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RELATIVISM IN AGRICULTURAL RESEARCH AND DEVELOPMENT: IS PARTICIPATION A POST-MODERN CONCEPT?

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1. Introduction

A recent controversy over cultural and social relativism in science spilled well over the boundaries of the United States where it originated. The controversy – the so-called 'Sokal hoax' – whatever else one thinks about its specific American character[1], raises central issues that should be of concern for those who, in agricultural research and development, are attempting to lay the theoretical foundations for a research and development practice based on a new paradigm, referred to as a 'participatory' or 'learning' paradigm. While there are numerous influences in the practice and theory of participation, this paper seeks to explore more specifically those from post-modernist philosophy, their scientific and ideological implications. It will focus specifically on those attempts at constructing a paradigm around the practice of Participatory Rural Appraisal (PRA). The linkages between these concepts are many. They are rooted in social constructivist theories whose foundation is a critique of positivist, mainstream science and whose objective is, explicitly, to move on to an alternative model of science, whether a 'successor science', a 'second-order science', a 'post-normal science', a 'post-Newtonian science' or an 'interactive science'. As Chambers points out, 'post-modern theory, post-Newtonian social science and the experience of PRA are mutually reinforcing. They share the common high ground, for variously they affirm and celebrate multiple realities, local diversity and personal and social potential' (1997: 196).

References to this 'common high ground' are often made suggestively, metaphorically, with little or no scientific formalization in the writings of PRA theorists. Most importantly, their implications in terms of social theory, models of social, economic or political organisation are never explored. This poses a challenge for a scientific review in that, what has not been stated explicitly, can easily be reformulated – even denied, by its author. It is this author's belief that, with such a politically loaded notion as participation, one cannot use such concepts without impunity. Concepts carry models (political, economic, cultural models) which, although they may by no means be clear cut, need to be made explicit if one is to engage into meaningful debate or to make statements on 'good' or 'bad' practice. This 'making explicit' is all the more necessary if, as is the case here, the alternative paradigm aims at empowerment of the resource-poor, whose interests may be endangered.

This paper aims at examining more closely this 'common high ground' and finding out what are the outlines of the social theory underlying it. In doing so, and to deal with their ambiguity, the implications of these concepts are stretched to their limits to see what models they are likely to yield.

As, it is hoped, will be clear, it is not participation as such which is the object of this critique, nor indeed the practice of PRA, and even less the notion of learning; it is the paradigm which some attempt to build around these concepts, and more specifically the use of concepts imported from the physical sciences. These new constructions lead the theorists further down the road of relativism and instead of resolving the methodological ambiguities that always surrounded the use of PRA, they add to them. This relativist drift raises central questions about the ideological vision conveyed by the PRA

1 The 'Sokal hoax' aims at revealing the sloppy science behind extreme relativist approaches. One of its main criticisms is the unwarranted, (and often wrong), use in social science of concepts originating in the physical sciences. One case in point is the use of chaos theory to argue for relativism in science.

movement, the role of practitioners and the nature of the empowerment to which they lay claim. Limited to its set of tools, the movement does not really depart from the old development school which argues for mass education and the use of adult education type of tools.

Interpreted within the framework of the latest theoretical and philosophical constructions of its theorists, the notion used conjures up a dimension with which probably few of its practitioners identify. These notions outline a vision that goes beyond the scientific to reach the religious, verging on the mystical. For example, notions that our future is beyond our ability to grasp or act upon; that humans cannot get hold of their history and shape it as they wish; that individuals, like mere wisps of straw, are caught in the vortex of complex systems they cannot understand, ruled by flows they can neither predict nor control; that in this situation of utter uncertainty there can be no outside intervention or arbitration and the only alternative is learning, which requires a personal change akin to a veritable conversion. Faced with this uncertainty, we are told that individuals must resign themselves to learning by themselves and from others, finding their own way, through introspection, self-criticism and humility; only through learning can they adapt to phenomena as they manifest themselves. The role of the new paradigm, in so far as it is still amenable to a 'scientific' conception, is to help the converted facilitators, new missionaries with no other message than their humility, to listen to, support and accompany communities in their voyage of self-discovery. This dimension highlights a fundamental contradiction of the notion of empowerment in the paradigm: people, it is assumed, are ontologically powerless in their environment; empowering them is simply giving them the means to manage their powerlessness, adapt and avoid being swept away.

These various notions, whether their authors like it or not, have implications. Politically, the shift to an agenda of collective learning subtly jettisons the issue of social power and the central notions of equity and social justice, especially for the most threatened groups. What is implied is that the focus on morals, which was always central to the movement's arguments, shifts from securing social and economic outcomes for the benefit of the poorest to promoting methodological and cognitive processes among communities. What is important, we are told, is no longer to act in favour of specific target groups but to try and advance the interests of all through collective learning. Learning, it is assumed, creates the framework conditions in which the altruism inherent in human nature can manifest itself and bring about social justice. In this, the notion of learning keeps a progressive stance, but it fails to elaborate on the meaning of 'learning'. How is it supposed to advance the interests of the poorest, or address issues of arbitration in their favour? Scientifically, the notion of a participatory or learning 'paradigm' itself is not clear in the discourse of its promoters. The justification ranges from the strictly scientific – drawing on various constructivist theories and cognitive relativism – to the moral and the metaphorical, with a reference to theories drawn from various bodies of science to argue for relativism and participation. The limits between science and metaphor are blurred. By trying to justify participation and learning by reference to grand philosophical principles which are difficult to argue rationally, the alternative paradigm does nothing but reproduce the contradictions it criticises at a higher level. Basically, its objectives remain the same: modernisation through the transfer of models of social processes. For this reason, this paper argues that, whether in a scientific, political or economic sense, a learning 'paradigm' does not make sense precisely because 'learning' makes too much sense.

In attempting to chart the implications of this paradigm, the paper will explore three questions. First, what is its scientific validity? Does it stand up to its own pretensions? Second, is it likely to solve the problems or provide deeper insights of analysis than the positivist paradigm it is pitched against? Third,

whose interests is it likely to advance, what models of society does it convey and more specifically what is the validity of its claims to empowerment?

The paper will first present an account of post-modernist thinking in development studies, its critique of science and, more specifically agricultural science. Second, it will discuss the concepts shared by post-modernism and PRA before, third, exploring their philosophical and political implications and concluding on the risks of further developments of the PRA movement[2] into a post-modernist direction.

2. Post-modernism and development

2 The term 'movement' seems justified because, like all movements, PRA has a loose agenda that accommodates the concerns of a large number of practitioners, with their common disillusionments but different motivations and political aspirations. It has a grassroots following and outstanding figureheads who keep ahead of the movement and provide it with legitimation through scientific elaborations of what started basically from pragmatic preoccupations.

Post-modernism, as many authors note, can be conceived of either as a critique of modernism or as an attempt to transcend it, depending on whether its stated aims are rejected or considered as already accomplished and in need of review. Perhaps the simplest way to define its philosophy is to say that it is a questioning, if not a rejection, of the values of the Enlightenment and its attendant belief in the power of positivist science to uncover the laws of nature, promote development and build a better world (Mac Donald, 1994; Gardner and Lewis, 1996). Within this post-positivist, broad-based philosophy, there is such a diversity of conceptualisations that there is some doubt as to whether the term 'post-modernism' refers to anything of any real substance. 'There are as many post-modernisms as there are post-moderns', 'post-modernism is but a cacophony of voices' are two often cited expressions. Yet the term, despite its imprecision, cannot be easily dismissed, because it encapsulates a feeling that a threshold is being crossed in relativism with little sense of direction beyond it. This feeling is perhaps stronger in the field of development, where the sense of nature and direction of change has always been central to dominant theories.

Development, it is said, is at an 'impasse'. The fading belief in the ability of a scientifically conceived productivist model to solve the problems of the Third World leads some to question the source of this belief, that is, the ideology of progress at the root of modernity. How to refer to such a broad spectrum of approaches without falling into the bias of reducing them to their lowest common denominator? How to avoid the confusion between positions that are historically and theoretically far apart? Historically, the technological and industrial achievements of the post-war era marked the rise of modernist theories while the social, economic and cultural crises of the seventies led to disillusionment with modernising policies, even if scientific achievements still went unabated. The notion of development, as the embodiment of the belief in an objective of modernisation which marked much of the post-war era, is itself the object of a strong critique. This critique, closely linked to the 'impasse' or 'crisis' in development studies since the late seventies comes, according to Booth (1993), from three perspectives. A first is the post-marxist, or neo-Weberian, rediscovery of social, cultural, sexual diversity and their specific patterns of domination. While breaking away from the dogmatism of marxist categories, this influence remains to a large extent marked by structuralism. The second is the strong influence of the 'constructivist' perspective, drawing from the tradition of social phenomenology and interactionist anthropology. The third influence, somewhat in-between the first two, is the 'actor-oriented' type of sociology which attempts to bridge the gap between interactionism and structuralism and provide a theoretical solution to the old actor versus structure dilemma.

One could say that the three relativist perspectives, while offering a critique of modernisation and dependency-type theories, attempt to go beyond the 'impasse' in which development found itself through an emphasis on the multiplicity of interpretations, arguing for subjectivism and emphasizing micro-sociological analysis. In this continuum of relativism, based on a critique of positivism and of macro-theory, post-modernist theorists tend to occupy the extreme end. As Barnhart (n.d.) notes, in the view of post-modernists, 'any attempts to construct a "grand theory", necessarily dismiss the naturally existing "chaos and disorder" of the universe, placing it in an arbitrary framework which, in the words of Michel Foucault, fails to "respect…differences"'. Thus, against the central modernist belief in a universal system of knowledge and values around which practice should revolve, post-modernists argue that such a system rests on foundations that are socially and culturally constructed and that any meaningful analysis should, first, question the validity of those constructions. Such view conveys, *a contrario*, a set of assumptions about society, about the nature of politics and the role of intellectuals

and the nature of enquiry. These have been summarized in Table 1 below.

Modernisation is seen as bringing order through integration of individuals and communities by processes of Weberian bureaucratisation, industrialisation and markets. The contradictory dynamics between order[3], brought about by modernisation, and freedom, inherent to human nature, is therefore highlighted by post-modernist thinkers, whose analysis suggests counter-models of social organisation and political action founded on different social categories and aiming at different objectives. As Domingues points out, 'the disembeddings provoked by modernity of individuals and collectivities from contexts which provide solid identities calls for an unceasing creative activity, so that new identities substitute for those ruined ones' (1997: 2.1). These new identities are rooted in the 'capillary, localised and decentred forms of resistance' to the 'modernising offensives' of the élites (Domingues, 1997). These forms of resistance are what Escobar (1992b) and others call 'New Social Movements', that is, movements whose foundation escapes the usual categories of social classes.

Escobar notes that 'one cannot look at the bright side of modernity without looking at the dark side of domination. Modernity's inventions must be seen for what they are: Janus faced relations between forms of knowledge made possible by reason and the systems of power created in the process of building a rational society, including the processes of emancipation' (1992a: 23).

Although devoid of the strong critique of 'normal science', a similarly discursive view of development theories, whether mainstream or 'alternative', is shared by actor-oriented sociology which attempts to conceptualise the dynamics of power relations at the interface between development institutions and local populations, Arce (1995). Long, one of its prominent advocates, argues that development theories are fundamentally biased by determinist and centralist thinking, assuming social change to occur solely through external intervention and ignoring local actors' room for manœuvre. Thus they are 'tainted with a dreadful sense of fatalism' (1984: 169) and a serious under-estimation of the agency of actors who 'try to create space for their own projects'.

3 The frequent critique of order and its relation to power is, of course, reminiscent of anarchism and a sense that post-modernist politics, although it cannot be reduced to one single model, is an advocacy of direct democracy (Slater, 1992). Perhaps the most apt illustration of this sense is the French anarchist singer Léo Ferré's line asserting that 'disorder is order without power'.

Table 1 Assumptions of modernism and post-modernism compared

MODERNISM	POST-MODERNISM
HUMAN NATURE AND SOCIETY	
Order/Stability/Determinism Subordination Dependency	Chaos/Anarchy/Unpredictability Freedom Autonomy/human agency
POLITICS	
Development as an objective of progress Power lies with structures Classes, parties Rooted in economy/sociology Politics is a distinct sphere The political transcends the personal	Development as a discourse Power is defined through relations/language/reification strategies 'New Social Movements' Rooted in identities Politics lies in the social sphere The personal is political
ROLE OF INTELLECTUALS / PRACTITIONERS	
Provide 'narratives'/Create economy of truth/Legitimize power Provide analyses/solutions	Deconstruct 'narratives', sort out the relationship knowledge/power Facilitate communication
NATURE OF ENQUIRY	
Science ('meta-narratives') Universal/ Deductive Monologic discourse Reason Certitude/ Determinism Precision/Disaggregation Announcing Re-affirmation Continuities/Constants/Unity Convergence/Simplification/Synthesis Exclusion of alternatives/margins 'Facts'/Sharp images	Literature ('deconstruction') Local -Specific/Inductive Dialogic discourse Passion Ambiguity/Indeterminacy Allusion/Holism Questioning Subversion Discontinuities/Singularities/Diversity Divergence/Complexity/Difference Inclusion of alternatives/margins 'Constructions'/Broken images

Source: Adapted from J. Thomas; A. Escobar; D. Slater; D. Booth; S. Corbridge; M.J. Watts; T. Meppem and R. Gill

In so far as post-modernism is associated with a critique of modernisation as a theory (if not of modernity itself as a concept) and, through it, with issues of language and power, actor-oriented sociology is very close to post-modern theory, albeit of the type Rosenau (1992) calls 'affirmative', that is, a relativist stance that remains optimistic and turned towards progress. Like post-modernism, actor-oriented sociology attempts to decrypt language, treating development as a discourse and using the deconstructionist technique of literary criticism, to demystify power in a Foucauldian model of analysis.

2.1 Development as a discourse, knowledge as power, science as a construction

Science is a central target of the 'deconstructive' drive in development. The criticisms levelled at it come from different perspectives but they share a common argument: 'the mental productions we call scientific knowledge are no less subject to social influences than the products of any other way of

knowing', and therefore they *construct* more than they describe the 'scientific truth' (Kloppenburg, 1991: 524). Science, it is argued, plays a prominent *political* part in the modernizing efforts. It does so through logical positivism, its dominant paradigm.

Historically the development of the scientific method is closely linked to the ideology of the Enlightenment of which it is both the driving force and the legitimation. More specifically, because it is linked to the notion of progress and objectivity, science has forged an alliance with the state in a progressive movement, against the church. As Norgaard sums it up, 'the progressive movement…had politically neutral scientists making decisions on the public's behalf under the broad guidance of elected officials' (1989a: 43).

In development, as an emanation of western civilization, science's understanding of the world is bound to western culture and values which it attempts to diffuse. To Escobar, 'the production and circulation of discourses is an integral component of the exercise of power…(and) development itself, as a discourse, has fulfilled this role admirably' (1988: 430). It has done so, according to Escobar, through a twin process of professionalisation and institutionalization. The first is the creation of techniques and disciplinary practices that act as a mechanism for the creation and maintenance of an 'economy of truth' and the 'production of norms' which, in effect, act as a tool for the control of the Third World. The arsenal of disciplines and sub-disciplines spawned by the discourse of development produces specialised knowledge and legitimation at the same time as it socialises professionals into a model of thinking about the Third World. Institutionalization, through aid agencies, universities, international organisations, voluntary agencies etc., in effect, acts as 'a network that organizes visibility and makes the exercise of power possible' (Escobar, 1988: 431).

Such an apparatus, which 'is a significant feature of the rise and consolidation of the modern state…inevitably structures the encounter of the organization and its "clients" (e.g. peasants) in such a way that the latter's local reality is transcended and elaborated upon by the former' (Escobar, 1988: 435). The impact of this encounter is all the more pervasive since what is being imparted on the Third World is not simply a capitalist system of production but also a system of power and a system of signification. Thus, the effect of the development discourse 'has to be seen not only in terms of its social and economic impact but also, and perhaps more importantly, in relation to the cultural meanings and practices they upset' (Escobar, 1988: 438).

This upset of practices is tantamount to a destruction of local knowledge and initiative and, concurrently, a growing dependence of local people on development experts. Thus the development enterprise, rather than alleviating poverty and empowering the masses, has modernized poverty and empowered an élite army of development professionals. Beyond the discursive turn, the root of this process, it is argued, lies in the built-in tendency of positivist science to 'produce ignorance' and destroy alternative interpretations. As Arce puts it, 'a body of knowledge is constructive and creative in the sense that it is the result of a great number of decisions and selective incorporations of ideas, beliefs and images, but at the same time destructive of other possible frames of conceptualization and understanding' (1995: 25), including the 'desecration of local knowledge' (Arce, 1995: 29). In this sense, science could be said to decrease our knowledge, not increase it, because the belief in universal theories prevents the exploration of other directions and frames of interpretation.

The main focus of the critique of positivist science in development is undoubtedly the field of neo-

classical economics. Professionally, this focus is justified by the influence that economists have on policy making, as compared to other social sciences (Chambers, 1997: 49). Scientifically, economics is seen as the embodiment of an imperialistic methodology attempting to bend reality to a set of universal 'laws' patterned on classical physics (Norgaard, 1989a; Chambers, 1997). In economics, it is argued, concepts such as competition, market information, supply and demand etc., are presented as 'objective' facts, built in abstract mathematical models that act as a screen hiding power relations and value-laden judgements. These models protect economists from the messy nature of real-world data and represent a 'constructed reality' whose main features are reductionism and measurability (Chambers, 1997: 53). Methodologically, economics reduces human nature to a Pavlovian reflex, responding solely to economic incentives Chambers (1997: 50) and the complexity of human motivation to the notion of a utility-maximizing 'homo economicus', excluding social, ethical and spiritual issues (Wolfenden, 1998). Policies designed within this materialist conceptual frame are bound to favour the economic status quo through an emphasis on (an already unequal) market solution, encourage the acquisition of material goods and undermine communities' other values (Wolfenden, 1988).

The implication of these wide-ranging critiques, in terms of action, is tantamount to an abandonment of the development 'paradigm'. The language of 'participation' and 'empowerment' must be recognized for what they are, i.e., alternative 'inventions' of the development discourse, and Escobar warns us against attempts 'from dominant forces to salvage development through fashionable notions such as "sustainable development", "grassroots development", "women and development", "market-friendly development"' (1992a: 26). 'Participatory' development in a post-modernist view is clearly one such 'salvage' attempt, and a variation around the same discourse. Rather than alternative development, one should speak of an alternative *to* development (Escobar, 1992a).

2.2 Science in the time of chaos and uncertainty

Chaos theory, with the sense it conveys of anarchy, randomness and personal freedom, seems to have captured the spirit of relativism. Philosophically, chaos challenges the very foundation of western modernist ideology based on the notion of creating order and controlling anarchy, that is literally avoiding chaos. It is therefore no surprise that it is referred to in post-modernism, and increasingly in the social sciences, either as metaphor or as an attempt to unite all science – social, biological, physical…into a grand, meta-theory ruled by the same general philosophical principle of non-determinism. Thus in a relativist stance, reference is often made to chaos theory, complexity theory, non-linear systems, cybernetic etc. Trying to clarify these overlapping disciplinary fields is not easy. The difference between chaos theory and complexity theory lies in the emphasis on undeterminism and unpredictability. Cybernetics is itself an umbrella for a variety of disciplines ranging from systems theory to information theory, even chaos theory, and thus provides a good illustration of the attempts to draw a bridge between physical and social sciences in the form of 'socio-cybernetics' (cf. Geyer, 1994). First-order (or classical) cybernetics has an engineering approach and is concerned with the tracking of negative feedback loops impairing system performance, to design control mechanisms necessary to steer the system towards stability, assumed to be its 'normal' state (homeostasis). Second-order cybernetics (or the 'cybernetics of cybernetics', as it has been called) has a strong biological

basis[4] and includes the observer in the systems being studied. It emphasizes understanding of the system dynamics of change rather than control of system stability. Its focus is on the positive feedback loops behind the dynamics of change, assumed to be an inherent feature of systems (morphogenesis). While the epistemological basis of first-order cybernetics rests in a Newtonian philosophy associated with positivist science, second-order cybernetics is clearly constructivist, sharing the notion of knowledge being actively produced by the subjects, including the observers, and not a property of some outside reality. While first-order cybernetics, and beyond it, first-order (or normal) science, attempt to arrive at an understanding (or model) of reality that enables control over it, second-order science emphasizes the unpredictability of outcomes in intervention and a general principle of self-organisation.

Smith (1998) notes that 'at the intuitive level, at any rate, chaos theory seems to provide a means of escaping structuralism's two significant flaws: it is inherently dynamic and time-sensitive and it permits a definition of social structural entities in such a way that if real, living, unique human beings vanished then the structures of society would also vanish'. Indeed if chaos theory stands for the large consequences that small changes in initial conditions can have, the theoretical support it can lend to the sociological notion of human agency and the refusal of fixed and deterministic structures is obvious: human beings matter; their impact at a macro-level and their long term effects can be considerable, albeit unpredictable. If, as Geyer (1994) reports, computer simulation experiments show that autonomous systems 'give meaning to their interactions on the basis of their own history rather than on the basis of the intentions of the programmer', this shows system emergent properties not unlike the notion of agency being an inherent feature of human communities, where action – not communication between actors – leads up to outcomes unpredicted by outside intervention.0

This view of self-steering, self-organising systems, borrowed by post-modernists from complex systems theory, has relevance for the critique of development theories, particularly in the notion of development as planned change. Here, there are strong parallels between the importance of the non-determinism of second-order cybernetics and the deconstruction of development planning of actor-oriented sociology (Long and v.d. Ploeg, 1995). From a socio-cybernetics perspective, Geyer (1994) argues that system steering (equated with planning) implies social change over a time period during which uncertainty increases, conflicts erupt and planning preferences may change, making planning perhaps interesting but inefficient in the first place. Besides, 'perfect planning would imply perfect knowledge of the future, which in turn would imply a totally deterministic universe in which planning would not make a difference'. Arce echoes from a sociological perspective that social planners believe 'that planned intervention and policy models are able to predict and control the future…(their) political authority is based upon a sequence of steps by which "science" and "technology" impinge on society, a faith that knowledge is objective and neutral, and a sort of discourse that underlines the image that development is concerned with technical considerations alone…..science and technology are seen as universal and external artifacts equated with a "modern notion of truth"' (1995: 28). For this reason, development planning should abandon prescriptive, goal-oriented decision making and prediction about future states and focus instead on understanding the dynamics of change and promoting a collective learning framework through which concerned stakeholders can constantly, through dialogue, express their respective interests and reach consensus (Meppem and Gill, 1997).

4 This basis rests partly on Maturana and Varela's concept of 'autopoeisis', or self-production, drawn from the biological study of living organisms. Among the advocates of a new constructivist paradigm, Röling (1996) refers to this concept to argue for an interactive, or participative, agricultural science.

3. Deconstructing agricultural research

Not all critique of concepts is a deconstruction of discourse and one should be wary of not imparting a grid of analysis through the artificial adoption of post-modernist jargon and thus submit forcefully various approaches to a post-modernist interpretation. Such a question is important when one attempts to explore the influence of the post-modernist movement on the participation movement in agricultural research. Both are sufficiently diverse, scientifically, politically and methodologically to allow any comparison and any contradiction. However, research approaches and methodologies being closely related to broader development theories, the emergence of post-modernist analyses in the development field can be expected to have an impact on them. As Coffey et al. (1996: 1.3) remark, field research has become fragmented under the influence of contemporary cultural perspectives, such as post-structuralism, post-modernism, feminism and post-colonialism, through which 'runs a discursive turn, treating as central but problematic the relations of language, knowledge and power'. In agricultural research, some of these analyses refer explicitly (Kelly and Armstrong, 1996; Kloppenburg, 1991) and identify with post-modernism. In others, the overlap with post-modernist thinking is very clear, not only in the references to the same theoretical sources but also to the same type of argumentation. The central issue is their relativism and the extent to which it can be equated with post-modern theory and this is a slippery issue since, as Reiter (1996) points out, ‘many post-modernists do not go to relativist extremes and it may not seem very radical to admit that all views of reality are necessarily partial. But this is a post-modern notion’.

The need to deconstruct agricultural research and reconstruct it along different lines is expressed by Kloppenburg in these terms: given all the ills created by normal science-based agriculture, can this same science promote alternative forms of agriculture? In other words, can the cause of the problem be the source of the solution? The answer is clearly no.

Post-modern agricultural research is a thematically and methodologically fragmented model. It must necessarily integrate what has been excluded by positivist science, internalize externalities, contextualize rationality and this requires that it be socially reconstructed with the inclusion of the knowledge production capabilities of all marginalized groups (Kloppenburg, 1991). Consistent with the critique of positivistic hegemonism, it must be methodologically both pluralistic and holistic; this is the condition for it to be thematically gendered, communautarised, localised and ecologised, that is to integrate the social and environmental perspectives of multiple actors. The rationale for each of its elements is briefly described.

3.1 Holism and reductionism

According to post-modernists, science was never meant to understand the fundamental nature of human existence but to find out regular and recurrent patterns in nature so as to act on them and achieve stability, regularity and predictability. As Norgaard says ‘western science has sought to know the universal, unchanging characteristics “behind” a changing reality’ and to provide ‘one consistent set

of laws about the nature of all things' (1989a: 42).This search for regularity is done, methodologically, through reductionism and aims, according to Kloppenburg (1991), to produce through abstraction and simplification, what Latour calls 'immutable mobiles', that is constants across social and spatial locations. Thus it ignores the political, physical and biological specificities of the local context, one of which is the 'intimacy between the worker and the materials and objects of labour' (Kloppenburg, 1991: 528). It is this intimacy which makes the unique character of the 'mutable immobiles' of local knowledge, easily marginalised by normal science's attempts to apply universal laws to it. So pervasive is reductionism, it is said, that from a method, it becomes a way of looking at things (Kloppenburg, 1991: 530; Chambers, 1997: 49) and its main approach is to 'problematize' them, that is to turn them into problems to be 'fixed', thus denying the potential for self-improvement[5].

Problem-orientation and wish to control are similar, in cybernetics terms, to the aim of correcting negative feedback loops, that is the notion of 'command and control' in management. They have implications for methodology. As Meppem and Gill say, they largely ignore non-linear positive feedback, that is the potential for destabilization or, on the contrary, of growth of the system. Their cost is 'an unnecessary constraint on the adaptive ability and creativity of an organisation or economy' (1997: 6.1). In terms of research, Geyer specifies that 'if one investigates a certain system with a research methodology based on the control paradigm, the results are necessarily of a conservative nature; changes of the system as such are almost prevented by definition…A different methodological paradigm is needed if one wants to support social change of a fundamental nature and wants to prevent "post-solution" problems; such a paradigm is based on a multiple-actor design, does not strive towards isolation of the phenomena to be studied, and likewise does not demand a separation between a value-dependent and a value-independent part of the research outcomes' (1994: 5.3).

In the PRA movement, the impact of reductionism in agricultural research, intimately associated with normal science, is described by Chambers. In project planning, the Logical Framework approach, for example, reduces the complexity of development to a single central problem identified mostly by outsiders. Thinking about poverty is reduced to a narrow technical definition meant to ensure that a scientifically universal understanding and a unique standard of measurement are achieved. Agricultural production is reduced to yields per hectare. Food is reduced to grain production. Employment is reduced to concepts derived from the formal urban sector in the industrialised north. Chambers comments that 'in reductionist thinking, in a mysterious way, intelligence and humane common sense seem inversely related. And since intelligent people dominate the discourse of development, we can expect reductionism to remain robustly sustainable' (1997: 49).

In the context of agricultural experimentation Chambers and Jiggins explain the causes of reductionism's bias against resource-poor farmers. They point out that reductionism excels 'in

5 These are, for example, some quotes from Copperider's 'appreciative inquiry':'The problem-solving approach directs attention to the 'worst of what is,' constantly examining what is wrong with the organization. The assumption is that if the problems are fixed, then the desired future will automatically unfold…In problem solving it is assumed that something is broken, fragmented, not whole, and that it needs to be fixed. Thus the function of problem solving is to integrate, stabilize, and help raise to its full potential the workings of the status quo…By definition, a problem implies that one already has knowledge of what should be; thus one's research is guided by an instrumental purpose tied to what is already known. In this sense, problem solving tends to be inherently conservative; as a form of research it tends to produce and reproduce a universe of knowledge that remains sealed.'
David Cooperrider (www.appreciative-inquiry.org/AI-Quotes.htm)

exploring the relationships of a restricted number of variables in controlled conditions. This suits it to a large-scale simplified farming in which the natural environment is highly controlled, with monocropping and standardised mechanical, fertiliser and pesticide treatments' (1987: 36). This model of agriculture is mainly that of resource-rich farmers who are financially powerful and politically organised enough to influence research policies. In addition, they are culturally close to researchers in terms of values and attitudes and are able to communicate more easily with them. This is contrasted with the conditions under which resource-poor farmers operate. They have smaller farms and different priorities, their physical environment is more diversified and less controllable, interactions are more complex (shifting agriculture, agroforestry, multiple cropping) and farmers' management, developed through constant adaptation is of paramount importance. They need a research that is locally-specific, and therefore flexible, whereas reductionist, 'normal' science emphasises genotypes and environmental conditions at the expense of management and interactions. 'For reasons, thus, which…are environmental, political, social and methodological, most agricultural science has a bad record in serving farm families who are resource-poor' (Chambers and Jiggins, 1987: 37). Reductionist science is at the heart of the 'teaching' model of transfer of technology and, in general, of the diffusion of innovation model which has always dominated science. In short, as Chambers and Jiggins (1987) say, this model, embedded in normal science, is traditionally oriented towards products and not towards clients. For this reason, they propose a 'farmer first and last' model where, against the notion of transfer, everything starts and ends with the farmer.

In short, to redirect science towards the 'client' and to allow the 'mutable immobiles' of local knowledge to emerge, the research process should therefore be participatory (including all stakeholders), open-ended and holistic; its structure should not be pre-determined by hypotheses (Meppem and Gill, 1997) and its evaluation should be based on different criteria (Pretty, 1994). However, holism here must not be associated with researchers' system thinking. Systems as drawn by researchers carry with them assumptions and limitations. The scientists' systemic thinking, it is argued, is dominated by the hypothesis according to which the system has an intangible reality: it is therefore simply a question of understanding its components and functioning and identifying its problems and solving them. 'In this view, the natural and the social world are essentially seen as predictable, controllable and therefore optimisable towards previously defined goal…(that is)… a type of passive conceptualisation of human action' (Leeuwis, 1993: 87). This hypothesis predetermines the procedures of problem analysis and resolution, including the type of diagnostic survey and the level of farmers' involvement. Thus Chambers and Jiggins (1987) insist on the shortcomings of Farming Systems Research, be it its costs, its method or its philosophy. Kloppenburg also indicates that the solution to problems at the whole farm and local system levels does not lie with agricultural researchers but with 'those who think in terms of whole farms, those whose experiences are of whole farms, and whose knowledge has been developed by the integration of hands, brain and heart in caring labor on whole farms – that is…farmers' (1991: 531).

3.2 Communitarisation and localisation

The emphasis on communities and local-specificity in post-modernism is a natural consequence of its rejection of universal models. Whether from the point of view of analysis or of action, a locally and socially 'situated' approach is central. In actor-oriented sociology, in post-modernism and in constructivism, empowerment lies in human agency and this agency is socially and culturally specific. Thus Kelly and Armstrong note the 'need for a more situation-specific and place-sensitive consideration of the power relationships which underlie poverty and inequality in the developing world' (1996: 245). Meppem and Gill (1997), more specifically, point out that conflicts are value-ridden. Values are not universal and cannot be applied abstractly and mechanically, they must be considered, and applied, in their relevant context. In agricultural research, Pretty and Chambers add that 'the dominant positivist framework has missed local complexity; determinist causality has failed to account for the adaptive performances of farmers; technologies successful in one context have been applied irrespective of context, with widespread failure…' (1994: 183). From a learning perspective, the local context is of a central importance. The notion of 'situated learning' is inherent in constructivism: knowledge is created and made meaningful by the context in which it is acquired, and learning is embedded in the daily experiences of the learners. Methodologically, social and locally-specific research is the only way to re-integrate the 'mutable immobiles' excluded by the reductionism of normal science.

As for the communities' relation to the wider economic and political contexts, their weakness is also a source of strength because, as Perkins (1996) writes, 'it is exactly the fact that communities are somewhat removed from national and international "public life" that can make them strong (and potentally subversive) bulwarks against centralized control, refuges of diversity, and incubators for creative human interaction'. Households, as intermediates between the personal and the community, and communities as intermediates between the 'public' and the 'private' sphere must be the primary focus of analysis and action (Perkins, 1996).

3.3 Ecologisation

For political and methodological reasons, positivist science, it is said, cannot deal with the environment. Methodologically, reductionism means that 'science fails the environment' (Wynne and Mayer, 1993). While the environment is characterized by multiple causations (complex interactions, composite variables), science deals, through reductionism, with broken down parts that allow precision, establish clear cause-effect relations and draw general laws, that is produce certainties. Normal science is unable to deal with uncertainties, when uncertainty is precisely what characterizes the complexity of ecological processes. This 'uncertainty comes with even the best available science because natural resource management questions are fundamentally ambiguous' (Daniels and Walker, 1996: 74). Controlled experiments in this context are difficult and results of investigation are rarely unequivocal. Economics deals with monetary values when the environment is precisely difficult to value and economics itself is not a unified theory (Norgaard, 1989b). Thus traditional valuation methods – mostly cost-benefit analysis – impose a rigid system favouring market-derived values that are amenable to quantification, to the detriment of intangibles such as aesthetics or impact on cultural integrity (Meppem and Gill, 1997). These failures have strategic, methodological and political implications.

In the past, science could use the uncertainties of the data as lack of proof and therefore the burden of proving a threat was on environmentalists. For science to accept uncertainty as an inherent feature of complex natural systems and incorporate it as a philosophical principle, it needs to recognise the possible long term threats to the environment. This means that strategically it should adopt a 'precautionary principle' and take on itself the onus of the proof (Wynne and Mayer, 1993). Methodologically, as far as the environment is concerned, 'good science' is necessarily holistic. 'It is self-defeating and counter-productive to continue the pursuit of more solutions within the traditionally isolated intellectual spheres of economics, politics, technology or education, because the causes of the global (environmental) crisis are no longer purely economic, technical, social, etc.' (Finger and Verlaan, 1995: 504). Being holistic means also reintegrating in science the cultural dimension that is inherent in the relation of man to his environment in order to balance out the economic bias. Science should also abandon prediction and control in favour of explanation and learning. Complexity and uncertainty mean that science will never be able to have all the answers and that 'no single party, agency, organization or discipline holds the key to understanding a particular natural resource management situation' (Daniels and Walker, 1996: 74). What is therefore required is the largest possible consultation, built into a permanent process of social learning. Recognising the necessity of social learning is, in fact, adapting to two specificities of the relation between science, politics and the environment. First, there can be no distinction between science and politics in the management of ecosystems: conflict is embedded into the management planning process. Second, scientific and political systems operate on different time scales. 'The complexity of ecosystems prolongs the data-gathering process, and that in turn, complicates the policy decision-making process' (Daniels and Walker, 1996: 74). A permanent feedback is therefore required, in forums that encourage mutual learning, between the community of users, economic and political decision-makers and different areas of science.

3.4 Genderisation

A fourth dimension of a post-modern agricultural research has to do with the integration of a feminine perspective. The need to 'genderize' science is not simply a question of taking into account the specific needs of women nor to heed their voices, that is ultimately a question of social justice. In a post-modern agenda, it is also a question of integrating a feminine worldview and the specific feminine mode of knowledge production, that is a feminist epistemology. The specific feminine worldview is perhaps best illustrated in the field of feminist economics[6]. Perkins (1996), for example, argues that man's work is paid work, it is a time-oriented social time; it has been distanced from the natural rhythm of ecological

6 Presenting the notion of a gendered science runs the risk of amalgamating the diverse points of view of the feminist movement. Harding distinguishes between feminist empiricism (which calls for a correction of masculin bias, but through established scientific methods), feminist post-modernism (which calls for an alliance between diverse but incommensurable forms of knowledges, including the feminist one) and feminist standpoint theory (which advocates a specifically feminine, and superior, epistemology which could lead to a transition towards a successor science). Kloppenburg (1991) who presents these differences remarks nonetheless that their similarities are greater than their differences in that they all outline a specifically feminine alternative form of knowledge resulting from women's distinct historical, biological and social experience.

time and the human physicality with other sensual beings and the natural world. By contrast, women's unpaid work is task-oriented, biological time, born out of a life-long socialisation into caring and nurturing activities. As such it holds life-affirming values, emphasizing co-operation, empathy and nurture, focusing on process rather than results, valuing intuition, subjectivity, creativity and spontaneity. Feminist theoretical work, therefore, is 'vitally important for understanding community-based approaches (for its values are) similar to those held by aboriginal cultures and the ecology movement'[7]. For this reason, women play a central role in maintaining community bonds: it is they who are the guardians and transmitters of the values and skills that reproduce communities. A gendered science would, in effect, be both community-enhancing and 'naturally' conducive to a more ecologically friendly research.

Thus is outlined a post-modern agenda for research. Its main elements – communitarisation, localisation, genderisation and ecologisation – are self-reinforcing. Communities are evidently localised, their knowledge is local-specific and more attuned to their ecological environment. Human agency is culturally specific and it is within communities that it translates best into power. The methodological implications of this fragmented agenda are that research must be both holistic and pluralistic.

3.5 Theoretical and methodological pluralism

To allow the suppressed voices to be heard, scientists must accept pluralism and fight the hegemony of any single mode of knowledge production[8]. For example, 'confronting ethnocentrism means moving from conventional definitions and universalized theorisations of development towards more pluralistic conceptions of well-being' (Kelly and Armstrong, 1996: 245).

Norgaard, from the point of view of ecological economics, summarizes the case for pluralism. As opposed to a single method – or a 'single way of knowing', pluralism is more appropriate for addressing at least four issues. First, it is necessary when it comes to understanding and managing today's complex problems: the interplay between global economies and local interests, social control of environmental systems and use of scarce resources, adaptation and impact of sophisticated technologies. Second, pluralism helps to avoid mistakes by acting as a constant warning against 'brash action' resulting from the possible biases of a single method; it is a reminder of the complexity of social and ecological systems and the difficulty of taking action. Third, it sustains diversity, be it biological or cultural, by counteracting the destructive hegemony of western forms of knowing, technological intervention and social organisation. Fourth, and logically, it promotes participation and democracy. Since 'the use of a single framework, without modification for regional differences, facilitates control from a single centre of analysis (which) disinfranchises or disqualifies the majority, facilitates the

7 This is consistent with a further argument in the same line of thinking, namely that women share with nature the fact that they both have long been considered 'externalities' in neoclassical economics (Perkins,1996).

8 See for example the meeting on pluralism in forestry research organized by FAO published in Unasylva, Vol. 49, No. 194 under the title 'Accommodating Multiple Interests in Forestry', available: www.fao.org/waicent/faoinfo/forestry/unasylva/194/e/194e.htm

tyranny of technocrats, and encourages centralization…openness to multiple frames of analysis is a prerequisite to democracy and decentralization' (1989a: 52-3).

4. The contours of the participatory paradigm

Do these elements form the basis of a new paradigm for agricultural research? What is a 'paradigm' in the first place and is this a 'participatory' one? In a post-modernist sense, a paradigm is a model within which one set of truths hold or, to use the 'deconstructionist' literary method, it is a 'text' or 'meta-narrative'. As such, a critique of a paradigm amounts to its 'deconstruction', that is the demonstration of its limits as a cultural construct in explaining a phenomenon or in solving a problem that other paradigms cannot solve. This leads to a first, major difficulty because of its self-justificatory argumentation. As Hammersley and Gomm (1997) argue, 'within any community, relativism can be used to justify enforcement of the epistemic paradigm that is deemed appropriate to that community, allowing no scope for internal dissent about fundamentals. All challenges to the paradigm can be met by the response that this is what we as a community believe', thus providing immunity from dissent and external criticism. But while all contenders for a new paradigm status do not fall neatly into the post-modernist frame, how to challenge this status without loading it with post-modern ideology, especially when relativists share with post-modernists the discursive treatment of science?

This discursive turn is clearly distinguishable in the PRA movement, with increasing emphasis as the movement progressed from Rapid Rural Appraisal (RRA) to Participatory Rural Appraisal (PRA) and, presently, to Participatory Learning and Action (PLA), with greater sophistication and formalisation of its theoretical foundations. It is not necessary to review here the many criticisms of RRA and PRA, suffice to say that the transition from RRA to PRA and on to PLA had two main features, one is the abandonment of the economistic justification, i.e., the argument of cost-effectiveness, and, second, a methodological and philosophical contextualisation, away from positivism to which RRA was still adhering. In this recontextualisation, the most important feature is a new claim to empowerment. This claim draws theoretically from various sources, most notably the tradition of action-research, in fields as diverse as anthropology, organisation sociology, modern management and cognitive psychology. But, as will be argued later, the diversity of theoretical references brings with it political and ideological contradictions into the definition of the new paradigm. While the central concept remains the same (concrete action towards change as a means to acquire knowledge), the tradition of action-research is itself divided in the nature of its objectives, the scope of its action, its political philosophy. Selener (1997) thus identifies four schools of participatory action-research. The first is that which aims at community development with a revolutionary emphasis (influenced by Paulo Freire, 1974), which one can perhaps associate the francophone tradition of *animation rurale* (Debouvry, 1995). The second and third are those based on the work of respectively Kurt Lewin on organisations and John Dewey in education and, finally, participatory research in agriculture. The language of this latter, where Robert Chambers has been an outstanding influence, is itself divided between the message of liberation of the first, the management objectives of the second and the pedagogical aims of the third. And thus the claim to empowerment can take diverse meanings in the proposed paradigm.

But, first, what are the outlines of this paradigm and what role is allocated to PRA, and more broadly to participation, in it? The next sections will examine, first, the terms of the critique of positivism in PRA and the role of learning in overcoming the failures of positivist science.

4.1 The critique of positivist science

The cornerstone of the critique of normal science in the PRA movement is undoubtedly the transfer of technology model (ToT), a starting point in almost all the writings of Chambers in the last decade. In itself, the ToT model is seen as epitomizing the central shortcomings of 'hard' positivist science in different fields: the notion of knowledge as an objective reflection of an outside reality (in philosophy) or an individual property to be transferred (in communication and extension), the instructionist approach of behavioural learning theory (in educational psychology) and in general in the reductionist working of scientific research. The philosophical recontextualisation of the movement away from positivism, is therefore based on learning and organisational models that do away with this notion. But the critique of the ToT is not peculiar to the PRA movement. Röling (1994, 1996) for example, an outstanding critic of positivist agricultural science, sees agricultural innovation as best approached holistically, in terms of 'soft' models of knowledge and information systems. Like all relativist approaches and methods, the shift to more holistic and participatory models draws significantly from Kuhn's (1962) notion of a paradigm shift, that is the advent of a scientific revolution. In short, this shift is nothing less than a revolution because it is assumed to bring about a dramatic change where the change expected from 'normal' science is usually incremental[9], detrimental to the interests of the poorest and/or destructive of the environment.

Neither the epistemological ambitions, nor the positioning of field practice in relation to normal, positivist, science are new in the movement. Even in the early 1980s, it was pointed out that, since options are determined primarily by politics, RRA like positivist surveys serves simply as validation of political choices (Richards, 1981) specially when the results of the former are pre-determined by those of the latter (Wood, 1981). Later, Jameson (1987), sees RRA as a potential method of an emergent development paradigm whose main feature is a rejection of 'evolutionary, unilinear, universalistic, positivistic and utilitarian assumptions' which dominated western science since Bacon, Descartes and Darwin.

While PRA, as such, is never explicitly the object of epistemological justifications, the theoretical constructions its proponents have generated around its practice lead logically to those summarized in Table 2, in the fields of participation, sustainability and indigenous knowledge.

9 Sometimes, the notion of 'revolution' has been used more loosely to describe the spread of more qualitative research methods (cf. Rhoades, 1990).

Table 2 PRA and its epistemological justification

	CRITIQUE OF POSITIVISM	JUSTIFICATION OF PRA
Participation	If 'problems'/'solutions' exist independantly of actors' perceptions, what is then the use of their participation in identifying them, except for purely instrumental reasons?	PRA is a means for actors to reach a consensual definition of what represents a 'problem' and what is an acceptable 'solution' and to jointly construct data in a transparent process.
Sustainability	Positivist science seeks to predict and control nature; The complexity of interactions (social, ecological, economic…) and their dynamic nature makes the idea of a predictive/planning model utopic; A sustainable model is necessarily subject to multiple and changing interpretations; 'sustainability is not a fixed state, it is a journey, not a destination'. Only a strengthening of actors' learning capacities will enable them to adapt to changing conditions;	The main features of PRA make it a tool that: -actors can appropriate -allows permanent negotiation, planning and diagnostic activities
Indigenous knowledge	Indigenous knowledge is assimilated to a stock of uniform and systemised practices ready for assimilation and incorporation; In fact, indigenous knowledge is differentiated, fragmented and constantly evolving; neither can it be limited to 'practices'; it is also comprised of the cultural and cognitive processes which create and reproduce these practices.	Only open and participatory methods can enable peasants to impart their logic and their criteria and, alternatively, give to outsiders an insight into their cognitive processes.

If these justifications are considered valid[10], the principles of PRA, as emphasized by most of its practitioners, take on a special meaning. Their epistemological basis rests with the notions of unpredictability of social phenomena, the subjective nature of 'data' and the endemic nature of 'problems'. The response to unpredictability and the endemism of problems is *iteration* (i.e., no pre-set methodology, flexibility, continuous and sustained work with communities) and *optimal ignorance* (i.e., knowing only what is useful, measuring only as precisely as necessary, being appropriately imprecise). Iteration is the principle through which methodology is adapted to specific situations (actors, problem situation, local environment). Optimal ignorance is the methodological recognition that 'for the complex, diverse, dynamic and unpredictable realities of people, farming systems and livelihoods, comparisons and judgement are often more potent and practical than precise measurement' (Chambers, 1997: 41). As such, it can be seen as a response to the reductionism of, in particular, economics.

The subjective nature of 'data' requires *triangulation* (i.e., focus on diversity rather than characterize

10 And they may indeed not be considered valid since, as will be argued later, the so-called 'participatory' paradigm draws from diverse theoretical sources that enable it to defend different points of view and produce different discourses at the same time.

complexity; emphasis on relative rather than absolute quantities) and *visualisation*, as a central principle. Triangulation is required to account for multiple perspectives because 'all views of activity or purpose are heavy with interpretation, bias and prejudice, and this implies that there are multiple possible descriptions of any real-world activity' (Pretty, 1998).

Visualisation has two meanings. In PRA, it relates to the use of visualising tools (diagrams, matrices, calendars…) drawn by rural people themselves, preferably using local materials. It refers to the need to recognize that 'data' is the outcome of subjective judgements: the scientifically 'objective' analysis is based on the scientist's own cultural, disciplinary, political subjective interpretation. The visualisation process ensures transparency and permits open dialogue and therefore deepens and democratises analysis. Through it, local people use local categories, criteria and symbols and thus share in the creation of knowledge and its analysis: 'they are encouraged to explore their own version of their world' (Pretty, 1998). The process being more important than the outcome, the PRA exercise can be seen as a means of group negotiation and consensus building. More fundamentally, visualisation means 'making visible', that is, translating concepts and phenomena into non-scientific terms to allow for comprehension and dialogue between scientists and farmers (Röling, *pers.com.*). This translation is necessary for meaningful dialogue since their respective modes of knowledge production are different. Scientists' field of perception is extended by artificial amplification tools (microscope, statistical analysis, computing power etc.), enabling them to reach deeper dimensions of observation when the farmers' is limited to the human natural senses (Kloppenburg, 1991). Thus, if one were to use a management concept, visualisation permits a 'retooling' of research whereby transparency puts everybody on an equal footing.

5. Learning in a non-deterministic world

The reversal of learning is at the centre of the PRA movement's preoccupations. Pretty and Chambers point out that the new paradigm 'enshrines new ways of learning about the world' that form its central concept (1994: 183). Development professionals are seen as burdened by the thinking entrenched in normal science and need to develop new attitudes and behaviour. The emphasis on learning draws from both constructivist theories of education (Dewey, Piaget, Vigotsky) and complex systems theory.

The call for a reversal of learning has two inter-related dimensions. The first is *epistemological* and draws its arguments from complex systems and chaos theories. It refers to various sources, like the uncertainty principle in quantum physics, information theory and cybernetics to justify a non-deterministic conception of the world and legitimate participation to decision making. Actors operating in complex systems with blurred boundaries, it is argued, need to learn how to learn in a world (not simply the world of development) whose main features are uncertainty and unpredictability, a constantly changing world (Chambers, 1997: 3-5). And what is development if not change? The consequences of change are all the more unpredictable since information is faster and sources much more diversified than ever before. Thus, Jameson argues that 'rapid change in both villages and the larger physical and social context in which they are embedded has increased uncertainty and reduced predictability. Change is being promoted without any possible certainty as to its ultimate social and environmental outcomes' (1987: 96). This requires a reconsideration of determinism (which has dominated science since its beginning) and replace it, within development, by the twin notions of relativity and uncertainty, now recognised in 'hard' sciences like quantum physics (Jameson,1987: 100).

Professionally, we must 'confront directly the epistemological challenges of intervention in a complex and dynamic world that is characterized by (these two notions and)…inculcate in ourselves and in others greater epistemological humility and flexibility' (Jameson,1987: 100). because, and Chambers echoes the same concern, 'when faced with the complexity, diversity and dynamism of human and local conditions, there is no normal bedrock on which to anchor, and few fixed points. Rather, we need a repertoire of skills for staying afloat, steering, finding our way and avoiding shipwreck on a turbulent and transient flux' (1997: 32). The only response to this situation of uncertainty is to empower local communities so that they can deal with it themselves. Methodologically, the implication of 'the emerging paradigm is (to add) two major lines of defense against unanticipated negative outcomes' of change; on the one hand, 'involving local people in the selection, design, planning, and implementation of programs and projects that will affect them, thus ensuring that local perceptions, attitudes, values, and knowledge are taken into account' and, on the other hand, 'to make continuous and comprehensive feedback, and the capacity to respond to it, integral parts of all development activities' (Jameson, 1987: 97). The challenge of sustainability is precisely to enhance the local 'capacity to adapt in the face of unexpected changes and emerging uncertainties' (Pretty, 1998).

In the same vein, Drinkwater notes that (normal) science is 'situated' in time and in space. Scientists are beginning to recognize that, natural systems being mainly in a state of non-equilibrium, the emerging order is fundamentally unpredictable. Their own action on these systems cannot be conceived in a deterministic fashion. On the other hand, their results will, obviously, depend on the particular geographical conditions but also on the social conditions that will determine them. Therefore they can

no longer learn ‘from the outside’, as if they were simple spectators. ‘This historical and turbulent view of nature or society, and the embeddedness of the scientist participant within it, implies that neither nature nor society can be understood independently of the other’ (1994: 35).

Thus the paradigm is one of multiple embeddedness: of nature and society, of order and chaos, of learning and change, of individuals and institutions, of institutions and environment, of personal change and social change, all intertwined in a complex and dynamic totality. To develop the understanding and behaviour required to adapt to this embededness, the scientist has, first, a lot to unlearn, among others about his/her own perceptions, attitudes and values if social change is to be effective. This leads on to the second, *pedagogical*, dimension which draws most of its concepts from new learning theories. It aims at creating ‘new’ scientists who accept a role of facilitators engaged in a learning process, no longer functioning in a consultant mode, scientists who, metaphorically, are ready to ‘pass on the stick’ to peasants (Chambers, 1991). Strategically, the recontextualisation of research into a learning framework can thus be seen as part of the ‘humbling’ of researchers, whose problem solving procedures are recognised as essentially learning procedures and, therefore, whose status becomes one of simple learners, albeit more effective if they change their methods. In this sense a learning agenda becomes essential for the ‘re-education’ of ‘conventional’ scientists, associated with positivism, to bring them to shift from a controlling to an enabling mode (Pretty, 1998). Their humbling is an essential step towards the liberation of the suppressed knowledge and the empowerment of local communities.

Drawing from different sciences, the epistemological and pedagogical dimensions share the same notion about the role of learning: in complex systems, whether social, physical or informational, in a truly non-deterministic mode, learning has an adaptive function. In both human and non-human systems, cybernetic principles apply: better communication and permanent learning optimize feedback and, through it, counteract entropy and prevent dysfunctions. Learning takes place through self discovery and gradual adaptations in a system where the locus of control, that is power, is dispersed.

6. Diversity with post-modernist overtones: the contradictions of a polymorphous paradigm

Finally, beyond the declaration of intention, does the paradigm represent a break from positivism? What is its internal validity? To what extent does it really enhance participation?

The diversity of the PRA movement makes it difficult to give clear cut answers. The justification of participation is underlined by considerations that are not all, strictly speaking, of a scientific nature but which are closely interlinked (this in turn raises a further question which will be dealt with later: does the advancement of participation *need* a scientific paradigm? Is present science totally impermeable to participation?). The justifications range from the economistic/instrumental argument – i.e., participation as a condition for the production or adoption of innovations – to the issue of citizenship/democracy and that of limitations of 'normal' science. The latter justification, with which this paper is concerned, draws from various social and natural science sources which, explicitly or implicitly, suggest a rationale for participation. For example:

- In sociological terms, social and cultural constructivism provides the notion of reality as being socially and culturally constructed and subject to multiple interpretations; participation is the means through which different perceptions are bridged and consensus reached; research as a process functioning in a Habermasian communicative mode facilitates processes of dialogue enabling the emergence of this consensus;
- complex systems theory and cybernetics (delays of information feedback) in which participation – and rapidity – are seen as a means of providing timely feedback and empowering people to respond to unpredictable development processes, and related to this, more specifically;
- chaos theory which suggests *in fine* that rural communities, among others, are 'dissipative social structures'[11] in a state of non-equilibrium, whose main feature is chaos from which order will eventually emerge, but in directions that are unpredictable. Although not made explicitly, one can assume that, in this perspective, participation, is conceptualised as the source of 'energy' required by the process of order formation. It is a conception of a non-linear, non-deterministic science[12].

The three concur in their emphasis on self-organisation and the limits of social science, through research and planning, in determining outcomes. This notion highlights a first, major, contradiction between the argument of *autonomy* – based on the notion of human agency and a critique of development interventionism common to actor-oriented sociology and more generally to post-modernism – and the idea of externally induced *participation* and/or *empowerment* (that is, basically another form of development interventionism), in the PRA, and more generally in the participationist movement. The implications of this contradiction are discussed later.

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11 If one extends the use of the chaos metaphor to social systems, there is a difference between the assumed properties of communities. Dimitrov (1997) points out that 'closed social systems are dissipative, their dynamics are described by strange attractors' while 'open social systems are symplectic, their dynamics are chaotic without the occurrence of strange attractors'. Strange attractors' in chaos theory refer to the limit set of a chaotic trajectory. Rural communities being mostly seen as self-contained systems in post-modernist thinking, one guesses that they would be dissipative.

12 Wheatley quoted by Meppem and Gill (1998: 7) sums it up by saying that 'participation, seriously done, is a way out from the uncertainties and ghostly qualities of this non-objective world we live in'.

The diversity of philosophical, theoretical and disciplinary sources makes participation almost a stop-gap universal remedy, a philosophy 'by default', a 'catch-all' method and a cost-effective technique, meant to make up for all the gaps in all other conceptual frames. However, diversity and pluralism do not come without their cost. That of the paradigm outlined is a polymorphism that allows it to absorb and neutralise criticism through a constant change of registers, at the expense of political efficacy. Despite the various authors' claims, the diversity of theoretical sources brings serious contradictions to the paradigm outlined. Instead of lending it richness, it brings it poverty and ambiguity: of social theory, of political message, of theoretical foundation, of methodological base. In short, what it gains in theoretical richness, it loses in political efficacy. More exactly, the theoretical radicalism with which normal science is criticized results in methodological contradictions which in turn are solved by theoretical backsliding and the recourse to metaphor. The polymorphism of the paradigm enables the movement to have several discourses at the same time and to use different registers in the field of knowledge. This is based on the constructivist notion of 'reality', (i.e., cognitive respect and in the field of action), which is suggested by a frequent reference to the Freirian tradition, itself founded on the notion of 'consciousness' and alienation (cf Brown, 1994), or to notions of modern management techniques. Thus, in a post-modernist stance, this polymorphism is justified through a celebration of methodological pluralism and a supposed neutralisation of contradictions by their absoption as part and parcel of the paradigm**.**

A first major difficulty in assessing the participation 'paradigm' is the meaning given to it by its proponents. 'Paradigm' is sometimes used in its scientific, Kuhnian, sense (cf Pretty, 1994) with a clear wish to give participation a *scientific* legitimacy, as distinct from a moral or political legitimacy. Rarely do its proponents refer to fundamental issues of democracy, preferring to keep to a strict scientific argumentation. It is also used loosely, even metaphorically, to indicate a wish to see practitioners interact more closely and less autocratically with rural people. Chambers (1995) for example sees the paradigm shift as one from focus on 'things' to a focus on 'people'.

If one takes 'paradigm' in its original scientific sense, contrary to Kuhn's assertion[13], what is presented as a paradigm is evidently not 'incommensurable' with the positivist paradigm. Chambers and Pretty note that 'scientists must continue their normal science' but 'they will have to learn from and with the farmers' and develop new roles and a 'new professionalism with new concepts, values, methods and behaviour' (1994: 185-6). This new professionalism is therefore 'not a rejection of modern scientific knowledge (but) a broadening, balancing and up-ending, to give a new primacy to the realities and analyses of poor people themselves…The comfortable certainties of known normal science are then complemented by the exciting unknowns which follow from facilitating analysis by poor rural people and learning from and with them' (Chambers, 1994: xv). In scientific terms, what is called for is a 'synthesis of opposites' and complementarity: reductionist science will deal with well-defined problems in a situation of low system uncertainty while constructivist science will deal holistically with complex and uncertain problem situations (Pretty, 1998)[14]. Methodologically, this has implications: 'a

13 Kuhn's assertion that paradigms are incommensurable is not shared by many authors. Nor is indeed the very notion of 'paradigm' clear to everyone. Masterman (1970) counted 21 senses Kuhn gave the word 'paradigm' which she categorizes in metaphysical paradigms (issues of ontology, epistemology and ethics), sociological paradigms (scientific achievements, institutional structures, political systems) and construct paradigms (models, tools, language and rules of scientific enquiry).
14 This notion is the central argument of Funtowicz and Ravetz (1993). Röling (1994) sees it as the coupling of 'hard' and 'soft' systems in the formation of human 'platforms' for decision making about natural resource management, platforms within which stakeholders 'learn their way to more sustainable futures and develop agencies to create those futures' (Röling,

participatory or PRA method can be used as part of an RRA (finding out–elicitive) approach, and an RRA method can be used as part of a PRA (facilitating–empowering) approach' (Chambers, 1997: 116). Yet the power relations between the two paradigms are not explored. If the most important feature of normal, positivist, science is its hegemonic worldview, one would expect its paradigm to dominate and impose its logic, that is to instrumentalize participation to ends that are not participatory and to enforce its certainties on the unknowns uncovered by participatory processes.

Methodologically, the movement faces two contradictions, both due to a populist stand. There is, on the one hand, the contradiction pointed out by Olivier de Sardan (1992) in the 'complex' represented by populist thinking, between the logic of populist ideology and the logic of 'misérabiliste' ideology. While the first emphasises local people's resources, the second emphasises the need to educate them to help them out of their misery. This contradiction is at the heart of the PRA movement: willingness to respect cognitive and material 'realities' against emancipatory objectives, discourse about local resources and agency but an inability to conceive of local development without resort to outsiders, willingness to use local resources but resort to (however user-friendly) foreign methodological tools. In terms of 'higher ground' theory, this reflects the contradiction between the assumption of system autonomy and the 'political' wish to steer the system. The recent attempt to go 'beyond farmer-first' is clearly an attempt to move the theory and practice of participation to a post-populist perspective whose terms, as expounded by Scoones and Thompson (1994), are a recognition of the ritual of narratives and the discursive nature of power, the importance of human agency and the refusal of determinism in development. Going beyond farmer-first, in these terms, is going actor-first, but without answering the critique of methodological populism. As will be argued later, it is simply recontextualizing contradiction through theoretical elaboration.

The second contradiction is the 'double articulation of discourse' referred to by Laclau in the case of populism, that is the 'dialectical tension between "the people" and classes within the power bloc, and the various ways in which "the people" are articulated with specific classes', cited by (Watts, 1993: 267). In the case of the PRA movement, as epitomised by Chambers' oft cited categories, this contradiction is expressed in the representation of dichotomic models that obscures these tensions and reduces them to a simplistic opposition between categories, be it social (insiders/outsiders; uppers/lowers; first/last), economic (resource-poor/resource-rich, overclass/underclass) or methodological (conventional research/participatory research; questionnaire survey/PRA) in which sympathy goes instinctively to one side: who could possibly be against participation as a concept? Who could possibly, *as a matter of principle*, be against the lowers, the insiders or the underclass?[15]. As such, this dichotomic view is reminiscent – not incidentally, as will be argued later – of the old dualist thinking of modernisation theories (modern/traditional, formal/informal processes, developed/under-developed…), which it turns on its head: the attributes of modernity are now seen as 'conventional',

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1994: 390).

15 Whether intentionally or not, these dichotomic models carry the stereotype of 'conventional-researchers-outsiders-to-the-communities-they-study-with-questionnaires-and-biased-towards-the-better-off-farmers' opposed to 'researchers-using-PRA-to-facilitate-learning-processes-for-the-benefit-of-the-worse-off-members-of-the-community', even the absurd notion that only 'alternative' researchers, using non-conventional methods can feel compassion for the poor. Chauveau, in a similar critique, points out what he calls 'the invention of a tradition' by the professionals of participatory development which enables them to 'define their identity and legitimacy by opposition to another, retrospectively constructed, tradition which is henceforth condemned' (1994: 29).

even ‘traditional’ (as ‘normal science’ is sometimes perhaps ironically referred to) and outgrowing them requires the adoption of a whole new paradigm, but one which is still trapped in the same dualist thinking. If one were to read them in strategic terms[16], (this is not made explicit by Chambers but can only be guessed at from the higher ground concepts he uses elsewhere), such dichotomies could be considered as *pedagogical* categories (introducing a minimal notion of ‘good’ and ‘bad’), used to illustrate a point and to achieve political consensus, while assuming that, in fact, there are no definite and deterministic social structures.

Yet these two methodological contradictions need to be replaced in the larger context of post-modern relativism in the social sciences, and more specifically in development, for two reasons. First, the critique of populism, however well argued, fails to address the ‘paradigmatic’ ambitions of the movement. The critique challenges, so to speak, the ‘external validity’ of the ‘farmer-first’ concept around which the PRA movement rallied. Its ‘internal validity’, if accepted, can probably reject the very notion of populism as a reflection of normal science bias, if it does not integrate it as a legitimate philosophy at all. Second, the movement is very diverse and evolving. The critique of populism – which is, in the case of Olivier de Sardan (1992) for example, limited to one Chambers’ book – fails to consider the critiques and mitigations coming from within the movement, including attempts to move to a ‘beyond farmer-first’ agenda. It also fails to address the central issue of the relation between relativism and populism and the more subtle influence it can have on the choice of methods and reasoning[17]. What are therefore the larger, or ‘higher ground’, contradictions and what are their implications in terms of social theory? An appropriate point of departure is the notion of ‘learning’, at the heart of the process of change advocated by the movement in its latest theorisation. In itself, the concept of a ‘learning community’, whether a rural community or a community of ‘stakeholders’, encapsulates the contradictions between a diversity of influences. The least of them is that ‘lower-order’, strongly *moral* populism is justified by ‘higher-order’ theories, drawn from the physical sciences, in which moral issues are abstracted out.

16 Possible strategic considerations of PRA populists are referred to by Scoones and Thompson (1994) in terms of ‘strategic silences’.

17 This sense is expressed by Olivier de Sardan when he points out that if populism is taken to mean sympathy for rural people, then he himself, and countless other professionals, are populists.

7. Learning to change and changing to learn: virtual actors and reality dysfunctions

How is the situation to change in the new paradigm? What is the role of persons? of institutions? There is obviously a collective and an institutional dimension to learning. Collectively, 'the learning process leads to change, and debate changes the perceptions of the actors and their readiness to contemplate action. Action is agreed, and those changes which are implemented will therefore represent an accommodation between conflicting views' (Pretty, 1998). At the same time, it is assumed, the process creates a dynamic of 'double loop learning' whereby people become aware of their own learning style, and operate a change in values and procedures that will enable institutions themselves to become 'learning institutions' (Pretty, 1998). For this, they need to change their feedback mechanisms, abolish hierarchies, decentralize, have fluid and flexible institutional structures, simple decision-making procedures and be more responsive to their environment (Pretty, 1998; Pretty and Chambers, 1994). But essentially the whole process rests on individuals, on personal change, by learning to adapt one's attitudes and behaviour through self-motivation, resting on the assumed altruism of individuals (Chambers, 1997). 'All learning is ultimately self-learning, which is a very individual process' (Pretty, 1998). Professional inquiry adopting a learning approach therefore requires autonomous and self-motivated learners. Independently of the institutions in which, or for which, they work, individuals are invited to use their self-critical reflection and their own best judgement (Chambers, 1997). As Chambers points out 'learning is…through doubt, self-examination and willingness to change, seeking self-correcting engagement with dynamic realities and making learning a way of life. In a phrase, this is epistemological awareness, awareness of how we learn, how that affects what we think we know, and how we perceive and distort the realities of others' (Chambers, 1997: 100), all because 'in a spirit of pluralism, each person, profession and institution can find an individual pathway for meeting these challenges' (Chambers, 1997: 103).

The view is clearly that institutions are primarily persons, with no special features that transcend individual consciousness or motivation and underlie politics. For exemple the domination to which the lowers/insiders/underclass are subjected is not considered in terms of economic, social or political 'exploitation' but as cognitive domination. In this sense, much in a post-modernist vein, the personal becomes political and politics is privatised. It becomes not an issue of vested interests but a matter of individual choices and decisions and, historically, the result of socialisation into oppressive educational and professional institutions which, themselves, are detached from private or corporate political interests. Social and, one guesses, economic change comes about through a change in attitudes brought about by appropriate learning processes and action. Structures are no longer fixed, nor really discernible: uppers can become lowers depending on perspective, and the outsider in one system turns into an insider in another.

Concurrently, power is conceptualised in its relational dimension; it is no longer a property of individuals but the outcome of a relation that can both empower and deceive. The powerful are at the mercy of their own self-deception and of the fooling strategies of the powerless who, in turn, can deceive themselves by internalizing the powerful's definition. What is depicted is a shadowy world of appearances where nothing is what it seems and everything is language waiting to be decrypted and reification strategies waiting to be revealed. In this ballet of virtual power what is outlined is a

depoliticized, de-ideologized alienation, where Freire's revolutionary emphasis on 'consciousness' and 'false consciousness' is replaced by the constructivist concepts of 'reality' and 'transfer of reality', in which the reality of power becomes the multiple powers of multiple realities. But while with conscientisation empowerment is assumed to lie with the recovery of 'true' awareness of one's own objective social and economic alienation, a subjectively constructed reality offers only a subjectively constructed power, that is an instantly perishable good, liable to cognitive redefinition by constantly learning actors. Thus while escaping the reification of institutions, the constructivist definition falls into the fetishisation of individual reality.

Most importantly, this conceptualisation of power – and empowerment – ignores two inter-related aspects. First, by taking a discursive view, it focusses on definition and fails to account for the real life *impact* of power. In short, power is stubborn, and while it may indeed be a social construction, that construction can have *real* effects – it can still cause exclusion, pain and death, and these cannot be deconstructed without some stretch of the imagination. Second, by focussing on individual realities, empowerment strategies may simply replace the subjugation of overt forms of domination by that of more subtle ones, where self-regulation itself is the means by which power is exercised. Thus, much in a post-modernist fashion, the analysis of power rests on a self-undermining argument: strategically, if power has no locus or reality in itself it cannot be transferred nor *really* acquired; methodologically, if power is nowhere it *is* everywhere and therefore any discursive analysis is bound to eventually legitimize the existing power relations precisely because it recognises none[18]. This is well analysed by Martin (1997) in the case of the Australian Landcare programme, a much cited example of participatory watershed management, based on community learning processes. In a Foucauldian analysis, he points out the 'disciplining discourse' of the state which aims at creating a 'calculating' subject through the enactment of a policy framework that guides and constrains the farmers' 'freedom to choose'. As he says, 'the development of the "calculating" subject is not a function of the direct exercise of power by the state. Power constitutes this development through the alignment of social norms (economic rationalism), strategies of governance that aim to "free" the individual from the state (deregulation), and a number of programs, techniques and knowledges that infuse every-day practice with the requisite calculative capacity for the development of entrepreneurial and competitive conduct. Through this complex of norms, strategies and techniques, neo-liberalism is able to produce a form of coherence between rationalities of governance and the self-regulating capacities of individuals'. Those farmers who have potential but resist this disciplining are 'adjusted in' through credit and restructuring of their farms. Those who cannot adapt to the policy framework – because of high-risk environment or others – are 'adjusted out'. Thus is struck a new alliance between expertise and politics where, with the 'privatisation of politics', the management of risk is also privatised and participation activists become themselves a tool for the government of individuals through their freedom to choose.

Brown (1998) makes a similar point in the case of the PRA movement, which he calls neo-populist. As he says, the results of the 'new professionalism' which PRA practioners call for, may well end up marginalising the interests of the poorest. This is because the public nature of the participatory research

18 It is interesting to note that, in the sixties, critics of the self-management movement reached similar conclusions from a radically different perspective. Thus radicals – mostly Trotskyists – deemed the workers' participation movement a normal adaptation of the capitalist system unlikely to put it into question. Nowadays, they said, participation has become just another means of production and so capitalists have an objective interest in promoting it. Gorz (1980) asserted that power lies primarily with organisational structures and that any workers' movement seizing control of these structures is bound to replace one system of domination by another.

techniques, their high opportunity costs to the poor and the bias of institutions (in the absence of determined arbitration in favour of the poor), all act to the advantage of the élite.

The shift from PRA to PLA is a further step of the movement towards an integration of broader concerns. It represents an attempt to lay the foundations of a meta-methodology that encompasses all methodologies – past, present and future – espousing (implicitly or explicitly) the 'learning' paradigm. As such, it is simply a re-statement of the cognitivist educational paradigm that, against the behaviourist philosophy of teaching through repetition and reinforcement, sees learning as a proactive process involving the learner as an active goal setter, seeker and creator of knowledge, applying and building information into cognitive structures to solve problems in multiple settings. Though reduced to the role of facilitator, the teacher does not disappear. He simply uses other methods. Thus Pretty (1998) defines the role of the 'facilitating expert' as one of 'helping people in their situation carry out their own study and so achieve something', that is 'changes they regard as improvements'.

In this, the learning paradigm reveals its strong pedagogical content. In the PRA movement, this content moves from the educational compound to the social arena, where the cognitive school of educational psychology meets the constructivist school of sociology and the two blend into broader concepts of unpredictable social processes, to produce the notion of a learning community. The notion is akin to a variety of community development approaches – 'collaborative learning' (Daniels and Walker, 1996), 'soft system methodology' (Checkland and Scholes, 1990), 'social-environmental learning' (Finger and Verlaan, 1995), 'open space', 'future search', 'holistic management' etc. – and to well established negotiation and facilitation techniques, advocated by different disciplinary fields.

Thus with PLA, the appropriative character of PRA, based on its ability to claim tools and concepts from various disciplines and research traditions, moves from the methodological plane to the philosophical plane, but it keeps the same scientific and ideological features. These are looked at in turn.

7.1 Building up straw models to knock them down: science or scientism?

Brown (1998) notes that one of the peculiarities of the PRA movement is to confuse 'normal professionalism' and bureaucracy. Similarly, it tends to confuse the functions of science with its dysfunctions. Perhaps at the root of the contradictions of the so-called new paradigm is the simplistic depiction of positivism, wholly associated with normal science, where its shortcomings serve, *a contrario*, as a foil and a prop to the counter-model. Thus to a naive, often cartoonishly rigid and ahistorical model of positivism, is opposed another naive model of constructivism, in a dichotomic presentation where one picks and chooses selectively those idealised features that best suit the argument, with no nuance or qualification[19]. This dichotomizing has two inter-related effects: on the one hand it presents normal science nearly as scientism, that is a naive conception of scientific

19 I am aware that I have myself presented in a somewhat dichotomic fashion modernism and post-modernism (cf Table 1 above). However, this presentation, which I will mitigate later, is how post-modernists themselves present their philosophy.

objectivity and the belief that simple methods, associated with an idealized science, can solve complex problems (Sokal and Bricmont, 1997: 193). Scientism deals with ideas in the abstract and ignores broader issues of power, economics, politics and all that determines social phenomena and the way we think about them. Ideologues sharing a scientistic vision are all the more dangerous since they can convince themselves that theirs is not an ideological vision, while at the same time serving interests that escape their grasp. They believe in an all-powerful and 'neutral' science, rid of all its ideological elements. As Sokal and Bricmont note, disillusionment with scientistic dogmatism, associated with radical skepticism, can lead to discouragement and rejection of all that was naively believed in before. This, they argue, is what happened after the sixties with a swing to post-modernism. Such rejection leads ultimately to another form of radicalism or, to use the words of Bouveresse, a 'non-knowledge scientism' cited in Policar (1997).

The result of dichotomizing, on the other hand, is that the counter-model cannot escape the shortcomings it so categorically dismisses. It replaces one dogmatism by another. The new paradigm assumed to be built in the counter-model is an inverted mirror image of the old one, on which it is patterned and whose elements it moves to a meta-level. But fundamentally we are still in a transfer mode, of software – learning models, forms of social organisation, soft technologies – rather than of hardware – production techniques, hard technologies. We are still told that the 'new' science is ideologically neutral, that it is detached from any political or economic models, that practitioners need not worry about the immediate impact of their work or the wider constraints faced by their rural clients, that things will eventually sort themselves out if we let the 'natural order' run its course. In this process of change, the arrogance of the appointed 'technical expert' of normal professionalism is replaced by that of the self-proclaimed 'facilitation expert' of a 'normalized' new professionalism. But while the 'normal' professional is still subject to independent assessment of his work, the 'new' professional abides by his own standards (Brown, 1998). The risk of this 'soft' shift is that the assumed inherent collective features of peasant society ('backwardness', 'resistance to change', etc.) which social science took so long to revise may well be creeping back through the window of cognitive psychology and the assumed 'neutral' focus on learning processes.

This transfer of (and towards) 'software' is concomitant with an increasing communication-information problematic in development thinking which, as will be argued later, itself reflects a failure to break away from, again, a transfer of (higher-order) theories to developing countries. This problematic has perhaps to do with the evolution of post-industrial societies towards information-laden forms of organisation where, lower-order needs having been satisfied, autonomy and participation, together with the use of cybernetic concepts, take on an increased relevance. As Geyer notes, 'when moving from a work-dominated society to an information-dominated one, less centralized planning is a pre-requisite for the very simple reason that the intellectual processes dealing with information are self-steering – and not only self-regulating – and consequently cannot be steered from the outside by definition. In other words: there should be no excessive top-down planning, and science should not get involved in the maintenance of hierarchical power systems' (1994: 5.3). Yet as argued above, even this self-steering is not immune to subtle external influences of more diffuse power systems.

7.2 Looking for the elusive cyberman: modernity not dead?

Ideologically, the root of the ‘learning’ individual in a ‘learning’ community, lies the old ideal of the creation of a ‘new man’ in a new type of society, able to rise up to the challenges of the future. This ideal, central to all modernising projects, as Bauer cited in Inkeles and Smith (1974) points out, is that of a ‘conscious, rational and purposive’ man, whose consciousness, rationality and sense of purpose are instrumental to whatever ideology lies behind the modernising project, in a utopian model of society, whether communist or liberal. In a ‘learning society’, the profile of this new man, as one can figure out from the assumptions of the paradigm, is akin to both the model of the economic entrepreneur – thanks to the agency, knowledge and resourcefulness with which he is endowed – and to the social/communitarian model, thanks to his assumed preparedness to adjust his selfish interests and behaviour to the needs of his community. His cognitive profile is that of a ‘cybernetic’ individual, able at the same time and concurrently, to gain information from different actors and sources (social, natural, economic…), process it, integrate it into his value system, adjust his system and translate that adjustment into appropriate behaviour, get feedback on that behaviour, process it…and ad infinitum. His mental universe is one of permanent information feedback loops, inducing his value system to produce gradually adapted behaviours. But adapted to what? Information here assumes adjustment of the value system which in turn assumes that of the person’s own self-interest to fit the interests of other actors as a result of information. The possibility of non-automatism, refusal, resistance, in short of non-linearity, is not considered, even as a working hypothesis. There is thus a contradiction between an assumption of non-linear, ‘chaotic’ social processes and an assumption of a linear ‘predictability’ of the cognitive, personal, processes that are assumed to, eventually, produce order or consensus. What happens if, out of blind self-interest, unconsciousness or sheer malice individuals refuse to adjust? This question is never answered.

Fundamentally, there is a contradiction between, on the one hand, the deeply embedded human desire to seek, by emotional need or purely material design, for stability, regularity, certainty and security of their immediate environment and, on the other hand, the permanent process of adaptation to that environment – itself in a state of permanent disequilibrium in a cybernetic model – assumed as a central tenet of the learning paradigm. The contradiction is basically a political one and relates to the opposition between a vision of politics as personal, peculiar to post-modern thinking, and a more traditional vision of politics as the management of conflictual interests and the necessity of making choices between them, that is ultimately the issue of arbitration or, if one were to use the cybernetics metaphor, who is the cybernetician nudging the learning ghost in the machine towards more timely and accurate feedback? The issue of arbitration, never answered in post-modernism and rarely in the participationist movement, is crucial and needs to be explored, even with the risk of speculating on the intentions, convictions and political inclinations of the theorists.

7.3 Pushing learning to the limits: philosophically totalizing, politically totalitarian?

The refusal to consider irreconcilable opposition, resistance and contradictions and to recognise the political role of the external agent (whether the state or the more humble leader of a development project) in the learning process has clear antecedents in political ideologies such as self-management. Lefort, commenting on revolutionary ideologies, pointed out that 'the idea of Revolution as absolute event, foundation of a world in which men would entirely dominate institutions, would agree on all their activities and ends, a world in which power would dissolve itself in the flow of collective decisions, and law in the flow of wills, in which conflict would be eliminated, that idea is secretly linked to the totalitarian representation' (quoted in Rosanvallon and Viveret, 1977: 28)[20]. To be sure, the ideal of a learning community, as suggested by the proponents of the learning paradigm is far removed from the idea of revolution as a guillotine-event, that is the root cause of the communist totalitarian degeneration to which Lefort was referring. Such an idea was used by the state to legitimize its function as the operator of the guillotine and the suppressor of social conflict. By forcefully flattening society into equality, the communist state sought to bring practice at a level with theory and, in so doing, produced a dystopia. In the proposed paradigm the revolution is embedded in learning itself, and the guillotine of revolution disappears as a decisive moment in history and midwife of radical social change to become the metaphor for a process of change. Yet such vision, much in the vein of post-modernist rationalising away of contradictions through metaphorical images, does not really confront the issue of political power and social conflict. While sharing the totalitarian view of the dissolution of conflict in the collective will, it eschews the issues of social heterogeneity, power inequalities and who is to be the ultimate arbiter in case of irreconcilable oppositions. Except to present learning as a philosopher's stone and dialectical midwife of conflict, it is at the same time its opposite and the means of its resolution. Conflict happens because there was no learning and, therefore, learning does not simply solve conflict, it prevents it from happening, for if it happens this would mean that there was no learning in the first place.

7.4 The gap between theory and practice, time and again

While the outlines of a learning paradigm give an idea of its theoretical roots, its political content, that is its agenda, is not explicit. What is 'learning' and what is to be learned, by whom and for what purpose? Taken in a general sense, whether explicitly or implicitly, slowly or quickly, willingly or forcibly, formally or informally everybody learn all their life and a learning 'paradigm' seems to make little sense. For practical reasons, learning is quite simply a question of survival and has always been so. In an explicitly educational environment (school, university…) learning has a context and the objectives of specific knowledge and skills acquisition and the teacher is still present. In a business

20 The idea referred to here is assimilated into a utopia. The critics of the self-management utopia point out that, ultimately, all utopias are totalitarian representations, whether their totalitarianism is materialised by a conventional (strong state or military) dictatorship or by that of the more diffuse social pressure to conform (sects, millenarian movements etc.). Furthermore, they argue that no totalitarianism is founded on the notion of its own permanency: pressure or oppression are simply conceptualized as the necessary framework conditions under which 'learning' takes place, new values internalized and new behaviours acquired, eventually making external pressure obsolete. This is, for example, well expressed by Che Guevara in his essay on man and socialism in Cuba when he argues for a complete identification between state and civil society: 'Society as a whole must be converted into a gigantic school' (cited in Slater, 1992: 305).

environment, organisational learning takes place at the request, or with the approval – of business managers, within a clearly defined context of responsibilities, objectives and redistribution. Except in a very general, and metaphorical sense, the rural community is neither a school nor a business enterprise. The assumption of the learning paradigm, one assumes, is that collective learning in the community, as such, is conducive to attitudinal change (increased humility, respect of others' realities…) and therefore to a different, consensual, pattern of action. Meppem and Gill thus define learning as 'the accumulation of insights into system cause and effect by all those with interests in a decision or issue' (1997: 7.1) and in the environmental management and policy domain, as opposed to business management, 'the stakeholder community becomes that entire section of society with interests in the relevant issues' (Meppem and Gill, 1997: 5). In a learning environment, they add, 'participants are facilitated away from the need to defend individual perspectives and view points towards a more healthy willingness to listen to and participate in the evolution of more generally shared insights'.

The problem is, of course, that for the purpose of action, 'relevant' systems, issues and decisions need to be defined. While it may be true that ultimately patterns of action are determined by individuals, broader constraints weigh on their judgement and limit their choice. These constraints may be the choices of other individuals in many locations, near and far, and in many domains, whether the local policy maker or the Wall Street stockbroker, some of them may not wish to join in the learning or be 'facilitated away' as one would wish them to because they are happy with the situation as it is. But more practically how would this bring about change? Would learning be organised at all, and by whom and for what purpose?

To assess the potential risks associated with a learning agenda, and banal as this may appear, it is worth considering the difference between theory and its attendant model (utopia) and practice and its formulation (politics). One obvious difference is that theories do not deal with human beings in the flesh. Theory is, literally, done in a *virtual world* where human beings are little more than concepts endowed with whatever inherent features suit the theoretical model. The second is that theories refer to models that are conceived *out-of-time*[21]. Their attendant models are both timeless ideals and the outcomes of an atemporal processes. On the contrary, practice deals with real human beings and their idiosyncrasies, in the real world with all its contradictions. Politics has to be done *in-time*, in a frame that is sufficiently short to motivate all human actors, whose time frame is most likely to be their own lifespan, at most. While theory and practice can inform each other, they only do so within a *time context* to which actors can relate and that gives them hope of achievement, unless, of course, one assumes that they are *systematically* prepared to relinquish their own objectives for those of their descendants. This time frame needs to be made explicit. To attempt to import a utopian model into the real world is to 'projectise' it, that is to endow it with political intent, fit it into a time frame and confront it to social and cognitive contradictions. What are then the implications of a *projectised* learning agenda?

Such an agenda, it seems, has not been outlined by the advocates of a learning paradigm. Most probably the answer to the question would be that a learning agenda *cannot* be projectised, for learning is a life long – and even an inter-generational – process. Similarly, its results themselves can be disregarded.

21 A more precise way of expressing this is perhaps to say that theory and practice, instead of existing in different temporal worlds, have different rhythms, different temporalities in a science-practice continuum.

Taking this logic to its limits, its ability to solve problems can give way to its value as a process in itself: learning cannot fail, it can be argued, since its 'failures' serve simply to produce other opportunities for learning (Lee cited in Daniels and Walker, 1996). Thus, like a snake biting its own tail, learning is a process that feeds itself. Yet such an answer, again, would eschew two fundamental issues of any agenda[22]. The first is time. A non projectised agenda, in effect, abstracts out the question of time and, much in a post-modernist fashion, renders obsolete the notion of development as a consciously planned objective. It also undermines one of the central arguments of the learning paradigm: if it is the urgency of the environmental crisis that justifies community learning, then obviously that crisis sets the limits of learning, which needs to be projectised. The removal of learning from the realm of politics to the meta-level of essential and permanent mental processes thus achieves coherence at the expense of political efficacy. To say that learning is ultimately an individual matter is to suggest it may take time or never occur in the desired direction. After all, any flaws that exist in communities are the result of their own 'learning' style and there is a fundamental contradiction in entrusting the correction of these flaws to learning processes that are their very cause. Besides, whether in a school or in a business model, collective learning is meant to adapt but also to give a competitive advantage over others, if not other individuals then other businesses or schools. To say that learning can be enhanced is, in effect, to projectise it, that is to say that learning can be taught, and raise the second issue, that is concerning the *convenors* of the agenda. Why and how would people suddenly become more efficient learners than they were? What would motivate them? Who would take the initiative, what would be their own agenda and within what time frame?[23]. In the absence of an explicit agenda, one can have nightmares about 'learning' turning into 're-education'[24] and 'learning projects' turning into 're-education camps' led by lesser dictators, in the form of Mr Gadgrind, the Victorian headmaster referred to by Chambers (1997), breathing down the neck of his contingent of active learners, urging them to learn just a little bit faster because aid money is running out and the learning project is to be evaluated soon. To ignore the deeply ingrained human tendency to turn a theory into a method and a method into a recipe is to ignore the risks of degeneration of a utopia into a dystopia.

7.5 Gaps and continuities in development thinking

22 Another issue is obviously that a process of learning *meant* (deliberately and consciously) to affect behaviour in a particular direction (whatever it may be) must be projectised if it is to be discussed and/or evaluated at all.

23 Something similar to a projectised agenda of learning exists in soft system methodology and in organisational learning theory. This however is clearly within a business management or formal education perspectives where responsibilities and interests are formally defined. Finger and Verlaan remark that collective learning can only be triggered by crisis points and ceases when these are dealt with. They add that 'only in situations where organisational learning is clearly conceptualised as a matter of organisational survival, is there a certain parallel with and a possible contribution of organisational learning theory to social-environmental learning' by the relevant units (1995: 511). Learning here results from collective awareness. 'If methods of learning are grafted on to these units without the units themselves being challenged, this approach will only perpetuate the vicious circle' of the ecological crisis (Finger and Verlaan, 1995).

24 In so far as language reveals cultural differences, a comparison between the translation of the words 'learning' and 'teaching' shows that in many cases, these have the same root, indicating that where there is learning, there is teaching. In French, Spanish, Dutch, Goun (Benin) and Lélé (Burkina Faso), 'apprendre', 'aprender', 'leven', 'kplonou' and 'thioro' respectively can take on both meanings. In arabic, 'allem' has also both meanings and share the same root as 'ilm', science.

In concluding, one can start by pointing out, perhaps cynically, two 'original sins' in the search for alternative paradigms; first, the external origin (to the rural world) of all theories of rural promotion and the inability of the theorists to conceive of this promotion without external intervention and, second, the external origin (to the developing societies) of alternative theories of development. Post-modernism could be said to be untainted by both 'development' thinking and interventionism. Subtly, however, it remains a theory (even in its rejection of any universal theories) that has a conception of development (even in its rejection of development as discourse). Considering these 'sins', the proclaimed break from positivism is itself not a break from a logic of transfer which purports to generalise to developing societies theories that are the outcome of evolving preoccupations of (post) industrial societies[25]. The critique or rejection of the historically constituted western positivist science is itself the historically constituted product of western positivist science. The proclaimed scientific break is inscribed within the same historical continuity[26]. The notion that productivism, served by scientific positivism, is unable to solve the present crisis of western modern societies forces some western thinkers to reconsider the ideology of progress at the root of their modernity and seek new forms of economic and social organisation, mostly to account for the radical change in the form and content of labour. By rejecting two coherent modernising extremes with totalising objectives, post-modernism occupies a centre that has neither coherence nor objectives or, more precisely, whose objective is to dismantle all certainties, opening the way to alternatives whose objectives and coherence are yet to be defined, solely to be again dismantled. In doing so, it produces another totalising objective, whose rationale is fundamentally 'reactional'. In other words, while one knows what models relativists reject, one is not sure what models they propose. Failing to solve the contradictions produced by this rationale and to make explicit their own political agenda, they open the way to all alternatives, while at the same time depriving themselves of criteria on which to judge them. As Rosenau says, post-modernism leaves 'social science with no bases for knowledge claims and no rationale for choosing between conflicting interpretations' (1992: 129).

25 If, again, one were to use the cybernetics metaphor, there is also a generalisation of the notion of non-determinism from developed to developing societies. Geyer points out that non-linear relationships are a feature of systems far from equilibrium ('where small inputs can trigger massive consequences') and *these systems are highly dynamic and interactive modern societies* (1994: 6).

26 According to Chauveau (1994), one of the results of the professionalisation of development disciplines has been the strengthening of the values of the dominant western culture. One can assume that the transfer of the philosophy and methods of an alternative science (be it non-positivist) is no guarantee that these values will no longer be diffused, if only through an alternative form.

8. Post-modern relativism and the search for the new paradigm: limits and convergence

At this stage of the argument, and before concluding, it is useful to summarize the main shortcomings of post-modernism in the social sciences and its influences on the PRA movement. These relate to its use of the metaphor in the critique of science, the failure to distinguish between issues of scientific method and issues of social power, thus undermining its own argument and, finally, the treatment of politics and economics in terms that make relativism amenable to all sorts of recuperation.

8.1 Science and the metaphor: attaching our beliefs to the wings of a butterfly?

Perhaps one of the most pervasive post-modernist challenges to science is the use of the metaphor. As mentioned several times in this paper, one wonders, for example, whether the notions of 'paradigm', 'chaos', 'non-determinism' and the references to concepts from the physical sciences, are used in a strict scientific sense or in an allusive, metaphoric sense. Ison, Maiteny and Carr (1997, p.261) for example assert that 'chaos theory, self-organising systems and the complexity sciences bridge the natural, socio-economic and management sciences by serving *either as explanations of phenomena or as metaphors* which can guide thinking and action' (my emphasis). With other authors, most of the references are made in a loose, suggestive manner, but one which is ambiguous since the arguments that follow build on it and present it as a truth with explanatory power and not a simple metaphor with illustrative intention. The most notable one is the notion of chaos and the sense it conveys that, like the famous effect of a butterfly flapping its wings, minute changes in initial conditions can produce enormous and unpredictable consequences. The implication of this view in philosophical and political terms is further explored in the next section.

As Sokal and Bricmont (1997) note, the use of a metaphor in a scientific context is perfectly legitimate if it helps make a point clearer. But it should not be taken as a scientific statement because science and metaphor operate on different registers. Thus Sellier (1997) notes the difficulty that science has in dealing with metaphors. 'The scientific debate implies a scientific critique, and the latter is only possible through a discourse that is constructed, the least ambiguous and susceptible to a diversity of poetic interpretations as possible, otherwise one does not know who says what. The allusive discourse is impermeable to a critique in the framework of the scientific language and, therefore, inaudible as a scientific discourse. Like any discourse, it is of course amenable to literary criticism, whose objectives are entirely different from those of a scientific critique'. As Sokal and Bricmont (1997) argue, science is not a text to be read and deconstructed, and exact sciences are not a stock of metaphors ready for instant and unqualified use in social sciences. Concepts such as chaos, uncertainty and non-linearity have a specific meaning that is valid only within a specific theoretical and experimental context. Using them outside that context may lead to absurd conclusions. Sellier (1997), like Sokal and Bricmont (1997), point out the room for backsliding that metaphors afford their authors: when a strict scientific review reveals inconsistencies, they can always fall back on the 'but it's only a metaphor' argument,

without in fact solving those problems the metaphor was supposed to help them solve in the first place. Thus, instead of clarifying an issue through analogy, the metaphor adds to the confusion.

8.2 The philosophy of post-modernism: is there an alien force behind the invisible hand?

Beyond their metaphorical meaning, the notions of 'chaos', 'uncertainty' and 'non-determinism', when imported into the social sciences, raise a central question: are human beings able to get hold of their future and shape it? Can they write their own history? To use the notion of quantum physics, often suggested by post-modernists, the 'chaotic' view assimilates the unfolding of the future to the dispersion of a wave function holding different potential outcomes, none of which is certain. Like in the analogy of the famous Schrödinger cat in its box, the state of the cat – whether it is dead or alive – cannot be known in advance. It will remain a set of potentialities, only one of which will materialise when the observer opens the box to look inside. In the social sciences, this vision suggests that the future of societies is beyond their ability to predict or act upon. Like a wave function, it holds 'many worlds', one of which will eventually come into being, as a result of human beings' actions but not their *intentions*. In development, this view is reflected in the doubts about the validity and efficiency of planning. For this reason, it is argued, social science, especially sociology, should function on the principles of meteorology and abandon its predictive ambition (Geyer, 1994). What is suggested is therefore an ontologic powerlessness of men to determine the future they want and, as many critics of post-modern philosophy have argued, a deeply pessimistic view under an apparently libertarian message.

The 'chaotic' view has much deeper philosophical and methodological implications than its proponents are willing to admit and, as far as PRA theorists who refer to it are concerned, its commensurability with normal science is seriously in doubt. What is in question is, fundamentally, the meaning of 'science'. Philosophically, what it suggests, in fact, is to integrate the unknowable into the realm of knowledge and make it a guiding principle of scientific reasoning. Methodologically, this means that, as Olivier de Sardan (1995) wrote in another context, 'the unexplained is explained by the inexplicable'. This is a most radical challenge to the classical schools of sociology which consider social systems as historically determined.

Adam Smith and Karl Marx saw respectively an unknown but knowable 'invisible hand' or 'alien force' as the resultant of human intercourse, and power as resting with nature and not with God. By discovering the laws of nature and those of human conduct, science could empower men to control their destiny. The challenge to these views is not new. The recent history of social science, concurrently with the decline of the narrow positivistic view, is precisely a move away from the ambition to predict social phenomena. Similarly, while not adopting uncertainty as a philosophical principle, science has recognized it and dealt with it: what is 'risk management' in economics if not dealing with uncertainty? But the post-modern challenge, if one accepts a paradigm espousing the 'chaotic' view, is of another nature altogether: the rule of 'chaos' is, so to speak, a reinstatement of power into the hands of God, and the process through which His will is approached, but in essence impossible to know, is through

personal introspection, learning and participation, are thus turned into the rituals of a new religion[27]. Where Kuhn saw a paradigm as a consensus among the *scientific* community as to the way its members view the world, the new paradigm enlarges that community to a much wider audience. Where Kuhn saw the validity of a new paradigm in its ability to solve problems better than the old one, the proposed paradigm makes problems redundant by 'deconstructing' them as mere fabrications of science[28]. Problems, we are told, are endemic and their solution increases ignorance instead of knowledge; thus 'problem-solving' in the new paradigm becomes a veritable quest for the Holy Grail, always pursued but never reached. Where science posits the hope of an attainable truth, the new paradigm suggests that the hope resides in the attempt, not in the achievement of the goal[29]. To men who would seize control of their destiny, post-modernism tells them this is a laudable but vain hope.

This quasi-religious dimension is present in the notion of time and/or projectising discussed earlier in the case of learning. The refusal to projectise reminds one of the religious belief in the ultimate achievement of some mythical objective and the role that practitioners acting as missionaries play in sowing the seeds of change, even if the horizon of that change is far removed. This dimension is also transparent in the refusal to consider arbitration and external, godly, intervention: God (or the state for that matter), it is assumed, cannot meddle in our affairs or bypass our agency by protecting us from the consequences of our actions.

Radical as it may sound, this view ignores both the history of societies and human nature. Basically there is a confusion between the field of knowledge and the field of action in planning, more specifically the extent to which planning is likely to achieve man's will without prior *perfect* knowledge.

Politically, although no implication of this position is drawn by the critics of planning, their analysis conveys an unarticulated sense of laissez faire. But here again, the philosophical dismissal of planning, as a means for men to shape their future, is a denial of history. While development planning may have dismally failed in many instances in the Third World, the spectacular development of the post-war period in Europe (France, Germany) and in Asia (Japan, Korea) is proof enough that determined action, backed by economic and human resources and a *vision* of the future, can lead men where they *want* to

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27 One could say, for example, that the call to practitioners to 'use their own best judgement at all times' is also an invitation to search for the truth in themselves and not in some external source. This call, at least to this author, is reminiscent of the *koans* (riddles) told by Zen Buddhist masters to their disciples and which they are supposed to solve by introspection and intuition, and not by deductive (scientific) logic. 'Look no further than in yourself ', say the master, which is perhaps a form of self-empowerment.

28 This notion of science's 'problem-orientation' is of course debatable: is science primarily about solving problems or is it about answering questions? To say that the scientific method is biased by the problems it parachutes into development is doubly self-undermining. At the *infra* level, it raises the question of how to consider the technologies lying on the shelves of research centres: are they to be considered as failed 'solutions' or non-accepted answers. Is a non-adopted solution still a 'solution'? The issue is, as will be discussed below, one of making a distinction between science (proposal) and politics (decision). At the *meta* level, how to get rid of problems in an alternative paradigm? Soft system methodology (SSM), for example, proposes to speak of 'problem situation' (not of problem), leaving it to relevant actors to define collectively what the problem is. But who decided that there was a need for a SSM intervention in the first place, and isn't a problem-situation his 'problem'?

29 Thus a development expert, hired to evaluate a project funded by a French religious NGO, reported to the author her puzzlement when her (rather critical) report was shelved without comment because, as she was told privately, 'you must understand that we are working towards the establishment of the kingdom of God on earth and this objective goes beyond the scope of this modest project'.

go. Whether they like the results is a matter of dynamics of human nature, not a fundamental inability to turn intentions into reality.

8.3 The methodology of post-modernism: a shot in the foot?

The ambivalence of post-modern thought, as well as of the new paradigm, noted several times in this paper points to fundamental methodological problems, which have mostly to do with the ideal of pluralism, that is trying to solve contradictions by integrating them and theorising them away at a higher level. In doing so, post-modernism produces what de Bono cited in Geyer (1994) calls 'proto-truths', that is statements that are felt instinctively to contain an element of truth, but one which needs to be contextualised, elaborated on and, often, mitigated. The rationale of post-modernism is to systematically turn them into definite truths, even in its rejection of any universal truth, and aggregate them to make claims to a philosophy. The meta-theories it produces – its own meta-discourse of knowledge about knowledge, thinking about thinking, learning to learn, communicating about communication, the politics of politic etc. reproduces the contradictions instead of solving them. There is therefore, as Hammersley and Gomm (1997) note, a built-in 'self-undermining internal inconsistency of relativism' which leads relativists to 'oscillate between undiscriminating tolerance and ideological dogmatism', one time seeming to accept every interpretation as valid in its own right, the other retreating behind the incommensurability of paradigms. Thus relativists say that we live in a world of multiple realities but, of course, 'the argument that this is the nature of the world itself constitutes a claim to universal validity' (Hammersley and Gomm, 1997: 3.3).

As has long been recognised, 'the desire to be value-free is in fact a value in itself. Hence to attempt to demonstrate that any science is value-free is a pointless exercise'. Post-modernists tell us that development is a form of discourse, but to say this is also to produce a discourse about development which, in a way, is intellectually, if not morally, even more untenable since it continues to feed at the same trough of development studies, if not of development aid. They tell us that knowledge is a form of discourse and there is no 'true knowledge' that could be enjoyed by somebody sitting in a transcendental watch tower, but this *is* a statement made from a transcendental watch tower. Science is criticised for its methodological reductionism but post-modernism itself resorts to *conceptual* reductionism in that it reduces social and cognitive processes to a single universal law of relativism, true in all bodies of science. The advocates of the new paradigm tell us that the future of communities lies in their ability to learn how to learn, but this is an ambiguous statement since it suggests that they are in a position to judge what is true learning, if not to teach it. In this case, as Sokal and Bricmont (1997) argue, why should post-modernist analyses be more trustful if they use the same type of analyses as the normal science they criticize?

8.4 The politics of post-modernism: deconstructing power, actorizing powerlessness?

An important question to ask about the implications of post-modernist thought is that of the political and economic models it conveys. Its political agenda is, at the very least, ambiguous and this ambiguity is also reflected in actor-oriented sociology. Some see in it an attempt to lay the scientific and philosophical foundations of liberalism, by asserting the pre-eminence of the individual over broader social structures, reduced to simple 'constructions'[30]. Human agency, it is thought, can be interpreted as the sociological foundation of entrepreneurship and the 'cognitive respect' due to individuals is also an invitation to respect their individual freedom to choose, over any other consideration.

Although there is not one single model of politics that can be deducted from post-modern theory, its philosophy points to one central notion on which politics should be founded. Against the Marxist over-determination of individual subjectivity by the economy, post-modernists argue that subjectivity is fragmented by the individual's multiple positions, defined by his/her different social relations and the discourses which they produce (Slater, 1992). Thus, so to speak, the individual's is a 'variable geometry' of subjectivity, which can never be fixed. The implication of this is that politics – as a form of organised subjectivity – can no longer be thought of in terms of the traditional, and universal, notions of left and right, socialism or liberalism, and cannot crystallize around parties or concepts as reductionist as a class. Politics descends to the social sphere where it is articulated by new social movements whose identity is rooted in various subjectivities. Fundamentally, the politics of post-modernism is based on the twin claims to the rights to *difference* and *equality*. Such vision leads post-modernists to see the marginal, the informal and the oppositional as powerful sources of creativity: thus informal markets, ethnic minorities, ecological groups, squatter groups, homosexuals, etc. are seen as the main carriers of the potential for social change. Their agency is basically one of a power of resistance to any homogenizing attempts of the state. These movements are not interested in access to state power but in the creation of an autonomous space. They are self-producing and self-organising; their concerns are embedded in subaltern knowledges and expressed in cultural terms (Watts, 1993). As Aronowitz cited in Slater (1992: 303) says, 'new social movements speak in post-modern voices; they enter the national and international political arena speaking a language of localism and regionalism'.

Put in the context of its Western origin, this emphasis on difference, diversity and resistance to central powers can perhaps be seen as the response to an existential *ennui* with the homogenizing processes of this *fin de siècle* capitalism Eagleton cited in Watts (1993) and with the apparent limits of liberal democracy. In development, it is a contradiction that it is precisely when obstacles to overt political action have lessened and opportunities for organisation have opened in most developing countries that development theorists choose to abandon the fields of politics and political economy in favour of an ambiguous discourse which tends to dissolve Third World specificities by absorbing and neutralising

30 Long (1992) notes this criticism in a footnote (p.40) but does not answer it, except to say that it is mistaken and that the focus on actors should be replaced in the context of the end of orthodoxy in development theory.

the realities of domination. Differences, whether local, sexual or communitarian, are subtly aggregated in a framework that neutralises them: the potentially destabilising 'other' is integrated in the form of an undifferentiated and interchangeable whole (Slater, 1992: 290). The post-modern discourse is thus ambivalent: the deconstruction of established concepts is a potentially political and empowering element, but it is undermined at the root by the denial of power relations (Slater, 1992), or more exactly by the dissolution of power relations into language games or their trivialisation by reference to extreme, pathological examples[31].

Perhaps at the root of post-modernism's incapacity to articulate a coherent political project is the logic of trying to raise common sense to the status of a theory, if not a philosophy. The political left and right were founded on 'motivational' hypotheses about human nature: the assumed orientation towards community, social justice, solidarity or, on the other hand, individual gains and rights. The attempts to go beyond this divide are founded on concepts that are more a statement of personal attributes than an indication of human aspiration. Notions like 'agency' and 'learning' are intuitively felt to be true. They are simply part of being endowed with consciousness, motivation and survival instinct, that is ultimately part of being human. Trying to raise them to the status of scientific concepts and build a theory around them eventually fails to explain why these notions were not able to build a better world than the one we live in. As analytical concepts in the field of knowledge, they give precious insights into the 'micro-physics' of power; in the field of action, they fail to produce a strategy for the correction of those phenomena they highlight. A strategy that purports to build on those very notions that produced injustice cannot produce justice, if at the same time it dismisses determined action in favour of more justice as mere interventionism or as a vain modernisation attempt. What it does is redefine semantically the attributes of the powerless and romanticize the condition of the marginalized groups while ignoring the subaltern position in which they live. It turns them into capable actors, while at the same time ignoring the fundamental roots of their powerlessness and suggesting that their agency should be left to its own devices. In short, theorizing common sense produces a politics of the status quo. As Barnhart (n.d.) says, 'ultimately, while post-modernism attempts to deconstruct macro-theoretical models, it fails to account for phenomena of social change the models were constructed to analyze'.

By trying to lay the foundation of a new form of politics, and a new model of democracy, post-modernism lays itself open to criticism from both left and right. The central critique of 'order' and the emphasis on non-determinism can of course refer to anarchism. But there is a danger that it is used politically to justify any orders, including a 'new order'. The right sees in its 'deconstructionist' style an attempt to undermine traditional western values. The critique from the radical political left is severe: abandonment of critical theory, extreme relativism, denial of the 'reality' of social and economic domination, including relations of exploitation etc. One of the most important criticisms is that it promotes notions such as the specificity of women's work and of cultural groups, communautarism and the rejection of universalism, central to the agendas of most religious fundamentalist groups and the political extreme right. To MacDonald (1994), post-modernism boils down to 'middle class liberalism with all its attendant features of naivety, irrationalism and idealism' which 'despite its left veneer…ultimately leads to reactionary conclusions'. Nanda (1997) argues that post-modernist philosophy, with its emphasis on cultural relativism can easily be used to condone the excesses of the

31 See for example the treatment by Chambers (1997) of the issue of power through reference to cases drawn from psycho-analysis.

Hindu fundamentalists in India. She makes a damning statement on the temptation of the political left to verse into relativism and associates the move to higher theories with a decline of its political efficacy. 'What do left intellectuals do when they know that they are too marginalized to change the world? They get busy interpreting the world, of course. And interpreting how we interpret the world, and how the non-Western "others" interpret it, and how we interpret others' interpretations…and ad infinitum. The interpretive turn allows the left to create in discourse what it is unable to realize in the rough and tumble of real politics: a world where all ideologies have been deconstructed, revealed, and readied for overthrow; a world where all can live by their own lights'. In a more moderate view, Booth notes that, rid of its intellectualising jargon, it is but a reflection of 'a relatively widespread mood', (1993: 57) born out of an increasing awareness of the limitations of over-deterministic development theories. There is little doubt, however, that as a strategy, or rather a set of strategies, post-modern relativism offers little direction, except to emphasise that this directionlessness is liberating and a source of challenge (Gardner and Lewis, 1996: 22; Long, 1984).

Taken as a critique of modernisation theories, post-modernist relativism seems little more than a re-hashing and systematizing of old arguments. Post-modernists have often been branded 'armchair radicals' in that their critiques focus on changing ways of thinking rather than calling for action based on these changes (Thomas, 1997). Such critique is echoed in the field of participatory research by the often heard depiction of PRA promoters as 'yuppy anthropologists', attempting a 'quick and dirty' synthesis of various old methods of qualitative research. Post-modernism, PRA, and more broadly the participationist movement, are also a reflection of a 'widespread mood' in the development field. The proposed participatory paradigm, sharing post-modern relativism and having failed to provide a sense of direction about practice, ultimately suggests that participation is a question of 'state of mind' rather than of any particular method. Ultimately, the issue is one of personal convictions and commitment. Whether these amount to a new scientific paradigm remains to be seen.

8.5 The science of post-modernism: throwing the baby with the bath?

Whichever way one looks at it, the post-modern critique of science – and to a large extent that of the advocates of a new paradigm – is so overwhelming as to be a veritable indictment. Despite passing mitigations[32], its general thrust is that science, portent of the project of the Enlightenment, is omnipresent, omnipotent and overbearing. Politics is assumed to be guided by science, either directly – because politics is advised by scientists – or indirectly – because political decisions are built following a scientific rationale. What science does not do directly, it inspires. Professional politicians

32 See for example how Chambers, after his radical critique of scientific reductionism, rescues it, literally in a footnote 'are reductionist roundabouts necessary for progress with understanding? Perhaps there is no escape, only a willingness to recognize the roundabouts, to get off them from time to time, to look at them from outside, to seek and puzzle over evidence that does not fit, to reflect critically, and doubt, question and be open to change. All positions are then permanently provisional; in human affairs, there is then no final reality, no final truth'(1997: 243). Indeed, an accurate description of 'normal' science. See also how Röling (1996), having made a strong argument in favour of a relativist view of the validity of positivist science, wishes to distance himself from relativism. See how Kloppenberg, after offering a most radical analysis of the so called validity of the scientific method and the notion of objectivity, suggests that science *can* produce truths and that it is simply a question of social contingency and partiality and not of falseness (1991: 525).

themselves may be seen as, first of all, science-trained individuals. Thus science is presented as a 'total culprit', responsible for what happens as well as for what does not happen, because it could have made it happen. Although critics do not go so far as to put scientists on trial, this view, if accepted, raises the central isssue of the collective social responsibility and accountability of normal scientists.

Such a view embodies perhaps the most basic confusion in the post-modern critique of science, that between the critique of the institution, i.e., the field of sociology of science, and the critique of the scientific method and knowledge, i.e., the field of epistemology. While the body of scientific knowledge is indeed also the product of the institution, post-modernists are too swift in 'throwing out the baby with the bath water'. They do so fundamentally by refusing to make a distinction between science and politics, between science as a method and the scientist as a person and a citizen, between 'reality' and the validity of its social representation. These confusions raise central questions: Can normal science make any truthful claim about an objective reality? To what extent does the scientific method reflect the interests, norms and privileges of the scientific institution? Would an alternative, constructivist, science escape from all institutional constraints? Is normal science definitely and absolutely closed to participation? Is science definitely and absolutely incapable of tackling future needs? Does an alternative agriculture require, as a condition, an alternative scientific paradigm?

On the issue of objectivity, at its most radical, post-modernism asserts that every position deserves total respect and wins its legitimacy by the simple fact that it is a position. Knowledge here is viewed as, basically, a form of discourse creating its own subjective world. Such a radical view conveys the idea that all knowledge is equally valid, or equally suspect. As Sagan says, 'the well-meaning contention that all ideas have equal merit seems to me little different from the disastrous contention that no ideas have any merit' (1993: xii). PRA theorists do not fall into this reasoning, but they entertain the ambiguity by developing a discourse which enshrines local knowledge while at the same time relativizing the value of scientific knowledge. There is a contradiction in considering critically, and dismissing, scientific knowledge as being socially constructed while, at the same time, never questioning the validity of local knowledge.

As Molnar et al. say in their response to Kloppenburg, 'there is only one science' and that is 'a way of accumulating knowledge in intersubjectively testable ways' (1992: 83). While some other ways of knowing exist, and may be superior to science in some contexts, they are not science. The issue is, fundamentally, one of making a distinction between knowledge founded on interpretation and knowledge constructed on systematic observation and experimentation. Local knowledge has both forms. It is neither superior nor inferior to scientific knowledge; it is adapted to specific situations which science has not been able to deal with. It can also, clearly, become maladapted as local situations change and local interpretations are no longer valid, if they ever were. Economic and environmental pressures are brought to bear on them and stretch them to the limit of their relevance. In this case, much as it may sound politically correct, not questioning the validity of local knowledge may well become the surest way of burying local communities under their present problems.

On the issue of science and politics, Aronowitz (in Levitt, 1995), for example, justifies the relevance of scientific studies by stating that 'what is at issue…is the question of scientific citizenship. The wide influence of science and its applications make it clear that science policy is too important to be left exclusively to scientists, their corporate patrons and politicians'. This issue raises, indirectly, the question of whether science should *function* according to the rule of democracy or whether it should

submit itself to democratic *control*. In other words, should democracy be exercised in science or on science? Through the exercise of democracy, control is exercised and dominant social values are integrated into science. But integrated how? How is this scientific citizenship translated in practice of science? Should this practice reflect social values or should simply scientific research policy be decided democratically?

Latour (1995) notes that there are differences between research, that is the institutional domain of science, and science itself. While the former is open to influences from its socio-political context and to the foibles of researchers, the latter is a body of knowledge and methods that can serve politics but whose relation to politics is difficult to establish. Molnar et al. (1992: 84) also emphasize that 'science is a human enterprise' and the institution of science has its share of shameful episodes (political repression of scientists, promotion of commercial products, deliberate neglect of important but much more difficult and less career-advancing issues). As all human enterprises, science has shortcomings that reflect the limits of society. Scientific institutions need to be changed to make them more responsive to economic, social and cultural changes. When their products are the source of inequalities, society must intervene, but this is an issue of politics, not of science. Scientists can express their political preferences but these are theirs, not science's. As human beings, and *citizens*, scientists are sometimes lured by personal gain and glory. Sokal and Bricmont note that 'scientists are only human beings and they are immune to neither fashion nor adulation'(1997: 190-1). They may ignore the scientific and ethical rules of their practice and err on the side of career concerns and ambitions. But one of the legacies of the Enlightenment, they remind us, is also skepticism and a distrust towards sacred texts and arguments of authority, and scientists can exercise them when it comes to science. Social constructivism has a role to play in operationalising scientific skepticism. For example, the process of consensus building about what is 'valid' and 'objective' research among the scientific community can only work well if there is a wide and substantive dialogue in that community. In this sense, social constructivist analysis can help redress biases and be conducive to a stronger form of objectivity (Reiter, 1996). There is however a difference between specific skepticism and radical skepticism, and the use of social constructivism ceases when it lapses into the latter. The first is interesting and can be refuted, the second is irrefutable but is less interesting because, precisely, it aims at universalism (Sokal and Bricmont, 1997).

This debate does not seem to be of interest to the PRA movement, in which politics tend to be bypassed by issues of methodology. It should recognize that the comparative advantage of scientists is not to facilitate local processes (for which most communities have their own institutions and procedures) but to do science, just like the comparative advantage of farmers is to farm, not to do science. They may, of course, engage in these activities in which they do not have a comparative advantage, and PRA has a potential as a communication strategy between them (Richards, 1994; Farrington, 1997). This builds a bridge between them and makes science more relevant to farmers. But this engagement cannot be equated with a new 'scientific' paradigm likely to advance the interests or the professional efficiency of either of them.

The movement should give up the underlying utopian ideas of 're-educating' scientists into facilitation and farmers into science, and of turning the rural world into a vast learning ground. These ideas suggest, *a contrario,* that present science cannot help the poorest – even that it is not aware of their plight or not willing to help – and that its method cannot produce sustainable solutions (Zwahlen, 1996) or involve local populations. Local populations must have a say in scientific research, but this is

essentially an issue of democratic control, not of values (Brown, 1998). This control is best advanced by the promotion of their democratic rights, that is by replacing the debate firmly in the field of politics, in which scientists, as citizens have, of course, a say. But much as it may sound generous and altruistic, scientists may fail farmers by relinquishing the skills for which they have been trained. Scientists should, of course, learn how to better communicate, and this is hardly a new idea, but they should first of all, learn to think, 'research' and exercise an 'intelligent ignorance' (Bayer and Waters-Bayer, 1994). Farmers need, first of all, political advocacy and economic opportunities. It is by engaging in the research of these and providing farmers with knowledge they do not have that scientists can best be useful.

8.6 Post-normal scientists in their paradigm: power without responsibility?

When dealing with scientists' belief in a paradigm, a question worth asking is what are their deep-rooted motivations. Cynical as it may sound, the question is legitimate if one accepts the notions of reflexivity, self-criticism and preparedness to put oneself into question. For example, is there an unconscious reason seated deeper than the generosity inherent in the idea of promoting widespread learning or empowering people? One explanation of the formidable attraction that Marxism had on intellectuals, with some 'Freudian' overtones, is that it has, in a metaphorical sense, given them 'virility'. Where they had previously been simple advisers to the rulers – and, at worst, courtesans at the disposal of the Prince – the almost religious dimension of Marxism (with its notions of historical materialism, of human beings as actors in a grand scheme whose logic escapes their grasp, of ultimate victory of the proletariat) puts them in a unique situation of being the only ones able to decrypt it and provide guidance. In that, as revolutionary as it may be, Marxism is also self-serving to the intellectuals, promoting them to the status of an enlightened vanguard. The same can perhaps be said of the role of intellectuals in the new paradigm. Despite the emphasis on local resources and participation, it subtly puts them centre stage by reducing the rural world's problems to questions of language and knowledge, the intellectuals' *raison d'etre,* at the exclusion of more real – but much more difficult – issues of political representation, of ability to influence legislation and access to resources. But ultimately this central place is one of power without responsibility, for the alternative paradigm is also one of alternative standards. If one accepts the notion of normal science as a 'total culprit' and refuses to make a distinction between science and politics, an inescapable question is: what is the responsibility of the alternative scientists? If one accepts that PRA is the operationalisation of a new paradigm, what is the responsibility of its promoters? This question, it seems, has not been considered by the promoters of the new paradigm, except in terms of standards of good practice (how to apply the method) or of personal reflection (reflexivity, self doubt etc.). But what would be the *collective social responsibility* of post-normal scientists? Are they accountable for the misuse of the method they played such an important role in diffusing?

At one level, the rationale of the alternative paradigm could be said to, precisely, solve the issue of social responsibility by closely involving 'society' into science; responsibility is shouldered by society and no longer by scientists, whose role is reduced to one of facilitators or resource persons. Therefore the paradigm renders the issue redundant for scientists. Much as it sounds logical, this assumption is, at best, very naïve. Social processes unleashed by the practice of participation, and by individual or

collective ‘learning’, are by no means assured to yield different results from those of scientists left to their own devices. At its own limited level, the practice of PRA has abundantly shown what biases can be produced by the creation of a public arena, and its marginalisation of the powerless (Mosse, 1994; 1995). At another level, the assumption conveniently abstracts out the role of these alternative scientists in, precisely, creating the framework conditions in which these processes take place. As post-modernists would argue, they produce the ‘discourse’ and method that legitimate, organise and make possible the exercise of power. In this, the power of (this alternative) science is still as present as ever, but devoid of the notion of its own responsibility. The issue here is not that these alternative scientists are objectively responsible; it is that they do not recognise for themselves the responsibility they raise in the case of ‘normal’ scientists. In this, again, the alternative paradigm does nothing but reproduce ‘normal’ scientists’ idea of a value-free and neutral science on a meta-level. But where the latter recognize the responsibility of politics in solving social contradictions and their own in the validity of their own work, the former entertain the illusion that, somehow, an alternative science would dissolve contradictions into participation and learning, abolish politics and free them of all responsibility.

9. The gap between theory and practice: does participation *need* a scientific paradigm?

One of the ironies of the PRA movement is to have started as a movement firmly rooted in empiricism, with a sense of immediacy, urgency ('rapidity') and evolved farther and farther away from its roots, into a realm which can only be called relativist academia. It has done so by scientifically rationalising away contradictions rather than by solving them practically or, more precisely, by solving them through rationalising them into broader and broader theoretical frameworks. Thus the obvious limitations of RRA *techniques* – most notably their failure to depart significantly from conventional research on whose critique RRA was based – were explained away in terms of inappropriate *social processes*, that is lack of participation, and hence the move to PRA. When mounting criticism pointed out the practical limitations of PRA and its (mis)use, these are now being explained away in terms of inadequate attitudes, and hence a re-focus on *cognitive processes* and the need for adapted learning. Thus RRA, PRA, PLA litter the path of the movement like so many sediments, each of which being presented as a legitimate method in its own right.

In this rationalising away, one of the oft repeated PRA principles, namely 'embracing error', acts like an integrative methodological device, turning the absorption of unsolved contradictions into, not a major problem, but a major strength. Strategically, this allows the movement to forestall and appropriate criticism. In the end, by 'embracing' all its errors and not solving any, PRA and its sister methods end up holding little truth. This, as has been already argued, is one of the post-modernist influences in the form of a celebration of diversity and a refusal to exclude. In the case of the PRA movement, it remains however a major problem because the evolving elaboration of concepts rests on an unchanged set of techniques and thus it is basically the same type of practice – tried and found wanting – that is the object of a different theorisation. As all authors recognize, there is no real difference between RRA and PRA tools, except perhaps a greater use of visualisation in the case of the latter. This has a major implication: the methodological proximity between supposedly different paradigms means that the same set of techniques can be indifferently used for 'conventional' data gathering, for participation and empowerment and for learning, depending on the profile, the wish, the will or the mood of the user. That is simply to rediscover an age old truth: that methods are not to be reified and that they are only worth what their users are worth. In participation at least, it is the user that makes the paradigm. And, if this is so, what is the comparative advantage of PRA when it, too, can be so easily misused[33] by the very people for which it is intended? The question is not simply academic. It points to two inter-related considerations: the relevance of scientific paradigm building for practice and the treatment of participation in *scientific* terms.

There is no doubt that science and ideology have often been unlucky bedfellows. But while development practioners have, for better or for worse, often been motivated by ideology, it remains to be seen whether they can be motivated by scientific paradigms. One has, first, to recognize that theory is not an inherent feature of practice but, somewhat in a constructivist fashion, a construction of its author for specific ends. In the case of the PRA movement, there is a yawning gap between the scientific (and/or anti-scientific) elaborations of the theorists and the understanding, motivations and

33 The proposal to move 'beyond farmer-first' and its populism does not directly address the status of PRA which epitomises 'farmer-first'.

capacities of the bulk of the practitioners and donors[34]. This is matched by the discrepancy between the theoretical base being elaborated and the methodological tools meant to operationalise it. There is a certain naivety in thinking that sophisticated research methods carry their own meaning with them and can be easily used by people with neither the background necessary to decode that meaning nor indeed a significant practice of research. Divorced from any political content, the method becomes a simple recipe, studiously and mechanically administered, in the most caricatural positivist stereotype. When PRA users are told to 'use their own best judgement at all times', this judgement can hardly be criticized afterwards. The absence of an explicit social theory or political agenda undermines any debate where 'good' and 'bad' practice can be assessed and renders the detailed typologies of participation produced by the theorists a simple academic exercise. A scientific paradigm that purports to advance participation, presented fundamentally as a *moral* cause, while at the same time eschewing issues of social justice and economizing on social theory[35], is bound to provide an empty grid in which every actor can inscribe their own agenda. This agenda is likely to be a continuation of the status quo. Or worse.

9.1 Wither participation?

While the practice of PRA has brought in a sometimes refreshing feeling of exhilaration (or panic) among the scientific community and forced it to reconsider its methods[36], the contribution of PRA, *in itself*, to the insights of research, the performance of development projects, or to the well being of the communities that use it remains still to be evaluated. Attempts are being made to link up participatory development and post-modernist theory by paying attention to wider constraints. As Kelly and Armstrong put it, 'bringing together the "two cultures" of academia and activism', requires a recognition of the broader systemic constraints on community-level action. The bridge between the two, they argue, is provided by community empowerment at the grassroots level by creating awareness of possibilities and capacity to seize them through group organisation, consciousness raising and tapping of local creative energy, while at the same time interceding 'between village realities and the broader legal and institutional system from which villagers are often excluded' (1996: 255)[37]. In this way, outsiders' language (i.e., intellectuals, academics) becomes powerful in advancing the interests of the powerless as well as in enhancing the position of the most under-priviledged groups in the community, most notably women. Such attempts have not yet filtered into the PRA literature. For all their similarities, the theoretical constructions spawned by PRA cannot be simply bundled and explained away as post-modernism in agricultural research and development. For one thing, even if

34 One could say that, despite the critique of science and the celebration of peasant knowledge built into its 'paradigm', PRA is subtly an imposition of scientific concepts in the interaction between its practitioners and rural communities: what could be more scientific and reductionist than Venn diagramming, matrix or pairwise ranking or pie charts?

35 A new perspective seems to be taking shape with the increasing reference to 'civil society' in the participationist movement. Perhaps this will ensure the link between the PRA movement and the school of political science, with a clearer message as to its political agenda.

36 Even if there is a long tradition of qualitative research in disciplines like anthropology and geography, witness the emergence of 'rapid' methods in nearly every development field. Olivier de Sardan, a strong critic of Chambers' work, has himself developed a rapid method (Olivier de Sardan and Bierschenk, 1997).

37 Here the authors use Friedmann's concept of 'loops of articulation' whereby alternative development is seen as the sphere of the household economy, its interests and values being brought to bear on meso and macro levels of power.

they lack an explicit development theory, nor indeed a clearly formulated social theory, they do not (yet) treat development as a simple discourse, whether a discourse of domination or a simple cultural construction. While rejecting universal models, they do not go so far as to postulate the impossibility to choose between constructions, thus they do not lapse into absolute relativism. They suggest criteria for selection between constructions, based mostly on the notion of consensus through processes of communication and negotiation (Pretty, 1994). Overlappings exist however, with a temptation to tend towards extreme relativism. Nowhere is this as obvious as in the increasingly frequent reference to concepts borrowed from the physical and natural sciences to legitimize the practice of participation and argue for some universal law of relativism.

At this stage of its evolution, the PRA movement moves between the chic scientific nihilism of post-modern discourse, the revolutionary ideology of popular education and the opportunistic pragmatism of management theories[38]. Ideologically, as has been argued, while resting on a critique of positivism, the movement, through its latest attempt at theorisation (PLA), despite its increasingly strong critique of science, still remains anchored to a modernising perspective associated with that same science. This anchor is provided by its implication into development activities and the necessities to tackle development objectives. It is, however, legitimate to ask what will be the next stage? The move to a 'learning' agenda (however vague it may be) can be seen as a move away from 'participation' and perhaps a suggestion of non-interventionism. What will happen when and if the 'learning paradigm' is faced with its own contradictions? How would these be explained away? There are not many alternatives. One is for the movement to go back to its empirical roots, face its contradictions and solve them. This requires it to step down from its meta-fence of trying to integrate opposites, that is to stop 'embracing errors' and clarify its message. Perhaps a way to do this is for its practioners to start reflecting on their own social responsibility. The other is to settle for the comfortable realm of language games, move even further down the road of relativism and relinquish action altogether. The movement would then probably just fizzle out because, as in the famous Peter Principle, it would have reached its point of irrelevance. What will remain of it is a set of techniques, to be used and abused, but then again most of these techniques existed well before the notions of RRA, PRA or PLA were invented.

38 At a general level, there is, in the use of participatory methods, a convergence between the latest modern management concerns and (clients) empowerment concerns, which explains the success of PRA among even large donors. See for example the advocacy of the use of rapid and participatory methods with the aim of 're-engineering' aid by USAID (USAID, 1996a and 1996b).

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