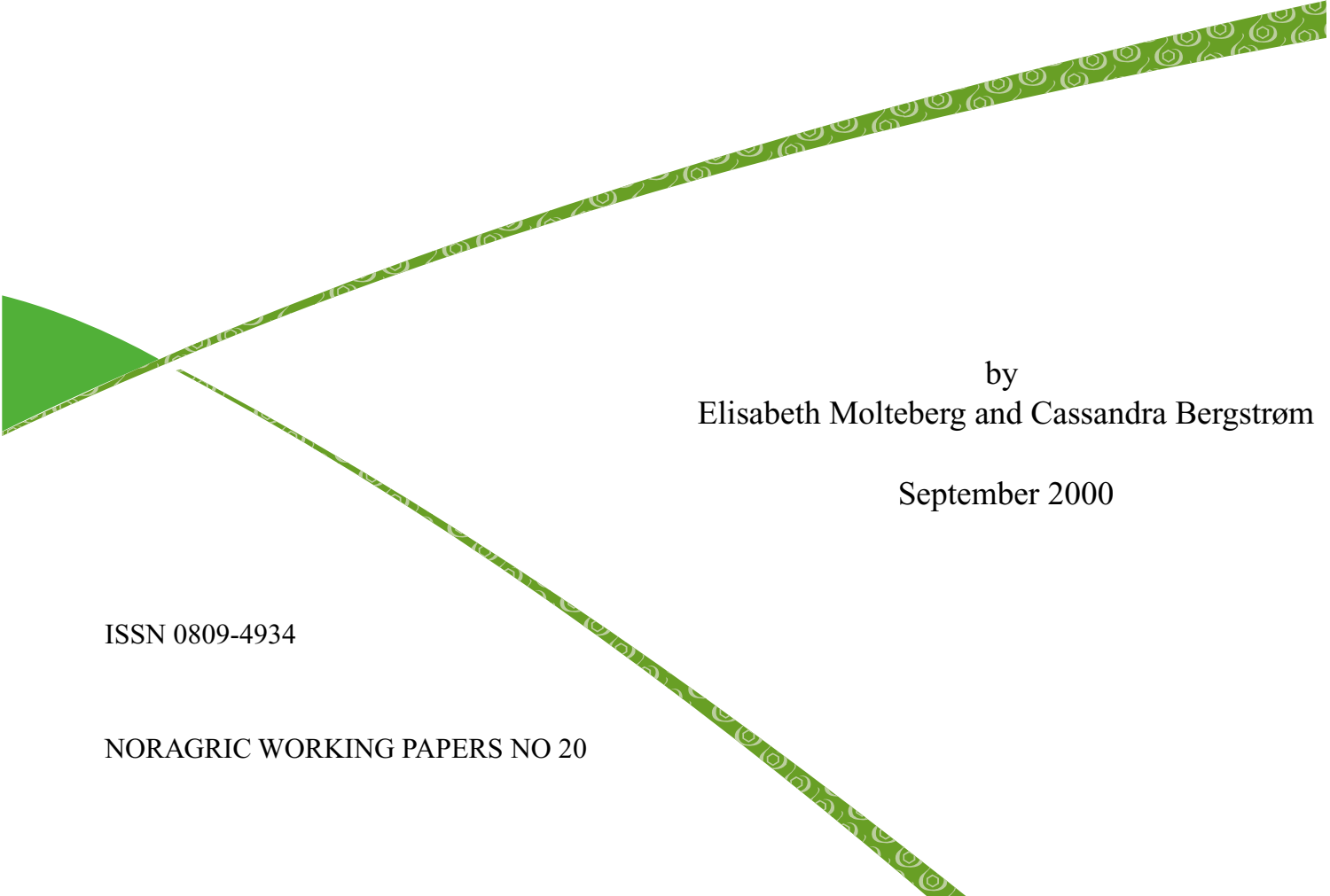


Our Common Discourse:
Diversity and Paradigms in Development Studies

Paper no. 1 of 2



by
Elisabeth Molteberg and Cassandra Bergstrøm

September 2000

ISSN 0809-4934

NORAGRIC WORKING PAPERS NO 20

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Our Common Discourse: Diversity and Paradigms in Development Studies

*Elisabeth Molteberg and Cassandra Bergstrøm**

Abstract: *This is the first of two papers that discuss challenges of power and communication in Development Studies. It is seen as an arena for scientific discourse, where representatives of a range of different perspectives and scientific disciplines address complex problems at the natural-social interface. Through integrating these contributions, Development Studies can make a valuable contribution to scientific theory and to understanding and acting on problems and processes addressed. This paper focuses on barriers to integration, which derive from inadequate ability among discourse contributors to communicate, particularly across disciplinary borders. The authors argue for a reflexive discourse. Contributors' assumptions should be made explicit on practicalities, e.g. level of integration in any inter-disciplinary activity, and on basic paradigmatic assumptions. The authors suggest a middle ground between seemingly incommensurable positions on truth, reality, and knowledge, which may facilitate communication in the Development Studies discourse.*

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The views expressed in these papers are our own and do not necessarily reflect those of our institution. We take full responsibility for any errors made, whereas we'd like to share any credit due with the following persons: Special thanks to Ingrid Nyborg, Noragric, for a process of joint discovery on the topic. Thanks also to Terje Kvilhaug, Dept. of Economics and Social Sciences, AUN, for inspiring us in our philosophical explorations, and for his valiant efforts to minimize our mistakes. We are also grateful to the following persons at our institution for their valuable comments and advice: Cary Fowler, Ruth Haug, Kjersti Larsen, and N. Shanmugaratnam. Finally, thanks to all the others who gave us input.

INTRODUCTION

Background

Our discussion in these two papers will focus on ‘doing science’, on issues of philosophy, theory building, analysis and methodology. We wish to start, however, with some thoughts related to why it is we do science in the first place – by discussing the relationship between Development Studies and development.

A fundamental feature shaping world development in the last two hundred years has been the Western faith in the ability of science to solve all problems. It reflects a positivistic belief that science can discover a technological solution for everything. While successes have been spectacular, more and more people argue that so have the failures. There is increasing disillusionment, as many crucial problems have not been eliminated or even minimized, but rather compounded. A few examples: pests and diseases have not been eradicated as predicted, but in many cases have become a greater problem due to resistance to pesticides and drugs. Food production increases achieved through new varieties and technologies have not resulted in food security for all: poverty has increased rather than been eradicated. And, technological advances have been accompanied by increasing pollution and environmental devastation. [UNCED 1992; Levins 1997; Bawden 1991] Not surprisingly, there is a growing dissatisfaction, which is heard mainly through public outcry.

Within the scientific community, many analysts have argued that a major cause for the inefficiency of the remedies (such as cures for diseases, technological solutions to production problems, economic and political policies) is that the analyses and understanding

that produced them were fragmented and narrow: they have largely been based on reductionist disciplinary science, where knowledge is generated through compartmentalizing reality and examining fragments, rather than focusing on interrelationships between them.

[Bawden and Ison 1992; Functowicz and Ravitz 1993; Havnevik 1995, Reason 1994]

Moreover, science as praxis has been undemocratic. Science has sequestered the right to address political problems, but has concentrated its answers on technical solutions and ideas of social engineering. Scientists have had the answer, which was then to be shared with the people. As such, science does not sufficiently accommodate the realities and voices of those affected by the issues addressed. [Chambers 1992; Pretty 1995, 1997; Reason 1994] In this paper, we will argue that Development Studies should avoid these shortcomings of ‘science’ as commonly practiced in addressing current problems.

Development Studies is perhaps best conceived of as an arena for scientific discourse. It is this discourse that these papers focus on. We suggest a philosophical foundation for enhancing its focus, and discuss possible methodological and theoretical implications. We focus our discussion on the scientific activity of Development Studies, grounding it in issues of power and diversity, which affect the discourse in relation to science, but also more generally to development.

What is Development Studies?

The modern field of Development Studies can be traced back to the World War II and the following decolonization processes. Initially largely a social sciences field, it has both grown out of and taken as its subject a grand-scale social engineering project in Third World countries, characterized as a ‘modernization’ or ‘development’ process. [Rahnema 1997; Corbridge 1995; Banuri 1990] It is thus a field with a political agenda, which

simultaneously strives to maintain a critical and reflexive distance to the same agenda. This dualism shows clearly in past and present Development Studies discourse and theory. Deliberations on how to alter conditions in the Third World coexist with critical reflections on the development and modernization project's inherent political nature and post-colonial philosophy rooted in 'the Enlightenment ethic of "the rational pursuit of human freedoms" and the colonial ethic of "the White Man's burden" ' [Banuri 1990:29].

For most of the field's life, focus has been on building grand theories.¹ In recent years, grand theory ambitions have largely been criticized and left [see e.g. Rahnema 1997; Leys 1996], and attention is increasingly given to a more empirically grounded understanding of problems in view of their situation-specificity and complexity. Critical reflection on the development/modernization project continues to be a central activity [see for instance Rahnema 1997; Corbridge 1995; Bhabha 1994; Said 1993; Sachs 1992; Marglin and Marglin 1990], perhaps richer since the end of the Cold War, with the weakening of the capitalism/ socialism polarization tendencies that shaped thought as well as geopolitics. The objective of theory building is largely redefined from the promotion of development and growth to understanding processes of change and differentiation. [Corbridge 1995; Marglin and Marglin 1990]

We define Development Studies as the study of the interface of society and nature with the intention of contributing to change, seen as the improvement of sustainability and equity. This definition brings together elements of definitions from Agenda 21 (integration of environment and development, integration of sustainability and equity) and from Pretty (sustainability seen as context dependent and processual). [UNCED 1992; Pretty 1995, 1997]

According to this definition, it is inherent that Development Studies is research committed to improvement. Knowledge generation is not an end in itself, but a means contributing to the improvement of natural and social conditions. In other words, it is a normative activity. An implication of this is that Development Studies addresses current, actual problems, focusing on solving them – it tends to be applied and action- or policy-oriented. Problems thus need to be addressed in terms of timely guidelines, and this is facilitated by the widespread use in the discourse of evocative but ill-defined concepts like those of sustainability and equity in the definition. Our use of them in our definition is partly to show how such concepts can generate problems concerning three features of the discourse: its communication characteristics, its processes of problem definition and analysis, and its inclusiveness. We are concerned with these processes themselves (who contributes what, how) as well as with their outcomes.

Further increasing the scope for these problems is another feature of the discourse, its diversity. Development Studies is the study of processes of change at the interface between natural and social-cultural systems. This involves capturing complexity – in itself not an ambition peculiar to Development Studies, but few other scientific endeavors so explicitly concern themselves with the multiple complexities of the interrelationships between natural systems and systems constructed by humans. This means that Development Studies should span and integrate understanding from natural, social, and human sciences as dictated by the problems addressed, incorporating temporal, spatial and perceptive context, and dealing with unintended consequences. [Chambers et al.1989; Giddens 1984; Burns and DeVille 1985]

Different perspectives and areas of expertise are needed to pursue this type of inquiry. Rather than being a delineated scientific practice with defined borders, Development Studies needs to be an open arena with a defined core - a shared set of general, but not too vaguely defined problems. Some actors and activities will belong within this core, while the area outside the core may be better described as a flux of ideas and actors. Some ambiguities arise out of this format. For example, the actors addressing the problems include an impressive range of scientific disciplines and fields, as well as representatives of the 'development industry'² and political bodies, and even some from the grassroots. The fact that many of the actors move between these groups is one source of ambiguity. In addition, the inclusion of non-scientists in the discourse renders the scientific status of Development Studies ambiguous in the eyes of many academicians. This is also due to the fact that most scientist actors in the arena contribute from the perspective of a particular discipline, even when concentrating their professional efforts on topics within the discourse. Other sources of ambiguity are the dualism between the development agenda and the critique of that agenda, and the controversy over the legitimacy of more explicitly normative forms of research. Finally, communication problems are apt to arise between different groups of actors. The result is a tendency towards fragmentation of the discourse into a number of parallel discourses that occasionally intertwine and mesh together.

Due to the diversity, although certain structures of knowledge, theory, and methodology spring to mind as more central to the discourse than others, a kaleidoscope of perspectives, insights, and approaches are accommodated. The motives and purposes of the actors range from more or less pure activism through trouble-shooting and policy inputs to a more general search for understanding. We think there is cause for reflection on the scientific outcomes of such an inclusive discourse. This diversity may result in fragmentation and

shallow ‘pseudo-science’³, or in theory development not attainable from within disciplines or other delineated scientific practices. We are concerned with how the former can be avoided and the latter promoted. Clearly, it is only through the contribution of new types of insight, new ways of understanding phenomena, that Development Studies can truly argue that it can stand as a science in its own right.

COMMUNICATION: COMMONALITY, CONFLICT, AND PERCEPTIONS

Science is a collective effort. Communication is thus important in all scientific activity, but may pose a greater challenge to Development Studies due to the multi-diversity of the discourse. In this paper, we focus on the impact of the diversity between contributing actors on communicative features of the discourse. We identify some stumbling blocks or barriers of communication related to inter-disciplinarity, then turn our attention to more fundamental barriers that derive from differences in our worldviews. The next paper will deal more specifically with how these are related to processes of problem definition and analysis, and to inclusiveness.

Inter-disciplinarity

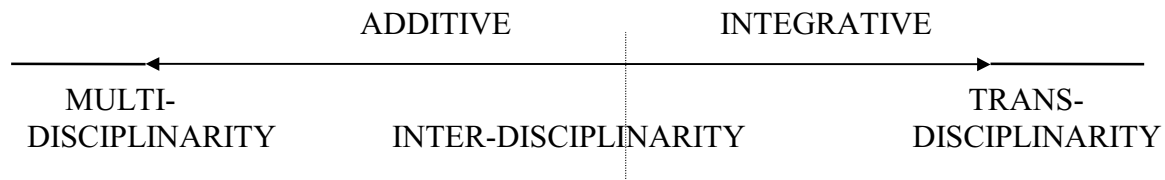
Efforts to generate new understanding and theory in Development Studies often involve inter-disciplinary approaches. Indeed, inter-disciplinarity is seen by many as a primary source of any unique contribution to science from Development Studies.

Much of the perceived potential of inter-disciplinarity to Development Studies derives from the fact that it is generally seen as a way of counterbalancing the reductionist tendency of disciplinary science. But people’s more operative ideas about the meaning of the term inter-disciplinarity, and their experiences with it, tend to be vague. The term lacks an established definition; it is thrown around loosely and applied to an expansive variety of situations.

When two specialists within the same field work together, when a large team each representing a different discipline work together, and when one individual works in areas traditionally covered by more than one disciplinary field, it's all labeled as inter-disciplinarity. People tend to operationalize it in terms of their associations with their own range of experiences, and this results in narrow conceptualizations and premature generalizations about its nature. Conceptual confusion arises from these ambiguities. The meaning of the term needs to be clarified in order to minimize miscommunication and get a clearer understanding of the challenge of inter-disciplinarity in Development Studies.

Inter-disciplinarity is not a new idea. It is intimately linked to a tension between streams of synthesis and particularization present throughout the history of science and philosophy⁴, although the particularization (reductionism) stream has been stronger during the period most strongly associated with modernization (around 1800 - 1960). There are two major driving forces in the current inter-disciplinary thrust: the re-emergence of synthetic and holistic thought in the past few decades⁵, and the practical need for a broad knowledge pool in addressing many of today's complex problems. These two forces give rise to very different conceptualizations of what activities involving more than one discipline should involve. The former incorporates the idea of unity and integration between forms of knowledge, the latter tends to be satisfied with a link, an additive approach to the use of more than one discipline in pursuing a particular inquiry. These are two qualitatively different projects, and that of integration raises epistemological⁶ questions that are irrelevant to that of addition. The lack of clarification concerning the type and degree of integration is at the core of the ambiguity and confusion surrounding the terms used in the discourse on inter-disciplinarity. [Klein 1990]

On a continuum of approaches to science which involve more than one discipline, multi-disciplinarity is a term that clearly indicates an additive approach, where as trans-disciplinarity denotes integration. Inter-disciplinarity is more ambiguous - it comprises both. From the small-scale additive to the highly integrative, synthetic and comprehensive, the term seems to be used to describe everything between the two extremes. [ibid] See figure.



This has substantial practical implications in any concrete inter-disciplinary activity, in terms of latent conflicts over what inter-disciplinarity actually implies. Engaging in an integrative, or transforming, activity places different demands on those involved than taking part in an additive activity. If the level of integration in a concrete activity is not made explicit, those involved may harbor greatly varying expectations, ambitions, and motivations concerning the nature of the task at hand. These may also be influenced by beliefs in the inherent superiority of integration over addition or vice versa. This is also true about a wider scientific discourse.

Development Studies is often defined as an inter-disciplinary field. What does this imply? Should a certain level of integration be demanded from every contribution to the discourse? This would be restraining and counter-productive. Rather, in collective efforts to address the core problems of the field, contributions are needed from various points at the integration continuum, including pure disciplinary ones. The combination of particularization and integration is fruitful and important. However, in each concrete inter-disciplinary activity, explicitness about the level of integration is a prerequisite to understanding what challenges

the work involves in terms of communication and co-operation⁷. There can be linguistic and terminological difficulties. There can be challenges related to differences between disciplines' views, e.g. on what constitutes a problem, a datum, analysis, a method, or a theory; and related to this, difficulties in perceiving how insights from one discipline may be used to address problems in another. Finally, there can be even more fundamental challenges related to differences in epistemological and ontological⁸ assumptions and beliefs. In order to identify and address the challenges of each concrete case in a meaningful and concerted way, an explicit agreement on the level of integration has to be in place first.

Beyond inter-disciplinarity - our basic perceptions

The challenges to inter-disciplinary research outlined above are all relevant to Development Studies as a discourse, due to the communication problems they may involve.

Communication problems related to differences between disciplinary traditions in language and approaches to knowledge generation certainly make themselves felt. The next paper explores terminological problems which arise in the Development Studies discourse, where different terms are used to convey similar ideas and vice versa. Terminological confusion may to varying degrees derive from disciplinary differences in the object of and approach to knowledge generation. We will look more closely at how these and other differences between approaches to science, across as well as between disciplines, derive from differences in fundamental and implicit worldviews.

Perspectives and objectives in relation to specific problems are not arbitrarily chosen and isolated, but flow from general understandings of the nature of the world, which may differ so greatly that concepts of truth or reality in relation to a specific issue become meaningless. People attach different meanings to their observation and operate with different concepts of

what is rational and true. Thus, contributors to the Development Studies discourse have different perceptions of reality, and hence different priorities towards action. The differences lie implicit in their contributions and in the way others understand these.

In the next paper, we discuss some issues concerning relations between scientists and non-scientists in the discourse. Communication is certainly a major challenge there. But since we are discussing a process of knowledge generation that, however inclusive, belongs in science, in this paper we would like to focus on the differences in perspective within the ranks of professionals and scientists. Even here, there can be profound differences in worldview and rationality. These influence not only what people focus on and consider important in development, but the whole way in which reality makes sense to them.

Discourses and paradigms

Any scientific enterprise is a result not only of theory and methods, but also of underlying ontological and epistemological assumptions, values, and beliefs that shape the problems focused on, the approaches used, and the analyses made. These, together with theory and methods, constitute paradigms, according to Thomas Kuhn's definition of the term – 'the entire constellation of beliefs, values, techniques, and so on shared by the members of a given [scientific] community' [Kuhn 1962/1996:175]. Paradigms thus have both a cognitive and a normative aspect, of which the former is more explicit and realized than the latter.

The concept of paradigms is a good tool for addressing the problem of sharing and communication in the Development Studies discourse. Contributions to the Development Studies discourse emerge from widely different paradigms. Development Studies accommodates contributions from several scientific communities, and the worldviews that

co-exist in the discourse differ enough to allow for distortion of messages from sender to receiver. The fact that non-scientists and non-professionals also take part in the discourse complicates the matter further. Some actors understand each other fairly well, while others find communication impossible.

Kuhn relates this communication problem to a feature of the relationship between paradigms, namely, the difficulty of understanding the internal logic of one paradigm in terms of another. He shows how different paradigms result in the attribution of different and mutually exclusive meanings, potentials, and importance to the same observation or phenomenon. He cites as an example that astronomical observations of changes in celestial bodies were not discussed or recorded until after the Copernican theory; under the Aristotelian paradigm, which assumed an unchanging super-lunar region, any observations of changes were meaningless and were explained away as disturbances in the upper atmosphere. Due to this mutual exclusivity, he says, any one person can only perceive one paradigm as logical (cognitively, they are incompatible) or as legitimate science (normatively, they are incommensurable). Taking observations of changes in celestial bodies seriously within the Aristotelian paradigm would not only be illogical, it would be illegitimate, because it would question a basic feature of reality as seen in this paradigm. Paradigms thus include pervasive and profound elements of cognition, which appear self-evident and natural to those who hold them until they are challenged, in what Kuhn terms 'revolutions' and 'crises'. [Kuhn 1962/1996]

Like Kuhn, we see reflection and discussion of paradigms as challenging activities – one cannot predict where divergences between them occur, and due to their implicit and unrealized nature, one can generally identify them only through the implications they have to

communication and cooperation. We do not, however, consider such reflection as disruptive as Kuhn does. On the contrary, we think it can be a continuous and integral feature of scientific activity and discourse, rather than a feature of a critical transition from one pervasive and commonly shared paradigm to another, which is how Kuhn sees it [*ibid*].

There are two reasons for our divergence from Kuhn's position:

First, Kuhn's analysis cannot be used wholesale to account for the dynamics of knowledge generation that spans different disciplines – it was developed to understand the succession of paradigms, scientific revolutions and paradigm shifts within one discipline. Kuhn describes a sequential process of addressing problems within one delineated practice, not a simultaneous process of addressing them from many different perspectives at the same time. He is concerned only with communication problems related to different ways of addressing the same topic, whereas communication problems in the Development Studies discourse often derive from a lack of understanding of the relatedness and relevance of other topics to one's own. Still, he provides analytical tools that allow us to conceptualize communication differences in an inter-disciplinary setting and make more sense of situations where representatives of different disciplines are unable to communicate. For example, when a forester and an ecologist look at a standing dead tree, the former seeing waste and mismanagement and the latter seeing growth conditions for a diversity of species, this difference will be embedded in their communication about what should be done with the tree. Similarly, divergence in views does not only occur between people, but also within the same person, in different roles and contexts. Thus, either of the two professionals in our example might view the tree differently if they see it while taking a walk in the forest with their children ... its interest to them may then lie primarily in its function as a balance beam

or an obstacle. The concept of paradigms may help us in understanding the nature and implications of divergence and difference in views.

Second, Kuhn's discussion derives from scrutiny of a particular scientific tradition, and reflects a particular view of science. It is thus itself situated within a paradigm, which we would like to challenge. The conclusions, and Kuhn's concept of what a science is, emerged from the study of natural science, specifically physics, and he gives pre-eminence to positivist and universalist models of science as the ideal for inquiry and explanation [Long and Long 1992:17]. Moreover, his view of science focuses on its deductive aspect, the use of theory to solve problems, and neglects its inductive, theory-building aspect. This makes his emphasis of incompatibility problematic. While it is correct that any attempt to use two mutually exclusive forms of logic at the same time to solve a problem would lead to failure, this does not mean that reflection on the relative merits of the two is impossible. There is a curious incoherence between Kuhn's essentially constructivist analysis and his own relationship with his objects, the scientists, which retains the positivist notion of a strict division between observer and observed, and does not recognize the reflexive nature of science as a social practice [Taylor 1990].

Kuhn's writings convey a monolithic and static view of paradigms. They are depicted as wholly shared by all members of a scientific community, and exclusive to one community – as timeless, closed belief systems, locked together in perfect coherence, and existing in a vacuum. It is from this view that his emphasis on incommensurability derives. In his rejection of the positivist notion of scientific activity as devoid of beliefs or values, he has gone to the other extreme and locked his scientists in the grip of their collective beliefs, on which they are unable to reflect, and which continue unchanged unless subject to challenge

from their environment (anomalies or alternative paradigms). A recognition of science as a social practice should also imply a recognition that it has (at least potential) reflexive and hermeneutic features. Paradigms are human constructions, and as such ‘contested, temporal, and emergent’, to borrow from James Clifford’s discussion on culture [Clifford 1986:19]. A conceptualization of paradigms as processes, part of a social practice, allows for due emphasis on diversity and creativity, reinterpretation, modification, and change [Taylor 1990, Falk Moore 1994, Long and Long 1992]. For all the confusion and conflict, paradigmatic diversity is a source of new theoretical and methodological approaches.

Paradigms and a reflexive discourse

Communication lines and schisms between scientists cut across disciplines as well as other general dividing lines in science, such as those between social and natural science and between quantitative and qualitative research. Ease of communication is closely related to differences in ontological and epistemological beliefs. These beliefs are not fixed in a scientist’s mind; rather, they interact with methodology, theory, and problems studied as elements in an iterative, dialectical research process. This process, moreover, is influenced by pragmatics and grounded in the temporal and spatial location in which researchers find themselves – they are influenced by the historical beliefs and thoughts of their time, both as researchers and as individuals within society [Seur 1992, Havnevik, 1995]. This interactive process is one level of hermeneutics. Recognition and reflection on it brings us to what Giddens [1984] terms a ‘double hermeneutic’. This allows us to recognize the range of interpretative possibilities available to different researchers, as well as to those being researched [Seur 1992], and understand the basis for the interpretations made.

Above, we argue that such a process is possible. This is a position shared by many. Considerations of communication problems between sciences often conclude that self-reflection and paradigm discussions are a way to facilitate such communication through clarification of perspectives and assumptions [see e.g. Vedeld and Krogh 1996]. Articulation of and explicitness about one's paradigm, and a collective reflection on paradigms and their individual and relative implications, is crucial to the ability of contributors to the Development Studies discourse to understand and communicate with one another. It is a prerequisite to achieving a coherent knowledge generation process which brings forth new understanding of interfaces between man and nature, and it is necessary in order to compare and assess conclusions concerning actions to be taken, interventions or policies to be implemented. The inclusive, diverse discourse of Development Studies not only requires, but also encourages and strengthens a process of paradigm reflection, due to the contact between actors with different and potentially conflicting paradigms and assumptions.

While we hold that a reflexive process is possible, we do not consider it uncomplicated. Many scientists are comfortable in contributing to the Development Studies discourse from a base in a discipline, and therefore have not seen the relevance of a paradigm analysis of Development Studies. Others, who experience the challenges on a more continual basis, are forced to examine their own beliefs and the assumptions of their science. The need for a paradigm discussion thus arises out of a personal or discipline-wide experience of having basic assumptions challenged. Human cognition operates from recognizing contrasts and oppositions. This also applies to our understanding of reality and the world, and of science and knowing. Worldviews and paradigms have implicit and unrealized aspects, which cannot be reflected on unless there is an awareness of alternatives. Unless it is challenged, a

scientist will normally be ‘unaware of and unable to attempt to articulate the precise nature of the paradigm in which he works’. [Chalmers 1982:93] The uneven distribution of perceived challenge leads not only to different views on the relevance of a paradigm discussion, but also to constraints in ability to articulate one’s paradigm.

Double hermeneutics and the Development Studies discourse

We will engage in a bit of double hermeneutics, by considering again two points we made in the introduction, concerning characteristics of Development Studies research as we define it. These are its normative nature and its topical orientation towards the nature/culture interface. We consider what challenges these two characteristics entail in terms of knowledge generation and communications processes, and then make some suggestions towards dealing with these challenges. We do not offer a universal paradigm to which everyone must subscribe – that would run counter to our whole discussion. We merely try to point out some areas where we think it is possible and worthwhile to find common ground between widely different positions.

Paradigms and improvement

Consider the relationship between science and politics, expressed in the Development Studies discourse as a controversy over the legitimacy of normative science, i.e. scientific activities which have a commitment towards a specific end and/or stakeholder group, e.g. female empowerment-oriented forms of research. This controversy can be related to the difference between positivist and constructivist positions on reality and knowledge, which result in widely different views on the role of values in science.

Positivism sees reality as existing independent of its observer, and as directly attainable: observable in a neutral, non- influencing and theory-independent manner [Chalmers 1982]. According to constructivism, the world does not exist, or cannot be shown to exist, independently of our experience. There is no reality, but *realities* as multiple, intangible mental constructions, socially and experientially based, local and specific in nature. These can be attained through an iterative and interactive process between investigator and subject. [Guba and Lincoln 1994, Chalmers 1982]

These beliefs entail completely different conceptions of what the objective of science is and how to go about generating knowledge – what constitutes legitimate scientific goals and practices. The positivist searches for truth, striving to observe reality in a neutral and objective manner, uninfluenced by human values and preconceived assumptions, and without influencing the reality observed. Values are problematic because they bias observations, and scientists should not have political or normative interests. Values are seen as a validity problem. [Chalmers 1982] To the constructivist, on the other hand, the concept of truth is meaningless, and with it the scientific project to accurately describe the world. Instead, science should strive to arrive at ever more sophisticated, inclusive and informed constructions of the world through interaction between and among investigator and respondents - this process forms the basis of knowledge production. Value-free or non-political science is impossible. [Guba and Lincoln 1994, Chalmers 1982; Schwandt 1994] Some of those who subscribe to positivist or constructivist positions see them and the theory that derives from them as real, corresponding to actual conditions in the world (realism). Others see them merely as heuristic devices, instruments, which do not describe what the world is really like, but are merely useful fictions that facilitate our thinking (instrumentalism). [Chalmers 1982]

The key to a more fruitful position may lie in distinguishing between human cognition and a physical reality. One may assume that there is a physical world that exists independently of our cognition, but that we cannot appraise whether theory describes it accurately because our observations are theory dependent. Or, in the words of Putnam [1987:1]: ‘If one must use metaphorical language, then let the metaphor be this: The mind and the world jointly make up the mind and the world.’ This position, termed by Putnam [ibid.] ‘internal realism’ and by Chalmers [1982] ‘modified realism’, constitutes a form of middle ground between positivism and constructivism, acknowledging that theory is a social construction, but one which aims to explain actual physical conditions. It also constitutes a middle ground between realism and instrumentalism, allowing for a conditional belief in theory as aspiring to correspondence with a physical reality. [Chalmers 1982, Marglin and Marglin 1990] In these papers, we subscribe to this position and refer to it as ‘modified realism’.

Let us revisit the problem of the relationship between science and politics, as a validity issue. The conventional validity criteria used in science⁹ imply a positivist position. But, if neutrality and objectivity are impossible, how do we handle our subjectivity to minimize bias in our research? Modified realism offers a possibility for a certain rigor without the straitjacket of objectivity. It implies that our perceptions are influenced by our presuppositions, values and beliefs, but also by an independent physical reality. This latter influence provides a possibility for comparing theories. In the words of Shrader-Frechette [1991:235], ‘Just because facts are value laden, it does not mean that there is no sufficient reason for accepting one theory over another. One theory may have more explanatory or predictive power, or unify more facts, or be more coherent.’

Shrader-Frechette's [1991] point¹⁰ is that we need to distinguish between deliberate misinterpretation or omission to serve our own purposes (bias, or emotive values), which are not acceptable, and acceptable and unavoidable forms of subjectivity. The latter include beliefs, judgments that include personal, social, cultural or philosophical emphasis (contextual/pragmatic values), and epistemological assumptions, on what can be known and how we can know it (constitutive/ cognitive values). '... Indeed, even collecting data requires using constitutive value judgments because one must make evaluative assumptions about what is studied, so as to know what data to collect and what to ignore, how to interpret the data, and how to avoid erroneous interpretations.' [ibid.:232]. A threat to validity does not lie here, but rather in bias or emotive values - that is to say deliberate attempts to prejudice data or its interpretation for a specific cause.

The distinction between bias and acceptable forms of values may help to clarify where disagreements between scientists lie, and clear away misunderstandings. It becomes possible to have a clear understanding that once values are conscious, deliberate action taken to effect research results is considered to be unethical. Scientists are made responsible to themselves and their peers for seeking to eliminate bias in their own work, as well as in that of others. Returning to the concept of double hermeneutics, recognition of both contextual and constitutive values requires us to not only explore the motivation of those we are researching, but our own motivations as well - to try to bring our unconscious motivation to a conscious level, so that we may better understand our underlying assumptions. Being conscious of why we do what we do will help us to avoid bias.

Once the object of an inquiry involves social phenomena, the issue of validity concerns more than avoiding bias, however. Charles Taylor [1990], writing on theorizing as a social

practice, emphasizes the reflective nature of social theory, the fundamental difference between theorizing about an independent reality (as natural sciences do) and about processes involving people who have their own understanding of what is going on – moreover, an understanding which is formulated in a normative way, with implicit values. His point is that in a society pervaded by science, science will start to influence the action it studies. The result is a dialectical process where individual and collective self-understanding and self-reflection are influenced by, and themselves influence, social theory. ‘Theory in this domain transforms its own object.’ [ibid.:101] The issue of validity thus concerns more than general applicability and correspondence to facts (itself a problematic notion); validity must also concern the values and norms that inform a particular form of social practice. Validity becomes a practical issue. Taylor holds that the assessment criterion for validity of theory should be whether the practice informed or constituted by it has the expected outcomes.

Taylor’s views on the nature of validity and on the relationship not only between the studier and the studied, but also between theory and its object, has relevance to any action- and problem-oriented research. This means not only social science, but all research that aims to modify human behavior. Development Studies fits this description. Taylor emphasizes the influence that research has on society. He points to the political aspect of the researcher’s role and the direct responsibility for social life that accommodates it: moral values have a direct influence on scientific validity. Hollander [1991] agrees with this, and holds that scientists have a moral responsibility that includes a preventive aspect, as well as a commitment to make right what has gone awry. Their points are in accordance with the ‘criteria for trustworthiness’ developed by Pretty [1994] for participatory research. These include a range of guidelines to promote rigorous examination of complexity in a manner that reflects diversity in perspectives and incorporates self-reflection by the researcher. They

also include a criterion of positive impact on those involved or affected by the study. [ibid. 1994:44-45]

The modified realist position and the nature/culture interface

In our discussion of validity, we have emphasized differences between people's perceptions and social constructions of reality. Nonetheless, it is important to underline that we can gain a common understanding out of these different social constructions, precisely because of the similarities we share as people. We should be careful to avoid attributing a more 'real' and less problematic status to our perceptions and constructions of reality than to reality itself. Many of our common experiences and basic knowledge of the nature of the world are derived from the physical world: we all experience air as breathable and water as fluid, for example. Although we may have different interpretations of a certain sensory response to a particular object, the object that we sense is one and the same [Kvilhaug 1997, 1998]. The modified realist position described above allows us to distinguish between an independent physical reality and our experience of it as humans... the ontological status, or mode of reality, of natural phenomena is different from that of social phenomena.

This is an important point for Development Studies, which according to our definition is placed at the interface between human and natural systems. The ontological distinction between natural and social phenomena gives us a basis for rejecting a relativist deconstruction of all problems we study as being, '... carefully constructed from the viewpoint of vested interests and power politics, in short, food for sociologists and psychologists.' [Röling, 1996:41] Simultaneously, we recognize the role of human cognition in the construction of social realities, and emphasize their multiple and contextual nature. We thus consider assumptions about one universal, independent, objective social

reality to be misguided and unproductive. However, human activities and developments do manifest themselves as physically observable phenomena. Moreover, they have consequences in the physical world, which influence further cognition. They are thus not exclusively of mind and consciousness. To quote from Burns and DeVille [1985:12] :
'Neither subjective nor objective factors are given *universal primacy* in social action and in the shaping of social systems. Social reality entails a dynamic totality within which objective and subjective factors interact.'

RESEARCH: CAPTURING COMPLEX ISSUES AND DIVERSE PERSPECTIVES

Our position in these papers is that Development Studies research is political and reflective research, which addresses complex problems at the nature-society interface and thus has to deal with issues in which phenomena of different ontological status are inter-linked.

Moreover, the discourse is characterized by a great diversity of perspectives and views on the world, knowledge, and research processes. Under these frame conditions, synthesis and generation of common understanding becomes a challenge, both in the concrete research activity and on a broader discursive level. We have discussed some of the conceptual implications of this challenge, but it also has methodological implications. One of the methods currently in use to meet the challenge is soft-systems methodology (SSM).

Soft systems analysis

Gaining an understanding of different perspectives lies at the heart of soft-systems methodology. Continual comparison of stakeholder discourses begins with two analyses: a cultural analysis based on the perceptions and values of those involved in different ways with the problem, and a logic-based analysis which builds a model of different systems involved in the problem. The reason for this is, as Checkland [1989:79] explains,

...different individuals and groups, being ultimately autonomous, will make different evaluations leading to different actions. This creates 'issues' ... Gregarious life would not be possible if perceptions and evaluations did not to some extent overlap...But the overlap will never be complete ... The issues themselves will derive both from interpreting the facts and logic of a situation and from engaging with the myths and meanings through which other managers and participants make sense of it.

To reveal the similarities and differences, the analyses are compared. Where there is agreement, the analysis proceeds by trying to identify 'systematically desirable and culturally feasible' alternatives for action. Where the perceptions diverge, explanations are sought out, and the process begins again. Through discussion and experience it is assumed that those involved will have learned more about the total situation. In this process their perceptions and values may change affecting the next round. In reality, this reiterative learning process is never-ending. [Checkland and Scholes, 1990] As such, those involved are continually working to reveal, rather than assume away, variables leading to different outcomes.

Unintended consequences, for example, may be seen as a source of inspiration as they force us to again go back and reconsider our analysis of the situation, indeed force us to ask ourselves if our question is indeed the question that needs asking. Checkland [1989:98] specifies when he writes, 'In the experiences which produced SSM, it was found necessary to regard as problematical precisely what is [usually] taken as given ... , namely the need or objective. SSM treats *what to do* as well as *how to do it* as part of the problem.' [emphasis in original]

A study of systems or a system of study

In other words, a soft systems approach problematizes both the ontological and the epistemological. Rather than studying the system itself, as is done in a hard systems approach, the soft systems approach focuses on a problem or issue. It incorporates both the way we picture what we will address and the way we will address it/ the way the research will be conducted. Bawden [1991:2367] makes this distinction clear in his article about agricultural systems. Here, he introduces the terms ‘ontosystemic’ and ‘epistemologic’. With the former term, Bawden refers to what he states is the most common approach to systems work. In this case, he says, ‘...analysis usually proceeds from the two questions. Which system is being investigated, e.g., what is the ecology of a particular dairy farm? What constitutes an improvement to its performance?’ Here, it is the question that is being asked/ the way the problem itself is central. It is perfectly possible within Bawden’s ontosystemic approach to recognize that a problem needs to be addressed by a number of different disciplines, and then to separate the individual parts among a team along traditional disciplinary lines. This is an additive approach. Each individual works in parallel and is expected to contribute their distinct part. A joint conclusion may or may not be made.

Bawden differentiates this from an epistemologic approach where, he says, ‘... the leading questions follow a different logic: in this messy and complex situation, which is somehow or another associated with dairying, what seem to be the issues that people perceive as problematic? How can systems of inquiry (systemic thinking and practices) be used to explore and eventually improve them?’ [ibid., p.2367] The emphasis has changed here from the system itself, to the way in which we go about understanding the system. The same can be said about integrative inter-disciplinarity. In our understanding of it, focus is altered away from the way we define the problem, towards the way we go about gaining an

understanding of it - towards the process of understanding. Checkland clarifies this distinction in differentiating between hard and soft systems. 'The real distinction lies in the attribution of systemicity (having the property of system-like characteristics). Hard systems thinking assumes that the world is a set of systems (i.e. is *systemic*) and that these can be *systematically* engineered to achieve objectives. In the soft tradition, the world is assumed to be problematic, but it is also assumed that the *process of inquiry* into the problematic situations that make up the world can be organized as a system. In other words, assumed systemicity is shifted from taking the world to be systemic to taking the process of inquiry to be systemic.' [Checkland, 1994:80 referring to Checkland 1981, 1985, italics replacing underlining in original] An analogy of this to our proceeding work is that the process of doing integrative inter-disciplinary research is as important as the research that is being carried out. It is a learning process that is iterative, and as such continual: at the outset making assumptions and objectives clear; and at regular intervals comparing assumptions and objectives with findings, analyzing their implications, and adjusting the remainder of the study accordingly. At the risk of being redundant, we reiterate this point: 'For us, the world is not organized into entities called systems. Our systems models are not models that describe or predict the world, but are vehicles for debate about desirable and feasible changes in it ... Issues determined systems are 'soft systems', or, better put, they are mental constructs which are revealed during the rigor of soft-systems methodology.'

[Sriskandarajah, et. al., 1989:9]

SUMMARY

Development Studies is a heterogeneous discourse to which a heterogeneous range of actors contributes. This is valuable. But unless there is also a force of gravitation, this heterogeneity may amount to mere centrifugality, and the discourse may go from multiplicity

to separation into a set of sub-discourses with little or no interaction. This will be a serious impediment to the integrative and unifying understanding that Development Studies has the potential to offer. We argue that there is potential for better communication in a better understanding of inter-disciplinarity, in a process of double hermeneutics in the discourse, and in grounding communication between paradigms in a modified realist position. In line with this position, soft systems methodology offers an approach to pursuing the understanding of complex and non-linear relationships and causalities, which builds on contributions from different perceptions.

These measures, particularly the methodological approach, must be contextualised in terms of power structures. There is a danger of assuming balanced negotiations – that all actors are power equals and all voices equally legitimate. Such assumptions will introduce biases into the inquiry, weakening its validity. The next paper will look more closely at this problem, exploring power implications of the actor diversity in Development Studies discourse.

NOTES

¹ Modernization and dependence theory may be the most central of these grand theories.

Modernization theory, with its unilinear ‘grow and become like the West’ philosophy, was challenged in the 60s and 70s by Marxist-influenced dependence theory. Roughly, the latter held that rich and poor countries are related to each other through center-periphery structures, where the underdevelopment and marginalization of the Third World is a precondition for the growth and prosperity of the West. Neo-classical economic thought has also played a central role in shaping economic and political policy, especially in the 70s and 80s. And finally, environmental issues have had a central place on the political agenda since the 70s, accompanied by a greater participation in the discourse by representatives of the natural sciences.

² Development agencies, donors, government organizations (GOs), non-government organizations (NGOs), etc.

³ We use the term ‘pseudo-science’ to refer to a delineated scientific practice that purely bases its activity on solving concrete problems without considering theoretical underpinnings.

⁴ The concept of integration and unity of knowledge has been a fundamental theme of epistemological writings since Plato and Aristotle. People like Bacon and Descartes, generally considered fathers of rationalism, analytic thought, and reductionism, expressed concern about the fragmentation of knowledge and articulated visions of unity. Even in the periods where the trend towards particularization was at its height, in the 19th and beginning of the 20th century, there have been synthetic thought movements. Much of the strength and success of disciplinarity, which emerged in the 19th century, appears to derive from its parity with general modernization processes – the need for technological experts related to the industrial and agricultural revolutions, the scientification of knowledge, the successes of reductionist research. The disciplinary approach has been consolidated through both formalization and institutionalization, but inter-disciplinary research, education programs and institutions are challenging its hegemony. [Klein 1990]

⁵ E.g. marxism, structuralism, general systems theory, linguistic analyses, and deconstruction in the social sciences and humanities, and quantum mechanics, chaos theory, and mass-energy equivalence in the natural sciences. Moreover, the sharp distinction between science and humanities, as well as established views on scientific rationality and truth criteria, were questioned as a result of the interest in existentialism, phenomenology, and post-structuralism.

⁶ Concerning what can be known and the relationship between the knower and the known

⁷ Here, we refer to team activities. Individuals doing inter-disciplinary work will always have a rather integrative approach

⁸ Concerning the nature of reality

⁹ Correspondence to realities of case (internal validity); correspondence to realities of other, comparable cases (external validity)

¹⁰ Based upon the work of both Longino [[1983](#)], Scriven [[1980](#)] and McMullin [[1983](#)]

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