerged and cohered as 132 indicators clustered under four headings: awareness; confidence and capability; effectiveness; and self-sustaining. A system of reflection sessions was then introduced in which groups assessed themselves against the criteria with either a happy or unhappy face, according to their satisfaction.

However, an outside review later said that 'in order to be a realistic monitoring tool it needs to be streamlined to reduce the number of indicators and the time taken to complete'. Participants in a donor consortium observed the group reflection process in action and dismissed the approach:

How can poor people engage in a process which takes three hours or more... they have mouths to feed. This is an imposition on their time. Either that or this is not the target group we thought we were supporting.

When these observations were taken back to several member groups 'they were flabbergasted':

We do this because it is important to us.

Yes, it takes a long time but it is time well spent.

How could we review everything we do with only a few statements to describe it?

These people do not understand – we never talked about these things properly before – it has opened our eyes.

The outsiders' concerns about time were based on sensitivity to the widespread experience with the extractive M and E of focus groups and questionnaire surveys. But this situation was different. The meetings mattered to the participants and were found valuable by them. They were even facilitated by members of the movement. There were other paradigmatic differences – for example the way empowerment was a moving target, as groups changed the indicators, seeking to achieve more: goals themselves can change in participatory processes: indeed, one indicator of a good process is that the indicators do indeed change. If they do not, something may be wrong.

The example in the box illustrates points which are widely validated in other experience with well facilitated PMs. Much depends on the confidence of facilitators that 'they can do it': that people who are variously local, uneducated, poor, marginalised, female, children (Johnson *et al.* 1998) or otherwise 'lowers' can analyse the complex realities of their experience, a capability habitually underestimated or denied by central, educated, well-off, powerful and often male professionals who lack personal field experience of how facilitation can empower. The behaviour, attitudes, skills, inventiveness, versatility, and persistence of facilitators are key. Ravi Jayakaran (2007: 45) wrote

While facilitating workshops on the use of the exercise, I have sometimes encountered doubts among the external participants on whether the community will understand what 'appears' to be a complicated technique. However, at every location whether in Lao PDR, Sri Lanka, Cambodia, Philippines, China or Thailand, irrespective of how remote the village was, the community's excitement was unprecedented! They understood immediately after the first example...

Villagers became so excited that it was sometimes very difficult for facilitators to get close enough to watch what they were doing.

These are not isolated cases specially selected to make a point. They represent widespread experiences of facilitators across the range of methods. To any reader who is sceptical, I can only repeat the subtitle of *Measuring Empowerment? – 'Ask Them'* – ask participatory facilitators who have field experience and a good track record.

Among others, four ways can be noted in which PMs can be win-win. All four apply with the social movement in Bangladesh (Box 5.1).

- 1 *PMs, people and multiple, complicated relationships.* Repeatedly local people have shown through PMs that they can identify, analyse and assess many dimensions and many causal and other relationships. The 132 participatory indicators of the social movement in Bangladesh have been trumped, in numbers at least, by 341 in Ghana (Dietz 2009). The visuals and tangibles of PRA and related methods have repeatedly shown powers of judgement and representation that have astonished outsider professionals (Chambers 1997: chapter 7). Diagramming can present and enable the discussion and analysis of many factors, variables and relationships. Ashish Shah had over 200 cards representing elements in sugar farming and relationships in Western Kenya. He asked a logframe expert to put them into a logframe. He returned after two hours to find that he had not started. Yet they could be quite quickly be sorted and arranged intelligibly to indicate relationships in a systems diagram.
- 2 *Participatory numbers.* Local people have shown in innumerable instances that they can count, estimate, measure, compare and value in ways which generate numbers (Jayakaran 2002; Barahona and Levy 2003; Chambers 2008; Catley *et al.* 2008). They can put numbers on almost anything which they experience that is normally considered qualitative, including

empowerment and social change (Jupp and Ali 2010). The insights, categories and relationships which they identify through PMs have been shown again and again to be more numerous, varied and relevant to their significant realities than those of outsider professionals. They can correct, validate and themselves generate statistics (Barahona and Levy 2003, 2007; Chambers 2008; Catley *et al.* 2008). And these can empower them in their relations with organisations and government.

- 3 *Participatory monitoring.* Local people can conduct their own participatory monitoring from which they learn and which informs their decisions about future action (Estrella *et al.* 2000; Gonsalves *et al.* 2005). It can enable them to be aware and in touch through sharing and updating information about changing conditions. It can enhance their ability to adapt and exploit emergent change. The participatory monitoring by the social movement in Bangladesh is typical of the potential by both enhancing awareness and stimulating action by participants but also being able to generate statistics through 'upwards' aggregation.
- 4 *Diversity.* PMs can give voice to local diversity of people, and their insights into different domains, by convening them in separate groups, and often later sharing their different perspectives. In the early days of PRA, Alice Welbourn (1991) pointed out the significance of what she termed 'axes of difference' in communities, especially age (young-old), gender (male-female), ethnicity, and wealth (poor-rich). In Uganda, Irene Guijt facilitated older men, younger men, older women, younger women, and children to meet in separate groups (Guijt 1995). Women and men often meet separately in the review meetings of the social movement in Bangladesh. In Participatory Development Assessment workshops in Ghana (Dietz 2009) change in six domains was similarly assessed in subgroups in which officials were a separate group. When workshop participants assessed the success or failure of the 341 development initiatives they had identified, it provoked Ton Deitz to observe (2009: 31) 'It seems that many Ghanaians, whether literate or not, are experts in the subtleties of complexity thinking.'

We are witnessing here a paradox which transcends the things-people binary: judgement and measurement merge, and facilitated process takes over from formal procedure. Local people are empowered. And so are professionals through being informed and kept in touch and up-to-date. Participatory methodologies not only span the paradigms. They open up new territory. They are a win-win.

6 Paradigm redefined

Revisiting the paradigms of things and people with which we set out, we can now see that they have co-evolved. They have common ground.

Characteristics of technology deriving from things side are shared by participatory methodologies. Communication technologies differ from the more fixed and more mechanical technologies of the past. Communication technologies are not only multiplying but are combining with, adding to and

enhancing PMs in their unprecedented explosion of innovation. In the light of PMs, the combinatorial evolution of technologies, the insights of complexity and the realities of poverty, the paradigms can be redefined.

Reflections on the innovations of the revolutionary System of Rice Intensification (SRI) can help here:

SRI is characterized as a methodology rather than as a technology because it is not to be presented to farmers as a set of practices to be simply *adopted*. The principles behind SRI should be explained so that farmers understand the reasons for the practices. Farmers should be encouraged to test, vary and evaluate the practices adapting them to their own field conditions and taking factors like their labor constraints into account.

(Uphoff and Fernandes 2002: 6)

In these senses methodologies and technologies increasingly converge and overlap. If we start with the things–people continuum, at the things end are technologies that are physical and fixed, as in nineteenth century industries. In the middle are those that have fixed internal structure but are physically movable like many of the latest communication technologies. Also in the middle are algorithms – methods programmed to be fixed in their logical structure and sequences, and through programming stored in hardware. At the people end are PMs, socially mediated and expressed. Often they are performative. They are, in Uphoff and Fernandes' terms, adapted rather than adopted. They are never the same twice. So manuals with fixed procedures and sequences give way to sourcebooks and repertoires, methodology guides and user guides, with menus and ingredients to be combined and cooked anew and uniquely each time. Performances, like some cooking, emerge, evolve and take form, less from following rules than from experience, experiment, trial, error and improvisation alongside and informed by the identification, interpretation and expression of principles. They manifest continual and flexible invention as social performance. This converges with the changing nature of the evolution of communication and other technologies as they become more flexible, versatile and rapidly adaptive.

The concept of paradigm with which I began in 1997 – 'a coherent and mutually supporting pattern of concepts, values, methods and action, amenable, or claiming to be amenable, to wide application' (Chambers 1997: xv) can now be reformulated. Principles have to be added to values. The tensions and contradictions in development practice between participatory methodologies and approaches and more rigid, linear, top-down, logframe and results-based management approaches point to adding procedures and processes to methods. And pervasively, an elephant in the room, relationships (including relationships of power) cannot be left out. Relationships between people and people and between people and organisations and institutions have to be part of any paradigm that is existential and experiential. Relationships are formed and fractured, strengthened and weakened, by methods, procedures, processes, roles and behaviours, values and principles and concepts. The case for giving prominence to relationships in development practice has been made

by Rosalind Eyben and other authors (Eyben 2004; Pasteur and Scott-Villiers 2004; Eyben 2006a and b). Eyben argues that for effective aid, relationships are crucial and more significant than finance.⁴⁵ In her analysis, other links are made with behaviours, methods, concepts and values, as in the statement that 'The quality of relationships depends upon the values that support them' (Eyben 2006b: 46).

These elaborations and new elements bring the personal dimension to the fore. This is a far cry from the conceptual, scientific, methodological, physical and intellectual nature of Kuhn's paradigms. It is self-evident that for purposes of practical action, the personal dimension has to be included, since action is taken by people. PMs, moreover, are performative and created through personal agency and interaction. So paradigm as redefined has to be living and enacted. People are central since it is they who give energy and life to make paradigms work. Including people is needed both descriptively and normatively. Descriptively, it accounts for and covers the ways in which people as people drive and sustain paradigms – as the creators and disseminators of concepts, as the holders of values and principles, as the actors who use methods and populate processes, as those who occupy roles and behave, as the agents who interact to form relationships, and throughout as those whose mindsets, orientations and predispositions are in living reality conditioned by and condition the other elements. Normatively including the personal dimension is needed because human agency is the means to purposive change.

7 Two paradigms: neo-Newtonian practice and adaptive pluralism

I have tried to move away from binary contrasts which polarise, exaggerate differences and even caricature. They can appear and can be simplistic.⁴⁶ The challenge and opportunity are often to bridge them. But for all their limitations, and all the caveats and qualifications which are in order, binaries often have heuristic value. They can help identify syndromes of elements and relationships. Now, going beyond the earlier paradigms, drawing on the lived realities of poor people and the analysis of PMs, with the lenses and concepts of technology and complexity, and with the broader definition and understanding of paradigm, the question is where we can arrive. Are there new or transformed paradigms which can cohere and make ontological sense?

The earlier more simplistic paradigms of things and people have evolved.

45 Eyben is critical of the simple binary contrasts of the earlier things and people paradigms. It can be noted, all the same, that finance belongs on the things side and relationships on the side of people.

46 To a degree it reflects and expressed my own mental templates, as does the diagram with five circles. In a spirit of pluralism, self-critical reflection and learning, let me invite others to invent their own diagrams, lists, and contrasts, and not to reify (should there be any danger) the patterns, words and phrases in this paper.

Relabelling them has been puzzling, perplexing and fun, but has not led to a solution that feels quite right. Perhaps there is no solution. Let me appeal to any reader to do better.⁴⁷

For a new name for the evolved paradigm of things, successive candidates have been stable conformity, standardised universalism, Newtonian order, Newtonian reductionism, neo-Newtonian professionalism, dominant professionalism, and Newtonian practice. None of these has really worked. This reflects the complicated, if not complex, nature of the syndrome of the paradigm. It could be named in tens or hundreds of ways, depending on which aspects were emphasised through the words chosen. For the time being, and given the prominence of PMs in the analysis, I have chosen to stress methods, processes, procedures, roles and behaviour with the word *practice*, and the standardisation, routines, regularities and predictabilities which inform these with the encompassing adjective *Neo-Newtonian*, to become thus a paradigm of *Neo-Newtonian practice*. I invite the reader to criticise this and to do better, or to propose other approaches and analytical frames altogether.

The evolution of what began as the paradigm of people has been central to this paper. Three themes have been pluralism, participation and adaptation. Pluralism has been inherent in the proliferation of PMs and their capacity to empower in ways which flower into diversity, and the recognition that in development we need a plurality of approaches and methods; participation has been implicit in participatory methodologies throughout; and adaptation has been manifested in the need to accommodate to and exploit accelerating change, especially for poor people, recognised as adaptive agents. Pluralism, participation and adaptation provoke, demand and provide conditions for creativity: creative invention and improvisation of PMs; and creative originality in adapting to and exploiting change. The emerging paradigm flows from participation and PMs and comes to encompass more than participation. I found participatory pluralism, its original title, too restrictive. So it became more inclusive as adaptive and participatory pluralism. But since *adaptive* is broader and can be taken to subsume *participatory*, I shall use *adaptive pluralism* as an abbreviation. This better reflects and captures the emphasis in the new definition of paradigm on participatory methodologies and processes, and on behaviour, relationships and personal agency.⁴⁸

The contrasting characteristics of the two paradigms are shown in Table 7.1 and Figures 7.1 and 7.2. I present these *ex cathedra*. A whole book could be written in elaboration, justification and criticism. The details and contrasts are, to mix metaphors, flying kites, going out on a limb, and provoking bulls with red rags. Readers can judge whether the kites fly, the limb breaks, or any bulls are provoked; and will I hope accept my challenge and invitation to do better. Through a plurality of ideas we may get closer to what will make sense.

47 Please email me at r.chambers@ids.ac.uk

48 There is a lot more to explore. There are dangers of polarised stereotyping. All the same, the two paradigms or syndromes invite exploration of associations and resonances between neo-Newtonian practices and adaptive pluralism, respectively, with male (e.g. specialisation) and female (e.g. multi-tasking), with right hand and left hand, and with left hemisphere and right hemisphere.

Table 7.1 Paradigmatic characteristics of neo-Newtonian practice and adaptive pluralism

Paradigm of	Neo-Newtonian practice	Adaptive pluralism
Ontological origins and assumptions	Things, the physical world Newtonian science Order Laws of nature Linearity	People, the social world Complexity science Edge of chaos Emergence Non-linearity
Pervasive concepts	Universality Uniformity Stability Equilibrium Controllability Predictability	Local specificity Diversity Dynamism Emergence Uncontrollability Unpredictability
Methods, procedures, processes	Standardised Sequential routines Fixed menu Manuals Best practices	Pluralist Iterative adaptation A la carte and combinations Repertoires Fitting practices
Embodying and expressing	Comprehensive rules to regulate Conventions, conformity	Parsimonious rules to enable Originality, inventiveness
Roles and behaviours	Supervising Auditing Controlling Conforming, complying	Facilitating Coaching Empowering Performing, improvising
Favoured and prevailing approaches and methods include	Questionnaires RCTs Logframes	PMS ICTs PRRPs etc ⁴⁹
Valuing and relying for quality	Conventional rigour – best practices: specialisation standardised regulation measurement precision statistical analysis	Complexity rigour – fitting practices: versatility adaptive pluralist eclecticism facilitation, alertness, surprises relevance triangulation, successive approximation
Relationships	Vertical Hierarchical Impersonal Unidirectional	Lateral and 360 degree Democratic Personal Reciprocal
Goals, design and indicators	Planned, preset and fixed	Negotiated, evolving, emergent

Standard practices are not a second best or inferior. They are needed, most obviously in engineering and financial accounting. They can also inform adaptive pluralism, just as adaptive pluralism can inform standard practices. That said, a thrust of this paper is that adaptive and participatory pluralism, particularly when expressed through PMs, has a stronger practical and theoretical base, and wider applications, than has generally been recognised or accepted. And with ICTs, the virtual revolution, and the flowering of PMs, adaptive pluralism has an ever wider range and richer repertoire and relevance, and continuously penetrates and modifies the former territory of things.

There is more that resonates with and supports adaptive and participatory pluralism and makes it cohere. There are ideas that form and transform mindsets and ways of seeing things. There is the view, for example, amply substantiated in the work of Van Mele and Braun (2005) on innovation in agricultural extension, that methodological diversity is ‘an enabling condition for creativity’. There are concepts and experiences of negotiated learning, as already mentioned, where participatory approaches are applied through negotiation with communities about how co-learning will take place (Guijt 2007). There are the ideas, orientations and ways of seeing things encapsulated in the phrases ‘seeking surprise’ and ‘messy partnerships’ (Guijt 2008). There is even the revelation, and impact on one’s mindset about relationships generally, of new insights and theories: the theory of horizontal gene transfer – the inference from comparing genomes that viruses have transferred strings of genes from one organism to another (Lawton 2009) – that modifies the logic of Darwin’s branching tree of evolution and resonates with and reinforces ideas of horizontal transfers in other, social, domains. So much of the significance and potential of the paradigm of adaptive pluralism is the way in which it can influence the way we see the world and so the way in which we act and relate both to the world and to each other.

Some elements in the paradigm are shown in Figure 7.1. Concerning the adaptive aspect, let me stress two pervasive basics.

First, principles and values are fundamental. They are analogous to the simple rules of edge-of-chaos emergence. They can serve to guide complex adaptive behaviour in uncontrollable and unpredictable conditions. Thus, for people living in extreme poverty, drives for food and survival (though not the only principles or values)⁵⁰ can underlie much adaptive behaviour. For many people in organisations, non-negotiable principles can provide an enabling frame for decisions and action (Chambers 2005: 74–6). For those in a participatory mode, the behavioural and attitudinal principles and values associated with PMs can generate and support democratic and empowering relationships. And the quality of relationships depends on the values that support them (Eyben

49 Participatory Reviews and Reflections are part of the ALPS (Accountability, Learning and Planning System) of ActionAid International.

50 For example, a strict interpretation of Maslow’s hierarchy of needs can be challenged and qualified empirically by the high value placed by some very poor people on self-respect and being respected.

Figure 7.1 Elements in a paradigm of neo-Newtonian practice

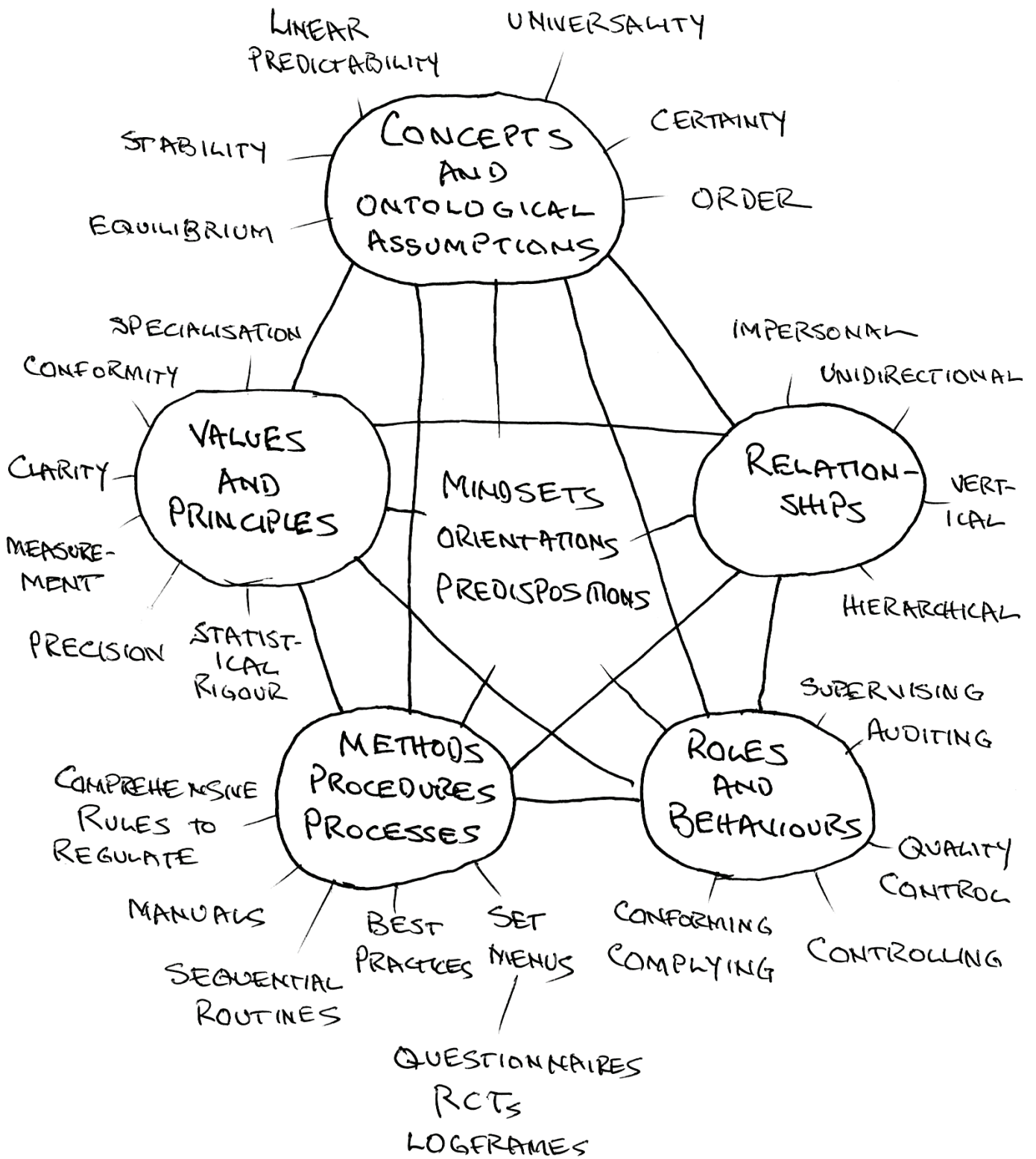
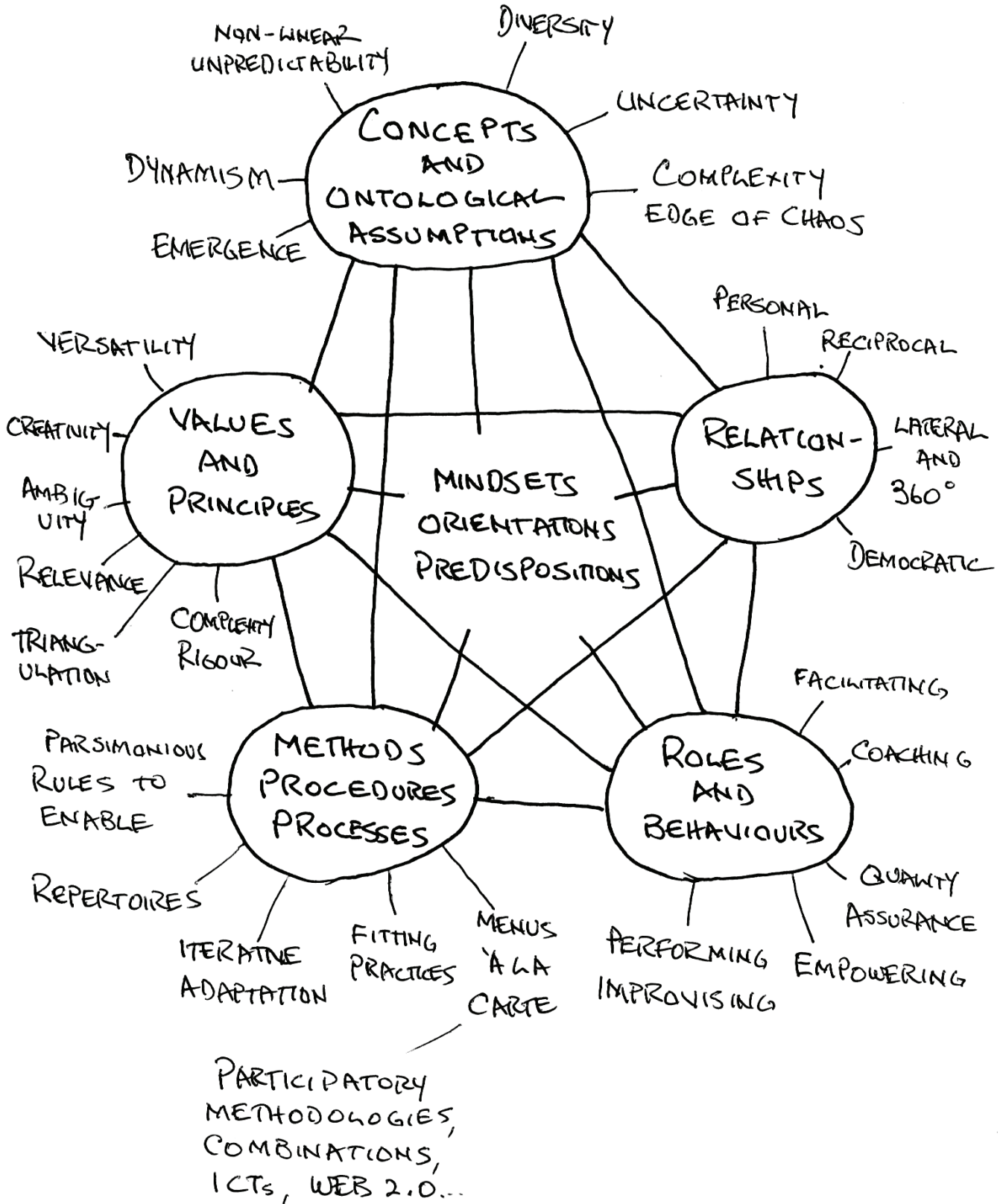


Figure 7.2 Elements in a paradigm of adaptive pluralism



2006b: 46). The pluralism is less in the values and principles which may be few, and more in the repertoire of ways of doing things.

Second, energy is fundamental.⁵¹ It is not in the diagram but it drives the paradigm. It is needed for all adaptive behaviour. An adaptive agent or adaptive system cannot adapt without energy. This dimension seems weak or missing in much discussion of complexity. Yet it is only through energy that values and principles are expressed. Again and again it is passionate champions who drive change. For people, commitment and motivation (whether for survival, social relations, self-respect, or many forms of achievement) mobilise and channel energy. For organisations as systems, the same holds. The position of an adaptive agent or of an adaptive system on a passive-active scale affects how adaptive it can be. Energy is fundamental also to pluralism, driving and feeding a diversity of actions, approaches and methods, and exploring, experimenting, learning, adopting and discarding, adapting and improvising – activities at the core of the evolution of participatory methodologies.

8 An agenda for the development professions

The question now is whether thinking and behaving in terms of an adaptive and participatory pluralism can help us do better in development. For this, the paradigmatic contrasts and tensions, and the emergent and transcending common ground of win-wins, need to be recognised and acted upon. Much that is embedded in the often high status professionalism associated with elements of stable conformity and standard procedures has to be reversed. Educational practices, organisational cultures, and personal development have to change radically.

The changes value diversity, creativity and critical reflection. The practical and policy implications are innumerable. To elaborate them would require another paper. Suffice it here to list some of the more salient, and to invite readers to think through and share their own ideas. Any element or combination of elements in a paradigm can be a point of entry and generate its own interventions. A linear deductive approach would start with theory, and concepts and ontological assumptions. They are indeed profoundly important. But a non-linear inductive approach can give as much or more weight to other dimensions of the paradigm, recognising that existentially and experientially they profoundly influence how we think and how we see things. So drawing on the evidence in this paper, actions can start with:

51 Energy and what, following Hirschman, he called social energy, were stressed and elaborated by Norman Uphoff in his 1996 book *Learning from Gal Oya*, chapter 13 'Social Energy as an Offset to Equilibrium and Entropy'.

- *Principles and values.* Recognise their fundamental role in determining behaviour, how their affirmation can substitute for controlling and disempowering procedures, and their potential for reversing and democratising relationships
- *Alternative and pluralist procedures.* Treat linear thinking and standardised procedures as an 'opportunity niche' (Arthur) for devising, piloting and spreading participatory alternatives, including more trusting and empowering participatory methodologies to qualify and replace the currently intensifying top down linearity of target and results-oriented procedures
- *Behaviour and attitudes.* Recognise the paradigmatic significance and transformative potential of behaviour and attitudes, and put these high on the educational agenda, starting with the behaviour, attitudes and mindsets of teachers, instructors and lecturers.
- *Relationships.* Put relationships high on professional agendas. Rethink their importance in development practice in all domains, recognising the power of relationships that are lateral, democratic and reciprocal.
- *Facilitators and facilitation.* Multiply and support facilitators. Identify those with aptitude and commitment who can train others to facilitate and allow and enable them to become full time. Encourage and spread facilitation as a mode of relating and supporting learning in universities and colleges, training institutes, and schools.
- *Reflexivity.* Introduce critical reflection on our mindsets, professional conditioning, and personal predispositions as part of curricula and professional development.
- *Participatory methodologies.* Make adaptive and participatory pluralism more real by raising the recognition and status of PMs as ways of acting, empowering and relating in many domains and for many activities. These include appraising, analysing, teaching and learning, planning, monitoring, evaluation, research, and interactions within organisations. A basic initial short list is:
 - Make PMs a subject in syllabi and introduce participatory diagramming with visuals and tangibles in schools, universities, colleges and training courses.
 - Encourage the identification, documentation and spread of PM innovations. This includes PMs created by consultants for *ad hoc* one-off applications.
 - Penetrate high status mainstream journals with articles presenting PMs and analysing their rigour. Conduct research on participatory numbers comparing their accuracy, range, cost, speed and other characteristics with conventional methods and publish the results. Multiply the circulation of *Participatory Learning and Action*⁵² as currently the major authoritative and up-to-date source for participatory methodologies.

- Systematically explore the potentials and limits of PMs, including their development and use for contexts where they have not yet been applied.

To conclude, participatory methodologies, behaviours, attitudes and relationships are a potent thrust in the struggle for a better world. Information technology (email, internet, search engines like Google, mobile phones, Web 2.0, blogging, ipods, YouTube, Facebook, Twitter...) has already created a culture and practice of continuous adopting, de-adopting, adapting, learning and changing, demanding alertness, nimbleness and creativity. As change accelerates we are in ever new spaces and in constant and intensifying danger of being left behind. The words of the migrant worker, social philosopher and writer Eric Hoffer (pers. comm. Ruth Meinzen-Dick 2004) apply more acutely now than ever:

In times of change, learners will inherit the earth, while the learned will find themselves well-equipped to deal with a world that no longer exists.

This resonates with the synergistic cultures and practices of participatory methodologies, open source voluntarism and adaptive pluralism. And this goes further than just adopting, adapting, learning and changing. For to flower fully they have to be continuously nourished by improvisation, innovation and sharing. Participatory practice is performance and every time is new. PMs and open source interactions are sustained by the creativity brought forth by the uniqueness of each context and time and of each performer and group of performers. They are based on individual commitments, energy and actions. They express and embody adaptive and participatory pluralism in a personal and social way, with the fulfilment of personal responsibility and creativity in seeking and finding new and fitting ways of acting and interacting.

Continuous adaptation, learning, changing, improvisation and sharing are then integral to participatory methodologies and to adaptive pluralism. And the paradigm of adaptive and participatory pluralism cannot be set or static. It must itself, of its very nature, continuously evolve and change.

52 I do not apologise for the specificity of this recommendation. *Participatory Learning and Action* is a grossly neglected journal, even though it is international and papers are peer reviewed. Uniquely it collects and presents practices and experiences at the rapidly expanding frontiers of participation. It is a damning reflection on dominant professional values that it is not (yet) accorded the high status it merits.

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