

**Cognitive polyphasia in the MMR controversy:
A theoretical and empirical investigation**

Claudine Marie Cécile PROVENCHER

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London School of Economics and Political Science
Institute of Social Psychology
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ABSTRACT

This thesis examines the hypothesis of cognitive polyphasia proposed by Serge Moscovici in *La Psychanalyse, son Image et son Public* (1961/1976). Despite its intuitive appeal, the hypothesis remains largely unexplored. This research is an attempt at understanding better the operations of cognitive polyphasia, in particular, at the level of social individuals who have to make sense of the world around them.

The hypothesis of cognitive polyphasia is empirically examined through the controversy that surrounded the MMR vaccination programme in the UK between 1998 and 2005. The review of literature proposes a typology of cognitive polyphasia through an examination of empirical studies done by social representations theorists. A theoretical framework for the operationalisation of cognitive polyphasia is then proposed. This includes some elements of social cognition. The methodology chapter presents and discusses the specific methods used in this work, that is, expert interviews with health professionals and media representatives, media analysis of newspaper articles, focus groups and individual interviews with mothers of children of vaccination age. The analysis and findings of this empirical work are then presented in the results chapters focusing on their implications for our understanding of cognitive polyphasia at both the collective and the individual levels. A key finding of this study is the identification of a number of exemplars characteristic of different ways of sense making and of different ways of engaging into cognitive polyphasia. In particular, the study distinguishes between non- and polyphasic groups, that is, between people who have relied exclusively on scientific or narrative types of knowledge versus those who used a combination of types of knowledge to make sense of the MMR controversy.

The theoretical implications of this work and the practical lessons that can be drawn from the public's reactions when faced with scientific controversies are discussed in the conclusion chapter.

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Introduction

Outline

Cognitive polyphasia, a hypothesis elaborated by Serge Moscovici in *La Psychanalyse, son Image et son Public* (1961/1976) to describe the use of different rationalities in the construction of representations (Jovchelovitch, 2001b), is the main topic of this research project. It is argued that cognitive polyphasia is a key concept to our understanding of how people make sense of their reality, and that it has a significant contribution to make both to the theory of social representations in particular, and social psychology in general.

The hypothesis of cognitive polyphasia is empirically examined through the controversy that surrounded the MMR vaccine in the UK between 1998 and 2005, a relevant example of a social object whose controversial and complex nature is likely to encourage the co-existence and the use of different types of knowledge. By focusing on the MMR vaccination issue, the fundamental character of health-related beliefs for an understanding of who we are and how we go about making sense is postulated, a point made by Gervais and Jovchelovitch in their study of the Chinese community in England (Gervais and Jovchelovitch, 1998a, 1998b; Jovchelovitch and Gervais, 1999). In the case of the MMR vaccine, parents of young children were confronted by a problematic health decision that put the spotlight on their attitudes, thoughts and emotions towards much larger issues than vaccination per se, touching as it did on their views of medicine, health and illness, health professionals, children and parenthood.

Background

Purely at an intuitive level, the hypothesis of cognitive polyphasia, as formulated by Moscovici in 1961 and explored later by authors such as Jovchelovitch (eg, 2001b, 2002), Wagner and his colleagues (Wagner et al., 2000) and de-Graft Aikins (2005), presents itself as a plausible and powerful explanation of the cognitive work involved in people's 'effort after meaning' (Bartlett, 1932). In focusing on this hypothesis, I would like to account for an empirical phenomenon

that I see all around me. Like many researchers who have espoused the theory of social representations, I have been fascinated by the capacity of lay individuals to make sense of an ever more complex world, and by their ability to grasp the rudiments of technological and scientific advances and of their implications for everyday life, a sentiment summarized by Moscovici in the following way:

So here is the paradox: how do people get so much mileage out of so little knowledge? How can they understand things about which they have neither firsthand knowledge nor experience? They succeed by generating their own body of representations fit for everyday use, and these representations, which shape ordinary behaviour, are derived from science but linked to it by tenuous threads. And by this modality the ever-changing world of nature becomes their human world (...). (1988: 216)

Despite considerable progress in the sociology of knowledge, in folk psychology and even in cognitive psychology, there remains a gap between what I perceive to be happening in common sense understanding and how it is being understood and valued within psychology and other social sciences. For instance, social cognition has come a long way from its view of individuals as naïve scientists or cognitive misers to a more complex vision of them as motivated tacticians (Operario and Fiske, 1999), able to make use of varied cognitive strategies depending on the particulars of the situation they are facing. However, there remains a tendency to view anything but ‘rational’ information processing strategies as biased, inefficient or faulty. Gigerenzer and his colleagues (1999, 1999a, 1999b) have thus criticised their colleagues for failing to recognize the value of heuristic strategies. Therefore, there is a need for better tools to understand lay epistemology, or ‘*règles de savoir du sens commun*’.

In the original exposition of the idea (Moscovici, 1961/1976), cognitive polyphasia implied the dynamic coexistence of different modalities of knowledge within the same group and, even, within the same individual vis-à-vis a given social object. It was further suggested that people would use one form of rationality or another depending on the particular circumstances in which they found themselves and on the particular interests they held at a given time and in a given place (Jovchelovitch, 2001b). Despite its potentialities being recognized by

many, the concept remains under-developed and is used in plural, sometimes contradictory ways. For instance, numerous expressions (eg, modalities of knowledge, rationalities, logics or forms of knowing, cognitive systems, forms of thought, systems of knowledge, etc.) have referred to the idea of ‘modalities of knowledge’ used initially by Moscovici to explain his ideas about cognitive polyphasia creating much confusion for those trying to make sense of this hypothesis. Attempts at clarifying the key aspects of cognitive polyphasia, at defining some of its functionalities and how it could be operationalised are therefore much welcome.

This research project should be seen as such an attempt. In undertaking this work, I am attempting to provide some elements of answer to the following question: can cognitive polyphasia help us to understand the genesis, nature, structure and functions of lay thinking in our contemporary society?¹ In doing so, I am positioning myself firmly within the tradition of the theory of social representations with its focus “on everyday thinking in the world of today” (Moscovici, 1988: 213). I also hope to legitimise alternative, usually devalued, rationalities, which for me are central to the development and maintenance of lay knowledge.

The theory of social representations

The use of the theory of social representations initiated by Moscovici forty years ago (see for instance 1961/1976; 1981; 1984b, 1988) as the main pillar of this project is justified on the grounds of its contributions to an understanding of the process of sense making and the integration of scientific knowledge in the everyday thinking of people in modern societies (Wagner, 1998). Described as “a social knowledge particularly suitable to cope with the new, and ontologically and epistemologically bound to the macrosocial developments of our time” (Jovchelovitch, 2001a: 171), the empirical worth of the theory of social representations lies in its ability to uncover what lays behind common sense

¹ This is not to say that there might not be alternative, even better, ways of explaining lay thinking.

knowledge, to reveal the meaning a group of people gives to its reality and how it relates to, and shapes purposive action. The theory of social representations can thus be viewed as a valid and fruitful attempt “to understand what people do in real life and in significant situations” (Moscovici, 1988: 239).

The theory has been successfully applied to the study of unfamiliar and complex social objects that threaten to disrupt the existing order found in the social groups concerned (eg, Gervais, 1997; Jodelet, 1991; Joffe, 1993). In parallel with these empirical studies, a number of researchers have worked on the theoretical building blocks behind the theory of social representations. To date, most of this research has concentrated on the structure and the dynamics of social representations. For instance, Jean-Claude Abric (1993, 1996, 2001) and his French colleagues in Aix and Montpellier have explored the concepts of central and peripheral elements of social representations and their respective role in their functioning. More recently, Moscovici and Vignaux (2000) and Marková (2000) have proposed the concept of ‘themata’ – stable and culturally shared antinomies which structure social representations of specific objects. However, not enough research has been conducted on the multiple rationalities underpinning social representations, on their consequences in terms of the structuring of meaning, and on the social functions which such ‘multi-rational’ representations might play. Here, the concept of cognitive polyphasia, described by Wagner as “the characteristic form of modern mind” (1998: 321), could provide a useful tool.

The MMR as an empirical object

The controversy that surrounded the MMR vaccine in Britain between 1998 and 2005 represents a unique social event, and offers a significant potential for revealing the cognitive, emotional, and motivational processes behind the sense making efforts of parents and, more specifically, the existence and workings of cognitive polyphasia. As such, it can be compared to a crisis in the sense ascribed by Edgar Morin (1969) in his account of the rumours that plagued the French town of Orléans in 1969 over the alleged trade of women by Jewish retailers. In both cases, what turned out to be unfounded allegations highlighted hidden and occult fears and impacted on various aspects of the social body (Morin: 101-102).

The MMR debate can also be defined as a crisis in the sense that a routine aspect of a mother's life, previously taken for granted, became problematic and triggered doubts and anxieties beyond the specific remit of the controversy.

This crisis dimension of the MMR controversy increases its appeal as a social object of interest. Indeed, many authors have recognized the value of crises as empirical topics worth investigating. For instance, in their reflections on a typology of absences, Gervais and her colleagues (1999: 427) discuss the ability of crises to “uncover latent representations, make visible underlying social structures, and highlight the vital role of dialectical processes in the social universe”. A similar point is made by Moscovici in his seminal article on social representations in which he states that “the character of social representations is revealed especially in times of crises and upheaval” (1984b: 54).

In addition, the focus on a real-life situation such as the MMR debate reflects my conviction that one needs to focus on situated actions, that is, “actions taken in the context of particular, concrete circumstances” (Suchman, 1987: ix) whenever one wants to study the content, structure and dynamics of knowledge. It also emphasizes an idea expounded by Beauvois and Deschamps (1990) concerning the evaluation of the type of knowledge linked or derived from human action. For them, this type of knowledge should not be assessed in terms of its scientific or rational validity but rather in terms of its ability to facilitate the process of decision-making and justify the actions selected.

Outline of the thesis

The thesis is presented in two parts. Part I deals with the empirical, theoretical and methodological aspects of the project. Chapter One focuses on the controversy that surrounded the combined measles, mumps and rubella (MMR) vaccine after the publication in 1998 of an article in *The Lancet* by Dr Wakefield and his colleagues from the Royal Free Hospital in London (Wakefield et al., 1998). A chronology of the events between that date and Spring 2005 is followed by a brief review of the literature on the subject. It is argued that the MMR controversy

exhibits a number of attributes that explain its significance and the continued interest it generated.

Together, Chapters Two and Three delineate the theoretical framework behind the proposed operationalisation of cognitive polyphasia. Chapter Two looks at the genesis of cognitive polyphasia by proposing two developmental perspectives. The diachronic perspective views cognitive polyphasia as the co-existence of traditional types of knowledge alongside more modern ones. In the synchronic perspective, cognitive polyphasia describes the use of different types of knowledge as a result of the different characteristics they have and the different functions they can fulfil. The chapter also examines a number of empirical studies to assess the value of these developmental perspectives and identify interesting aspects of cognitive polyphasia that could be integrated in the proposed theoretical framework discussed in Chapter Three. Here, it is argued that cognitive polyphasia at a micro-level, as lived in our contemporary society, can be operationalised through a model that combines elements from the theory of social representations and from the field of social cognition allowing for a rapprochement between two traditions that have, for too long, been artificially kept apart. The main elements of the cognitive polyphasia model and a proposed *modus operandi* are presented.

Chapter Four addresses the methodological questions related to my exploration of cognitive polyphasia within the context of the MMR controversy. The four methods used are presented including a discussion showing the reasons behind their selection, the procedures for implementing them and the analytical methods used to extract meanings from the empirical data collected through them. Here, emphasis has been placed on the examination of cognitive polyphasia at the level of individuals, seen as the locus for the integration of different rationalities that exist at a societal level. It is assumed that individuals draw upon and integrate different rationalities that belong to different groups without, however, having to belong ‘formally’ to these specific groups with the focus being on social rationality as opposed to the individuals’ behaviour as members of specific groups.

Part II presents and discusses the results of the empirical phase. Chapter Five focuses on the ALCESTE analysis of some 350 newspaper articles. The different classes of significant words produced by this software are discussed and it is argued that four of these classes represent major discourses about the MMR controversy conveyed by British media. It is also argued that these discourses can be seen as representative of different types of knowledge available as sense making resources. Chapter Six examines the views of the specialists who were interviewed for this project focusing on the key characteristics of the MMR debate and the significant factors attached to the decision to vaccinate one's child with the MMR vaccine, including the larger themes drawn upon by mothers in that decision-making process.

The next chapter summarises the NVivo analysis performed on the focus group interviews. These interviews highlight the fundamental role played by mothers' views on motherhood, on health, on medicine and on the medical profession in the development of their position on the MMR controversy. Together, Chapters Five, Six and Seven provide the contextual background for the cognitive polyphasia model that is examined more closely in Chapter Eight. The analysis of the individual interviews presented here combines NVivo and a modified version of argumentation analysis to provide for the identification of the types of knowledge used by these mothers in their efforts at making sense of the MMR vaccine controversy. This chapter also puts forward a typology of cognitive polyphasia built around four exemplars characteristic of different ways of sense making and of different ways of engaging into cognitive polyphasia.

Chapter Nine brings together significant elements from Part I and Part II by discussing the theoretical and empirical implications of the research findings. Contributions made by this research project are critically evaluated and areas for further research highlighted.

Expected results

On the theoretical front, it is expected that cognitive polyphasia will provide a platform from which to deal with some of the criticisms the theory of social

representations has attracted over the past four decades, in particular its lack of “elaboration and clarification of the key conceptual distinctions” (Bauer and Gaskell, 1999), and re-establish the balance between the prescriptive and creative character of these social representations.

On the empirical front, it is hoped that this research will produce a set of practical recommendations about health and risk communications that will be made available to medical professionals, social scientists and policy-makers. It is also expected to provide a more sophisticated understanding of how the UK public makes sense of scientifically complex objects, and to provide the basis for a model from which to anticipate people’s attitudes towards recent and future developments in the medical area.

PART I

Chapter One – Overview

This chapter focuses on the controversy that surrounded the combined measles, mumps and rubella (MMR) vaccine between the publication in 1998 of an article in *The Lancet* by Dr Wakefield and his colleagues from the Royal Free Hospital in London (Wakefield et al., 1998) and Spring 2005, time at which the controversy began to wane. A chronology of the events is followed by a brief review of the social scientific literature on the subject.

1 The MMR controversy – a brief review

1.1 *The MMR vaccine*

(...) The Lancet published an extraordinary study linking the widely used measles, mumps and rubella (MMR) vaccine with a previously undescribed syndrome of autism and bowel disease. The acrimonious debate that has raged in the UK ever since has cost governments millions of pounds to shore up damaged vaccination campaigns, harmed the reputations and careers of several highly respected physicians and scientists, pitted anxious parents against their confused doctors, and provoked a backlash of vicious opprobrium against a few individuals deemed culpable for their reckless endangerment of the public's health (...). (Horton, 2003: 207)

The quote above, by the editor of *The Lancet*, summarises in a few sentences the major impact the controversy over the measles, mumps and rubella (MMR) vaccine had in the United Kingdom, beginning with the publication of a study led by Dr Andrew Wakefield of the Royal Free Hospital in London in February 1998 (Wakefield et al., 1998). By surmising a link between the vaccine and a form of autism, the debate shook the principle behind mass childhood immunisation, one of the most successful tools of modern medicine (Bedford and Elliman, 2000). As noted by Richard Horton later in the chapter quoted above: "Today vaccines are largely an untouchable subject, their benefits too obvious to be questioned. Any hint of dissent concerning their clinical effectiveness and all-around social value is met with bitter rebuttal and resentment" (2003: 207).

The success of mass childhood immunisation programmes, however, relies on high levels of uptake necessary to protect the population as a whole, usually around 95% (Hobson-West, 2003: 275), and the refusal by some parents to vaccinate their children with the MMR vaccine endangered this principle and gave rise to fears of measles epidemics². Doubts about the safety of the MMR also affected parents' confidence in other vaccines and put question marks over the

² In England, the uptake rate for the MMR vaccine for children under two years of age went down from 90.8% in 1997-98 to just above 80% in 2004-05 (Department of Health, 2005).

reception of the pneumococcal vaccine to protect children under two against meningitis, septicaemia (blood poisoning) and pneumonia which was to be introduced in the UK in 2006/2007 (Department of Health, 2006b).

The MMR combined vaccine was introduced in the UK in October 1988 and was followed, in 1996, by a routine second-dose programme to counter the possibility of a disease resurgence that had been found to occur in the US with single-dose MMR programmes (Miller, 2002). Combination vaccines have become a feature of childhood vaccination programmes in the UK, and in the majority of developed countries, as they are assumed to cause less distress in children, to reduce the overall rate of side effects, and to ensure a more rapid and efficient protection (Elliman and Bedford, 2003b).

As discussed in the Introduction (see p. 13) and as demonstrated by the recent increase of papers around that theme (see Section 1.3, p. 25 onwards), outside its medical interest, the MMR debate encompasses several dimensions that make it a pertinent object of study for social sciences. The MMR controversy also exemplifies the increasing distrust of the authorities within British society, in particular the government, following a number of ‘scandals’ such as BSE and foot-and-mouth disease. Commenting on the continued interest in the MMR controversy, even after the publication of serious allegations against Andrew Wakefield, Dr Michael Fitzpatrick, a general practitioner and the father of an autistic child, echoed this opinion: “This suggests that the key factor in the scare is not Dr Wakefield’s flawed science, but the wider climate of fear of environmental dangers and suspicion of scientific, medical and political authority” (2004: 1).

1.2 Chronology of the MMR controversy

The public controversy about the measles, mumps and rubella (MMR) vaccine began in earnest in February 1998 with the publication by Dr Wakefield and his colleagues, based at the Royal Free Hospital in London, of an article in *The Lancet* describing how 12 children examined by them had developed pervasive developmental disorder (autism) and bowel disease (Wakefield et al., 1998;

Elliman and Bedford, 2003b). The parents of these children had contacted Andrew Wakefield, already known for his work proposing a relation between Crohn's disease and the measles virus, and suggested a link between gut problems, autism and the MMR vaccine (Mills, 2002).

Based on previous scientific literature, on the clinical evidence obtained for this study, and on the conversations they had with these children's parents, the authors raised the possibility of a link between the neurological conditions discussed in their paper and the MMR vaccine³. However, the researchers refrained from establishing a causal relation, stating that: "We did not prove an association between measles, mumps, and rubella vaccine and the syndrome described. Virological studies are underway that may help to resolve this issue" (Wakefield et al., 1998: 641). These more serious allegations were made a week later at a press conference during which Wakefield argued the case for splitting the MMR vaccine into its separate components (Horton, 2004c). In his view, the combination of the three virus strains contained in the MMR vaccine could overload children's immune system and provoke damaging side effects such as the inflammation bowel disorder found in the 12 children examined during the study. The media were quick to identify this link as an exciting piece of news and published a series of articles highlighting the possibility of a link between the MMR and autism.

Over the next few months, the medical establishment and the government authorities responded by commissioning and publishing counter-evidence. In March 1998, a panel of 37 experts reviewed available scientific research and concluded that there was no evidence behind Dr Wakefield's claims. This was followed, a few weeks later, by the results of a 14-year Finnish study that had

³ According to their hypothesis, the MMR vaccine could cause a gut condition allowing for the absorption of non-permeable peptides, which itself could generate developmental disorders such as autism (Nicoll, Elliman and Ross, 1998).

looked at some three million children immunised with the MMR and that was presented as solid evidence of the safety of the vaccine (BBC, 2003).

New claims linking autism and MMR were made by Dr Wakefield and Professor John O’Leary, a Dublin-based pathologist, in April 2000 (BBC, 2003). Their results, presented to the US Congress, showed that 24 out of 25 autistic children examined had traces of the measles virus in their gut. These new findings created renewed anxiety among parents in the United Kingdom despite the fact that Wakefield and O’Leary’s study did not prove that the measles virus found in these children came from the MMR or that measles did actually cause autism.

By then, Wakefield and his team at the Royal Free Hospital were examining many more children with ‘autistic enterocolitis’ gathering further evidence to support their findings published in their 1998 study. Their doubts about the safety of the MMR vaccine were reinforced in 2001 with the publication of a study, *Mumps, Measles, Rubella Vaccine: Through a Glass Darkly*, written in collaboration with an epidemiologist based in Sweden, which expressed serious doubts on the safety checks that were performed before the introduction of the MMR vaccine (Elliman and Bedford, 2001; Mills, 2002). Again, the pro-MMR lobby counter-attacked with the publication of evidence confirming the safety of the MMR vaccine. For instance, the Medical Research Council published a report in December 2001 suggesting autism was the result of several causes, in particular genetic ones. In addition, the opposition to Wakefield’s research from the medical establishment and the government authorities had forced him to resign in October 2001 from his job at the Royal Free Hospital, although this would not prevent him from continuing his research in the area (BBC, 2003).

A few months later, in February 2002, Wakefield and O’Leary came back with more evidence of a link between the measles virus and bowel disease in children with developmental disorders (Eaton, 2002). Their study pointed to the possible role of the measles virus as a trigger for malfunctions of the immune system. However, this latest evidence was mitigated by the publication, during the same month, of a study from a team of researchers based at the Royal Free Hospital that

reviewed the case of 500 children with autism born between 1979 and 1998. The study found that the proportion of children suffering from autism or from bowel disorders had not increased significantly over that time (BBC, 2003).

Renewed interest in the controversy was generated in December 2003 by the showing on British television of *Hear the Silence*, a film written with the help of Andrew Wakefield aiming to depict the difficulties faced by parents looking after an autistic child but also, and more contentiously, trying “to show that the ‘truth’ about a supposed link between the MMR vaccine and autism [had] been suppressed” (Elliman and Bedford, 2003a).

Finally, in February 2004, serious allegations were made about the 1998 study published in *The Lancet*. These allegations, which followed an investigation by journalist Brian Deer (2005a; 2005b) published in *The Sunday Times* – and were later the subject of a television programme, concerned three areas: the ethical procedures used, the selection of participants, and a possible conflict of interest due to Wakefield’s simultaneous involvement in a separate study that looked at the possible grounds for legal action on behalf of parents of allegedly vaccine-damaged children, with some children participating in the two studies (Horton, 2004b). The first two allegations were deemed to be unfounded but the conflict of interest was seen as a grave fault on behalf of Doctor Wakefield and led to the publication in *The Lancet* of a partial retraction – “a retraction of an interpretation”, from 10 out of the 13 doctors who had contributed to the 1998 paper (Horton, 2004c: 747).

Another allegation made by Brian Deer, but not quoted in the article that accompanied the retraction in *The Lancet* (Horton, 2004a), concerns the filing of a number of patent applications by Andrew Wakefield and the Royal Free Hospital nine months before the publication of 1998 study in *The Lancet*. These applications related to a vaccine and products that could only have succeeded if the reputation of the MMR vaccine had been damaged.

On the scientific front, the research conducted by Andrew Wakefield over the years was given a fatal blow at the beginning of 2005 with the results of two

studies conducted by the Health Protection Agency and the National Institute for Biological Standards and Control (Deer, 2005b). Using the blood samples of 100 autistic children and 100 children without the condition, the studies found traces of the measles virus in only one of the autistic children and two children without the disease. These results contrasted sharply with Wakefield's research, which alleged to have found traces of the virus in 96% of the autistic children tested at the Royal Free Hospital.

Further to these allegations, the General Medical Council announced that Dr Wakefield, who now lives in America, would face a disciplinary hearing over his conduct in the MMR controversy which, at the time of writing, was due to begin in July 2007 (Ellis, 2007).

1.3 Social science perspective on the MMR controversy

Several articles have been published in the medical press, in particular *The Lancet* and the *British Medical Journal*, focusing on the MMR controversy and discussing, for instance, the scientific evidence by both the anti-MMR and pro-MMR camps, its coverage in the popular press, and the consequences of the controversy in terms of uptake, risks of epidemics, etc. (eg, Elliman and Bedford, 2003a, 2003b; Ham and Alberti, 2002; Horton, 2004a).

The social scientific community has gradually followed suit and there are now several published works looking at the MMR debate and addressing issues such as the effectiveness of official communication policies, parents' decision-making process and resistance from health professionals. Five of these works deemed to highlight key dimensions of the controversy are reviewed over the next few pages. Other works of interest will be referred to in later chapters.

The first of these articles, published by Rogers and Pilgrim (1995), underlines the idea that the MMR controversy, for several parents, has been located within a larger debate about childhood vaccination programmes. Rogers and Pilgrim discuss the issue of resistance to mass childhood immunisation by looking at four

social milieus (Bauer and Gaskell, 1999): dissenting parents, health promoters, primary health care workers and medical scientists.

They reflect on the different types of risk assessment carried out by each of these different milieus. One can see how the difference is linked to the perspective from which the different actors are performing their roles. For instance, health promoters and medical scientists, such as epidemiologists, focus on the impact of immunisation at population level and are therefore much more likely to take a scientific and expert view of risk assessment. This contrasts with parents and a large proportion of primary healthcare workers (nurses and GPs) who are confronted with the realities of each individual patient and are therefore much more likely to evaluate the risk of immunisation using at least some personal or familial evidence. The authors also highlight how the fear of epidemics has been central to the literature on health promotion concerning mass childhood immunisation.

Hobson-West (2003) makes a similar argument in her article on *Understanding vaccination resistance: moving beyond risk*. She introduces her paper as a contribution to the then emerging literature on the MMR issue and focuses on problematic areas in the design of the official response to the controversy.

Hobson-West highlights three such problematic areas:

- There exists a contradiction between mass childhood immunisation, with its emphasis on the concept of ‘herd immunity’, and the current discourse about public health, which emphasises individual responsibilities and the choice given to citizens seen, to some extent, as consumers of health services with all the connotations attached to the concept. This conflict between government official policy and its actual actions had already been mentioned by Rogers and Pilgrim (1995) and is also noted by Boyce (2005) in her examination of the production and content of the MMR story in the British media (see p. 29).
- Official communications have focused on individual and risk calculation at the expense of other factors that may better explain resistance to the

MMR vaccine. Indeed, Hobson-West's main conclusion is that "risk should not be assumed to be the main conceptual tool for understanding resistance to vaccination" (2003: 273-274).

- The tendency by governmental authorities to respond to the decline in take-up rate of the MMR vaccine with ever more information on risks and research may be misguided. Moreover, this reaction reflects a belief in the deficit model of public understanding of science and contradicts the rational actor model implied in the communications promoted by the same authorities.

Hobson-West's discussion of the problems with the official communication programmes on the MMR echoes Brian Wynne's analysis of the public reaction towards biotechnology and nuclear power reported by Grinyer who argues that "information programmes are likely to be intensified before the assumptions upon which they are based are questioned" (1995: 32). For instance, in the MMR debate, one has been able to discern the assumption, held by a majority of the scientific experts on the pro-MMR side, that the public's scientific illiteracy can explain much of the fears over the MMR vaccine. The increased polarisation between the public on one side and the scientific and medical experts on the other side has led to the production of more information campaigns based on the belief that an increased amount of information will convince the public to have their children immunised with the vaccine. Hobson-West concludes her article by pointing to the need for further research on the fundamental reasons behind resistance to vaccination.

The focus group study conducted by Evans and her colleagues (2001) can be seen as an attempt to unveil some of these reasons. A series of six focus groups were held with parents who immunised their children with MMR ('immunisers') and parents who refused the MMR vaccination ('non-immunisers'). Based on the empirical data collected from these groups, the authors identify four key influencing factors:

- Parents' beliefs about the risks and benefits of the MMR vaccine compared with the risks linked to the diseases against which it protects.
- Information from the media and other sources about the safety of MMR.
- Confidence and trust in the advice of health professionals and attitudes towards compliance with this advice.
- Views on the importance of individual choice within government policy on immunisation.

The authors conclude that: "parents' immunisation decisions appeared to involve more than a 'rational' risk/benefit analysis, and also reflected their personal attitudes, beliefs and perceptions – a finding previously reported in a study of parents' decisions about pertussis immunisation"⁴ (Evans et al., 2001: 909).

The debate that surrounded the pertussis vaccine in the United Kingdom in the 1970s provides the context for Jeffrey Baker's analysis of the MMR controversy. In his paper (2003), he discusses the similarities between both debates and highlights the need to place the MMR debate within a historical perspective (see also Bazin, 2001; Horton, 2003). Indeed, the last part of his paper examines the smallpox controversy that affected the United Kingdom in the late nineteenth century and points to the fact that "contention has been a recurrent theme in the history of British immunisations" (Baker, 2003: 6). Baker observes how both the pertussis and the MMR controversies produced a major schism within the British medical profession concerning the safety and efficacy of the vaccines. He also underlines the finger-pointing exercise at the media, which stood accused of dramatizing the dangers of the vaccine as opposed to the risks involved with whooping cough. Similar criticisms have been made in the context of the MMR controversy. For instance, Elliman and Bedford (2003a; 2003b) have accused the

⁴ These findings corroborate to a large extent the results of my empirical data presented in Chapters Six, Seven and Eight.

Daily Mail and its columnist, Melanie Phillips, of misunderstanding the basic principles of scientific research and of being very partial.

Baker also points out that both controversies have dealt with the possibility of serious conditions exemplifying the worst of parental fears: autism in the case of MMR and neurological damage in the case of the pertussis vaccine. In addition, in both cases, the debates have taken place in the background of a gradual disappearance of first-hand knowledge of childhood diseases associated with these vaccines. Another similarity concerns the practical consequences of these debates. Reports in the mass media led, for both the pertussis and the MMR vaccines, to a significant fall in their take-up rates, followed by epidemics of whooping cough in the first case and risks of measles epidemics in the case of MMR. Finally, Baker notices the fact that despite some interest in other countries, the controversies have been a very British affair. However, in the case of the pertussis debate, the government of the time accepted the need for detailed investigations that would, it was hoped, clarify the doubts about the vaccine safety. This was followed by a major education and publicity campaign including the vaccination of Prince William and the daughter of the then Health Minister. This is in contrast with the MMR controversy where the government refused to examine the evidence represented by the damaged children themselves and, instead, attempted to refute and/or discredit the scientific evidence of the anti-MMR camp (Mills, 2002).

Finally, Tammy Boyce⁵ (2005) examined the MMR debate from a media perspective in her doctoral thesis on *Sowing the seeds of doubt: the MMR and autism story*. Her work focuses on the production, the content and reception by the public of the MMR story and pays particular attention to journalistic practices that have impacted on the reception of the story. The production and content

⁵ Tammy Boyce's maiden name was Tammy Speers. Some of the articles she co-published before her doctoral thesis, and referred to in this work, were published under that name (eg, Hargreaves, Lewis and Speers, 2003).

aspects are examined through a content analysis of television, radio and national newspaper coverage and a series of expert interviews with journalists. Two national surveys and four focus groups conducted with mothers of young children provide the empirical data for her reception analysis.

Boyce's work highlights a number of journalistic practices that contributed to the significance of the MMR controversy. For instance, she points out the existence of a number of 'off-the-peg' narratives commonly used by journalists particularly when writing about stories in which they have a relatively small amount of expertise and, linked to that, their tendency to personalize the presentation of complex stories by integrating personal accounts, here, the distressing stories of parents of autistic children. Indeed, the use of anecdotal evidence, mainly in the form of stories from parents of autistic children, is described as a powerful rhetoric in the media coverage of the MMR story. Boyce also discusses journalists' tendency to present a balanced view of controversies – in terms of coverage length, which in the case of the MMR debate, gave the public the wrongful impression that the evidence presented by Dr Wakefield and others from the anti-MMR camp was as extensive and as reliable as the one offered by the other side of the debate. What Boyce does not stress enough, however, is the disproportionate impact the anti-MMR stories may have had thanks to their use of a narrative type of evidence as opposed to the more factual, scientific one used by most proponents of the pro-MMR camp. Additional thoughts on the relative strength of different types of evidence will be presented in the conclusion chapter.

Turning her attention to the content of the media coverage, Boyce identifies a number of key frames that appeared throughout the seven and a half months period of 2002 she examined: the alleged link between the MMR combined vaccine and autism; the lack of trust in government and in scientific authorities; and the comparison of the MMR debate to other scientific controversies such as the ones that surrounded the introduction of genetic-modified foods, the foot-and-mouth disease and the BSE/CJD. Indeed, the use of the BSE scandal as a media template for the MMR story has been discussed by other authors (eg, Evans et al., 2001; Horton, 2004c) and prompts Boyce to ask the interesting question as to

“whether the MMR vaccine will become a template for future issues concerning public health and childhood illness” (2005: 143). She also notes the role played by the idea of ‘patient as consumer’ in the coverage of health issues in the UK. This theme has been especially powerful when used in conjunction with stories on single MMR vaccines, thus presented as a choice that people *should* have.

In the last part of her results, Boyce discusses the sources of information and the key rationales used by mothers in her focus groups to form an opinion on this debate. Several sources of information (health professionals, friends and family, and people’s own experience and knowledge), in addition to the media, are thus identified and testify to people’s critical attitudes towards the latter, an idea already expressed by Baker (2003) in conjunction with the pertussis controversy and by Petts and Niemeyer (2004) in their review of health risk communication in the context of the MMR controversy. Fear of autism, issues of risk and trust, common sense knowledge about children’s immune systems and reliance on fate and instinct represent the main factors taken into consideration by her focus group participants. As Boyce observes, the fear of autism plays a significant role for all participants and demonstrates the media’s influence in framing a news story:

The images of autistic children, and more so, their exhausted and frustrated parents had a significant impact. It was much more than simply the effect of the disease on the child that terrified focus group participants, but the impact it would have on their lives and their families. (2005: 293)

It is also interesting to notice how one of Wakefield’s main arguments concerning the potential impact of injecting young children with three vaccines in one shot played on people’s ‘instinctive’ understanding of the immune system, and this, despite the scientific evidence refuting this theory (Offit et al., 2002). Indeed, lay beliefs about ‘immune systems’ have played and continue to play a significant role in health-related debates. As we will see in the results chapters, they are closely linked to themata contrasting what is ‘natural’ versus what is ‘innatural’ (Farr, 1977; Marková, 2000) and have led several authors to describe the idea of ‘immune system’ as a “metaphor for the prevailing sense of the vulnerability of

the human individual in a hostile world” (Fitzpatrick, 2002: 2; but see also Goldacre, 2006; Parry, 2004).

1.4 Summary

The discussion above has highlighted the significance of the controversy around the MMR vaccine both from a medical and from a social science perspective. Research published to date and reviewed in this chapter has identified a number of issues that will need to be investigated further if we want to avoid some of the ‘unintended consequences’ such health-related controversies may have (eg, increased risk of measles epidemics – see Prigg and Sims, 2003, doubts about or outright rejection of other childhood vaccination programmes).

In particular, there is a need to understand better how mothers decided whether to vaccinate their child with the MMR vaccine. To date, Boyce (2005) has gone the furthest in that direction through her analysis of the public reception of the MMR story. However, her study does not go far enough in understanding how the different sources of information used by parents were brought together and the relative importance of the rationales she identified in their decision-making process. While, in Boyce’s case, this limitation may be the result of the specific remit of her study, it also points out to shortfalls in the type of information one may get from focus group interviews. My methodology chapter will, therefore, argue the case for individual interviews as a better tool to obtain detailed information on such issues. Before then, the next two chapters will examine one theoretical framework that could be used to examine this debate in greater detail.

Chapter Two – Overview

The next two chapters set the theoretical foundations for a better understanding and the operationalisation of cognitive polyphasia. Chapter Two begins with a discussion of two developmental approaches to the concept of cognitive polyphasia: diachronic and synchronic. In the first instance, cognitive polyphasia explains the persistence of traditional forms of knowledge in modern societies, while in the second, the characteristics of different types of knowledge and the functions played by each of them provide an explanation for why individuals, groups and societies are happy to draw and combine different types of knowledge to make sense of their social reality.

This discussion is followed by the review of three empirical studies done within the framework of the theory of social representations that have used or identified instances of cognitive polyphasia. These studies confirm the value of the two developmental approaches discussed before and bring to light interesting dimensions of cognitive polyphasia. These provide a starting point for the operationalisation of the hypothesis explored in Chapter Three.

2 Exploring cognitive polyphasia

2.1 *Cognitive polyphasia: an object of interest*

Despite many social representations studies mentioning and making use of the concept, cognitive polyphasia has never been studied as an object in its own right. This chapter begins the exploration of this hypothesis by trying to understand its genesis as a cognitive style and its persistence in contemporary societies. It does so by suggesting two developmental positions:

- In the first, a diachronic perspective, cognition is viewed as being influenced by the social, political and economic arrangements found in different societies. It is argued that to specific societies correspond different types of knowledge but that, contrary to the conventional view in social sciences, the progression from one society to another, and their respective types of knowledge, is not completely straightforward. One can observe reminiscences of ‘old’ types of knowledge in modern societies, one way of understanding the idea of cognitive polyphasia.
- In the second, synchronic, perspective, the various functions played by different types of knowledge are emphasized and one can see why individuals, groups and societies may want to draw on a plurality of types of knowledge to make sense of their environment and fulfil different objectives.

2.2 *Diachronic perspective*

The diachronic approach to the origin of cognitive polyphasia starts with the proposition that cognition is bound up with societal conditions and that different societal arrangements are associated with different types of knowledge. This proposition follows the thinking of George Gurvitch who, in his *Social Frameworks of Knowledge* (1971), studied the cognitive systems linked to three general categories of social frameworks: forms of sociality, groups and global societies (Thompson, 1971).

This proposition is examined by contrasting traditional societies with modern ones along two dimensions that are assumed to have a significant impact on the types of knowledge that prevail in them: the socio-political organisation (including the material conditions) and the views of the self. Their implications for the types of knowledge typically found in these societies are also discussed. The idea of modernity as used here refers to “the institutions and modes of behaviour established first of all in post-feudal Europe, but which in the twentieth century increasingly have become world-historical in their impact” (Giddens, 1991: 14-15). By contrast, traditional societies are defined as those that preceded modernity, in particular, the feudal societies that existed in medieval Europe.⁶

2.2.1 Social and political organisation

On a purely material basis, one can safely assume that individuals’ need for cognition, defined as “an individual’s tendency to engage in and enjoy effortful cognitive endeavours” (Cacioppo and Petty, 1984), is influenced by the material conditions in which people operate. As highlighted by Maslow’s theory of needs (1943), one’s need for self-actualization materializes itself only when other, more immediate, needs have been fulfilled. One can therefore presume that individuals living in harsher, more primitive conditions do not show a great amount of curiosity towards knowing beyond basic needs.

Indeed, in his examination of the social and historical background behind van Eyck’s *Portrait of Arnolfini and his wife*, Witkin (1992) notes how different modes of social production result in different degrees of agency. While hunter/gatherer and agrarian societies exhibit a relatively low degree of individual agency, the situation in urban and post-industrial societies where there is a greater distance from the natural world allows for what Witkin calls “a shift (...) to the level of agency” (1992: 339). With a relatively low level of technological

⁶ This research project, however, aims at presenting a social psychological perspective on the concept of cognitive polyphasia and does not attempt, by any means, to present an exhaustive picture of traditional versus modern societies.

development, the physical environment and the material conditions of living bear a considerable influence on the everyday life of the individuals and contribute to the perpetuation of a well-established and rigid order by imposing the execution of well-defined tasks on the population and, therefore, restricting the amount of freedom each individual can claim.

These limitations are compounded by the social arrangements found in such societies. Feudal societies (see Gurvitch, 1971 for a good description), for example, are built around the *social* division of labour, which establishes a rigid hierarchy of roles and encourages values such as obedience to authority, as opposed to the arrangements found with the modern *technical* division of labour. As observed by Fishman (1971) in his introduction to sociolinguistics, traditional societies are characterised by a greater role compartmentalization where status is based on ascription. Access to certain roles in these societies is prohibited to certain individuals and/or groups, with very distinct rights and duties delineating each role, in contrast with modern societies characterised by frequent and relatively easy changes from one role to another.

The political organisation of a society also communicates several messages as to how the different groups within it are expected to behave towards different sources of authority and the different types of knowledge to which they are associated. For instance, the close connections between the establishment of a parliamentary democratic system and the existence of a (in this case, bourgeois) public sphere have been described and discussed in detail by Habermas (1989, quoted in Jovchelovitch, 2001a). This political emancipation combines, in modern societies, with the development and use at every level of activity of scientific and technological advances. With the development of industry, the rate of urbanisation accelerates causing the gradual disappearance of close-knit communities.

Modern society is a more individualistic society and can be differentiated from traditional ones in that it attempts to be more egalitarian, democratic, pluralistic, rational, with power based on expertise rather than social position. The coming of modern societies is also associated with the disappearance of mediating

institutions. As noticed by Giddens, the era of modernity is one in which “forms of traditional authority become only ‘authorities’ among others, part of an indefinite pluralism of expertise” (1991: 195), one in which the credibility structures of individuals living in these societies have been eroded (Moreux, 1978).

2.2.2 Views of the self

In turn, the specificities of the social and political arrangements prevailing in different societies, times and locations, have a significant influence on the notion of selfhood as understood and lived by the individuals living in them. For Foucault (1988), this is the case because each society produces a specific set of ‘technologies of the self’, described as “socially sanctioned procedures that encourage or teach people to address themselves systematically to their own feelings, thoughts, and conduct” (Danziger, 1997: 151). Functions such as personal and social identities are affected by these views of the self and impact on the cognitive contents and processes used by individuals. Indeed, Giddens describes how the coming of modernity has impacted on all aspects of everyday life and affected “the most personal aspects of our experience” (1991: 1). Traditional notions of time and space have been radically transformed and social relationships have become “free from the hold of specific locales, [recombined] across wide time-space distances” (Giddens, 1991: 2).

In pre-modern societies, the notion of an individualistic self, detached from its collectivity, is more or less non-existent, and the unique character and specific potentialities of individuals have yet to be acknowledged (Giddens, 1991). Individuals are part and parcel of their group and social identities are strictly defined by birth through a rigid process of socialisation that provides people with roles, rules and expectations leaving very little room for individuality but also for self-doubt (Huhtala, 2004). As expressed by Durkheim (1984):

The ‘individual’, in a certain sense, did not exist in traditional cultures, and individuality was not prized. Only with the emergence of modern societies and, more particularly, with the differentiation of the division of labour, did the separate individual become a focus of attention. (quoted in Giddens, 1991: 75)

The individualistic notion of self that dominates today's Western societies emerges gradually around the seventeenth and eighteenth century (Gurvitch, 1971). By then, states are gradually becoming more organised political entities and are keen to use the notion of self as an individual entity as a counterpart to the powers still detained by local nobles and aristocrats (Baumeister, 1997). Danziger (1997) argues that the details of this new notion of selfhood can be sourced to developments in philosophical empiricism, and, in particular, to notions developed by Locke in his *Essay Concerning Public Understanding* and, later, by Adam Smith. He discusses how the empiricists, helped by the post-Reformation notion of introspection, promoted a notion of self as an object that can be known empirically and that provides a new basis for a feeling of unity that was previously provided by the religious notion of 'immortal soul'. This empirical conceptualization of the self is thus more suited to a modern society in which social identities are becoming more flexible and in which religion does not dominate anymore. The self is now also viewed as "the core of a monitoring mechanism" (Danziger, 1997: 144). In the context of a commercial society in the midst of an Industrial Revolution, this leads to the concept of self as a self-reflective agent working to maximise its own advantage, a description of what is assumed to be, which will quietly be adopted as a norm to be followed (Danziger, 1997).

Individuals are therefore trying to maximize their self-worth by seeking the approval of others. The standards for self-evaluation are derived from various people with whom one interacts, gradually bringing the possibility of multiple selves (Rosenberg, 1997). Hall (1992) compares this situation to a dislocation of the subject whereby people lose a stable 'sense of self'. In this environment, "identity becomes a 'moveable feast': formed and transformed continuously in relation to the ways we are represented or addressed in the cultural systems which surround us (...)" (Hall, 1992: 277).

Thus, in modern societies, the criteria for self-evaluation are no longer to be found in religious values or from a rigid social environment but from a society moving and changing rapidly. Free from previous constraints limiting the extent and the

reach of their social connections, individuals can now look for alternatives that will maximise the approval from others and their resulting self-esteem. As observed by Giddens (1991: 28-29): “In a post-traditional social universe, an indefinite range of potential courses of action (with their attendant risks) is at any given moment open to individuals and collectivities”. This increased flexibility extends to the types of knowledge individuals, groups and societies can choose to draw upon to make sense of their environment.

2.2.3 Types of knowledge

Going back to the notion of a correspondence between societal conditions and cognition, traditional societies are generally associated with religion, folk knowledge, magic and ideology whereas more modern societies are linked with scientific and technical knowledge. Indeed, Gurvitch (1971) observes that the cognitive systems in feudal societies are dominated by what he calls ‘philosophico-theological knowledge’ with scientific knowledge occupying the lowest position in the hierarchy of types of knowledge. By contrast, scientific knowledge comes to the fore in ‘nascent capitalistic global societies’, and this ascendancy continues unabated in democratic-liberal societies, found in Western Europe and America at the end of the nineteenth century and the beginning of the twentieth century, and in the managerial societies typical of contemporary Western Europe and America⁷.

A similar demarcation between different types of society and the knowledge found in them is provided by Moreux’s thoughts on ideology (1978). In this book, this French sociologist proposes the existence of three ideological languages. The first type, primary ideology, belongs to traditional societies in which a symbolic culture is transmitted between generations without questioning. It is defined as the symbolic culture within which people are born and the first one to be transmitted

⁷ However, in the last type of global societies, Gurvitch points to the domination of technical knowledge and to a situation where “science is encroached upon by technical knowledge and in some respects disorganized by it” (1971: 203).

to them, most often in an implicit manner through the practices of everyday life. This knowledge remains, in the majority of cases, unquestioned and taken for granted. As such, it can be compared to Durkheim's collective representations (see Moscovici, 1989). The concept of secondary ideology corresponds to the contemporary understanding of ideology that is, "a cognitive system, typically of a political or religious character, produced by a specific group aiming to maintain or increase its power" (Moreux, 1978: 17, my translation). The third type, or tertiary ideology, refers to the various ideas ('courants d'opinion') circulating within a society at a given time and that follow, most of the time, passing fashions of no precise origin.

According to Moreux, the move from one type of ideological language to another is aided, to a large degree, by the technological advances and economic progress found in a particular society. Thus, secondary ideologies are visible typically in societies where a process of stratification has already taken place, such as in industrial societies. Post-industrial societies in which concerns with the physical environment have all but disappeared are the location for tertiary ideologies. In these societies, concerns for one's class or group have given way to a desire to fulfil one's self (see also Giddens, 1991).

2.2.4 Explaining the shift

La vraie question n'est pas de savoir si nous avons affaire à un conflit entre archaïsme et modernité, mais de savoir pourquoi, dans l'histoire des peuples, la modernité est parfois rejetée, pourquoi elle n'est pas toujours perçue comme un progrès, comme une évolution bienvenue. (Maalouf, 1998: 54)

Traditionally, social scientists have discussed the shift from one type of society to another by assuming a clear dichotomy between the types of knowledge associated with them and a linear progression, with lower forms being replaced by more modern ones. For instance, Bruner explains that the empiricist and rationalist traditions, which have come to dominate our understandings of "how the mind grows and how it gets its grasp on the 'real world'" (1991: 1), see mental development as proceeding in a more or less rigid linear fashion, starting from a stage characterised by incompetence and progressing towards a final competence.

These perspectives, underpinned by the Cartesian tradition of thought (Marková, 1982), have also directed our understanding of how societies develop. Typically, the shift from traditional societies to modern societies has been analysed in terms of a rigid opposition, a process whereby one type of society, along with its mode of thinking and its types of knowledge, was said to disappear and to be replaced by a different mode of thinking, different knowledge and different societal arrangements⁸. Seen from that perspective, types of knowledge are categorised according to a temporal dimension that implies the idea of a progression from lesser to better types of knowledge.

This dichotomous perspective has been particularly visible in the debate on rationality that marked the intellectual landscape of the first half of the twentieth century and that opposed conflicting views about the development of individuals and societies. In a succinct but thorough review of key developmental psychologists, sociologists and anthropologists, Jovchelovitch (2001b) produces a clear account of how the idea of rationality evolved over the last century. She begins by observing that the relation between different rationalities and the social conditions that give rise to them was explored by Piaget who showed, in his developmental psychology, how different social interactions produce different logics within children.

However, despite recognising the existence of different types of logic, thinkers of that time still adhered to a Cartesian-based definition of reason that led them to assume a linear progression towards one type of rationalism based on formal logic, symmetrical arguments and impartiality (Gellner, 1992). These views started to change with Lévy-Bruhl who showed that other logics could be as logical as the one found in ‘developed’ peoples; and that different logics can and

⁸ Marková attributes the relative lack of interest in Durkheim’s concept of collective representations to this traditional Cartesian perspective for which collective representations belong to pre-modern societies and have no place in modern ones. She rightly points out that, in doing so, “sociologists might have ignored the compelling relevance of collective representations for complex modern societies in rapid change” (2003: 131).

indeed do co-exist side by side because of the different functions they play. Moreover, Vygotsky and Lévy-Bruhl both agreed on the “fundamental notion that transformation in knowledge is discontinuous and there is no replacement in forms of knowing but co-existence” (Jovchelovitch, 2001b: 15). What Lévy-Bruhl and Vygotsky were able to demonstrate is that rationalities can co-exist but not in a way that entails the replacement of one by the other: “Forms of knowledge can relate to each other but they are not contiguous. They need to be understood in relation to the context in which they are used and in relation to the functions they fulfil” (Jovchelovitch, 2001b: 15).

Building on the ideas developed by Lévy-Bruhl and Vygotsky and the empirical reality described in several social representation studies (see Section 2.5, p. 57 onwards), one can therefore argue that the opposition between traditional and modern forms of knowledge is a false one and that the reality is more complex than the dichotomous perspective perpetuated by the Cartesian tradition of thought. As Forgas notices: “Yet as critics of Piaget’s never tire of emphasizing, the assumption that all adult cognitive activity is analogous to hypothetico-deductive thinking and logical information processing is cross-cultural invalid, and is dubious even in Western societies” (1981b: 263). Instead what we have is the simultaneous disappearance and continuity of traditional and modern types of knowledge in the form of remanences and deep imbrications. This phenomenon is captured by the concept of cognitive polyphasia, which, it is proposed here, is the dominant form of thinking in contemporary societies.

Interestingly, authors outside the social representations tradition have also observed and commented upon the co-existence of traditional and modern types of knowledge. For instance, Gurvitch has commented on the co-existence of traditional and more modern types of knowledge in post-feudal societies acknowledging, however, the predominant role played by scientific knowledge, especially at the expense of common sense knowledge, starting with the establishment of what he calls ‘nascent capitalistic global societies’ (1971: 174-185). Gurvitch also draws attention to the mutual influence different types of knowledge can have on each other, revealing the possibility of what can be

described as ‘the supply side aspect of cognitive polyphasia’. For instance, he notices how political knowledge in contemporary societies has been ‘transformed’ by technical knowledge through the use of ever more refined ‘techniques for handling men’ (1971: 204), and how a mystical form of knowledge was part and parcel of the equations, geometric analyses and quantified calendars through which scientific knowledge made its apparition⁹.

Similarly, in her discussion of ideology, Moreux (1978) stresses the fluidity of the boundaries between the three ideological languages identified before and supports this assertion by showing how a secondary ideology can eventually become a primary one given enough time and the support from the population concerned. Going back through times, she gives the example of Christianity which, thanks to its impregnation with local cultures, transformed itself from a secondary ideology into a primary ideology, a phenomenon she designates as ‘schèmes syncrétiques’ and which could be argued to be an ancestor of Moscovici’s hypothesis of cognitive polyphasia. Moreux makes a more specific reference to the idea of the supply side aspect of cognitive polyphasia when she discusses how the ideological discourse often borrows ideas and languages from science in order to be more effective with individuals who are increasingly more familiar with scientific and technological ideas and processes.

Under the diachronic positive discussed above, cognitive polyphasia can thus be understood as the persistence of traditional types of knowledge in modern societies. The rise of modernity has brought a number of discontents and the use of traditional types of knowledge alongside modern ones is conceptualised as a reaction against the new types of knowledge this new form of societal arrangements implies. In particular, scientific knowledge, through its domination and its prominence, is assumed to trigger a movement of opposition encouraging

⁹ de-Graft Aikins (2005) comments on a similar phenomenon in her research on diabetes in Ghana and points towards the appropriation of biomedical knowledge by ethnomedical practitioners in order to increase their professional credibility.

individuals, groups and societies to draw on other types of knowledge. The next section briefly examines the characteristics of scientific knowledge and attempts to identify fundamental deficiencies that may explain the persistence of old types of knowledge.

2.2.5 The pros and cons of scientific knowledge

Every statistic is a tragedy. (Morrison, 2002: 153)

According to Gurvitch (1971), scientific knowledge as an independent corpus of knowledge first appeared in what he calls theocratico-charismatic societies such as Ancient Egypt. However, the idea of science as a tool whereby men, groups and societies could control nature, social reality or other men did not take hold until the Renaissance, and its domination over other types of knowledge remains associated with the rise of modernity.

Characterised by an accumulation of facts, the development of hypotheses and the principle of falsification, scientific knowledge is associated with its own epistemology in which individuals are said to “acquire knowledge independently through the passive and objective observation of events occurring in an external reality which is itself made up of independent causes and effects” (Purkhardt, 1993: 92). This epistemology reflects the dominant role of positive empiricism as the received tradition of science in which scientific knowledge starts with the accumulation of sensory facts acquired through neutral observation and which assumes total objectivity in the observation of these facts. This type of knowledge puts the emphasis on the existence of an objective truth, independent of individuals and culture. It highlights the use of rational thinking as defined by formal logic. Scientific causality is a retrospective one where people attempt to attribute a cause to a sequence of events and where the cause always precedes the effect (Purkhardt, 1993). It is also characterised by the application of a set of laws that constitutes the basis behind the legalistic nature of its truth. Emphasis is put on rigorous application of these laws and the formulation of solid predictions in a controlled environment devoid of any values (Purkhardt, 1993). The existence of these laws translates into an ‘unequivocal understanding’ of scientific theories and

creates a situation where “the emphasis is on the strict denotation of a term, rather than on possible connotations” (Bangerter, 1995: 4).

Doubts about the status of science as the standard of all types of knowledge began to appear in earnest with the publication of Popper’s *Logic of Scientific Discovery*. They were reinforced later by writings from authors such as Lakatos and his idea of ‘programs’, Kuhn and Feyerabend (Phillips, 1985). By questioning the basic assumptions upon which science was deriving its superiority, these philosophers shook its foundations and triggered a movement of self-doubt among scientists that spilt over the entire society. Phillips explains how these developments in philosophy of science have resulted in the abandonment of justificationist or foundationalist epistemologies, both of which implied the reliance on an authority to accept knowledge. For people advocating these new epistemologies, beliefs can no longer be “absolutely justified in the sense of being proven or being based upon unquestionable foundations” (Phillips, 1985: 49-50)¹⁰.

Similarly, Marková (2003) argues that, in the latter half of the twentieth century, the nature of science underwent significant changes linked to its transition from a mechanistic perspective towards a relativistic perspective that emphasizes discontinuity and instability. As noticed by Giddens (1991), this focus on discontinuity and instability proved to be disturbing not only for the philosophers of science but also for ordinary individuals who were now confronted by the reality that science and technology do not always offer the certainties that had been promised since the Enlightenment. As science moved from one type of perspective to another, individuals’ trust in scientific authorities and in the truth they were communicating slowly eroded, confirming Giddens’s description of doubt as “a pervasive feature of modern critical reason” (1991: 3).

¹⁰ Phillips argues, however, that these developments in the philosophy of science were only reinforcing the fallibility principle of science, one of the building blocks of the logical and epistemological premises that define it, and puts forward the evolution from Newtonian to Einsteinian physics as an example of this principle.

The contemporary disenchantment with science has been eloquently argued by Moscovici (1992b)¹¹. In his paper on *La nouvelle pensée magique*, he attempts to explain the increased interest found in many Western societies for pseudo-scientific disciplines such as astrology, graphology, and accepted alternative medical therapies such as Chinese herbal remedies, activities that he categorizes under the label of ‘new magic’. To this end, he discusses the intrinsic features of science and magic and proposes that the differences between the two may provide a valid explanation for the phenomenon of cognitive polyphasia. Moscovici sees the growing appeal of this new type of magic as the proof that science may not always be the most appropriate mode of thinking for individuals. He argues that the deficiencies and errors usually attributed to other types of knowledge (here referred to as ‘mental formations’ – see Section 3.4.3.4, p. 88 for more details) are, on the contrary, what makes them appealing to individuals and the reason why they want to use a non-scientific mode of thinking. The latter argument rests on the following assumptions:

- The in-built assumptions of science leave open too many unknowns and people need more certainty.
- Science goes for big numbers and individuals are looking for something that focuses on them only.
- The reasoning implied by science goes against the reasoning linked to the prevalent social representation of the individual in our contemporary society with its emphasis on the need for action and success as a criterion to judge people.

The contemporary social representation of individuals conceives of them as an independent entity, autonomous and self-sufficient and for whom the duty to fulfil

¹¹ The debate among social representations theorists concerning Moscovici’s treatment of science is succinctly addressed in Section 2.2.5.1 (p. 47) along with a brief discussion about the difference between science and scientific knowledge.

one self dominates all the others. Simultaneously, the way of reasoning characteristic of magic as a mental formation privileges the idea of ‘engagement’ and enables individuals to go beyond the physical and biological limits imposed by the world of science. In this world of magic, individuals feel a greater control over their own destiny and are not considered as one of the statistics produced by science. Through the use of magic, one attributes the power to act and the success of the action to gifts and individual will (Moscovici, 1992b: 309; my translation). One can therefore clearly see how and why the mental formation of magic as a mode of thinking may be more appropriate to the social representation of the individual held by people in our society. Moscovici’s thoughts on the deficiencies of science open the way for the synchronic perspective on cognitive polyphasia discussed in Section 2.3 (p. 48).

2.2.5.1 Science or scientific knowledge?

A number of social representations theorists (eg, Bangerter, 1995; de-Graft Aikins; 2005; Purkhardt, 1993) have addressed the relation between science and common sense within the theory and criticised Moscovici’s treatment of science as being part of a reified universe, arguing that science is and should be regarded as a social construction fundamentally affected by the human beings which contribute to it. For instance, Purkhardt (1993) emphasizes that science should be understood as a social activity that takes place in specific cultural and historical context.

As an alternative way to address this debate, it is proposed that the distinction between science, as a system of representations and autonomous practice located within a specific institutional framework (Moscovici, 1992b), and scientific knowledge, as an epistemology, provides some elements of clarification in this debate. Indeed, Bangerter goes towards a similar distinction in his 1995 article and sees the confusion between ‘science’ and ‘scientific knowledge’ as the reason for the false dichotomy between common sense and science within the theory of social representations.

As a system, science must be understood as a social construction and, therefore, as part of the consensual universe of social representations. But this is not to deny the different status of science as a type of knowledge whose overt objective is the search for *a* truth using accepted rules and practices. Moreux (1978) proposes that one characteristic of science is its capacity to be the object of a relatively large consensus. She differentiates between the relative lack of diachronic truth and the synchronic truth towards which it tends to go, that is, that the scientific community works towards a growing consensus at least concerning the basic principles behind key paradigms. (This, she contrasts with ideology, which is totally relative, both within a certain space and time and over time and whose proponents are not very concerned with the search for an absolute truth.) Gross concurs to this point of view highlighting the role of rhetoric in the making of science and contrasting an absolutist view of scientific truth with “a sophisticated relativism in which truth depends not on conformity to a substratum of reality, but on agreement among significant persons” (1996: 21). Thus, for any individual, at a particular point in time, scientific knowledge will be perceived as a reified reality with the ‘power’ to impose itself on the consensual universe.

2.3 Synchronic perspective

In the previous sections, the hypothesis of cognitive polyphasia has been elaborated through a diachronic perspective bringing to light the persistence of traditional types of knowledge in modern and postmodern societies. Seen through this perspective, cognitive polyphasia can be understood as the discontent of ordinary individuals with modern types of knowledge, in particular vis-à-vis scientific and technical knowledge.

An alternative, and to a large extent complementary, explanation for cognitive polyphasia is discussed in this and the next sections. From a synchronic perspective, cognitive polyphasia becomes a much more positive feature of contemporary societies, as opposed to being a reaction against the rise of modernity, and can be described as a cognitive style that enables lay people, groups and societies to draw on various types of knowledge in order to fulfil

different functions and make sense of their social reality. The synchronic perspective requires the examination of types of knowledge through other dimensions than a temporal one that put the spotlight on the different functions and roles they each can fill. Several attributes can be used to that effect but some of them are assumed to offer a greater explanatory power vis-à-vis the hypothesis of cognitive polyphasia. These are discussed in greater detail below.

2.3.1 Narrative versus paradigmatic modes of cognitive functioning

J'étais en quête d'une solution que la raison ne peut donner (...). (Tolstoï, 838)

Readings from both sociology of knowledge and epistemology (Gurvitch, 1971; Horton, 1993; Lehrer, 2000; Lyotard, 1979) highlight the difficulty, if not the impossibility, of agreeing on a definition of knowledge and of the different forms it can take. Questions about knowledge have been linked to discussions about the nature of reality and of knowing, which, although fundamental, exceed the purpose of this thesis.

Lehrer discusses the different possible meanings of the verb 'to know' and highlights what he calls the *correct information sense* of the term by which he refers "to recognize something as true" (2000: 5), that is, knowledge that people use to reason, and to confirm or refute hypotheses. He pursues his argument by proposing that the attainment of knowledge necessary for scientific work or everyday life requires more than the mere possession of information and must be complemented by the certainty that this information is correct. Issues of truth value surface at this point and provide us with an important dimension with which to categorize different types of knowledge.

Indeed, one can hypothesize that different types of knowledge correspond to different ways of apprehending the 'truth'. Bruner (1985, 1986, 1990, 1991) suggests two such ways with his paradigmatic and narrative modes of cognitive functioning. For Bruner, these modes of cognitive functioning must be viewed as two fundamental and irreducible ways of making sense of our experiences and of constructing reality. One of the instigators of the cognitive revolution of the 1950s, this renowned psychologist and educationalist has, however, distanced

himself from this movement which he sees as having been gradually taken over by technological emphases and issues.

His movement away from the first cognitive revolution rests on the development of a cultural psychology that acknowledges the existence of different domains, each with its own knowledge and skill, and the fact that mastery of one domain may not automatically be transferable to other domains. Seen in this way, domains become a “sets of principles and procedures (...) that permit intelligence to be used in certain ways, but not others. Each particular way of using intelligence develops an integrity of its own – a kind of knowledge-plus-skill-plus-tool integrity – that fits it to a particular range of applicability” (Bruner, 1991: 2). Brought together, these domains represent the tool kits of a particular culture, and different cultures will put the emphasis on developing a number of specific domains depending on their particular physical and material circumstances.

Bruner then goes on to discuss how one such domain, described as logical-scientific or paradigmatic, which has been successfully used to explain the natural and physical world, has come to dominate other domains, in particular, the narrative domain, which he sees as more suited to an explanation of the human and symbolic world (Bruner, 1991). Indeed, he argues that:

We organise our experience and our memory of human happenings mainly in the form of narrative – stories, excuses, myths, reasons for doing and not doing, and so on. Narrative is a conventional form, transmitted culturally and constrained by each individual’s level of mastery and by his conglomerate of prosthetic devices, colleagues, and mentors. (1991: 4)

For Bruner, the paradigmatic and narrative modes of cognitive functioning represent two fundamental and irreducible ways of making sense of our experiences and of constructing reality and, as such, are each given the status of ‘natural kind’ (1985: 97). The natural character of these two modes derives from the fact that under minimal contextual constraint, they appear spontaneously in the functioning of human beings; they can be identified by common sense without any particular expertise; and one notices their absence in those rare instances when they are not there (Bruner, 1985).

The main difference between these two modes resides, according to Bruner, in their procedures for verification. Whereas the paradigmatic mode relies on empirical verification and logical rules of thought, narrative constructions rely on the idea of ‘verisimilitude’ or ‘plausability’ and are governed by convention and ‘narrative necessity’ (Bruner, 1986, 1991)¹². Expressed differently, one can see how arguments based on the paradigmatic mode will convince people of their truth, while stories will convince people of their lifelikeness (Bruner, 1986). Each mode implies a different type of causality: the paradigmatic mode will focus on universal truth conditions; the narrative mode will look for “likely particular connections between two events (...)” (Bruner, 1986: 11-12). When using the latter mode, people use a different type of evidence to ascertain an issue, one based on what they see on an everyday basis: “Here, thought processes proceed in a bottom-up, inductive fashion, starting from observations of phenomena in everyday life and arriving at possible explanations or conclusions (...) often focusing on human actions and intentions” (van Bavel and Gaskell, 2004: 429).

Furthermore, Bruner stresses the fundamental nature of the narrative mode by showing how it is used to help individuals develop a sense of their own self “and a sense of others in the social world around us” (1986: 69). Atkinson makes a similar point by highlighting how “stories help us understand our commonalities and bonds with others as well as our differences” (2002: 122). This is achieved by the ability of narratives to define the variety of canonical characters, the environment in which they evolve, and the actions that are accepted and comprehensible, thereby providing “a map of possible roles and of possible worlds in which action, thought and self-definition are permissible (or desirable)” (Bruner, 1986: 66).

Jerome Bruner’s distinction between paradigmatic and narrative modes of cognitive functioning represents an alternative dimension to help us understand

¹² This is close to the idea of fiduciary truth attributed to consensual universe (Moscovici, 1988; Purkhardt, 1993).

the distinctions between different types of knowledge, with types of knowledge associated with modernity, such as scientific knowledge, belonging to the paradigmatic mode and more traditional types of knowledge belonging to the narrative mode.

Complementary perspectives to Bruner's are provided by Schutz (1966, quoted in Flick, 1998a) and Moscovici (1992a). In his discussion on the social distribution of everyday knowledge, Flick (1998a) elaborates on Schutz's proposition that the worlds of different subjects differ because not only of what they know but also because of how they know the same facts. Thus, Schutz distinguishes between three types of knowledge: expert, lay and well-informed, but stresses the fact that these do not form a hierarchy. On the contrary, everyone will use each of these styles in turn depending on the particular issue to which it is applied and its relevance for the individual concerned.

Moscovici (1992a) explored this idea further in his presentation of the hypothesis of cognitive division of labour. Moscovici attributes people's reliance on 'non-scientific' reasoning to the cognitive division of labour, which means that in everyday life individuals do not need to know as experts using a rational form of knowing. These suggestions provide a welcome step towards the acknowledgement of the co-existence of different rationalities and the need to respect them all and a link with the concept of ecological rationality developed by Gigerenzer and Todd (1999a) that will be discussed in some detail in the empirical chapters.

2.3.2 Constraint and cooperation

Parallels can be established between Bruner's narrative and paradigmatic modes of cognitive functioning and the distinction proposed by Duveen (2002) between beliefs and knowledge. Going back to Piaget's work on the moral judgment of children, Duveen suggests that these two forms of knowing reflect different types of social relations. The first type, cooperation, involves symmetry of power between the participants, and is likely to lead to conversion or innovation, which Duveen associates to "realms of knowledge". On the other hand, asymmetric

relations of constraint will result in compliance and be associated to “realms of beliefs” (Duveen, 2002: 145).

Duveen also introduces the notion of doubt, which he sees as a product of communication that produces a lacuna in our way of thinking. Doubt creates a state of dissonance that can be resolved either through compliance, whereby a set of beliefs is transformed into another (a process of accommodation); through conversion, which involves the development of new knowledge; or through cognitive polyphasia, whereby people accept the disconnection between two ways of thinking.

Seen from that perspective, Bruner’s narrative mode seems to belong to the world of symmetric relations whereby knowledge is created through communication practices turned toward conversion and innovation. Types of knowledge based on the paradigmatic mode of cognitive functioning could be linked to asymmetric relations of power with a hierarchy between those in the know and those who are not. However, the similarity is not complete and one cannot see how scientific advances could happen without some sort of conversion and innovative processes. Indeed, it could be argued that beliefs produce reassurance and comfort whereas knowledge involves more work, more cognitive effort, not always easy. While the categorization of types of knowledge along this dimension appears less than complete, it provides for interesting thoughts that would be worth developing.

2.3.3 Neisser’s primary versus secondary processes

Other dimensions add to our understanding of different types of knowledge and help to explain their co-existence in contemporary societies. For instance, in his article on the multiplicity of thought, Neisser (1968) discusses the various dichotomies that have been used in the psychology of thinking. Reading through the descriptions of these dichotomies, one can hypothesize that they all turn around the distinction between what Freud would call primary or unconscious processes and secondary or conscious processes. Neisser describes primary processes by attributing them a number of characteristics among which are the “toleration of contradictions (the idea that any thoughts whatever may coexist or

combine)” and the idea that they use “very loose connexions as associative channels” (1968: 309-310). By contrast, secondary processes are described as “conceptually organised” and going toward “reality oriented thinking” (Neisser, 1968: 310).

One can argue that this distinction characterises also the dichotomy between narrative and paradigmatic modes of cognitive functioning and, thereby, between traditional versus modern types of knowledge.

2.3.4 Relations to object and other

In her recent book on dialogicality and social representations, Marková (2003) discusses how different types of knowledge put a different emphasis on each of the components in the dialogical triad Ego-Alter-Object. For instance, in scientific knowledge, the relation between Ego and Object predominates. A similar argument is made by Moscovici (1992b) who, building on Louis Dumont’s writings, argues that modern science represents the reality in a way that subordinates relations between two individuals to relations between individuals and the world of objects, contrary to the order that exists among civilisations that are more traditional. In this way, individuals are able to observe the world of objects as spectators of an external/outside and neutral world as exemplified by the attitudes of scientific researcher or of specialist doctors when dealing with their patients. However, Moscovici goes on to argue, the majority of people, outside science, share a representation that subordinates the relation to objects to relations between individuals (‘personne à personne’): “More exactly, they believe in a cause and effect relationship marked with humanity, filled with an intention and a meaning whose action answers the needs of individuals or groups” (Moscovici, 1992b: 309; my translation). This second type of relation is much more typical of traditional types of knowledge such as magic and religion.

2.4 Two developmental approaches to cognitive polyphasia

The brief examination above of the different attributes by which types of knowledge can be characterised highlights the fact that the latter can be

understood through a temporal, historical, dimension, or through non-historical dimensions. In the first case, certain types of knowledge are more clearly associated with traditional societies, while in the second case non-historical dimensions such as their truth criteria, their relations to persons versus the ones to objects and the type of causality they rely upon help us understand their differences. Two developmental positions for cognitive polyphasia are therefore proposed:

- In the first one, this cognitive strategy is associated with the rise of modernity and viewed as a consequence of people's discontents with some of its aspects.
- In the second one, cognitive polyphasia is understood as the ability of people to select different types of knowledge to make sense of a social object based on their fit with their personal circumstances and influenced by a set of key social representations.

On one hand, the coming of modernity has brought with it types of knowledge built around the assumption of an objective truth that can be discovered through a set of quasi-legal procedures. However, these modern types of knowledge have their limits and lay people's decrease in confidence and trust in them has translated into their continued use of more traditional forms of knowledge. As pointed by Baumeister (1997), traditional value bases have seen their influence diminished with the development of modern societies but they have been difficult to replace as they fulfil specific functions that modern types of knowledge cannot do. For instance, the disappearance of traditional bases such as religion and tradition has put the burden on self as a major value base. This is not an easy task to be done, however, and people may well need to go back to the re-assurance provided by traditional types of knowledge in justifying their actions and decisions.

On the other hand, traditional and other types of knowledge exhibit specific characteristics features that justify their appeal as sense making resources. These alternative types of knowledge have thus been shown to offer a number of

advantages and a better fit with different aspects of contemporary societies such as the social representations of individuals that prevail in Western societies.

As has been shown in the previous sections, various thinkers had started to acknowledge the possibility of individuals, groups or societies drawing on a diversity of types of knowledge to make sense of the world around them. However, Moscovici formalised some of these ideas by proposing the hypothesis of cognitive polyphasia along with the presentation of his theory of social representations back in the 1960s. At the time, cognitive polyphasia was presented as a reaction against the assumption that rational knowledge and the logical operations that sustain it should be the norm against which to assess the quality of other types of knowledge such as social representations, beliefs, myths, etc. Over the years that followed, it gradually came out as a very efficient and precise way of characterising the hybrid form of thinking found in modern societies, a form of thinking where traditional types of knowledge, along with their associated modes of thinking, live along more modern ways of knowing and thinking. The hypothesis of cognitive polyphasia was first defined by Moscovici as follows:

(...) the same group, and *mutatis mutandis*, the same individual are capable of employing different logical registers in domains to which they relate with perspectives, information and values that are distinctive to each of them. In a general way, one can say that the dynamic co-existence – interference or specialisation – of different modalities of knowledge corresponding to specific relations between man and his social context determine a state of cognitive polyphasia. (Moscovici, 1976: 286, Jovchelovitch's translation, 2001b: 16)

Instances of cognitive polyphasia were identified in a number of empirical studies conducted within the framework of the theory of social representations pointing towards interesting dimensions of this cognitive strategy that will need to be taken into account in this project's attempt to operationalise this hypothesis. With this requirement in mind, the next few sections examine three such works and attempt to identify those key dimensions. These studies are the following: social representations of madness in a small community in France (Jodelet, 1991; 1992); the examination of health beliefs in the Chinese community in the UK (Gervais and Jovchelovitch, 1998a, 1998b; Jovchelovitch and Gervais, 1999); and the

social representations of mental illness in India presented by Wagner and his colleagues (1999b; 2000).

2.5 Empirical evidence on cognitive polyphasia

2.5.1 Social representations of madness

Jodelet (1991; 1992) conducted a seminal study on representations of madness which revealed the existence of cognitive polyphasia. She investigated how the villagers of Ainay-le-Château, a small village in France where an open psychiatric institution placed the mentally ill patients in the care of ordinary local families, combined knowledge derived from modern psychiatry, with medieval notions of contagion based on the theory of humours, with folk wisdom and with their experience of day-to-day living with the mad in order to make sense of madness.

This study allows us to see how cognitive polyphasia facilitates the accommodation process of living with the ‘mad’ by allowing and legitimizing the co-existence of different rationalities and different types of knowledge among the foster families. Jodelet shows how the different rationalities involved in the villagers’ representation of madness are expressed with a differential emphasis depending on the context and the interlocutors facing the villagers and “depending on whether they are used to describe, understand, explain or assess the identity or the actions of the mentally-ill patients” (1992: 334, my translation). Cognitive polyphasia enables the villagers acting as foster families to reconcile what would appear at first to be contradictory objectives, that is the financial gains of the scheme and the psychically and socially-induced necessity to differentiate oneself from the ‘mad’, who, ultimately, is not that dissimilar to the rest of the population. This generates a set of practices designed to locate the patients in a distinct category.

The study enriches our understanding of cognitive polyphasia by showing how it can manifest itself through the practices employed by a social group or individual. Within the community of Ainay-le-Château, these practices are traceable to the medieval notions of contagion, the idea that one can be contaminated with

madness. They involve, first and foremost, the separation of the waters used for washing the clothes and the dishes of patients. The actual practices differ according to the specific families concerned but all imply the necessity to avoid any contact with the transpiration or saliva of patients. Examples of these practices include: the use of separate places, cutlery and, especially, glasses; patients' clothes washed separately from those of the household; use of bleach when washing the clothes and dishes of patients, etc. For Jodelet, these practices exist as expressions of archaic and uncomfortable beliefs that cannot be openly expressed. Confirming a point made by Flament (1989), the study therefore also shows how social practices can contradict the discourses held by a given group and hence reveal the use of different rationalities, some of which are consciously perceived as being backward beliefs when compared with modern scientific facts and, as such, kept hidden (see Jodelet, 1992: 340). However, the practices continue unabated, fuelled by the content of the different types of knowledge circulating among the villagers, characterised by fears not only of the social danger associated with the mentally ill patients, but more archaic fears that have traditionally existed in relation to those construed and labelled as 'mad'. Indeed, the French sociologist, Edgar Morin, shows in his examination of *La Rumeur d'Orléans* (1969) how people faced by anxiety will take refuge and look for comfort through the use of archaic ideas and phantasms.

The conditions under which cognitive polyphasia takes place in this community corroborate Moscovici's proposition that the use of different modalities of knowledge (to use his words) will be influenced by "the degree of mastery and control over the object concerned, the nature of the communications involved and the interaction between the organisation of the subject and the degree of differentiation of the physical or social environment" (Moscovici, 1976: 286, my translation). Jodelet (1992: 345) describes how, as a consequence of the organisational arrangements established by the mental institution, this community has lacked the access to an interpretative framework codified and legitimized by science, and how this has obliged the villagers to find their information within their everyday environment, drawing on ways of doing and saying established collectively and with roots within their cultural patrimony.

Despite incorporating various rationalities and types of knowledge, the social representation of madness found in Ainay-le-Château is characterised by its homogeneity, the cohesion of its views and practices about the aetiology and manifestations of madness and of the practical realities of living with the mad. One sees how, as time has passed, the various rationalities have worked with each other to produce a coherent representation of madness, the patients and relationships with them. This internal cohesion may be symptomatic of representations that have reached a relatively high degree of stability over the years. Indeed, Jodelet (1992) discusses how the discourses and practices associated with this representation have been transmitted between generations over several decades since the open institution was established in 1900. This contrasts with the social representations of mental illness found in India (see Section 2.5.3, p. 61) where one can identify well-distinct streams that have yet to combine. In this case, the cohesion of the past representations has been lost and has still to be rebuilt.

2.5.2 The health beliefs of the Chinese community in England

In another study, Gervais and Jovchelovitch (1998a, 1998b; Jovchelovitch and Gervais: 1999) examined the representations of health and illness held by Chinese people living in England. The findings indicate that classical Chinese medical knowledge, Chinese folk beliefs and biomedical ideas have combined to form a hybrid representation of health and illness. The Chinese people who took part in the study manifested cognitive polyphasia, seamlessly drawing upon each knowledge base to suit their different social psychological and health needs.

As with the social representations of madness examined previously, this representational system is characterised by its internal cohesion, and is shared by all the members of this community irrespective of differences in age or degrees of acculturation (Gervais and Jovchelovitch, 1998a: 720). The traditional and scientific biomedical forms of knowing about health and illness co-exist peacefully, helped in that by a fundamental characteristic of Chinese culture that allows for the combination of seemingly opposite notions (Gervais and Jovchelovitch, 1998a: 721). As noted in the previous section, this situation

contrasts with the social representation of mental illness studied by Wagner et al. (1999b, 2000) where two clearly different streams can be identified.

Going back to the Gervais and Jovchelovitch's study, one notices how the two types of knowledge, traditional and biomedical, predominate differentially depending principally on the identity needs and the need for integration within the English community felt by the individual members of this community. Different sub-groups within the community differ in their use of the social representation of health and illness depending on their specific level of acculturation (Gervais and Jovchelovitch, 1998a). Thus the authors distinguish between the older and less integrated members of the community who do not see any contradiction in using both types of medical knowledges and the other groups, more integrated in the English community, but who are still attempting to preserve some sense of their Chinese identity and are more ambivalent in their dealings with the social representational system identified. For some individuals, Chinese beliefs about health and illness constitutes an efficient way of maintaining a link with their identity when other sources of identification cease to be relevant. For others, who are more integrated in the English community, these beliefs are viewed as 'superstition' but still being acknowledged. In this particular example, cognitive polyphasia as lived by one particular individual involves dealing with one cohesive social representation comprised of different rationalities and types of knowledge, and appropriating and mobilizing each of them depending on identity needs, and location within the Chinese community. As summarised by Jovchelovitch and Gervais:

The representations of health and illness uncovered in [our] study are deeply intertwined with issues of maintenance, transmission and transformation of a cultural identity. In fact, identity issues explain much of the variation found between subjects and they structure how the shared representational field described above is differently appropriated and used by different sectors of the community. (1999: 256)

The main function of the traditional view of health and illness is located within the need to preserve Chinese identity. Putting the emphasis on this type of knowledge provides a way to re-connect with one's culture for individuals who

are facing acute dilemmas of integration into the host community. The correspondence between identity and health and illness issue is representative of a community for which the notions of health and illness encompass fundamental aspects of everyday life (eg, food, eating habits) and key features of their social organisation such as their relationships within the family and their attitudes towards authority (Jovchelovitch and Gervais, 1999).

By allowing for the peaceful co-existence of traditional beliefs and scientific biomedical knowledge and thereby dealing with the identity versus integration dilemmas faced by the Chinese community in England, cognitive polyphasia facilitates the accommodation process of this community while assuring the transmission of a way of life, a manifestation of the synchronic perspective discussed earlier. Seen from a diachronic perspective, one can also argue that the persistent use of classical Chinese medical knowledge reflects the realisation that modern medical science is not a universal panacea and cannot always provide the answers and solutions wished for. In these cases, the use of traditional knowledge and practices can be understood as a deliberate exercise of one's agency and one that implies very little cost and feels very comfortable thanks to its links with one major component of one's identity.

2.5.3 Mental illness in India

Wagner et al. (1999b, 2000) have also observed the co-existence of modern and traditional types of knowledge in their study of the social representations of mental illness in the North-Indian city of Patna. In this study, three traditional strains of Indian religion and philosophy (ayurveda, tantra and bhuta-vidya) with fundamental implications for health and illness issues and, in particular mental health issues, are contrasted with Western views of mental illness and psychiatric treatment.

The storyline behind the social representations explored in this study evolves around the key role played by the idea of modernity within this Indian community. We see how the idea of modernity creates a differentiating line, a way of identifying oneself with the idea of progress. However, this 'emancipation'

process is made difficult by the strength of the traditional knowledge about the aetiology and treatment of mental illness among the participants, despite their location within the “well-educated middle-class” population of Patna (Wagner et al., 1999b: 434). As with the study on the Chinese community in England, we see how this knowledge is deeply intertwined with family values and norms (Wagner et al., 1999b). Indeed, the social representation of traditional healing methods is described as a “hegemonic structure of knowledge” (Wagner et al., 1999b: 437) pointing at its prescriptive nature, and is compared to a collective representation in the Durkheimian sense of the word. The strength of this representation is visible through the sophisticated understanding about traditional aetiology and treatment methods discussed by the participants as compared with the poverty of their understanding of modern psychiatric techniques. The study also points out to a sharp demarcation between the two social representations of mental illness, with the ‘traditional’ one belonging to the private sphere of the family and friends and the ‘modern’ one associated with the public spheres.

In this study, cognitive polyphasia focuses on the opposition between tradition and modernity but as lived within a homogeneous ethnic and cultural context, in contrast with the Chinese community in England (see Section 2.5.2, p. 59). What we have in this study is a description of the sociogenesis (Duveen and Lloyd, 1990) of a new social representation of psychiatry and psychiatric treatments that incorporates traditional views on mental illness with modern, scientific views about it, and in which “... the traditional patterns of belief about mental illness in the private sphere provide a context in which psychiatric ideas can be anchored” (Wagner et al., 1999b: 437).

Interesting methodological issues with implications for the operationalisation of cognitive polyphasia can be raised about this study. The semi-structured interviews, which provided the empirical material behind these findings, were conducted with 39 residents of Patna. The participants all came from the emerging middle class of this northeast city and had all at least started university studies. The interviews began with the use of a vignette depicting a hypothetical instance of mental illness and were followed by a series of questions, some of them

prompted. Mental illness does not appear to have been a key part of the participants' life, and one assumes that there was no active involvement from the participants on this subject, pointing towards a 'methodological absence' as defined by Gervais and her colleagues (1999). The hypothetical nature of the questions remains a weakness of this study and is even more problematic in view of the problems that resulted from the presence of Western observers during the interviews. Thus the authors acknowledge that the presence of Western researchers seems to have encouraged participants to privilege the modern interpretation of mental illness and that, only when specifically prompted, did they provide their views on the traditional approach towards it. Much of the value of the theory of social representations resides in its capacity to illuminate concrete social issues studied within as naturalistic settings as possible. By contrast, it can be assumed that a great number of the participants in Wagner and his colleagues' study did not have any special interest in mental illness. Interviews of people having actually lived through situations of mental illness would have produced more detailed and richer observations about the co-existence of different types of knowledge and the rationalities that underline them, about the nature of this co-existence, and about the possible explanations behind this cognitive strategy.

In addition to these methodological issues, there is much confusion over the terminology associated with the hypothesis of cognitive polyphasia. For instance, in their 2000 paper on this study, the authors seem to imply that cognitive polyphasia is the use of different representations "that carry contradictory meanings" (Wagner et al., 2000: 303). They then go on discussing how Moscovici observed the co-existence of "different and even contradictory modes of thinking in his research on psychoanalysis" (Wagner et al., 2000: 303), implying that to each social representation corresponds one specific mode of thinking without, however, defining what they mean exactly by the latter.

Despite these deficiencies, one can draw a number of interesting conclusions from this study. Cognitive polyphasia, as understood in this study, deals with two distinct social representations, one dealing with the social representation of psychiatry and the other with the social representation of traditional healing and

each underlined by a different type of knowledge, living in parallel in the minds of individuals and working together to produce a new social representation of psychiatry that will incorporate elements of both. The traditional view of mental illness holds fast in the context of the family, whereas the ‘modern’ representation is used in a public context and “plays the role of an icon of modernity in situations that evoke the idea of progress” (Wagner et al., 2000: 301).

The hypothesized lack of integration between these two views of mental illness points toward a situation of instability, a situation created largely by this “constant flux through economic and technological developments” mentioned by the authors (Wagner et al., 2000: 301). The two representations have yet to integrate and to form a unified view of mental illness along the lines of the social representation of health and illness found within the Chinese community in England. This hypothesis is hinted at by Wagner et al. (2000: 311): “Yet even when the contradiction remains passive and unexpressed, its existence also demonstrates a certain dynamic within this community, a dynamic which is leading towards a revision of traditional beliefs”. In that sense, cognitive polyphasia can be understood as an important process behind the transformation of social representations into a more homogeneous form by enabling individuals to reconcile the different types of knowledge involved in each of the two existing representations in a new social representation of psychiatry.

2.5.4 Summary of empirical findings

The examination of the three empirical studies presented above has called attention to a number of similarities and differences between them and allows for a first draft of a typology of cognitive polyphasia. In the first two studies discussed, at group level, cognitive polyphasia has allowed for the coming into shape of a cohesive, homogeneous representation that already incorporates different types of knowledge and different rationalities. Cognitive polyphasia has already taken place at the level of the group and explains the characteristics of a given social representation as it currently stands. By contrast, the social representations of psychiatry identified by Wagner and his colleagues have yet to combine in an amalgamated, unified representation. Cognitive polyphasia is

taking place before us through the individual subjects concerned trying to reconcile their idea of the 'modern' with a representational system heavily dependent on tradition. At an individual level, however, the reality of cognitive polyphasia seems to work in a similar way in all three studies. Depending on their particular needs, individuals will draw on one aspect or the other of the homogeneous representation in the first two studies, or on one or the other social representation in the latter case. Cognitive polyphasia therefore needs to be examined at two levels: at the level of the individual and at the level of the group.

The three studies also underline the predominant role played by traditional types of knowing in the operations of cognitive polyphasia. In Jodelet's study, traditional knowledge is used to justify the social practices of a community that needs to preserve its distinct reality away from the 'mad'. Cognitive polyphasia is used to integrate forms of knowledge from the past when 'modern' knowledge proves insufficient to meet the practical demands one meets. The studies of the health beliefs of the Chinese community in England and of mental illness in India discussed in the two previous sections support, to a large extent, Moscovici's (1992b) reflections on the deficiencies of scientific knowledge when compared to more traditional types of knowledge. They both underline the different contexts in which these types of knowledge are most likely to be used, with the scientific one being associated with a more impersonal one, coming from the outside, as opposed to the comfort and reassurance brought about by the private spheres of traditional knowledge.

Further support to the synchronic perspective of cognitive polyphasia is provided by the affective nature conferred to traditional types of knowledge by some of these social representations theorists. For instance, Gervais and Jovchelovitch (1998a: 722) note how the relation to traditional Chinese health knowledge is based on trust and belief and is based on fundamental aspects of their culture such as food, kin relations and language. This contrasts with the relation to biomedical knowledge which is equated with the world of science, logic, medical professionals and limited to exceptional circumstances. Wagner also discusses this link between tradition, family and trust and notes the 'certainty' aspect of the

representations coming from ‘private spaces’, that is those associated with family, close friends and acquaintances. For Wagner, these representations “are emotionally underpinned to a considerable degree and not contractual in the sense of being negotiated between otherwise unrelated partners” (1998: 320). The typology of modes of cognitive functioning proposed by Bruner (see Section 2.3.1, p. 49) and the assumption of a correspondence with traditional and modern types of knowledge thus appear to be worth exploring further.

In each of the three studies, identity needs play a significant role in the activation of cognitive polyphasia but one can hypothesize that other motivations could be involved, especially if one focuses at the individual level. For example, individuals may rely on cognitive polyphasia in order to justify seemingly contradictory positions on a given social topic, finding their own way between various ‘projects’ associated with different groups (Bauer and Gaskell, 1999). One can therefore begin to distinguish the outline of a new perspective on the notion of the activation of the group different to the one typically found within social identity paradigms. Here the activation would only take place at the level of the knowledge associated with this group and would not automatically refer to the notion of social and personal identity.

2.6 Conclusions

It is hoped that the theoretical and empirical examination of cognitive polyphasia presented in this chapter has shed some light on the nature of this concept, its location within the theory of social representations, and some of the functions it may play for individuals, groups and societies. Cognitive polyphasia seems to represent an important tool in the adaptation process undergone by people relocating or going through significant changes. In a related area, it serves a significant role in the maintenance of one’s identity with one’s significant groups. At a more abstract level, the concept allows for a better understanding and appreciation of types of knowledge outside the scientific one, which tends to predominate in contemporary Western societies.

In particular, cognitive polyphasia fills a gap in social psychology's understanding of the reality as lived by individuals and opens the way for a greater respect for the social rationality they manifest. Thus, we are arguing for a social psychology that focuses on what is happening out there without imposing pre-conceived norms on what should be, in line with Jovchelovitch whose thinking on cognitive polyphasia (see for instance 1995, 2001a, 2001b, 2002) provided a fruitful basis for this project. For this author, the significance of the concept of cognitive polyphasia lies in its capacity to explain the relation between the specific social context of communities and the multiple rationalities found in social representations, and to produce "a situated and dialogical understanding of knowing and the multiple rationalities that are embedded in it" (2001b: 2). By portraying social knowledge "as a dynamic and continuously emerging form capable of displaying as many rationalities as required by the infinite variety of socio-cultural variations that characterise human experience" (Jovchelovitch, 2001b: 16), cognitive polyphasia calls attention to the constructivist nature of knowledge.

The hypothesis of cognitive polyphasia also allows for a re-conceptualisation of power in the sense that what we see in the empirical studies examined is the persistence of traditional knowledge(s) as a powerful component of people's thinking in contemporary societies even when faced by the power of science. The asymmetrical nature of the relations between different rationalities and the impact of this asymmetry on the communication and assessment of knowledge highlighted by Jovchelovitch (2001b) must therefore be qualified.

Cognitive polyphasia also emerges as a feature of sense making in conditions of modernity. Thus, Moscovici describes the variability in the cognitive tools used by individuals and groups as an inevitable result of the increased complexity of the problems faced by individuals (Moscovici, 1976: 286). A similar point is made by Wagner who highlights the significance of cognitive polyphasia by describing it as "the characteristic form of modern mind [helping] people to cope with the fragmentation of time, space and life-worlds" (1998: 321) and as especially well suited to explain the representational strategies adopted by

individuals in today's complex world, a world characterised by the co-existence of different modes of knowledge, each representative of different ways of life and different traditions.

With this understanding in the background, an important question remains about the nature of the interaction between these different forms of knowing.

Jovchelovitch (2001b) discusses how issues of power will affect this interaction and will often create a hierarchy of rationalities where, typically in developed societies, rational and scientific rationalities will dominate. However, the reality at the individual level is assumed at this stage to be more complex. Therefore, it is proposed that the hypothesis of cognitive polyphasia refers to a state in which different types of knowledge, possessing different rationalities, live side by side and may be used simultaneously by the same individual or collective. It is hoped that the empirical work conducted for this project will shed some light on this question.

As shown by the examination of the three empirical studies, the hypothesis of cognitive polyphasia is empirically justified and thus invalidates conventional ideas of a fracture between traditional and modern types of knowledge. These studies also point towards the need to examine cognitive polyphasia at different levels of analysis. So far, social representations studies have focused on its operation at societal and group level. This study proposes to focus on the level of individuals thus redressing this imbalance and revealing other interesting dimensions of this hypothesis.

Chapter Three – Overview

The possibility of cognitive polyphasia as a socio-historical phenomenon and as the dominant form of lay knowledge in contemporary societies has been established in the previous chapter. The focus now shifts to a possible operationalisation of the concept by examining its genesis and its *modus operandi* through the actions and sense making efforts of individuals facing a complex and controversial issue. This chapter must therefore be viewed as an analysis of cognitive polyphasia at a micro-level, as lived in our own contemporary society.

It begins with a discussion of the rationale for using some elements of social cognition. Those are then briefly introduced and their links to the proposed cognitive polyphasia model explained. The chapter then proceeds with a description of this theoretical framework, its main elements and the links between them. It concludes with a discussion of the research questions behind, and an outline of, the research programme presented in the rest of the document.

3 The cognitive polyphasia model

3.1 Background

Our everyday knowledge, theories, representations and reasoning about the social world are the product of a delicate interplay between information processing strategies and large-scale socio-cultural processes. Just as cognition cannot be properly understood without placing it into a social context, society and culture must be studied as the product of the cognitive efforts of individuals. (Forgas, 1981b: vii)

The theoretical framework presented in this chapter is an attempt to operationalise some of the ideas behind the hypothesis of cognitive polyphasia at the level of individuals. It combines elements of the theory of social representations and of social cognition, in particular the heuristic-systematic model (Chaiken, 1987; Chen and Chaiken, 1999; Eagly and Chaiken, 1993). Indeed, a secondary, but nonetheless, significant objective I am pursuing in this chapter and throughout this document, is to highlight possible areas for a rapprochement between these two streams of social psychology that have been, for too long, kept apart.

In line with the more recent perspectives on grounded theory (see Strauss's paradigm model and Glaser's theoretical codes discussed in Kelle, 2000) which acknowledge the idea that researchers come to their tasks with a set of theoretical concepts from which to start, the model has been developed in an iterative fashion starting with a few concepts from the field of social cognition subsequently modified in view of the results obtained through the analysis of the empirical data.

3.2 Combining social cognition and the theory of social representations

3.2.1 Rationale

The examination of cognitive polyphasia at the level of individuals but within a social perspective calls for a rapprochement between the individualistic and sociological traditions of social psychology (Farr, 1996), a possibility and a wish alluded to by many authors. For instance, Duveen and de Rosa (1992: 104) see the

possibility of a “more complete and integrated study of the genesis, construction and transmission of knowledge of the social world” through the integration of concepts and approaches drawn from the theory of social representation and social cognition. More formal efforts in that direction have also been made by Augoustinos and Walker (1995) in their examination and critiques of fundamental concepts from both traditions.

As Gervais et al. (1999) point out, the selection of a particular theory to investigate a given social phenomenon will automatically result in highlighting certain aspects and hiding or ignoring others. One could teasingly argue that by leaving out potentially fruitful aspects of more individualistic theories such as social cognition, the theory of social representations has contradicted its professed interest in the individual (Purkhardt, 1993) and constrained “its ability to conceptualise, simultaneously, both the power of society and the agency of individuals” (Gervais et al., 1999: 422). Whereas in the past the ball has been in the camp of traditional psychology for not paying enough attention to the social processes, nowadays, the theory of social representations may be accused of not paying enough attention to advances and possible contributions from cognitive psychology or social cognition (Augoustinos and Walker, 1995; Wagner et al., 1999a).

Calls for a rapprochement between the theory of social representations and cognitive psychology have also been made by Moscovici, in particular, in his 1984 paper on *The myth of the lonely paradigm* (1984a) and, more recently, in his paper on *La nouvelle pensée magique* (1992b). Moscovici argues that the theory of social representations provides an explanatory framework for the descriptions offered by cognitive psychology and that their combining could translate into a finer understanding of contemporary social phenomena. Indeed, throughout its more than forty years of existence, the theory of social representations has been rather timid in its examination of the individuals (Purkhardt, 1993) while individualistic perspectives in social psychology, such as social cognition and cognitive psychology, have generally stayed away from the collective and social aspects of sense making. One proponent of a more individualistic social

psychology, Norbert Schwarz, has thus deplored the lack of 'social' in judgement and attitude research pointing more specifically at the flaws inherent with laboratory experiments that are commonly used in that area (2000: 152). Operario and Fiske (1999) have also made clear that social cognition should be viewed as only one of many possible theoretical and methodological approaches for understanding human behaviour in general, and that it is compatible with other traditions in research psychology.

More concrete suggestions as to how to bridge the gap between the two socio-psychological traditions can be derived from comments made by Moscovici (Moscovici and Marková, 2000) when, in his latest public discussion on cognitive polyphasia, he emphasized the importance of examining the norms, context and goals as factors that influence the choice of ways of thinking people or groups make. Elaborating on these three factors, he sees norms as delineating and providing boundaries for what will be considered as rational thinking and as knowledge in our societies. The context will direct how people identify and deal with information while diverse goals will shape our use of knowledge. Possibly unknowingly, he echoes here some of the thinking behind the motivated tactician approach to social cognition which views individuals as engaged thinkers who make full use of the different cognitive strategies available to them, depending on the specific goals, motives and needs of the moment. This approach, integrating the previous two conceptions of the individual, naïve scientist and cognitive miser (Taylor, 1998), thus leaves behind "a unidimensional view of social thinkers, now treating them as complicated entities who bring their own values, experiences, knowledge structures, and personal motivations to social perception and interaction" (Operario and Fiske, 1999: 67).

The cognitive miser view of individuals in social cognition was itself the product of criticisms of the 'naïve scientist' perspective whereby individuals were said to process information in a systematic manner using a scientific type of logic to guide them through their everyday life and their interactions with other individuals. Under this conception of the individual, people were believed to use a step-by-step approach when trying to uncover the causes of their and others'

behaviours and were said to “[perceive] rationally and [judge] accurately, using their lay-scientific techniques to understand and engage with others” (Operario and Fiske, 1999: 65). Criticisms of that approach pointed out, appropriately so, that it did not recognise the reality of social cognition in which shortcomings, errors and biases feature predominantly. By contrast, under the ‘cognitive miser’ theme, individuals were seen as “automatons driven by their cognitive structures, rather than as versatile and resourceful thinkers” (Operario and Fiske, 1999: 66) with no concern for the roles and impact of motivation and goals.

We can see thus how the discipline of social cognition has progressed towards an acknowledgement of individuals as complex entities whose specific circumstances in terms of goals, needs and emotions need to be taken into account before one can understand the cognitive activities in which they engage. In addition, Schwarz (2000) points out how the pragmatic perspective, which characterises the motivated tactician approach, emphasises the need to look at the results of these cognitive activities, using as a criterion whether ‘they work’ as opposed to a comparison with normative models, a practice which led, for far too long, to the dismissal of lay knowledge and lay ways of sense making. This fundamental change in social cognition was formalised by the cognitive philosopher Stich in his book on the fragmentation of reason in which he argued that “there are no intrinsic epistemic virtues” (1990: 24), an argument commented upon by Moscovici (1993) in his *Introductory Address* to the first conference on social representations in Ravello.

It will be interesting to reflect to what extent the hypothesis of cognitive polyphasia can do for the theory of social representations what the idea of the motivated tactician has done for social cognition and, on the other hand, to see whether the integration of some elements of the theory of social representations into a social cognitive framework succeeds in moving social psychology’s understanding of social cognition towards a more social one in which, in the words of Condor and Antaki (1997: 330), human knowledge is conceived of as “a social product under shared ownership” (as opposed to the traditional mentalist approaches where social cognition “refers to attempts to apply basic rules of

cognitive psychology to the ‘cognizing’ (...) of human beings” (Condor and Antaki: 1997: 321).

3.2.2 Heuristic-systematic model

As pointed by Operario and Fiske (1999), the influence of the motivated tactician approach to social cognition can best be felt in the development of a number of dual process theories¹³. Although they differ in their particular applications and their *modi operandi*, these models share as their main postulate the idea that there exist “two co-acting sub-systems [that] guide people’s cognition and behaviour” (Abelson, 1994, quoted in Operario and Fiske, 1999: 67). Elements from one of these models, the heuristic-systematic model (Chaiken, 1997; Chen and Chaiken, 1999; Eagly and Chaiken, 1999), provide the backbone of the cognitive polyphasia model I am proposing, and are discussed in some detail in the next paragraphs.

The heuristic-systematic model, or HSM, postulates the existence of two modes of information processing, a heuristic and a systematic ones, used in persuasion settings. The heuristic mode involves the use of simple decision rules (eg, attractiveness, friendliness, expertise of the source) while the systematic mode relates to the careful examination of arguments relevant to the issue at stake (eg, facts, evidence, examples, reasoning, and logic) (Booth-Butterfield, 1996; Trumbo, 2002). Under this model, a systematic mode of thinking requires both cognitive ability and capacity while a heuristic mode requires availability, accessibility and applicability of heuristic rules (Chen and Chaiken, 1999). The systematic mode is seen as a more controlled and conscious process by contrast with the more automatic, and sometimes unconscious, heuristic mode of information processing (Chaiken, 1987), a distinction which allows some links

¹³ Similar questions and issues are discussed in cognitive psychology where a debate between those who see people as “parallel processors of information who operate along diffuse associative links or as analysts who operate by deliberate and sequential manipulation of internal representations” (Sloman, 1996: 3) has been going on for more than a decade.

between the heuristic-systematic model and other dual process theories such as Neisser's multiple and sequential mental processes or Freud's primary and secondary processes (Neisser, 1968).

The model suggests a number of 'principles' or hypotheses about individuals' likely behaviour when assessing the information they need to reach a decision or make a judgement. First, through its least-effort principle, the model assumes that, as a rule, people prefer to engage in less rather than more cognitive effort when trying to make sense of an issue: "People are economy-minded souls who wish to satisfy their goal-related needs in the most efficient ways possible" (Eagly and Chaiken, 1993: 330). However, this preference can vary depending on the motivational concerns people may have vis-à-vis this issue.

In that context, another key principle of the HSM is the idea of a sufficiency threshold, that is, "the degree of confidence a person aspires to attain in a given judgment setting" (Eagly and Chaiken, 1993: 330). Sufficiency thresholds will vary as a function of individual differences such as different needs for cognition (Cacioppo and Petty, 1984), motivational concerns and situational factors (eg, relevance of the specific issue at stake). Incorporating the least-effort principle and the concept of a sufficiency threshold, the sufficiency principle encapsulates the idea that individuals will try to minimize the amount of cognitive effort they need to make in order to reach a sufficiently confident assessment of the messages they are facing.

From these principles, Chen and Chaiken (1999) postulate the existence of a continuum of judgmental confidence delimited by two critical points: the level of actual confidence and the level of desired confidence (or sufficiency threshold). They further argue that systematic processing is likely to happen when the gap between these two points grows either as a result of a decrease in the level of actual confidence or of an increase in the level of desired confidence.

Originally developed with the assumption that individuals in these persuasion settings had as their principal motive to assess the validity of persuasive messages, the model subsequently moved away from this limited perspective by

proposing that people can hold two additional motives that could also induce them to go beyond their natural tendency to minimise the amount of cognitive efforts they undertake, and influence the mode of information processing they will draw upon (Chen and Chaiken, 1999; Eagly and Chaiken, 1993). Thus, it proposes that people can be motivated in their information processing efforts by three types of motives, accuracy, defense or impression, and also allows for the possibility of multiple motives acting together in what is described as a ‘multiple-motive framework’. The latter possibility is, in fact, assumed to be the rule rather than the exception:

Indeed, it is probably the case that in most everyday judgmental contexts, perceivers are *primarily* rather than *solely* accuracy-, defense-, or impression-motivated. Thus, we recognize that perceivers may at times engage in hybrid forms of motivated processing in their efforts to satisfy multiple goals. (Chen and Chaiken, 1999: 79; italics in original)

Accuracy-motivated people are trying to assess the validity of persuasion message as opposed to defense-motivated people who are trying to confirm the validity of preferred attitude positions or to disconfirm the validity of non-preferred options. Impression-motivated people, for their part, are trying to assess the social acceptability of alternative positions. At this stage, I would like to suggest that the latter motive is closely connected to the notion of social positioning (Elejabarietta, 1994). Indeed, according to Eagly and Chaiken (1993), impression-motivation takes place in situations in which the identities of significant audiences (both real and imagined) are significant, relationships between people are important, or when they must communicate or justify their attitudes to others. As such, it is likely to play a significant role in a public debate such as the MMR controversy (the main focus of the empirical phase of this work) in which people’s doubts, questions and opinions are debated with friends, relatives and, sometimes, a larger audience.

3.3 Moving forward

As stated above, the operationalisation of cognitive polyphasia proposed in this work will combine elements of social cognition, in particular the heuristic-

systematic model, with concepts from the theory of social representations. Such an exercise implies the bringing together of two areas of social psychology which have been kept apart for many years. It can only be undertaken with a full understanding of the strengths and weaknesses of both frameworks. In this section, I would like to discuss my reasons for using the heuristic-systematic model; the weaknesses and criticisms addressed at this model; and possible solutions to these deficiencies that have been taken into account in the development of the theoretical framework discussed later.

3.3.1 Benefits of the heuristic-systematic model

On the positive side, the heuristic-systematic model goes further than other theories in social cognition and cognitive psychology by acknowledging the existence of other motives than the accuracy one and proposing a more ecologically valid multiple-motive framework. Indeed, this answers one criticism made at social cognition by Forgas (1981a) who saw the absence of a motivational theory underlying social cognitive paradigms of that times as a major flaw. In his view, the exclusive focus of these paradigms on the achievement of a rational understanding and their lack of concerns for other motivations were serious concerns that needed to be addressed. The integration of multiple motives in the HSM allows for a finer understanding of people's cognitive activities and at least a partial recognition that the content of the specific issue being considered does matter. One can assume that different motives and combination of motives will be activated depending on the meaning attributed to an issue by the people concerned.

The heuristic-systematic model and the social cognition research that has accompanied it also provide interesting insights about the characteristics of the systematic and heuristic modes of information processing. For instance, research reviewed by Eagly and Chaiken (1993) suggests that individuals in a situation highly relevant to them will tend to use a systematic mode of thinking. It is also recognised that individuals do not all share the same need for cognition (Cacioppo and Petty, 1984), and that this difference will impact on their selection of cognitive strategies, and this, irrespectively of other situational variables.

The location of the model within the motivated tactician perspective also means that attention is being paid to norms, context and goals of these individuals, although this stops short of integrating the social dimension of cognitive activities – a point that will be addressed in greater detail in the next section.

From a theoretical point of view, dual process theories, and thereby the HSM, offer the advantage of theoretical clarity and cleanliness, something the theory of social representations has sometimes been accused of lacking (Bauer and Gaskell, 1999). Finally, as opposed to other social cognition models, the heuristic-systematic model has been tested in a real environment, out of the laboratory settings so often criticized for its lack of ecological validity. In an article published in 2002, Craig Trumbo, a health risk communication specialist, presented the findings of a study that used a modified version of the HSM combined with empirical data collected through three field studies in different American communities in order to examine how individuals perceive risks about cancer rates. Although based on survey data as opposed to more qualitative methods, Trumbo's work made clear the possibility of applying the heuristic-systematic model in a 'real' environment.

3.3.2 Areas for improvement

3.3.2.1 Epistemology and lack of concern for social dimension

As discussed in great detail by Marková (1982) and Purkhardt (1993), social cognition and its associated theories are based on the use of a Cartesian-based epistemology that does not acknowledge the dialectical relation between individuals and their environment. This produces a dualism between individuals and their culture in which knowledge does not result from action and communication between members of society but, rather, from individual reflection.

In that context, representations are viewed as internal constructs that reproduce a reality that exists independently of individuals, and no allowance is made for the constructivist nature of social reality or for the social context in which the cognitive activities under study take place. Individuals are isolated from other

people and the mental processes behind the process of representing are detached from the social context in which they take place. Although dual process models recognise the influence played by situational and personality variables, they do not look at the larger societal environment in which these cognitive strategies are being used. One may think, for instance, of the issue of power between different forms of knowledge and the social pressure that will result from this (see Jovchelovitch, 2001b for a more extensive discussion of these ideas).

The proposed theoretical framework addresses this problem by taking into account the social representations that will have an impact on people's efforts at sense making, and by acknowledging that the types of knowledge people are drawing on are social constructions resulting from the communication and the interactions between the different members of a society. The incorporation of what I call 'core background beliefs' also goes some way towards addressing two other areas of criticism. First, the situated nature of social representations makes clear that mental processes are located within a socio-historical and cultural context and cannot therefore be considered as universal. Second, it is proposed that the specific content of social representations explain the origin of the simple decision rules (or heuristics) used by people drawing on the heuristic mode of information processing, as opposed to the prevailing view in social cognition that these are "unconscious, automatic processes which are brought into play when the individual does not have the available cognitive capacity to 'think' (...)" (Condor and Antaki, 1997: 331).

3.3.2.2 Rationality

The recognition by some social cognitivists that there are no intrinsic epistemic values (eg, Schwarz, 2000; Stich, 1990) has yet to be shared by the entire community within that discipline. For a number of social cognition theorists, there is still such a thing as a 'correct' way of thinking. Errors and biases produced by individuals are perceived as flaws and deficiencies in their thinking as opposed to being the result of some other functions or of a more efficient way of dealing with a certain category of problems. Indeed, Gigerenzer and Goldstein (1999) have discussed how, although the existence of two modes of information processing

have now been acknowledged, the legitimacy of the ‘heuristic’ mode has yet to be recognised and appreciated. An example of this hierarchy of ways of thinking is provided by Booth-Butterfield (1996) when he contrasts his definitions of heuristic and systematic modes of thinking:

The systematic mode refers to a person who is carefully and effortfully thinking. The thought process is active, creative, and alert. The heuristic mode, by contrast, is at the other extreme of thinking. *Here the person is not really thinking very carefully and instead is skimming along the surface of ideas.* (paragraph 1; emphasis mine)

This criticism cannot really be accommodated within the model proposed and can only be dealt with, it is hoped, by showing the variety of cognitive strategies that have been adopted by people in real-life situations and that have enabled them to cope with the issue they were facing.

3.3.2.3 Ecological validity

Building on Kuhn’s (1991) reflections on the shortcomings of cognitive psychology, another criticism that can be made at the heuristic-systematic model concerns its methodological reductionism and its nearly exclusive use of well-structured problems to test its validity¹⁴. Everyday life thinking is not a succession of well-defined problems and small, independent tasks, but has to do rather with ill-defined and fluid situations. Going in the same direction, Gigerenzer and Goldstein (1999) have also deplored how the laboratory settings, typical of research in that area, prevent the examination of the process of ‘search’, the idea that, in everyday life, not all available information is looked up. The lack of ecological validity of the heuristic-systematic model has even been acknowledged by its main proponents:

Greater attention needs to be directed at assessing the nature of heuristic and systematic processing in such ecologically meaningful settings in which several motives are potentially

¹⁴ This acknowledges the progress in that direction achieved by Trumbo’s (2002) study described earlier.

relevant, as well as the factors that may lead perceivers to engage in one form of motivated processing over another. (Chen and Chaiken, 1999: 79)

By integrating a social dimension to the model and by examining its validity towards understanding cognitive polyphasia in a real-life situation (the controversy that surrounded the MMR vaccine between 1998 and 2005), it is hoped that this research project will address part of this criticism.

3.4 The cognitive polyphasia model

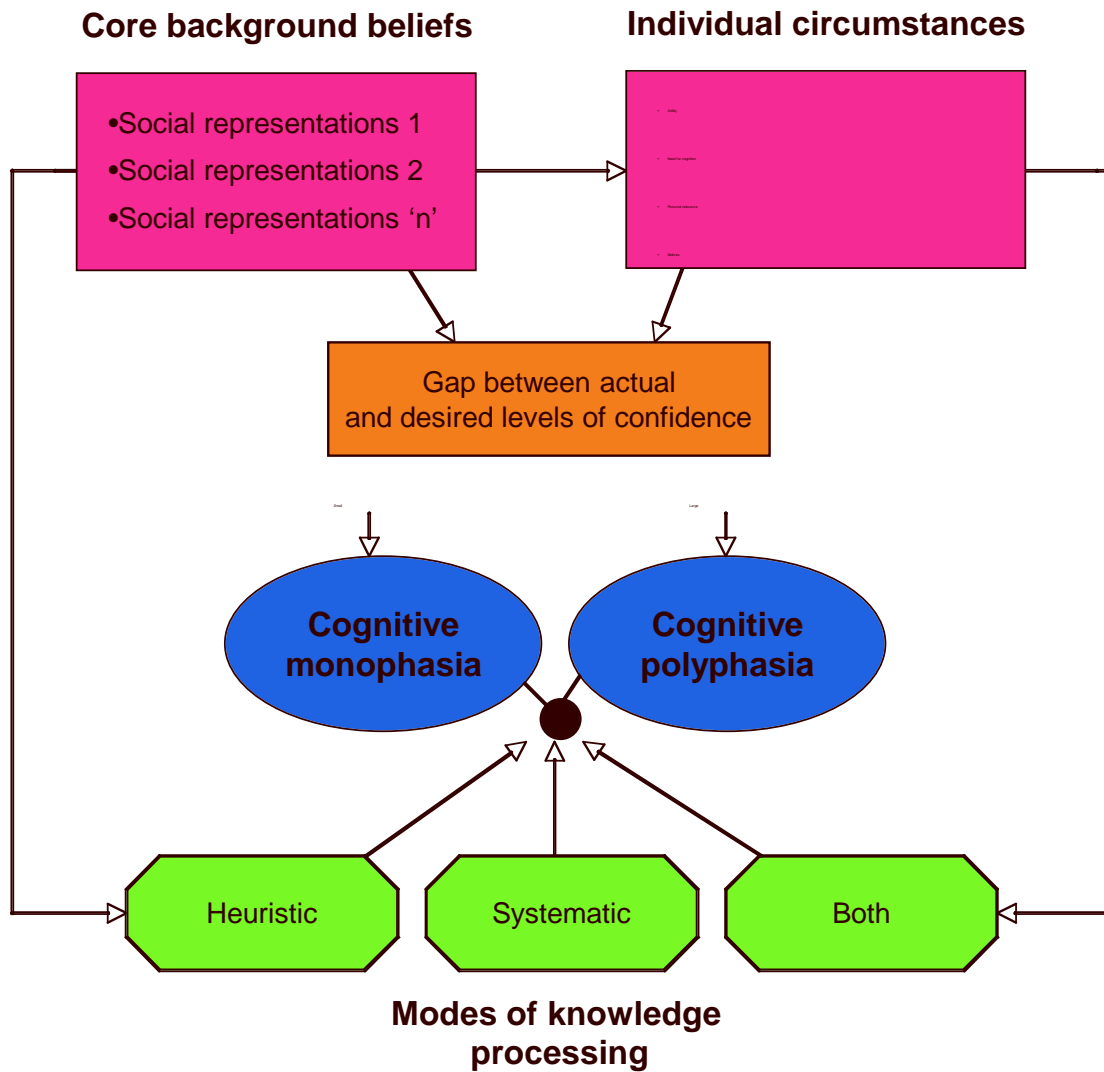
Qualitative hypotheses, when they first come into a researcher's mind, are usually not highly specified and definite propositions about certain facts, but tentative, imprecise and sometimes very vague conjectures about possible relationships. Rather than calling them hypotheses, one should call them hypotheses about what kind of propositions, descriptions or explanations will be useful in further analysis. (Kelle, 2000: 290)

Despite the criticisms discussed above, it is proposed here that the dual process theories of thinking and reasoning developed by social cognition and cognitive psychology researchers and, in particular, the heuristic-systematic model, provide an interesting starting point to operationalise the hypothesis of cognitive polyphasia.

The cognitive polyphasia model proposed here starts with individuals viewed as 'motivated tacticians' with a high degree of agency, people with their own history, motives, needs and goals, located within a particular society that provides them with the norms and constraints they need to operate. The relation between individuals and society is located within a Hegelian system of mutual influences in which "the psychological activity of individuals is conceived as a cultural product and culture is conceived as a human product" and in which "knowledge is dialectically related to activity in particular environmental and social contexts" (Purkhardt, 1993: 53-55).

The key elements of the model and the links between them are summarised graphically in Figure 3.1 (see next page) and discussed in the following sections.

Figure 3.1 Cognitive polyphasia model



3.4.1 Focus on social individuals

As stated above, the proposed theoretical framework focuses on cognitive polyphasia as lived by individuals but, individuals who operate in a social environment and whose actions, thoughts and symbolic activities are intertwined with the social context in which they take place (Forgas, 1981b; Purkhardt, 1993). This perspective acknowledges that cognitive activities involve much more than intra-individual information processing and that, to understand these activities, one needs to look at the values and norms of the society and social groups in which they take place (Howard and Renfrow, 2003). As described by Forgas in his examination of the social dimensions of social cognition: “Societies produce their own interpretations and representations of events, their own theories and explanations, which are the building blocks of individual cognitive activity” (1981b: 260). Acknowledging these premises, and in view of some of the criticisms that have been addressed towards the theory of social representations (eg, Billig, 1988; Harré, 1984; Potter and Litton, 1985), it is necessary at this point to discuss in some detail the understanding of the concept of ‘individual’ as used in the cognitive polyphasia model.

Throughout this research project, individuals are viewed as having a large degree of agency over the ideas, types of knowledge and beliefs they want to use to make sense of their world. However, no one thinks alone. Sense making efforts always take place within the context of social thinking and through communication on issues that confront people. Combining these two concerns, I am proposing to use the expression ‘social individuals’ when discussing the cognitive polyphasia model, and in the rest of this thesis¹⁵. The epithet ‘social’ emphasises the fundamental proposition that ideas, types of knowledge and beliefs are not produced or used in isolation but are negotiated and constructed through interpersonal interactions and communicative acts. Social individuals have agency

¹⁵ The notion of ‘social individuals’ makes clear the location of this project within social psychology described by Jovchelovitch as the science of the ‘between’, “the nebulous and fuzzy space that comprises the relationship between the two [individuals nor society]” (2001b: 3).

– not as sovereign individuals but within the context of internalised constraints, a common history and culture, and shared projects.

However, building on Condor's (1990) reflections on the meaning of the epithet 'social' which, in her paper, is specifically applied to the notion of social stereotypes, I would like to further qualify this word and stress the possibility of multiple memberships for social individuals, a reflection of the multiple roles people are asked to perform in their everyday life. Indeed, Duveen and de Rosa (1992) have raised the possibility of a more flexible framework in which to examine social individuals' membership of different groups and their adoption of multiple social identities depending on the specific goals and tasks being pursued. In a society characterised by the fragmentation of the self (Hall, 1992) and the gradual disappearance of mediating authorities (Giddens, 1991), the assumption that beliefs, attitudes and values will be shared in the same form and to the same extent by all the social individuals who are part of a specific group cannot hold anymore. One must also accept the possibility that social individuals will hold what may appear, to some, as contradictory beliefs as a reflection of their multiple memberships. Additional reflections on this question will be presented in the last chapter.

3.4.2 Core background beliefs

People's thinking on an issue of interest to them does not take place in a vacuum. It is located in a socio-historical context in which social representations of topics related to the issue at stake play a key role.

The starting point of the model, therefore, comprises the core background beliefs, or social representations, people have concerning the specific issue they are facing. These representations set the stage for people's sense making work by orienting their thinking about the issue and by providing a loose set of rules of conduct, both in terms of communication and actions, thereby reducing the complexity and the number of unknowns that accompany ambiguous or unfamiliar information. In an article outlining his theory of enablement, Valsiner goes in a similar direction describing social representations as "meaning

complexes that play the role of macro-level constraints of human conduct” (2003: 7.1). The specific set of social representations can be conceptualised as the pillars of the framework used to make sense of the issue at stake. They classify the social object of interest in terms of the representations that are drawn upon to make sense of it.¹⁶

Core background beliefs come into the model through three mechanisms. First, they influence the gap between levels of actual and desired confidence experienced by social individuals through their impact on people’s level of actual confidence vis-à-vis the issue. That is, the thoughts, beliefs and views people have on a set of related topics will influence their initial reaction and response towards the problem at stake. Second, they are likely to influence the motive or combination of motives held by social individuals vis-à-vis a specific issue. Finally, it is assumed that they provide the context for the heuristics that will be used in the heuristic mode of knowledge processing. The decision rules that are behind the heuristic mode of information processing are compared by Eagly and Chaiken (1993) to knowledge structures represented in memory and developed on the basis of individuals’ past experiences and observations. However, these experiences and observations are filtered by the social representations that pertain to them. Similar thoughts are offered by Todd and Gigerenzer when they discuss how “the social norms, cultural strictures, historical proverbs, and the like can enable fast and frugal social reasoning by obviating cost-benefit calculations and extensive info search” (1999: 363).

It is proposed at this stage that the specific content and scope of these social representations will vary depending on the social object being examined and according to each social individual. Social individuals are facing what Moscovici (1984a: 963) calls “a veritable open market for representations” where they have

¹⁶ The prescriptive nature of this set of social representations must, however, be qualified in line with Purkhardt’s (1993) suggestions on how to emphasize the dynamic nature of social representations. She proposes that the prescriptive nature of social representations come through the very same processes of communication and interaction that explain their origin.

available a repertory of representations with which to make sense of the issue they are facing. Their choice of social representations may well be understood as a way to position themselves among the different groups that surround them, a possibility raised by Elejabarrieta in his reflections on the possible relations between an individual's social positioning and social representations: "In everyday life, individuals and groups communicate and make use of social representations from multiple and different localisations, which, far from being random or spontaneous, echo a strategic system of communicability" (1994: 247-248).

3.4.3 Individual circumstances¹⁷

The individual component of the model is captured by four dimensions deemed to represent significant factors in people's decision to engage or not into cognitive polyphasia as part of their efforts at sense making. These four dimensions are the following: ability, need for cognition, personal relevance and motives. Building on Eagly and Chaiken's (1993) terminology, the first two may be described as cognitive and environmental determinants while the last two can be conceived of as motivational determinants.

3.4.3.1 Ability

In line with Trumbo's (2002) suggestion, the first dimension, ability, refers to a social individual's capacity both to acquire and to use the information deemed relevant to the issue at stake. The incorporation of the notion of information acquisition is an attempt at increasing the ecological validity of the model. In their book about fast and frugal heuristics and bounded rationality, Gigerenzer and Todd (1999a) discuss the tendency in traditional approaches to social cognition to treat information search as an internal process affected by the contents of a social individual's memory. They rightly stress that information seeking usually takes place externally through "the knowledge embodied in the surrounding

¹⁷ These refer to characteristics of social individuals that are less markedly influenced by social factors.

environment” including “the socially distributed memory spanning friends and experts and [in] human artifacts such as libraries and the Internet” (Gigerenzer and Todd, 1999a: 10).

The idea of ability as used here also extends beyond the sheer cognitive aspect by integrating environmental constraints both in terms of time and access, thus providing a fairer reflection of decision-making or sense making in everyday life. Martignon and Hoffrage (1999) have discussed the impact of time availability on the selection of cognitive strategies in the context of studies done by Payne and his colleagues in 1988 and in 1993 that corroborate the relation between these variables.

The significance of this variable derives from Eagly and Chaiken’s (1993) original assumption that systematic processing, as opposed to heuristic processing, requires and consumes cognitive capacity. In the theoretical framework proposed here, ‘ability’ is thought to influence people’s level of desired confidence by establishing limits derived from their environment and their reality to the amount of time and intellectual resources they can spend on acquiring and processing relevant information. It is assumed that in situations of ‘low ability’, social individuals will have a tendency to restrain the number of different types of knowledge searched and examined, and to favour the use of heuristics as opposed to a systematic treatment of the information collected.

3.4.3.2 Need for cognition

The need for cognition measures a social individual’s attitude towards cognitive activities as such. In the words of Cacioppo and Petty (1984: 306) who developed the concept and a scale to measure it¹⁸, “[the] need for cognition refers to an individual’s tendency to engage in and enjoy effortful cognitive endeavours”.

¹⁸ Webster and Kruglanski (1994) propose an alternative construct, the need for cognitive closure, which manifests itself through different aspects such as a desire for predictability, a preference for order and structure, discomfort with ambiguity, decisiveness, and close-mindedness. It would be interesting at a later stage to reflect on the implications of this alternative definition.

Their research proposes a relation between this dimension and the way people will approach information-related tasks. In the approach adopted here, this need for cognition is likely to be partly related to intellectual capabilities but to be quite independent from environmental factors such as time and access.

It is assumed that a high need for cognition will manifest itself mainly through an increase in the level of desired confidence felt by a social individual and that, everything else unchanged, it will encourage a systematic processing of a more extensive amount of information. By contrast, and in line with studies by proponents of the heuristic-systematic model (Chaiken, 1987), people with a relatively low need for cognition are assumed to tend towards a heuristic mode of processing. Interestingly, Chaiken proposes that low needs for cognition may also be a reflection of “a greater preference for simple heuristics in decision-making” (1987: 19) thus seemingly acknowledging that errors and biases traditionally linked by social cognition theorists to faulty reasoning may be explained by other factors than deficiencies in social individuals’ thinking.

3.4.3.3 Personal relevance

This dimension deals with the importance a specific issue will have for a social individual. Possibly the most difficult to operationalise, it is assumed to depend on social individuals’ personal circumstances, their personal histories, and experiences they have had and that are connected to this issue. Personal relevance can influence both the level of actual confidence and the sufficiency threshold.

3.4.3.4 Needs and motives

The multiple-motive framework of the heuristic-systematic model provides a useful starting point for this dimension of the cognitive polyphasia model. As discussed above (see Section 3.2.2, p. 74), the proponents of the HSM put forward three motives, validity, defense and impression, and also acknowledge the possibility of social individuals being motivated by a combination of these motives.

The specific motive or combinations of them exhibited by social individuals are hypothesized at this stage to be at least partly influenced by a number of key

social representations. For instance, in the particular empirical case of concern here, it is believed that social representations of motherhood will be, for some mothers, a major influence on how they want to position themselves in their social environment and, hence will activate the impression motive. On the other hand, social representations of alternative medicine could trigger the activation of defense motives in people who are trying to confirm the validity of their views on this topic.

3.4.4 Types of knowledge

Various typologies of knowledge have been developed by a number of authors from the field of sociology of knowledge, and also from the theory of social representations. Elements from three of these typologies have provided me with the theoretical framework I needed to address the issue of ‘knowledge’ in the model I am proposing, and to analyse my empirical data.

The first of these typologies comes from Moscovici’s 1992 article about *La nouvelle pensée magique*. In this article, the transcription of a speech pronounced during a conference on ‘cognition et conduites sociales’, Moscovici revisits his thinking on cognitive polyphasia sketched out 30 years before. In particular, he introduces the concept of mental formations (‘formations mentales’) by which he refers to “systems of representations and autonomous practices inherited from a long past” (1992b: 303; my translation) to which are associated specific rationalities or modes of reasoning, the latter being viewed as the sum of different mental operations. These “bodies of knowledge (‘corps de savoirs’) [are found] within the framework of specific institutions and of distinct practices whose continuity is visible throughout several cultures” (Moscovici, 1992b: 303; my translation), and are characterised by the type of representations they encompass and the truth conditions onto which they hold. While leaving open the possibilities of additional ones, Moscovici identifies four major mental formations – science, religion, ideology and magic, and classifies them according to the fallibility of their representations and of their practices.

Another typology, this time explicitly linked to the social structures within which it takes place, is provided by Georges Gurvitch (1971). This French sociologist distinguishes seven types of knowledge: the perceptual knowledge of the external world, knowledge of the other, common sense knowledge, technical knowledge, political knowledge, scientific knowledge, and philosophical knowledge. Gurvitch proposes that to specific social frameworks (ie, forms of sociality, groups and global societies) will correspond a number of types of knowledge hierarchically ordered into a cognitive system.

In her doctoral thesis on the social representations of diabetes in Ghana, de-Graft Aikins (2005) identifies six types of knowledge (here defined as modalities of knowledge) present in the discourses of her informants: cultural knowledge, political knowledge, scientific knowledge, scientized knowledge (or practical biomedical knowledge), religious knowledge, and emotional knowledge.

Making use of elements from these three typologies and combining them to the relevant assumptions from my theoretical framework, it is postulated that the types of knowledge identified in the analysis of empirical data will share the following characteristics:

- They represent systemic wholes referring both to specific contents (ie, fields of applicability) and conditions of truth.
- They belong to an empirical reality delineated by a specific social issue of interest, a specific group of social individuals and a specific time and place (here, the controversy over the MMR vaccine in the United Kingdom between 1998 and 2005).
- As a consequence of the latter, the cognitive systems they compose (ie, the specific types of knowledge present and their hierarchy) will vary depending on the specific social framework considered.

Three additional assumptions are made. Firstly, types of knowledge are understood as being themselves subject to a process of mutual influence (Gurvitch, 1971), an idea also suggested by van Bavel and Gaskell (2004) in their

contrasting of narrative and systemic modes of economic thinking. Secondly, going back to Bruner's paradigmatic and narrative modes of thinking, I argue that it is possible for a type of knowledge traditionally associated with one mode to adopt characteristics of another mode, as is the case with science (see Gross, 1996 for a fuller discussion on this subject). Finally, and related to the previous point, the constructionist nature of knowledge is acknowledged although, for the sake of this current analysis, different types of knowledge are assumed to exist as reified entities. That is, from the perspective of a social individual facing a specific issue at a particular point in time, it is assumed that there will be some givens especially in terms of the types of knowledge, an assumption also shared by Moscovici when he discusses the objective characteristic of knowledge: "Without doubt, none of us has built these concepts [mental formations] on their own. (...) In this way, the knowledges ['connaissances'] people have are objective; if they only were a simple individual phenomenon, they would be subjective. By being shared with other individuals, be they our ancestors or our contemporaries, they become objective" (1992b: 313; my translation).

3.4.5 Modes of knowledge processing

In this component of the cognitive polyphasia model, the original terminology of the heuristic-systematic model (Chaiken, 1987) has been slightly modified to highlight the need to take into account the content and the meaning of the information used by social individuals, an idea proposed by von Cranach in his discussion of the knowledge of social systems in which he affirms that "meaning is integral to human information processing" (1998: 17). This change of terminology also makes possible a more sophisticated understanding by which one sees the possibility of using different types of knowledge in a systematic or heuristic fashion. For instance, a social individual could draw on scientific knowledge to provide him/her with the information needed to make sense of a particular issue but use it in a heuristic fashion, through the use of a simple decision rule, thanks to the legitimacy or authority attributed to this type of knowledge. We thus obtain a finer understanding of cognitive polyphasia by

which this cognitive strategy can refer both to the heuristic or systematic processing of the information contained in different types of knowledge.

As in the original formulation, a systematic mode of knowledge processing will refer to a situation in which people having to make sense of a given social object will access and examine in great detail one or different types of knowledge deemed relevant to the issue at stake. A heuristic mode of knowledge processing will involve the use of simple decision rules related to the type or types of knowledge being drawn upon.

3.4.6 Modus operandi

In his article on construction, belief and doubt, Duveen (2002: 148) discusses how doubt, engendered through communication practices, produces “a lacuna in people’s ways of understanding”. The cognitive polyphasia model makes use of some of these ideas¹⁹ and presupposes the existence of a problematic issue that attracts people’s attention and triggers a doubt in their existing stock of beliefs and knowledge²⁰. Distancing itself from the original formulation of the theory of social representations (Moscovici, 1984b), the model does not automatically assume the unfamiliar character of this problematic issue. Indeed, von Cranach (1998) argues against a too rigid demarcation between the familiar and the unfamiliar and points out, with good reason, that the familiar can often become unfamiliar and engender feelings of anxiety and doubt that will put in motion the transformation of existing social representations or the creation of new ones.

¹⁹ However, Duveen’s conception of cognitive polyphasia, as presented in that paper, differs from the one put forward in this project research. These differences will be discussed in some detail in Chapter Nine.

²⁰ The role of the media in creating and defining how an issue gets into the public, although highly significant, is not specifically addressed in this thesis. Interested readers may want to look at Mazur (1984) for a landmark treatment of this issue or at Boyce (2005) for an examination of the production, content and reception of media discourses within the public of the MMR story.

The problematic issue will then be examined through the prism of the relevant set of social representations. As pointed above, the set of social representations will have both a direct and an indirect impact on the size of the gap between levels of actual and desired confidence: first, by orienting the thinking of social individuals and by positioning them vis-à-vis the different dimensions of the issue; secondly, by influencing certain aspects of the individual circumstances (eg, motives)²¹.

The degree to which the issue will be perceived as a problem will be expressed through the size of the gap between the actual and the desired levels of confidence, expressed, like with the heuristic-systematic model, as a continuum of judgemental confidence. The actual level of confidence will result mainly from the content of the core background beliefs, or social representations, while the level of desired confidence will be influenced principally by individual circumstances.

Building on the heuristic-systematic model, but incorporating the focus on meaning and the construction of social knowledge inherent in the theory of social representations, it is assumed that the gap between the levels of actual and desired confidence will manifest itself, first and foremost, in the use of one or several types of knowledge, and only at a later stage, in the selection of modes of knowledge processing. One's decision to engage or not in cognitive polyphasia will therefore follow to a large extent the sufficiency principle of the heuristic-systematic model described by Chaiken, Chen and Eagly.

²¹ Although time and resource constraints prevent the elaboration of this point at this stage, the concept of themata discussed in some detail by Moscovici and Vignaux (2000) and by Marková (2000, 2003) could make a useful contribution in our description of the operations of the model. First, the transformation of a particular event into a problematic issue can be conceptualised as the thematisation of an oppositional category that has become "the focus of attention, and a source of tension and conflict" (Marková, 2000: 446). Second, specific themata could be seen as the organising principle for the set of social representations that will be selected by people to orient them in their efforts at sense making of a problematic issue. These ideas would be worth exploring in greater detail but, for now, will remain at the level of informed guesses.

Extrapolating these authors' findings about modes of information processing to cognitive strategies, our model suggests that cognitive polyphasia is likely to emerge when the gap between actual and desired levels of confidence is widened as a result of either an increase in one's sufficiency threshold or a decrease in one's level of actual confidence. Behind this prediction is the assumption that the extra symbolic knowledge and functions embodied in additional types of knowledge will help social individuals to fulfil their needs for increased confidence.

A small gap between the actual and the desired levels of confidence will reduce people's need to engage into much cognitive effort and hence, will result in cognitive monophasia that is, the use of one type of knowledge. On the other hand, as the gap increases, people will be encouraged to draw upon different types of knowledge in order to make sense of the issue producing, thereby, instances of cognitive polyphasia. (However, it is also recognised that one type of knowledge could be used singly but in a more systematic way.)

Which type or types of knowledge are selected will depend on a number of variables including people's ability, in terms of time, access and intellectual capabilities, their motives and, in line with the synchronic perspective on cognitive polyphasia discussed in the previous chapter, the different attributes of the types of knowledge available to them and their fit with people's motives. In that sense, types of knowledge can thus be compared to different technological implements one may have at one's disposal and whose selection will depend on a variety of factors besides their technical sophistication such as their ease of use, memories associated with each of them, etc. Again, the issue of power between the types of knowledge concerned (Jovchelovitch, 2001b) is likely to play a significant role.

This set of knowledge will be processed using a heuristic or a systematic mode of knowledge processing or a combination of both. According to the cognitive polyphasia model, the specific heuristics chosen will be influenced by the content of the social representations used by the social individuals concerned but, along

with the developers of the HSM (Eagly and Chaiken, 1993; Chen and Chaiken, 1999), the role of the specific motives visible in a specific situation is also acknowledged, although too detailed for the current research project. As discussed before, the systematic treatment of the knowledge being drawn upon will require a minimum amount of ‘ability’ and may be encouraged by the identity needs of the social individuals.

3.4.7 Interaction between modes and types

The actual structure of cognitive polyphasia, that is the nature of the interaction between the various types of knowledge involved, be it complementarity, specialisation or interference, will not be properly examined in this project. Nevertheless, the following paragraphs are included at this stage in order to shed some light on this aspect of the theoretical framework proposed and to outline possible avenues for further research.

In addition to the principles described in Section 3.2.2 (p. 74), the heuristic-systematic model contains a number of hypotheses that address the different ways the heuristic and systematic modes of information processing may possibly interact with each other (Chen and Chaiken, 1999; Eagly and Chaiken, 1993). For instance, the *attenuation hypothesis* holds that systematic processing will often attenuate the judgmental impact of heuristic processing, especially in situations where the motivation for systematic processing is relatively high. According to the *additivity hypothesis*, however, both systematic and heuristic processing can also reinforce each other if they are going in the same direction (see also Booth-Butterfield et al., 1994). Finally, the *bias hypothesis* holds that, in an ambiguous context, the two modes can have an interdependent effect on judgement and that, for instance, heuristic cues may cause the individual to develop expectancies that will influence his/her systematic processing of the messages.

Similar hypotheses have been suggested by cognitive psychologists such as Sloman (1996) with his contrast between rule-based and associative reasoning, and Evans and Over (1996) with their objective and subjective processes of reasoning. In his review of experiments that exhibited simultaneous contradictory

belief, Sloman shows how associative responses tend to persist despite participants' attempts to ignore them, therefore corroborating the bias hypothesis of the heuristic-systematic model. He concludes that even though rule-based system can often suppress the response produced by the associative system, the latter will remain active, preceding and sometimes neutralizing answers produced by rule-based reasoning, helped in this by its speed and efficiency:

In conformity with Epstein et al., I conclude that even when a person is attempting to be rule-governed, associative responses encroach on judgement. The force of the evidence is to support not only the conclusion that people have and use two computationally distinct systems of reasoning but also that the associative system intrudes on the rule-based one. (Sloman, 1996: 15)

For their part, Evans and Over (1996) propose a dual process theory of reasoning that integrates under the same umbrella an objective and analytic process of reasoning with a subjective and heuristic one. They suggest that human reasoning includes two processing stages, heuristic and analytical. The first, a pre-conscious heuristic stage is based on everyday reasoning or performance cost. It is followed by a conscious analytical stage where the rationality that underlies formal logic is used. They propose that the results of the first stage constrain the search space of the next analytic process.

We see how this dual process theory of reasoning could be compatible with a view of cognitive polyphasia in which there is a relation of modification, of mutual influence. Evans and Over's (1996) suggestion of a two-step reasoning process comes in very useful as they allow the possibility of people applying a systematic mode of thinking, more characteristic of science, to types of knowledge usually linked to tradition.

3.5 Research programme

In his discussion about everyday understanding and social cognition, Forgas (1981a) contrasts the meaning attributed to the word 'cognitive' by classic social psychologists such as Heider, Lewin or Asch with the one promoted by cognitive psychology at the beginning of the 1980s. In the first case, cognition is an

inclusive phenomena which “refers to all the many ways of acquiring and processing knowledge in everyday life” with an interest in “the totality of the processes affecting how social stimuli are interpreted and represented” (Forgas, 1981a: 261-262) whereas in the latter case, it is limited to the study of information processing, a point echoed by Condor and Antaki (1997) in their discussion of social cognition. It is hoped that the theoretical framework presented above represent a useful starting point for a deeper understanding of cognitive polyphasia and a welcome realignment of social cognition back to its classic origins.

In order to verify its value, the cognitive polyphasia model has been tested empirically using as a case study the debate that surrounded the MMR vaccine in the United Kingdom between 1998 and 2005. The MMR controversy will therefore be used as the narrative thread linking the various elements of the proposed theoretical framework. Leading the way for further research on cognitive polyphasia, I propose to examine in some detail the following research questions:

- How do social individuals faced by a problematic health-related decision receive the different messages incorporated into existing representations, and transformed them into individual cognitions and actions?
- Can one argue that, faced by imperative of action, traditional dichotomies between types of knowledge and the different rationalities they imply disappear and are replaced by a cognitive style which amalgamate the different types into something socially, functionally adequate? By saying this, we would go beyond the typology typically discussed in psychology, be it social or cognitive, which proposes the existence of distinct and independent modes of knowledge.
- Can Moscovici’s concept of cognitive polyphasia allow for a rapprochement between the theory of social representations and more individualistic elements of social psychology such as social cognition and the heuristic-systematic model?

- The theory of social representations was developed within the structuralist tradition that dominated the intellectual landscape in France in the 1950s. Its constituent elements and principles apply to a world that has changed since then. The theory, as it stands now, may not be equipped to deal with the implications of these deep societal transformations. In particular, people like Purkhardt have criticised the theory for maintaining a “persistent dualism between individuals and society” and for having, at least partly, failed “to construct a viable integration of the psychological with the cultural” (1993: 23). Therefore, it will be interesting to assess the extent to which a more precisely defined and operationalised hypothesis of cognitive polyphasia can contribute towards an update of the theory of social representations 40 years later and, therefore, promote its continued relevance in social psychology.

Throughout the empirical phase, emphasis will be placed on the operation of cognitive polyphasia at the level of social individuals, seen as the locus for the integration of different rationalities that exist at a societal level. It will be proposed that social individuals draw upon and integrate different rationalities that underline different types of knowledge. The complexity of people’s thinking will be revealed by focusing on social individuals facing a problematic issue that disturbs a taken-for-granted dimension of their everyday life. By focusing on social individuals facing problematic health-related decisions, I will postulate that crisis situations at a social individual level are functionally equivalent to the situation of displacement of ‘taken-for-granted’ beliefs discussed by Gervais and Jovchelovitch in their study of health and illness within the Chinese community in England. For the authors, this notion refers to:

(...) social changes which call traditional knowledge into question, which displace peoples and meanings, which uproot each and every one of us in more or less fundamental ways, are not just processes ‘out there’. They are at the heart of who we are ‘in here’, shaking the construction of identity and the knowledge we use in everyday life. (1998a: 726)

These situations of crisis represent a significant example of the practical demands made on social individuals that will influence the type of knowledge they produce. However, the examination of this knowledge will also need to take into account the specific social context in which these decisions are made, a social context characterised by the dominant position of scientific medical knowledge.

Social individuals will therefore be seen as thinking and acting subjects (Billig, 1996) who mobilise and integrate different rationalities depending on their specific needs and on situational constraints. I will be looking at social individuals' 'projects' (Bauer and Gaskell, 1999) and try to discover their motivations in making sense of the world around them, building on the idea that cognition must be understood both as a social activity and as the result of the cognitive efforts of social individuals.

Chapter Four – Overview

Chapter Four presents the methodology that was used for this research project. The specific methods chosen were selected for their potential in allowing a good understanding of the social object under consideration, here the controversy that surrounded the MMR combined vaccine, and for exploring the theoretical framework for the operationalisation of cognitive polyphasia described in the previous chapter. Collection and analysis techniques are discussed for the four methods that were thus selected:

- media analysis;
- specialist interviews;
- focus groups;
- individual interviews.

4 Methodology: data selection, collection and analysis

4.1 Introduction

We explain nature, but we understand mental life... This means that the methods of studying mental life, history and society differ greatly from those used to acquire knowledge of nature. (Wilhelm Dilthey: *Selected Writings*, 1976, 89, quoted in Phillips, 1985: 55)

Following the presentation of the different theoretical concepts that frame the current examination of the hypothesis of cognitive polyphasia, this chapter discusses the methodology used to explore the research questions identified at the end of the previous chapter. The nature of the selected empirical object, the specificities of the cognitive polyphasia model, and the location of this thesis within the larger academic community influenced my decisions about data collection and data analysis.

Arguments in favour of the four methods of data collection used are discussed after a brief section outlining the theoretical considerations behind their selection. Issues of quality and public accountability are then examined before describing the data collection procedures and the analytical methods with which tentative answers to my research questions were made possible.

4.2 Theoretical considerations

A number of theoretical considerations have influenced the choice of data collection methods for this particular research project:

- the particularities of the theory of social representations and its methodological implications;
- the nature of the empirical object;
- the exploratory nature of my project, and the characteristics of the cognitive polyphasia model presented in Chapter Three.

4.2.1 The theory of social representations

Contrary to more traditional theoretical frameworks available within the discipline of social psychology, the literature on social representations offers very little in the form of firm guidelines on methodological issues. Keen to demarcate themselves from a more positivist perspective, social representations theorists have left methodological options open-ended, as issues to be decided on a case-by-case basis. As noted by de Rosa in her article on *Le besoin d'une théorie de la méthode* (2002), most of the advice one can find on methodology comes from empirical studies done within that theoretical framework. Interestingly, she also observes that most studies have been of a descriptive nature focusing on the content of specific social representations and that very few have tried to engage into formal hypothesis testing.

A closer look at some of these empirical studies (eg, Moscovici, 1961/1976; Jodelet, 1991; Jovchelovitch, 1995; Gervais, 1997; de-Graft Aikins, 2005) can, nevertheless, compensate for the lack of firm guidance and provide a starting point for the choice of an adequate methodological approach. In particular, most social representations theorists have relied on a multiplicity of methods in their attempts to reveal the realities of the phenomenon of interest to them (Breakwell and Canter, 1993). These methods range from detailed questionnaires and detailed analyses of the contents of various media to participant observation in the tradition of anthropological research. Qualitative research methods have dominated the scene with semi-structured and narrative interviews as key techniques. The importance of the mass media both as a source and as a recipient of social representations has been acknowledged through the use of content analysis of a more or less quantitative nature (Farr, 1992).

The use of multiple methods reflects researchers' acknowledgement of the complexity of social representations, and the need to examine each of their different dimensions through an adequate method, a fact acknowledged by Bauer, Gaskell and Allum when they argue that "adequate coverage of social events requires a multitude of methods and data: methodological pluralism arises as a methodological necessity" (2000: 4). Spink emphasizes the "concomitance of

more permanent and very dynamic content” of social representations (1993: 48), which translates into the possibility of examining either the content or the process (or both) aspects linked to them. As shown in the previous chapter, the operationalisation of cognitive polyphasia will indeed require the examination of both content and process and call therefore for the use of a variety of methods.

4.2.2 Nature of the empirical object

The nature and characteristics of the empirical object under study, the MMR vaccination debate, have also had a major bearing on the selection of methods of data collection and analysis. The decision whether to have one’s child vaccinated is a private one, but one which is very much influenced by the social environment (eg, health professionals, friends, relatives, media) within which the parents operate. The methods of data collection selected had to reflect the complexity of the decision-making process used by parents of children of vaccinating age, and the fact that this process incorporates different sources of influence such as the media, the specialists to whom they may talk or listen to, and their more immediate environment such as friends and relatives.

In particular, and in line with the model proposed in the previous chapter, it was assumed that people brought together a number of key representations in order to make sense of the MMR controversy. The reality of the debate around the MMR vaccination programme comprises the socially shared constructions used by social individuals and the different groups to which they belong in order to communicate and to guide their actions. In this context, one objective of the data collection and analysis phases was to identify these representations and to assess their impact on the proposed operationalisation of cognitive polyphasia.

4.2.3 Exploratory nature of my project

Despite its intuitive empirical and theoretical appeal, the hypothesis of cognitive polyphasia remains largely unexplored, and the research presented in this thesis must be understood as exploratory, an attempt to operationalise the concept and to understand it better. It was therefore imperative for my methodology to be flexible enough to allow me to explore certain avenues, test them and revise them in light

of the results obtained, an iterative process comprising both inductive and deductive approaches whereby “data-driven inductive hypothesis generation is followed by deductive hypothesis examination for the purpose of ‘validation’ or ‘verification’” (Kelle, 1995b: 105-106).

In that process, partly inspired by grounded theory principles (Gibbs, 2002; Lonkila, 1995; Strauss and Corbin, 1997), initial ideas about possible ways to operationalise cognitive polyphasia were explored using a dialectical approach (Kleining and Witt, 2001) by which the different dimensions of cognitive polyphasia, that is societal, social and individual, were examined in turn, each time raising new questions, providing some answers, and allowing for a realignment of the initial hypotheses.²² Guided by this approach, which argues for a process of discovery as opposed to a too rapid closure, I tried to maintain throughout the research process an attitude of openness, to refrain from delineating the object of research too rigidly from the beginning and to vary the number of methodological perspectives from which it was analysed (Cox, 1995). Each phase of data collection was therefore followed by a provisional analysis of this data, which, in turn, guided the data collection and analysis of the next round. This “path from theory to text and another from text back to theory” (Flick, 1998b: 11) enabled me to refine, confirm, and sometimes infirm, some of the hypotheses behind the proposed operationalisation of cognitive polyphasia.

²² A strict application of grounded theory principles would have been difficult in the context of a doctoral thesis where one starts to work from a review of literature, thereby producing right from the beginning a set of assumptions that will influence the collection and analysis of empirical data. The *tabula rasa* assumption put forward by some grounded theorists comes across, in this case, as somewhat unrealistic.

4.3 *Selected methods*

4.3.1 Research strategy

The adoption of a single-case embedded design as a research strategy, in which different sub-units of the case are examined and triangulated (Gervais, 1997), addressed several of the considerations discussed in the previous sections. According to Yin (2003), case studies are an appropriate research strategy when the study aims at exploring the ‘why’ or the ‘how’ of a contemporary phenomenon in a real-life context over which the researcher has no or very little control. Case studies allow for the examination of the “holistic and meaningful characteristics of real-life events” (Yin, 2003: 2) and constitute a very efficient way of explaining events for which contextual conditions play a significant role. More significantly for this project, case studies are very effective as ‘theory-confirming’ approaches and have been described as “highly relevant strategies for generating hypotheses or for confirming (if not proving) and developing existing theories” (Lijphart, 1971; quoted in Gervais, 1997: 97).

The selection of the specific case study, the controversy that surrounded the administration of the MMR vaccine in the UK between 1998 and 2005, answered three criteria. First, as opposed to the majority of empirical work in the social cognition tradition, and even in some social representation studies (eg, Wagner et al., 1999; 2000), the MMR debate represents a real event that had concrete implications for parents of young children. As such, it fits with my belief that studies dealing with social knowledge should focus on situated actions (Suchman, 1987) and thus pay attention to the ecological rationality of that knowledge as opposed to more traditional assessments based on scientific or rational validity (see Gigerenzer and Todd, 1999a, for a fuller discussion of ecological rationality).

Secondly, attention was paid to the representativeness of the specific case study selected, an issue closely linked to the generalisability of the results obtained (Hamel, Dufour and Fortin, 1993; Silverman, 1993). The controversy that surrounded the MMR vaccine is representative of a specific type of social events that have affected the British society over the last two decades. Indeed, Britain has

gone through a number of health-related ‘scandals’, which can be said to be a cause or an effect of social individuals’ declining trust in authorities. Finally, and maybe most importantly, the MMR controversy constitutes, in many regards, an example of a crisis, viewed by many as a very efficient tool in social sciences. Deemed by Moscovici (1984a) as especially productive in revealing the character of social representations, crises are also a very powerful means to problematise “what previously was taken for granted” (Gervais, 1997: 99). The MMR vaccine is part of a series of immunisations children undergo routinely in industrialised countries and, as such, the controversy that surrounded its administration shattered the ‘routine’ character of the immunisation process and transformed it into a crisis.

Three main data sources were identified and examined as a way of revealing the different realities of the MMR debate as lived by the different ‘strategic social actors’ (Jovchelovitch, 1995) and how these different realities interact with each other. These different data sources along with their collection methods and the objectives pursued for each of them are summarized in Table 4.1 below.

Table 4.1 Data collection methods

Data source	Method	Objectives
UK newspapers	Media analysis	<ul style="list-style-type: none"> To map out the key messages and main types of knowledge circulating within British society about the MMR vaccine controversy.
Expert informants	In-depth individual interviews	<ul style="list-style-type: none"> To explore specific professional perspectives of the MMR debate and understand the larger context behind it through the identification of the key themes present in the debate.
‘Lifeworld’ of mothers of children of vaccination age	Focus group discussions	<ul style="list-style-type: none"> To obtain the lay perspectives on the MMR controversy. To identify key social representations at stake in the debate. To start outlining the decision-making processes used by mothers.
	Individual interviews	<ul style="list-style-type: none"> To obtain detailed accounts of efforts at sense making and decision-making process concerning MMR combined vaccine including types of knowledge used, modes of information processing and social representational backgrounds.

4.3.2 Media analysis

The first component of my empirical work comprised the collection and analysis of newspaper articles that accompanied the controversy over the MMR vaccine after the publication of Dr Wakefield's controversial article in *The Lancet* in February 1998 (Wakefield et al., 1998). The analysis of the newspapers fulfilled two objectives. First, it was expected to provide the societal context for the analysis of the data collected through the other three methods. Secondly, this analysis was also a way to begin outlining the different types of knowledge, the key themes and some of the core background beliefs, or social representations, visible in the MMR debate.

Even though the media analysis was limited to newspaper articles, the role of other media in the development of the MMR controversy was acknowledged. For practical reasons, it was assumed that messages carried by one type of media get replicated in others and that newspapers, through their penetration in British society, were both a significant source and the reflection of the content of representations circulating around the MMR controversy.

Moving away from the traditional definition of content analysis offered by Berelson (1952: 16), that is, "the objective, systematic and quantitative description of the manifest content of communication", this analysis acknowledged the critical role played by today's mass media in people's everyday lives (Silverstone, 1999), and the mediating and translating functions between the scientific community and the lay public played by newspapers. In this context, the media were considered "as social actors in so far as they are institutions which bear an intentionality and produce an effect on the web of social relations" (Jovchelovitch, 1995: 89). While the significant role and influence exerted by the media was recognised, the dynamic and complex relation that exists between them and the public was also taken into account, in particular, the capacity of lay people to pick and choose what and how they read or listened to media reports, an idea thus summarised by Kitzinger:

Media audiences interpret what they hear and see in the context of what they already know and what they learn from other sources. They selectively highlight, oppose or reconstruct statements. They are often able to analyse and deconstruct dominant themes, drawing on personal experiences, political belief or a general critique of media or government sources. (Kitzinger 1998: 207, quoted in Boyce, 2005: 358)

Gamson and Modigliani (1989), in their study of the media discourse concerning nuclear power, have also commented on the inter-dependency between media discourses and individuals' beliefs. They emphasise the interactions between, on one hand, what individuals bring to public debates in terms of "their own life histories, social interactions, and psychological predispositions to the process of construction meaning" (Gamson and Modigliani, 1989: 2) and, on the other hand, journalists and other 'cultural entrepreneurs' who crystallise this material in public discourse and will, this way, influence the construction of meaning at the level of individuals.

A more encompassing definition of content analysis was thus called forth and Weber's definition (1985: 9, quoted in Bauer, 2000), which describes it as "a set of procedures to make valid inferences from text" with these inferences being about "the senders, the message itself, or the audience of the message", was used.

4.3.3 Specialist interviews

The issues raised by a number of social representations theorists (eg, Bangerter, 1995; de-Graft Aikins, 2005; Purkhardt, 1993) concerning what they see as a too rigid demarcation between the consensual and reified universes point to the risks involved in attributing too much influence to 'modern myth makers' (Moscovici, 1988: 225) and not paying due attention to the constructivist nature of the knowledge they produce. That being said, one cannot deny the key role played by doctors and media specialists in spreading scientific knowledge in health-related controversies. These people very often act as a transmission mechanism between science produced in laboratories and the everyday applications or domains to which it relates and, as such, can be described as 'sponsors' in the sense attributed

by Gamson and Modigliani (1989: 6-7), that is, as “agent[s] (...) promoting some collective rather than personal agenda”²³.

It was therefore deemed essential to obtain the views of these specialists in order to map out the key dimensions of the MMR debate. The objectives of this phase of data collection were threefold:

- to obtain background information on the MMR vaccination debate from people with first-hand experience and knowledge of it;
- to understand better these people’s perspective through an exploration of their “beliefs, attitudes, values and motivations” (Gaskell, 2000: 39) vis-à-vis this social object;
- through the textual data obtained, to test a number of hypotheses around the concept of cognitive polyphasia.

The technique of semi-structured interviews represents a key method in the mapping of common sense and the exploration of what lies behind language, “an interview whose purpose is to obtain descriptions of the life world of the interviewee with respect to interpreting the meaning of the described phenomena” (Kvale, 1996: 5). A key methodology for the theory of social representations, it has been used by many of its proponents (for instance Herzlich, 1973; Jodelet 1991) and was even described by Herzlich as the only adequate technique of data collection for the study of social representations. In addition, individual interviews, as opposed to group discussions, were thought to be more convenient as these specialists are active and busy professionals with little flexibility in their timetable.

²³ However, as we will see in Chapter Six, some of the specialists interviewed had a clear personal agenda they were trying to promote through the MMR controversy.

4.3.4 Focus groups

Focus groups can be defined as “a research technique that collects data through group interaction on a topic determined by the researcher. In essence, it is the researcher’s interest that provides the focus, whereas the data themselves come from the group interaction” (Morgan, 1997: 6). Used as a market research technique during the 1920s (Powell and Single, 1996) and well-known for its applications during World War II (see Merton, Fiske and Kendall, 1990), the technique presents a number of characteristics, discussed in the next paragraphs, that rendered it particularly adequate for this research project.

Described by Gaskell as the “minimal social unit in operation” (2000: 46), group interviews represent an extremely efficient method of collecting data on a particular topic, even if they are logistically more complex to organise than individual interviews. Going one step further, focus groups can be argued to represent a very effective method of making people talk about topics that are usually not thought out in detail, and when participants would otherwise find it difficult to express their views, feelings or motivations on them. This may be partly because “the interaction in focus groups often creates a cuing phenomenon that has the potential for extracting more information than other methods” (Morgan and Krueger, 1993: 16-17). Indeed, Morgan (1997) notes how valuable the comparisons that participants make among each other’s experiences and opinions are in providing interesting and unique insights into complex behaviours and motivations (see also Frey and Fontana, 1993).

Medical-related topics, such as the MMR controversy, where so many aspects are part of the taken-for-granted of people’s everyday life (Jovchelovitch and Gervais, 1999) are therefore especially well-suited for the use of focus groups in which people have the opportunity, as found by Gervais and Jovchelovitch (1998b), to

elicit their latent beliefs and realise that what they perceived to be isolated experiences are shared by others and anchored into their social reality.²⁴

Focus groups offer qualitative researchers a platform from which to contextualize their data and an interactional situation that acknowledges the “human tendency to discuss issues and ideas in group” (Sink, 1991:197 quoted in Albrecht, Johnson and Walther, 1993: 54). The social character of people’s symbolic representational activity highlighted by social representations theorists is thus recognised and actively looked for. As noted by Moscovici in his landmark article (1984b), social representations emerge in cafés, clubs, and other everyday meeting places. One only has to wander through one’s neighbourhood to observe how this especially applies to the way mothers and, especially new mothers, interact with each other. Mothers meet and discuss several things in groups either at their doctor’s clinic or through the school network. For many, there also exists a tradition of ‘morning coffees’ that provide an ideal forum to discuss issues of concern such as the MMR vaccination debate.

4.3.5 Individual interviews

No social study that does not come back to the problems of biography, of history and of their intersections within a society has completed its intellectual journey. (Mills, 1967: 6)

As observed by Gaskell (2000: 48), focus groups represent a tool by excellence when the main concern is to obtain what he calls “the picture of common interests and concerns”. However, these interests and concerns are rarely lived in their entirety by each of the individuals taking part in them and other tools are necessary to understand the reality of these people as lived uniquely by each of them. In particular, the individualistic character of health-related decisions mentioned by some participants point to the potential relevance of one-to-one

²⁴ This point was reinforced after the first focus group when one of the participants phoned me and thanked me for giving her an opportunity to think about these issues and discuss them with her husband.

interviews as opposed to group ones. This specific point is discussed by Crabtree and his colleagues:

Many clinical research questions, however, require a detailed understanding of what makes individuals different. The goal is to describe the unique individual and his or her perceptions. The shared understanding that comes from a group interaction may sometimes be important, but may miss the subtle individual variation that can be vital to understanding a particular health concern. (Crabtree et al., 1993: 143)

Individual interviews were thus deemed necessary to develop an understanding of how each mother had lived the MMR debate, how much of an issue it had represented for them, how they had gone about making sense of it and deciding whether to give the MMR vaccine to their children.

The individual qualitative interview enables one to obtain a rich understanding of people's behaviours and actions within the social situation of interest. By focusing on one respondent at a time, it becomes possible to obtain data on the specific circumstances that may have influenced their efforts at sense making, their unique motivations vis-à-vis the social object of interest, and the different steps of their decision-making process in a given situation. More importantly for my attempts at operationalising the hypothesis of cognitive polyphasia, Gaskell (2000: 39) notices the potential of individual interviews in providing "empirical data to test expectations and hypotheses developed out of a particular theoretical perspective".

In addition, the more flexible nature of in-depth interviewing allows for surprises to happen. The interviewees sometimes lead the discussions in unforeseen directions, a possibility which makes this method "particularly useful for exploring a topic in detail or in constructing theory" (Esterberg, 2002: 87). By providing an opportunity to tell one's own story in one's own words, semi-structured interviews have also been considered by a number of feminist researchers as a particularly valuable tool when interviewing women (Reinharz and Chase, 2002), as is the case in this study.

4.4 Ensuring the quality of data collection

Several considerations influenced the procedures and logistical aspects behind the collection of empirical data for this project. These are discussed over the next sections starting with quality issues and followed by concerns over subjectivity and ethics.

4.4.1 Quality criteria and public accountability

Of course, it is true that we are never certain; in fact, that often we are ‘guessing’, but it is not true that all guesses have an equal chance of being correct. Classic social science, it may be said in tribute, is, among other things, an attempt to improve the chances that our guesses about important matters may be right. Verification consists of rationally convincing others, as well as ourselves. But to do that we must follow the accepted rules, above all the rule that work be presented in such a way that it is open at every step to the checking up by others. (Mills, 1967: 126)

Ultimately, this research project aims to produce social scientific research that will be recognised by the academic community as a valuable contribution to the discipline of social psychology. This has implied the adoption of quality criteria that guided my approach throughout the project but were particularly significant at the data collection and data analysis phases.

Sometimes criticised for its lack of theoretical rigour (Farr, 1987: 355), the standing of the theory of social representations within the social sciences has also suffered from its association with qualitative methods of research. The latter have become more widely accepted as a legitimate source of social data and research but there is still a need to develop a set of criteria that will ensure their quality and raise their status within the academic community and the larger public.

Recent attempts by proponents of qualitative research methods to develop such criteria have been reviewed by Flick (1998b, see Chapter on ‘Grounding Qualitative Research’: 221-240) and, more recently, by Gaskell and Bauer (2000). Some of these attempts have made an interesting contribution to the debate about quality in qualitative research – see for instance Kirk and Miller’s revised version of reliability (1986, quoted in Flick, 1998b) or Hammersley’s use of the concept

of ‘subtle realism’ to issues of validity (1990; 1992 quoted in Flick, 1998b) – but a comprehensive framework comprising a set of well-defined criteria, comparable to the ideas of reliability, validity and representativeness of quantitative methods, has yet to be proposed and become the accepted norm.

In this perspective, the list of six criteria proposed by Gaskell and Bauer (2000) offers a satisfactory and workable compromise solution. The authors aim to develop “criteria with functional equivalence to the quantitative tradition” (2000: 343), a set of “clear procedures and standards of practice” (2000: 336) that will dislodge the unfruitful discussions that have monopolised the debate about qualitative research.

A key notion guiding their reflection is that of public accountability. Social scientific research takes place within the public domain and must produce works that are relevant and in which people can have confidence. Public accountability is seen as encompassing two broad categories of indicators: confidence and relevance. In the words of Gaskell and Bauer, “confidence indicators allow the reader and receiver of research to be ‘confident’ that the results of the research represent ‘reality’ and are more than the product of the vivid imagination of the researcher” while “relevance indicators (...) refer to the extent to which the research is viable in the sense that it links to the theory ‘internally’ or is a surprise vis-à-vis some common sense ‘externally’” (2000: 344-345).

With these two requirements in mind, Gaskell and Bauer propose six quality criteria. The first three apply more specifically to the data collection and elicitation stages of a social scientific project while the last three have implications for the way one reports the results of data analysis and communicates them. These criteria and their implications for this project are discussed briefly in the next paragraphs.

Triangulation and reflexivity. The notion of triangulation has figured pre-eminently in the literature on the theory of social representations (Flick, 1992, 1998b; Gervais; 1997; Jovchelovitch, 1995). For social representations theorists, this notion has become associated with the use of several methods, each bringing

its own perspectives to the problem at stake and enabling the researcher, on the theoretical front, to “gain access to the multiple versions of reality that are constructed” (Gervais, 1997: 118) and, on the methodological front, to “address inconsistencies as an ongoing part of the research process” (Gaskell and Bauer, 2000: 345). In this research project, triangulation has been ensured by the use of four methods of data collection (media analysis, specialist interviews, focus groups, and individual interviews) with each method revealing some of the realities attached to the debate over MMR vaccination in contemporary Britain and producing, it is hoped, a richer depiction of the phenomenon under study.

Transparency and procedural clarity. As with quantitative techniques, researchers must document the methods used and the procedures followed. With quantitative methods, this ensures the possibility of replicating the results being presented. In the case of qualitative methods, full replicability is difficult to obtain as conversations, one-to-one or in groups, will always be different, even with the same people being interviewed. In this project, transparency and procedural clarity refers to the explicit description of the procedures adopted both at the stages of data collection and data analysis. In the latter case, the use of computer analysis software such as NVivo has facilitated this transparency.

Corpus construction. Defined as “an iterative process, where additional strata of people or texts are added to the analysis until saturation is achieved, and further data do not provide novel observations” (Gaskell and Bauer, 2000: 347), Bauer and Aarts (2000) propose to apply the concept of corpus construction to qualitative research as an alternative to the principles of statistical random sampling used in quantitative research. Traditionally found in the field of linguistics, the rules of corpus construction aim to maximize the variety of ‘representations’ being collected with the data being viewed as “a system that grows” (Bauer and Aarts, 2000: 31). The data collected should also be theoretically relevant, as homogeneous as possible and collected within the same period. In a similar vein, King and his colleagues (1994: 24) advise social scientific researchers to “collect data on as many of [a theory’s] observable

implications as possible”. In their view, this process enables a more thorough evaluation of the theoretical ideas being developed and tested.

The principles of corpus construction have influenced the selection procedures used in three of the four methods of data collection. In particular, representatives of a variety of expertise associated with the MMR debate were selected for the specialist interviews. The selection and recruitment of mothers for the focus groups and the individual interviews were done with the aim of maximizing the different ways of approaching and making sense of the MMR vaccine controversy.

Thick description. The criterion of thick description, when applied properly, can achieve two objectives. On one hand, it allows the reader to immerse him or herself into the realities under study, therefore making sense of the milieu of the social actors being researched (Gaskell and Bauer, 2000). On the other hand, it also allows the researcher to “move from observations of the regularities of social life towards an interpretive account of the intentionalities of the actors engaged in the situation” (Wagner, Duveen, Farr, Jovchelovitch, Lorenzi-Cioldi, Marková and Rose, 1999: 102). Practically, thick description is achieved through the judicious use of verbatim quotes but also through “the imagination, intuition, interests and background of the researcher” (Araujo: 1995: 104). Kelle and Laurie discuss similar ideas under the name of ‘implicit realism’, the idea that researchers present “a correct account or a ‘thick description’ of the interpretations and world-views of the people in the empirical field under study” (1995: 21).

Surprise as a contribution to theory and/or common sense. One commonly accepted quality criterion in social research is the surprise value it represents, be it in terms of a theoretical contribution to the received body of literature in a particular discipline or in terms of its disagreement or modification of an element of common sense (Gaskell and Bauer, 2000). The surprise value of this research project is expected to come, principally, from its original use of two social psychological traditions (social representations and social cognition) usually kept

apart, and from its innovative, if still very incomplete, suggestions concerning the possible operationalisation of cognitive polyphasia.

Communicative validation. Validation of the results by the sources of the data has been seen as a quality criterion by some researchers but is not considered a *sine qua non* for the relevance of research according to Gaskell and Bauer (2000). The semi-standardized interviews used by Groeben and his colleagues in their work on 'subjective theories' (see Flick, 1998b; Groeben, 1990) offer a more formalised procedure to validate one's findings, in particular, through the use of 'structure laying technique'. Although deemed to present an interesting tool, limited resources and time prevented their use in the current project.

4.4.2 Subjectivity issues

Issues of subjectivity in this project came through two dimensions: the nature of the topic and the characteristics of the participants in the discussion groups and the individual interviews.

Thanks to the particular status of medical-related questions within everyday life, the MMR debate raised and continues to raise important questions outside of its specific remit. As a mother of two children, these questions were equally of interest to me, which means that I came to the specialist interviews, the discussion groups and the individual interviews carrying my own agenda and particular concerns. My independence as a researcher was even more challenged during those discussion groups and individual interviews where participants were acquaintances of mine or 'friends of friends', mothers with similar concerns and interests to mine. In these cases, there was a certain amount of 'given' before the interview took place which affected the degree of 'neutrality' I could maintain.

These issues highlight the blurring of differences between interviewer and interviewee, which for people such as Fontana (2002) are one of the postmodern trends in interviewing and have real implications for the way social researchers negotiate the question of proximity and distance vis-à-vis the person(s) studied. In turn, this requires one to take into consideration the specific nature of the topic,

the characteristics of the participants, and the socially constructed nature of the research process itself in which “the meanings of research are negotiated between and among researchers and research subjects, as well as among other social researchers” (Esterberg, 2002: 16).

As noted by Flick (1998b), issues of proximity and distance are not straightforward and there are pros and cons in acting as an insider and/or an outsider. For instance, Esterberg (2002) points out that a number of feminist authors have argued in favour of similarity between interviewer and interviewees as a way to develop a better, more productive rapport between them. Similarly, she argues that reciprocity or the development of close ties between the researcher and the participants through the disclosure of personal information is viewed as a way to “reduce some of the power differences between researcher and researched” (2002: 49). On the other hand, the interviewing of professionals calls in most situations for the adoption of a more detached and neutral attitude where the researcher’s expertise and knowledge are put forward (Gaskell, 2000). However, for this research project, the personal views of the specialists interviewed were also deemed to be of value.

These considerations suggested the adoption of a multiplicity of roles all underlined, however, by a feeling I would describe as ‘detached empathy’ or, alternatively, ‘empathic independence’. The development of such a rapport began right at the moment of the initial contact (usually over the phone) and involved the use of my multi-faceted position as an observer, as a researcher, and an insider, as a mother, in the debate. While a more professional attitude was used with the specialists, the focus groups and individual interviews were characterised by a greater amount of personal disclosure and an attempt at highlighting similarities between the participants’ and my circumstances, followed after the first few minutes by a more professional stance and the use of increasingly precise questions about the participants’ beliefs and actions vis-à-vis the MMR controversy. This attitude of detached empathy proved particularly productive with some of the individual interviewees who were total strangers to me and helped to overcome initial feelings of uneasiness and shyness.

4.4.3 Ethical considerations

The careful thinking and planning of ethical issues represents an essential component of any qualitative research project. Contrary to quantitative research where the tools of the trade (eg, surveys, questionnaires) create clear boundaries between the researcher and the participants with specific roles attributed to each party, qualitative research operates in a world of fuzziness where researchers intrude, to a lesser or larger extent, on participants' private thoughts and experiences, and where the limits between the observer and the observed are easily crossed.

The MMR vaccination debate does not at first sight come across as a topic of high sensitivity and worthy of extensive considerations over ethical issues. However, people's position in that debate ramifies into issues of identity (eg, as a mother and/or as a parent) and puts the spotlight on choices made by social individuals over often fundamental issues that define their place within society. Conversations on the MMR issue are therefore likely to generate a considerable amount of disclosure on one's private thoughts and experiences, with the ethical implications this disclosure brings.

Thinking about ethical issues involves much more than following a professional code of conduct – although the British Psychological Society's Code of Conduct (2000) was indeed consulted for this project. The researcher's position over these issues has consequences throughout the life of a project. Indeed, Miles and Huberman (1994) discuss a number of ethical issues that punctuate the life of a research project. They highlight how the thinking over these issues is a dynamic one that needs constant revision especially when using qualitative methods. The following issues were the objects of special consideration: informed consent, honesty and trust, privacy, confidentiality and anonymity.

Informed consent cannot happen without honesty and trust on the part of the researchers who cannot lie about the true nature of their project and pretend to have obtained informed consent. Throughout the different interviews conducted, these issues were addressed by making clear with all the participants the research

objectives, the role and contribution expected from them, the confidential and anonymous nature of their contributions and the context in which they would be used. These were communicated during my first contact with the participants (usually over the phone) and reiterated at the beginning of each interview and discussion group. Where the initial contacts were made through a third party (eg, discussion group 2), a fuller discussion was held with that person and a request to communicate these points made. Specific permission to record the interviews was sought and granted at the beginning of each individual and group meeting. The possibility of a second round of meetings was also discussed with the participants. For both specialist interviews and focus groups discussions, informed consent over these different points was obtained orally as it appears that the risk of misunderstanding was minimal. However, written consent was obtained for the individual interviews as the participants were for the majority pure strangers to me, and due to the more intrusive nature of the discussions where sometimes very private concerns were tackled. This written consent was prepared according to guidelines prepared by the British Psychological Society (2000).

With confidentiality concerns in mind, the names of people found in transcripts obtained from the three sets of interviews were removed and replaced by the appropriate description (eg, 'participant's son instead of the actual name).

4.5 Data collection

The first three methods of data collection, that is media analysis, expert interviews and focus group discussions, were conducted over a relatively short period of time during the winter and spring of 2003. As discussed in Section 4.2.3 (p. 103), this was an iterative process whereby the analysis of one set of empirical data oriented the next phase of data collection. In particular, each specialist interview and discussion group were transcribed and summarily analysed before conducting the next one, allowing for the modification of the topic guide when required. The last set of empirical data, the individual interviews, was only collected in spring 2005 once the first three sets of data had been examined and their implications for the operationalisation of cognitive polyphasia better appreciated.

It is acknowledged that the conditions surrounding the MMR controversy had changed during that period. In particular, doubts about the validity of Dr Wakefield's original study (Wakefield et al., 1998) had become more widespread. However, the main objective pursued by this project being one of discovery and exploration, the interval between the different phases of data collection is believed to have had a minimal impact, if at all, on the quality of the results obtained.

Details about the data collection procedures are discussed in the rest of this section.

4.5.1 Media analysis

The electronic version of Lexis-Nexis News, a database that provides the full text of newspapers and newswire services from around the world and includes the full text of UK daily newspapers from 1980 to the present day, was used to access the newspaper articles. Despite a number of disadvantages, such as the impossibility of seeing the photographs attached to specific articles and a number of input errors (eg, duplication of articles), this database offers easy access to articles available electronically and is updated daily.

The sampling procedure adopted echoes some of the principles behind statistical random sampling but incorporates a number of adjustments that ensured that the sample thus obtained would lend itself to the more complex analytical procedures envisaged.

Newspaper articles published in the UK from the beginning of the debate in 1998 until June 2003 using the search terms "MMR" and "at least 3 mentions" defined the primary universe with which to work. This initial universe, which comprised a total of 2551 articles, was then analysed using a frequency table to allow the identification of the UK newspapers most actively involved in the MMR debate. The frequency table also highlighted the 19 busiest months in the debate, defined as those months during which at least 20 articles were published on the topic. A quick reading of the articles written in those months produced a salience analysis,

which showed a clear correspondence between the level of activity in the press and significant events in the history of the debate.

Four newspapers (and their Sunday sister publications) were selected for further analysis: the *Daily Mail*, the *Mirror*, *The Independent* and *The Times*. In selecting these particular publications I was attempting to include a range of popular and so-called ‘quality’ broadsheets and thus to access a spectrum of perspectives, with the *Daily Mail* and the *Mirror* associated with a more ‘sensationalist’ view of events as opposed to a more detached attitude professed by *The Times* and *The Independent*. Together, these four publications produced 650 articles for the period of interest.

A secondary selection procedure was established with the aim to produce an average of 20 articles a month for the 19 months of interest (identified through the frequency table discussed above), that is, some 380 articles. Two additional constraints were imposed: to have articles from each of the four newspapers for each month, and to exclude very short articles, which were deemed incompatible with the analyses I wanted to do on them. The number of articles from each newspaper was determined by their respective weight in the total number of articles: 35% for the *Mail*, 25% for *The Independent*, 22% for *The Times*, and 17% for the *Mirror*. However, these proportions were not always respected as some newspapers did not produce enough articles for certain months and/or the articles were too short and some fine-tuning was done. The length of articles was a problem especially for the *Mirror* and *Sunday Mirror* newspapers, which tend to have very short articles. In order to make sure that I had enough articles from these publications, the initial rule of 400 words was relaxed and I included 15 articles from the *Mirror* with a threshold of 300 words. The final sample comprised 347 articles distributed as follows: 127 (37% of total) for the *Daily Mail* and the *Mail on Sunday*; 87 (25% of total) for *The Times* and *The Sunday Times*; 83 (24% of total) for *The Independent* and *The Independent on Sunday*; and 50 (14% of total) for the *Mirror* and the *Sunday Mirror* (see Appendix 1 for a detailed distribution of the articles by newspaper and by month of interest).

4.5.2 Specialist interviews

4.5.2.1 Selecting the participants

Six semi-structured individual interviews were conducted with people deemed to have a 'specialist' perspective in the MMR vaccination debate. The six specialists were selected according to three criteria:

- Through their professional activity, these specialists were assumed to be or to have been in a position of influence, with varying degrees, in the debate over the MMR vaccination.
- They belonged to one of the social milieus initially identified as possible segmentation criteria in line with the principles of corpus construction.
- They were thought to be 'good informants' (Morse, 1994 quoted in Flick, 1998b: 70; Johnson and Weller, 2002). Thus, the individuals selected appeared to have the necessary knowledge and experience of the MMR vaccination issue, the capability to reflect and articulate their position clearly and, finally, had the time and willingness required to be interviewed.

Three categories of professional activity were tentatively identified as possible defining criteria of social milieus worth investigating:

- health professionals: general practitioners, nurses, health visitors;
- scientific experts;
- media and communication professionals.

Two interviews were conducted with general practitioners and one with a nurse. Within the scientific community, one interview was done with an expert in community paediatric care. A former communications officer and a journalist comprised my media and communications experts.

These specialists were contacted either through my personal network or by cold calling them after having seen their name mentioned in the literature (mass media and specialist) on the MMR vaccination issue.

4.5.2.2 Conducting the interviews

A general topic guide was designed with small variations to take into account the different professional backgrounds of the interviewees. An overview of the themes discussed is provided in Table 4.2 while the topic guide is presented in Appendix 2.

Table 4.2 Main topics discussed during specialist interviews

- Professional background and role vis-à-vis MMR vaccine controversy
- Significant dimensions of MMR controversy
- Description and views of parents' behaviour within the MMR controversy
- Public and personal perceptions of medical profession and scientific community
- Role of the media

Four interviews were conducted at the participants' offices. One interview was conducted in a café while another one was held at the interviewee's private home. The shortest interview lasted 30 minutes and the longest, 90 minutes. The interviews were audio-recorded and transcribed for analysis. The transcript of the first interview (a newly-qualified general practitioner) was later amended in order to remove comments that could easily have identified this specialist and which, in addition, could have been perceived as defamatory. These modifications of her transcript were not deemed problematic as they touched upon themes not relevant to the MMR controversy.

4.5.3 Focus groups

4.5.3.1 Selecting the participants

Both the focus groups and the individual interviews were conducted with mothers only. Despite the greater involvement of contemporary fathers in child-raising matters, childhood immunisation remains, in the great majority of cases, the responsibility of mothers. This reality was confirmed through informal conversations with health professionals and discussions with friends²⁵. Making use of the results of the first specialist interviews, recruitment efforts were targeted at middle-class mothers who were considered to be the main source of resistance to the vaccine and who, in addition, were assumed to be able to articulate their concerns in a rich and productive way.

In addition to the gender and socio-demographic background of the interviewees, one of the main concerns considered during the recruitment process of the focus groups was the homogeneity of the participants' background (Morgan, 1997). Research on group dynamics reviewed by Stewart and Shamdasani (1990) suggests that better interaction and increased communication can be gained by having compatible group members. As discussed in the section on subjectivity issues (Section 4.4.2, p. 117), the compatibility characteristic seems to extend to the moderator as well. This homogeneity was ensured by a hands-on approach to the recruitment process even when delegated to a third party.

Three recruitment channels were used. The first group was entirely made of personal acquaintances, some of whom knew each other. The second group was recruited through an acquaintance who contacted various mothers in her social network, again some of whom knew each other. The third group was recruited through the assistance of a local nursery school's head teacher. Other channels were identified and initial approaches made but kept on hold for possible

²⁵ Further evidence was later provided by examining the methodological choices of recent research on the MMR controversy where empirical data had been obtained almost exclusively through mothers (eg, McMurray et al., 2004; Poltorak et al., 2005; Samad et al., 2006).

additional focus groups and/or for the individual interviews, which were already being envisaged.

Groups varied in size with a minimum of three (due to last-minute cancellations) and a maximum of six, for a total of 13 participants. It was deemed appropriate to conduct only three focus groups. In line with the principles of corpus construction, their preliminary analysis pointed towards saturation in the variation of views expressed; time and resources were limited; and, according to a rule of thumb offered by Morgan (1997), between three and five groups should be conducted by project.

Using the distinction proposed by Bauer and Gaskell (1999) between strong and weak groups, one could describe the three groups thus interviewed as weak forms of grouping even though in two of the groups some people knew each other. In their role as mothers of young children, these mothers shared a common trajectory and a latent project but did not exhibit the self-referential identity that characterises strong groups. These commonalities of trajectory and project enabled conversations to be easily established despite the ephemeral nature of the focus groups. This conviviality was also reinforced by the socio-economic homogeneity of the participants. In that, the focus groups thus conducted were representative of the social environment in which many mothers of young children operate, with attendance to morning coffees, pre-school playgroups, children's events at the local library a common feature of their lives.

Some details about the participants in the three focus groups are presented in Appendix 3.

4.5.3.2 Conducting the focus groups

An interview guide for the focus groups was prepared and slightly modified after the first group was held in view of the participants' reactions to some of the questions and my own learning curve. It incorporated a funnel-based approach (Morgan, 1997) by which the conversation was initiated with a relatively open-ended question ("Issues of concern in the area of children and health"). Building on the answers to this first question, the conversation was gradually focused onto

more specific research questions. In the context of the theoretical framework that was being explored and refined through these focus groups, the first question, based on the principles of free association, enabled a better understanding of how these mothers framed the MMR issue (Gaskell, 2000) and the identification of those core background beliefs they used to make sense of it. This approach was also congruent with the view put forward by Merton and his colleagues that “successful groups discuss a range of topics that not only covers the issues that researchers already know to be important but also may bring up issues that the researchers had not anticipated” (Merton, Fiske and Kendall, 1990, quoted in Morgan, 1997: 45).

The themes discussed (see Table 4.3 below) were similar to the ones addressed in the specialist interviews with a greater emphasis, however, on the decision-making processes that had been used to decide whether to have one’s child(ren) vaccinated (see topic guide in Appendix 2).

Table 4.3 Main topics discussed during focus group interviews

- Attitudes towards motherhood and children-related issues
- Attitudes and actions vis-à-vis MMR vaccine
- Decision-making process over the MMR vaccine
- Views on the medical profession
- Views on the role of the media

In order to replicate the social environment within which mothers of young children meet and discuss their concerns over various issues, the focus groups were done at the researcher’s home or at one of the participants’ providing, therefore, as naturalistic a setting as possible. Participants were seated around a table to make sure that participants could see each other and around the moderator to prevent some people from dominating (Stewart and Shamdasani, 1990). A feeling of fun and pleasantness was deemed to be a necessary characteristic of the group. To this end, some time was spent before the discussion itself chatting

around a cup of coffee and making sure that those participants who did not know each other could feel at ease with everyone. This phase of familiarization was extended into the actual discussion through the open-ended question that launched the discussion.

The moderation of the groups was done with a minimum of interference so as to facilitate the conversational flow and, thereby, minimising the possibility of imposing my own views and representations on the participants (Jovchelovitch, 1995). However, as pointed by Morgan (1997) and, as already discussed in the section on subjectivity, all but the most unobtrusive methods of data collection in social sciences imply some degree of influence on the part of the interviewer and this was acknowledged in the analysis of the data.

Efforts were made to ensure participation from everyone. In the second discussion group, this became an important task, as the group comprised two mothers who had been very active in accessing and making sense of information about the MMR and whose determination and opinionated views clearly impressed and even intimidated some of the other participants.

The groups lasted an average of 90 minutes. They were audio-recorded with the recorder switched on only with the explicit permission of all participants. The actual discussion was followed by a debriefing session, with the recorder switched off, during which the participants conversed with each other and with me on other topics. This period was also used to make sure that the participants were comfortable with what they had discussed during the group. Thank you notes were sent or thank you phone calls made. These provided an opportunity for participants to discuss any issues of concern that may have arisen after the focus groups.

Both the focus groups and the individual interviews were transcribed by a professional company (except for the first in each category which I transcribed myself). The transcripts thus produced were thoroughly checked through a meticulous reading, which allowed me to correct mistakes in transcription and to identify points of emphasis made by the participants that should be taken into

account in the analysis of these conversations. The focus group transcripts were also modified in order to identify the speaker behind each intervention and, thus, to allow the outlining of the different decision-making efforts undertaken by these mothers²⁶.

4.5.4 Individual interviews

4.5.4.1 Selecting the participants

In this last phase of data collection, 18 mothers with at least one child of or beyond the typical vaccination age for the first dose of MMR vaccine (usually between the age of 12 and 18 months) were individually interviewed. By contrast with the group interviews, homogeneity between the mothers interviewed was not required and, instead, sampling procedures tried to maximise the variability of the views expressed.

To this end, four recruitment channels were used. Half of the 18 respondents were found in traditional meeting places for mothers of young children such as playgroups and local libraries. Two of the participants were recruited following initial contacts made during the recruitment phase of the focus groups. As a result of the cosmopolitan nature of the neighbourhood where these first two phases of recruitment took place, the sample thus obtained included a significant proportion of non-British mothers who, however, had all lived in Britain for a minimum of five years and were thus fully aware of the MMR controversy. Preliminary analysis of these interviews confirmed the value of incorporating the perspectives of these people²⁷ but, nonetheless, it was also deemed important to obtain the perspectives of British mothers. To this end, an acquaintance helped me identify three mothers at her local school while the last four mothers came through a

²⁶ The transcription symbols used in the transcripts of the three sets of empirical data are detailed in Table 4.5 at the end of this chapter.

²⁷ Indeed, in his article on *The Stranger*, Schutz (1964) discusses the ability of strangers to uncover previously hidden dimensions of taken-for-granted aspects of everyday life.

professional recruiter. The latter came from a slightly less middle-class background, and thus potentially provided a greater variability in the points of view expressed.

These 18 mothers were provisionally categorized into four ‘natural groups’, which Gaskell (2000) describes as groups of people sharing broadly similar concerns and values and a more or less common past. These four groups were as follows (demographic details on these 18 participants are provided in Appendix 3):

- ***The Anglo-Saxons***: Participants 04, 05, 09, 14 all came from Anglo-Saxon countries with, *a priori*, similar views on science and medicine.
- ***The Southern Europeans***: Participants 01, 06, 07, 08. These mothers (except 01) all come from Mediterranean countries and had similar views on doctors and trust in doctors.
- ***The British upper middle-class***: Participants 02, 03, 10, 11, 12, 13.
- ***The British middle-class***: Participants 15, 16, 17, 18.

The participation of these 18 mothers, the great majority of which were unknown to me, was encouraged through the offer of a £10 voucher from Marks & Spencer. As noted above, written consent was obtained from all participants before the start of the interview. A second consent, this time orally, was obtained before switching the recorder on.

4.5.4.2 Conducting the individual interviews

The individual interviews were conducted in June 2005. Except on one occasion, they took place either at the participants’ home or their office and lasted between 45 and 90 minutes with an average of an hour. A topic guide was prepared with the dual objective of re-examining interesting ideas that had emerged during the focus groups and the specialist interviews, and of exploring in greater detail some aspects of the model proposed in Chapter Three. Thus, in contrast with the group discussions, a greater amount of time was spent discussing the actual decision-making process used by each of these mothers while the role of the medical

profession was not formally addressed but covered as part of other questions. The role of the media was not probed in great detail, as a preliminary analysis of the focus groups had found it not to play a significant role in the decision-making process (even though everyone acknowledged its role as a trigger for the interest in the controversy). An overview of the topics discussed is presented in the Table 4.4 while the topic guide can be found in Appendix 2²⁸.

Table 4.4 Main topics discussed during individual interviews

- Attitudes towards motherhood and children-related issues
- Attitudes and actions vis-à-vis MMR vaccine
- Decision-making process over the MMR vaccine, including sources of information and evidence used
- Attitudes and actions over other health-related issues

As with the focus groups, a certain amount of interviewer self-disclosure (Reinharz and Chase, 2002) was used at the beginning of the individual interviews to put participants at ease except when the participant had already met me and/or when she was under time constraints. Whenever possible, the similarities between our situations were highlighted to reduce the possible power differential between our positions as interviewer and interviewee. This was deemed to be especially necessary when interviewing women from a different background to mine who may never have been in an interview situation before.

²⁸ Realities of motherhood meant that some interviews were conducted in the presence of the participants' children and, in these cases, priority was given to MMR-related topics.

4.6 Data analysis

4.6.1 Overall principles

[Sociological imagination] is the capacity to range from the most impersonal and remote transformations to the most intimate features of the human self – and to see the relations between the two. (Mills, 1967: 7)

The theory of social representations, which provides the main theoretical underpinnings of this research project, puts forward a social constructionist paradigm in which social actors construct their social reality. In this paradigm, “meanings are created (and changed) through a process of interpretation” (Esterberg, 2002: 15) and each social individual is perceived as an active agent and as a “productive source of knowledge” (Gubrium and Holstein, 2002: 15). The location of this project within this paradigm had significant methodological implications for the way empirical data were analysed. As pointed by Esterberg, the main objective of researchers operating within that perspective is to understand “how individuals construct and interpret social reality” (2002: 16). However, researchers also partake in this process of social construction. The meanings of research they produce will be the result of a negotiation process between them and their subjects and will, as such, reflect their interpretation of their subjects’ efforts at constructing their own social reality.

This need to focus on “the meaning of human action and interaction” and to take into account “the interpretations and the common-sense knowledge of the actors” (Seidel and Kelle, 1995: 55) requires the development by the researcher of an ‘empathic understanding’ where the data collected is allowed to speak for itself and to reveal, thereby, the multiple realities of the social object under study carried by the different strategic social actors involved. This view of qualitative research is closely associated with an inductive analytical approach where the researcher attempts to put aside her theoretical preconceptions and where “meaningful hypotheses can be established only after gathering data, that is after establishing contacts with the people in this field through interviewing or observation” (Seidel and Kelle, 1995: 55). This has often been linked to a

rejection of a more deductive approach whereby the researcher sets out to test hypotheses developed independently of the data. However, this dichotomy between the two approaches is at best, unproductive, and at worst, totally misleading as it does not take into account the fact that “there are and can be no sensations unimpregnated by expectations” (Lakatos, 1982: 15 quoted in Kelle, 2000). Social scientific research is not produced in a theoretical void and researchers come to the analytical phase of their work carrying some theoretical baggage that must be incorporated. Indeed, this realisation has led Strauss to propose a ‘paradigm model’, that is, “a general theory of action that can be used to build a skeleton or ‘axis’ of the developing grounded theory” (Kelle, 2000: 287).

With those observations in mind, the analysis of empirical data followed a two-step procedure, which explicitly combined a discovery process and the testing of hypotheses concerning the operationalisation of cognitive polyphasia. Phase One focused on the content of the sense making efforts of parents facing the MMR controversy by making use of the data collected during the specialist and group interviews and the newspaper articles included in the media analysis. In addition to gaining a deeper and richer understanding of the MMR controversy, these data enabled the meeting of three objectives:

- to identify the different discourses circulating around the controversy within contemporary Britain. These forms of discourse were hypothesized to correspond to different types of knowledge used by the British media to communicate on the MMR vaccine controversy and available, therefore, as sense making resources for mother;
- to identify significant themes, or core background beliefs, orienting the sense making efforts of parents;
- by elucidating the relations between the types of knowledge and the core background beliefs, to flesh out the proposed theoretical framework for the operationalisation of cognitive polyphasia.

Phase Two dealt with the individual interviews conducted with the 18 mothers of young children. Its main objective was to clarify the structure of the sense making efforts undertaken by these mothers and to use this understanding to prepare a workable version of the cognitive polyphasia model. In line with the principles of the theory of social representations, while the focus of this phase was on structure, the content of these sense making efforts was part and parcel of this analysis.

Further details on each analytical phase are provided in the rest of this chapter.

4.6.2 Phase One

The first phase of analysis relied on two computer-aided qualitative data analysis software: ALCESTE and NVivo. One of the major advantages of using these software packages is the more systematic and explicit process that they allow and which makes the whole analysis more transparent and rigorous (Krueger, 1998).

ALCESTE is both a technique for the analysis of texts based on distribution of vocabulary within these documents and a methodology that integrates sophisticated statistical methods based on multi-dimensional scaling (Kronberger and Wagner, 2000). The software is based on the assumption that different points of reference are represented by different ways of talking and has for objective the identification of the different types of discourse that have developed about the topic under study within the social groups of interest. Classes of meaning are produced using the principles of descending hierarchical analysis alongside a list of words that are characteristic of each class. These classes can be further interpreted by the researcher drawing upon other methods of text analysis (Kronberger and Wagner, 2000). A more detailed discussion of ALCESTE and of its use in the first analytical phase of this project is presented in the next chapter.

NVivo includes a number of tools that can assist researchers in the development of theoretical concepts and the testing of hypotheses and, as a result, is described Gibbs (2002) as a 'theory builder's software'. The software is built around the idea of nodes defined as "a way of connecting a theoretical concept or idea with passages of text that in some way exemplify the idea" (Gibbs, 2002: 57). The

possibility to create ‘memos’ at each stage of the coding process allows one to trace and thus re-create the analytical procedures followed by the researcher and thus increases the transparency and reliability of the analysis. The researcher’s reflections thus become part and parcel of the process of knowledge production (Prein and Kelle, 1995).

After a number of detailed readings, the transcripts for both the specialist interviews and the focus group discussions were coded using referential coding whereby each node referred to a specific theme or a significant message being raised by the participants (Richards and Richards, 1995; Seidel and Kelle, 1995). In this context, it was essential to let the data speak for itself and to adopt a very open-ended approach to coding, keeping in mind the surprise element mentioned by Gaskell and Bauer (2000) in their list of quality criteria. The transcripts of these interviews were therefore coded according to the main themes being addressed using a combination of ‘in-vivo’ codes (where the nodes are named after the actual words used by participants) and ‘labelled’ codes (where the researcher comes up with a name for the node). As additional transcripts were coded, the nodes were modified and their meaning became more precise. Memos were written for each node created, allowing the set of nodes developed for one set of data (ie, specialist interviews) to be built upon in the coding of the next set (ie, focus groups).

The coding phase was followed by a process of comparison between the two sets of data, which implied a constant movement back and forth between the codes developed, the hierarchy behind them and the transcripts, and provided an additional opportunity to increase the quality of the coding exercise (Knodel, 1993). Finally, the first analytical phase was concluded by an explicit search for the commonalities and differences between the themes put forward by the two sets of participants in order to identify the patterns and structures behind them (Kleining and Witt, 2001) and to explore possible relations between the concepts thus identified. Together, these steps formed a reiterative process by which the nodes identified were made more precise and the relations between them began to

shape a possible theoretical framework for the operationalisation of cognitive polyphasia.

The units of analysis for the focus groups were both the mothers as a group, with a specific identity as mothers as opposed to the other roles they perform or identify with, and individual mothers. Mothers as a group revealed the content and the dynamics of those social representations that formed the background to the sense making efforts within the MMR debate while the observation of each individual mother allowed for the sketching of the decision-making processes involved. This dual perspective also enabled to assess and measure the effect of group interaction on an individual's thinking both in terms of its content and the processes adopted and to "acknowledge the interplay between these two 'levels of analysis'" (Morgan, 1997: 60).

4.6.3 Phase Two

The second phase of analysis focused on the 18 individual interviews conducted in the last round of data collection. It had as its main objective to test and refine key aspects of the cognitive polyphasia model described in Chapter Three and to understand better how mothers facing the MMR controversy had made sense of it and decided whether to give the vaccine to their child(ren). Results obtained in Phase One provided the material from which to start. As explained above, the NVivo-based analysis of the specialist and focus group interviews had allowed the identification of the major themes that circulated in the background of the MMR controversy and the outlining of a theoretical framework for cognitive polyphasia. In parallel, the ALCESTE analysis of newspapers had pointed towards three types of knowledge being used in the media discourse.

The themes and types of knowledge thus identified provided the backbone around which to articulate the first round of coding of the individual interviews. Free coding was also used in order to identify themes not discussed by the specialists or the focus groups, and the coding frame thus obtained was arranged hierarchically into a number of key categories. In turn, each of the 18 transcripts was summarised using as a structure these key categories. The summaries also

included some socio-demographic information about each of the mothers and relevant sections of my interview notes, which allowed me to contextualise the interviews. A second round of coding was then performed, this time focusing on key aspects of the decision-making process discussed during the interviews and some of the elements of the cognitive polyphasia model that had begun to emerge after the first phase of analysis. Results from this second round of coding were then incorporated into the transcript summaries.

Phase Two concluded with an argumentation analysis performed on the transcript summaries going back, when needed, to the actual transcripts for additional details or clarification of certain points. The argumentation analysis had three objectives:

- to refine the understanding of the decision-making processes used by these mothers;
- through the identification of the types of knowledge used by these mothers, to establish whether they represented examples of cognitive polyphasia and, if so, to establish a typology of cognitive polyphasia;
- to assess the validity of the proposed theoretical framework.

The use of argumentation analysis at this stage of my research relied on two major assumptions. First, it was assumed that the individual interviews conducted with these 18 mothers could be conceptualised as the verbal externalisation of the arguments they had had with respect to the MMR controversy, be it in the shape of an actual discussion with their partner, friends or relatives or through an internal dialogue where the opposing side came through the media reports or discussions overhead. The latter possibility is acknowledged by van Eemeren and Grootendorst (1992) and is also discussed by Billig in his description of the social perceiver as someone “engaged in an internal dialogue, in which she or he struggles to make sense of the world, using the contradictory assumptions and ‘common senses’ provided by his or her culture” (Condor and Antaki, 1997: 331). In this context, human thinking is not merely “a matter of processing information

or following cognitive rules” but an argument with oneself, an attempt at persuading oneself (Billig, 1991, quoted in Condor and Antaki, 1997: 331).

The second assumption dealt with the nature of the arguments made and, in particular, the proposition that the data and warrants put forward (see below for a definition of the different argument parts) were indicative of the types of knowledge used in the sense making efforts of these mothers. In addition, the specific steps gone through in their decision-making were assumed to exemplify the systematic or heuristic nature of their knowledge processing (see below for more specific criteria).

As discussed before, the analysis of newspaper articles had allowed the identification of three forms of discourse assumed to be representative of three types of knowledge circulating about the MMR controversy. These were scientific knowledge, political knowledge and common sense knowledge. The identification of types of knowledge within the discourses of these mothers built on the typologies of knowledge from Bruner, Moscovici and de-Graft Aikins examined in Chapter Three (see Section 3.4.3.4, p. 88) and was formalised through the use of NVivo memos that enabled a constant check on and the dynamic adjustment of the typology of knowledge pertaining to the MMR debate. The coding and argumentation analysis performed on the individual interviews confirmed that the different sense making strategies used by the 18 mothers interviewed were covered by these three types of knowledge, with the exception of one participant (Participant 17) who also relied on religious knowledge.

The argumentation analysis built on the work of Liakopoulos (2000a, 2000b) and his readings of argumentation theorists such as Toulmin, Perelman and Olbrechts-Tyteca, and van Eemeren and his colleagues. Liakopoulos defines argumentation as a “verbal or written activity consisting of a series of statements aiming at justifying or refuting a certain opinion, and persuading an audience” (2000a: 153). According to this author, the technique of argumentation analysis is understood to cover both the identification of these statements and their structure, and an assessment of their soundness. However, in the analysis conducted here, no

attempt was made to assess the ‘value’ of the arguments put forward by mothers and the emphasis was put on the content as opposed to the structure of their arguments.

The transcript summaries, and when required the actual transcripts, were thus re-visited in order to identify the elements of the arguments made, more or less explicitly, by the mothers in order to explain their decisions vis-à-vis the MMR vaccine. Building on Liakopoulos’s (2000a, 2000b) work, the different parts identified were the following:

- ***Claim***: “A statement that contains structure and is presented as the outcome of the argument supported by facts” (2000a: 157). Liakopoulos notes that other claims may be found within the same argument over and above the central claim.
- ***Data***: “Facts or evidence that are at the disposal of the creator of the argument” (2000a: 158). These facts or evidence are always related to the main claim made in the argument but may refer to past events or the current situation.
- ***Warrant***: “A premise consisting of reasons, guarantees or rules used to assert that the data are legitimately utilized to support the claim” (2000a: 158). Using the rule of the logic of the specific argument being made, warrants represent the logical step between data and the conclusion.
- ***Backing***: “A premise that is used as a means of supporting the warrant in the argument” (2000a: 159). Premises certify the acceptability and truthfulness of the reason or rule behind the warrant.

Echoing Liakopoulos’s concern that backings are not always explicitly stated in people’s arguments, attention was also given to the identification of hidden premises. As noted by van Bavel and Gaskell (2004), everyday conversations (which the individual interviews conducted here were trying to replicate), are full of these taken-for-granted ideas, beliefs that are, as a consequence, often not

stated, but which, nevertheless, play a significant role in the communication process between people.

Liakopoulos (2000a) also comments on the lack of clarity that exists between the different parts of arguments. For instance, he notes how some statements can sometimes be used as both data and warrant, especially in the context of scientific arguments, and that data can actually be claims made in previous arguments. Similarly, warrants, when taken out of the argument context, can also be claims and data can be opinions. This could be seen as a problem in terms of the reliability of the analysis conducted but, in this project, the exact classification of the argument parts was not perceived to represent a major issue as the focus was on the content of these argument parts put together.

An attempt at identifying and categorising systematic and heuristic modes of knowledge processing used by these mothers was also made, building on the study conducted by Craig Trumbo (2002). As described in Chapter Three, his study looked at the perception of risk by individuals living in three communities in the US facing perceived cancer rates in their town or neighbourhood by using an adopted version of the heuristic-systematic model. To this end, Trumbo designed a postal questionnaire in which a number of questions were designed to assess to which extent people had used heuristic and/or systematic modes of processing. Using his thinking, I used the following criteria for the differentiation of heuristic versus systematic modes of processing in the context of the MMR debate:

- heuristic processing involves the existence and use of a simple decision rule (eg, trust in the experts, using past experiences, using existing knowledge);
- systematic processing must imply a combination of at least two of the following activities:
 - the mother wants to access several sources of information before reaching a decision whether to vaccinate her child(ren)

- the information gathered is carefully examined
- the participant is constantly trying to learn more about the MMR controversy
- when encountering information relative to the MMR vaccine, the mother stops and carefully thinks about it.

4.7 Conclusion

As explained at the beginning of this chapter, the methodological choices regarding data collection and analysis were the result of the characteristics of the project, the theoretical framework within which it is located and quality issues. In particular, the exploratory nature of the research presented in this document called for a careful methodological approach where the results of each set of data were partially analysed and their implications for a possible operationalisation of the hypothesis of cognitive polyphasia well understood before undertaking the next round of data collection.

This exploration of cognitive polyphasia within the context of the MMR controversy started with the ALCESTE analysis of newspaper articles. This is reviewed in the next chapter.

Table 4.5 Transcription symbols

Format	Meaning
<i>Italicised words</i>	Emphasis or emotional stress placed on words or expressions
(???)	Inaudible sections of tape
...	Speaker did not finish his/her sentence or hesitated before finishing it
(...)	Omission of sentence segment
((...))	Omission of one entire sentence
(((...)))	Omission of more than one sentence within the same answer
[words]	Words in brackets indicate my descriptions and explanations added after transcription to facilitate understanding of the interviewee's comments

PART II

Chapter Five – Overview

This chapter focuses on the ALCESTE analysis of some 350 newspaper articles that appeared between February 1998 and June 2003. It begins with a brief description of the classes that were found in the six analyses that were performed. It is argued that these classes represent major types of discourse that were circulating during that period about the MMR controversy:

- the political aspect of the MMR controversy and the role of the government in it;
- the scientific evidence and counter-evidence that surrounded the debate;
- the personal testimonies of parents, mostly of children allegedly damaged by the MMR vaccine, but sometimes of children who suffered because they did not receive it;
- facts and figures around the controversy mainly in terms of the decline in uptake rates and the increased risk of measles epidemics.

In the last section, possible links between ALCESTE classes and types and modes of knowledge are discussed.

5 Media analysis

5.1 *ALCESTE - Overall principles*

As observed in the previous chapter (see Section 4.6.2, p. 134), ALCESTE (*Analyse Lexicale par Contexte d'un Ensemble de Segments de Texte*) is defined both as a technique for the analysis of texts, and a methodology based on sophisticated statistical methods (Kronberger and Wagner, 2000). In the words of its creator: “The objective [of ALCESTE] is to obtain a primary statistical classification of the ‘contextual units’ of the studied corpus in function of the way words are distributed within these units – in order to reveal the most characteristic words” (Reinert, 1998a: 1).

This software of textual analysis allows for a systematic analysis of a corpus based on an inductive approach that uses a non-sequential reading of the text (Delavigne, 1999). It enables one to build hypotheses about the corpus (Reinert, 2000) and reveals trends and possible meanings one would not necessarily get through a more human-based analysis. As with all quantitative techniques of analysis, the results produced by ALCESTE are, however, purely denotative (Gillepsie, 1999) and must be interpreted by the researcher, drawing on her understanding of the issue at stake and making use of her ‘sociological imagination’ (Mills, 1967).

The software assumes the existence of different perspectives about an object, and that these points of view can be identified by specific ways of talking to which is associated a specific vocabulary. Its aim, therefore, is the identification of the different forms of discourse that have developed about a specific topic.

Building on the works of the American linguist Zellig Harris, ALCESTE is based on the statistical technique of correspondence analysis developed by Jean-Paul Benzécri at the end of the 1960s for linguistic applications (Allum, 1998). In this technique, the different ‘contextual units’ (see below) of the corpus are linked together based on the vocabulary that they share, producing classes that represent

different ‘lexical worlds’²⁹. These can be viewed as representative of different forms of discourse or different visions of the world (Delavigne, 1999).

ALCESTE works by partitioning the original corpus into two types of contextual units (Reinert, 1998a). Initial Context Units (ICUs) refer to the main divisions of the text and are usually predetermined by the researcher using a series of symbols. Variables can be attributed to these ICUs allowing for more sophisticated analyses. The second partitioning is effected by the software, although the user can modify some parameters, and results in the definition of the ‘sentences’ from which ALCESTE will perform the analysis. These sentences, which may differ from grammatical sentences, are called Elementary Contextual Units (ECUs).

The words contained in the corpus to be analysed are categorised into three main groups: ‘meaningful words’, that is, the vocabulary of the corpus, the most important of which are nouns, verbs, adjectives and adverbs; ‘function words’ such as pronouns, possessive adjectives, conjunctions, etc; and ‘locutions’. ALCESTE then brings together words that belong to the same morphological family irrespective of their syntactical use by lemmatising these words, that is, sorting them so as to group together those that are inflected or variant forms of the same word (Allum, 1998). The software thus creates its own dictionary of ‘reduced forms’ of the original corpus (Delavigne, 1999).

From this partitioning of units and forms, the corpus is modelled and cross-tabulated using a table with ECUs as rows and reduced forms as columns. The classification process then begins using an algorithm known as ‘classification descendante hiérarchique’ (CDH), described by Allum (1998: 17-18) as “similar to a hierarchical cluster analysis except that the process is reversed”. The partitioning of the text into classes proceeds iteratively until a terminal classification is obtained, with the chi-square value of the cross-tabulation of

²⁹ Lexical worlds, or perspectives on a given topic, must be distinguished from ‘lexical contexts’, which refer to the list of words associated with a given class of ECUs (Methodology Institute, 1998).

forms and elementary contextual units providing the criterion behind the partitioning of each branch (Allum, 1998). Classes of meaning are produced alongside a list of words (here, in their reduced forms) that are representative of each class. Each word is given a chi-square value, which is produced by calculating the number of times it appears in that class compared with the total number of times it appears in the overall corpus. Chi-square values thus indicate the degree of belonging of a word to a class and enable one to identify the most characteristic words for all the classes produced by the software.

Another useful output of ALCESTE concerns the distribution of categories of words across the classes identified by the software. Meaningful words, function words and locutions are classified according to their semantic and grammatical categories and assigned a 'categorical tag'. These categorical tags are then crossed with the classes in order to define possible links between categories and classes (Methodology Institute, 1998). Chi-square values are produced with high positive values pointing to a strong positive association and high negative values indicating a strong negative association.

It is worth noting that ALCESTE performs two separate preliminary analyses on the corpus using context units of slightly different lengths in order to test the stability of the results (Allum, 1998). The final classification is performed only on those contextual units that have been found to be stable across the preliminary analyses. The results of the final analysis include a stability coefficient, which represents the percentage of elementary contextual units that were allocated to the same classes in both preliminary analyses, and thus indicates the stability and reliability of the classes (Gillepsie, 1999).

5.2 Procedure

Before carrying out the ALCESTE analyses, the corpus of newspaper articles was adjusted in order to meet the input requirements of the software. This operation was made relatively complex by the way the articles had been input into the Lexis-Nexis electronic database which was used to collect the articles. For instance, all references to 'copyright', date of publication, page number, etc. had

to be removed manually. The spelling of words was checked and harmonised throughout the document. Compound locutions (eg, take up, per cent, side effects), which are frequently used in English, were signposted by the use of underscore between the words forming these locutions. The different ways of referring to people involved in the MMR controversy (eg, Dr Wakefield, Andrew Wakefield, Wakefield, Dr Andrew Wakefield, etc.) were homogenised and underscored so that the software could perceive them as one term. Other expressions were also harmonised. For instance, references to Tory Party and the Tories were changed into Conservative(s). To circumvent some of the problems faced by ALCESTE when dealing with English language (the software was developed using French as its basic language), the decision was made to remove the apostrophes of possessive forms, leaving the 's' at the end of the words concerned, and to use the long versions of the verbal forms (eg, you are, I am, they are).

The original corpus of newspaper articles was analysed at different phases of the 'cleaning' process in order to indicate areas where further cleaning was necessary and in order to test the reliability of the analysis. Six different analyses were thus performed on the corpus.

5.3 Results

The six rounds of analysis produced between five and eight classes³⁰. Closer examination of these analyses (see Table 5.1 on next page) points to the existence of four main classes that appeared in all of them.

³⁰ Indeed, one of the criticisms addressed to ALCESTE concerns the instability of the results since the number of classes identified by the software can easily vary as a result of minor adjustments made to the corpus. However, I would argue that this deficiency is more than compensated by its ability to reveal latent discourses, which may not be so easily identifiable through a human-based analysis.

Table 5.1 Result overview for the six ALCESTE analyses

Theme	Analysis					
	1	2	3	4	5	6
MMR and the government	x	x	x	x	x	x
Scientific evidence and counter-evidence	x	x	x	x	x	x
Individual stories	x	x	x	x	x	x
Facts and figures	x	x	x	x	x	x
Single vaccines	x	x	x		x	x
Personal views and opinions	x			x	x	x
Risks of childhood diseases					x	x
Other scientific evidence					x	x

These four classes can be understood as ‘meta-classes’ representing the following ‘lexical worlds’ about the MMR controversy:

- the political dimension of the debate especially in terms of the role of the government and government officials in its unfolding;
- scientific facts about the MMR, in particular, the evidence presented by Wakefield and his team and the counter-evidence offered by the medical authorities;
- individual stories of parents of children suffering from autism-related conditions and, to a lesser extent, of children damaged by the side effects of childhood diseases;
- the practical consequences of the controversy in terms of a decline in the take-up rate of the MMR vaccine and an increased risk of epidemics.

Analysis 4, which provides the material for the rest of this chapter, produced five classes, of which the four meta-classes of particular interest to us. This specific analysis was selected for a number of reasons. Although its stability coefficient was not the highest of the six analyses performed, it stood at nearly 72% indicating a more than adequate degree of reliability. The four meta-classes produced by this analysis all contain words with relatively high chi-square value, pointing to a good match between the words and the classes. The corpus of articles had by that stage been processed extensively and the results can therefore

be viewed as relatively stable. In addition, the classes produced agree with most of Boyce's (2005) findings in her examination of the content of the mass media, an indirect confirmation of the reliability of the exercise. Table 5.2 provides the key data and statistics concerning this analysis

Table 5.2 Key statistics for Analysis 4	
Total number of words in corpus (occurrences)	266291
Total number of occurrences analysed	106833
Number of meaningful words analysed	1346
Number of ICUs	347
Number of ECUs	6722
Number of lexical classes	5
Minimum chi-square value for word selection	16.1
Stability coefficient	71.87%

As discussed earlier, the stability coefficient refers to the percentage of ECUs that appear in the same classes across the two preliminary analyses done by ALCESTE. The number of co-occurrences over the five classes, which is presented in Table 5.3, and their chi-square values, presented in Table 5.4, provide a more detailed analysis of the stability of the final partitioning.

Table 5.3 Analysis 4: number of co-occurrences across two analyses					
Class	A	B	C	D	E
A	1080	30	12	21	22
B	18	1408	5	16	34
C	36	18	570	253	7
D	70	24	65	651	12
E	12	67	15	20	1122

Table 5.4 Analysis 4: chi-square values for co-occurrences					
Class	A	B	C	D	E
A	4350	-463	-166	-244	-333
B	-499	4570	-257	-367	-437
C	-192	-345	2758	96	-265
D	-99	-295	-14	2601	-228
E	-402	-392	-173	-270	4535

High positive chi-square values indicate that an occurrence in one class has a high chance of occurring in the other while negative values mean that the classes are quite distinct. Ideally, the figures on the diagonal should be positive while the other values should all be negative (Gillepsie, 1999). The positive value at the intersection of Class C and Class D (chi-square value of 96), therefore, indicates a certain amount of association between these two classes, which we will explore later.

The next sections will examine the four stable classes, commenting on the most significant words that belong to them (significant words that have been lemmatised by ALCESTE include a '+' at the end). Whenever appropriate, I will also quote extracts from the original newspaper articles, based on the typical ECUs automatically selected by ALCESTE. These ECUs are selected on the basis of the distribution of occurrences in ECUS and are said to be the most representative of the type of discourse found in the class concerned³¹.

5.3.1 MMR and the government

Class A of Analysis 4 represents the role and involvement of the government within the MMR controversy. This class contains 1080 out of the 4831 elementary units of context, that is, more than 22% of the total. Out of the 155 selected words in this class, 21 have a chi-square value above 100, making it a very clearly defined class when compared with the other ones (see Tables 4 and 5 in Appendix 4).

As we will discuss further in the analysis of the group interviews, the MMR controversy was fuelled for a number of months, at the end of 2001 and the beginning of 2002, by the question as to whether Prime Minister Blair's younger son, Leo, had received his MMR vaccination. Nearly 240 articles out of the 347 in the corpus mentioned Leo Blair's name. This is reflected in this class where the most representative full words are connected to this story or related stories

³¹ Where included in the quotes, article headlines appear in bold characters.

involving other government officials (see also Tables 4 and 5 in Appendix 4). A typical example follows:

Come clean, Cherie. Conservatives step up pressure over Leo and MMR. Tony and Cherie Blair were challenged again yesterday to reveal whether their youngest son Leo has been given the MMR jab. (Daily Mail, December 2001)

The political dimension of the MMR controversy comes in full light in this class with the Conservatives and the Liberal Democrats requesting the Prime Minister to confirm whether his son has received the MMR triple vaccination. The major actors of the political scene linked to the MMR debate are all present: the former Health Secretary, Alan Milburn, and the two health ministers active during this period, Jacqui Smith and Yvette Cooper, and their opposition counterpart, Julie Kirkbride.

The confrontational nature of the political debate linked to the MMR controversy is reflected in the prevalence of words such as *accus+*, *challenge+*, *issue+*, *offensive*, *refuse+*, *scaremonger+*, *question+*, *battle+*. The following quote reflects this choice of vocabulary and also highlights the political battle that was played over the single vaccinations seen by many MPs, such as Julie Kirkbride, as the best compromise solution and a ‘right’ to which parents were entitled:

The Conservative MP Julie Kirkbride has no doubts. She accused health ministers of “patronising bull-headedness” over their stance against single vaccinations last week, and is planning to introduce a private members bill to give parents the right to have them on the NHS. (The Independent, January 2001)

Another significant characteristic of this class is its narrative undertone and its very ‘personal’ nature. This manifests itself by the inclusion of words like *his*, *son+*, *family+*, *private+*, *parent+*, and *personal+*:

Blair: leave my Leo alone. PM gives hint over MMR jab. Tony Blair interrupted preparations for his family Christmas last night to attack ‘horrible’ attempts to disclose whether baby Leo has had the controversial MMR jab. (Mail on Sunday, December 2001)

One can speculate that the importance of and the role played by individual stories such as Leo Blair’s episode is recognised by the different actors concerned as

several mentions are made of the importance for the prime minister and his family to ‘come clean’ on the issue:

Blair fuelled MMR anxiety, says top Scots doctor. The leader of Scotland’s doctors has attacked Tony Blair for his handling of the MMR crisis. John Garner, head of the British Medical Association’s Scottish council said the Prime Minister had created anxiety and uncertainty by his refusal to say whether his son Leo had been given the jab. (Sunday Times, February 2002)

5.3.2 Scientific evidence and counter-evidence

Class B of Analysis 4 deals with the scientific discourse that surrounded the MMR debate. This class is the largest of the four stable ones and contains 1408 elementary units of context or more than 29% of the total number of such units. Words that belong to this class tend to have a very high chi-square value and 27 words, out of a total of 183 that are included in this class, have a chi-square value above 100 (see Appendix 4, Tables 4 and 5).

The class deals first and foremost with the alleged link between the measles virus and autism discussed by Dr Andrew Wakefield and his colleagues in the study he first conducted at the Royal Free Hospital in London (Wakefield et al., 1998). This is revealed through the presence of words such as autism+, bowel disease+ (and disorder+), Dr Wakefield+, gut+, inflammatory, link+, MMR+, Royal Free Hospital, Crohn’s disease+, and reflected in the following extracts from key representative newspaper articles:

Dr Wakefield, a specialist in gastro-enterology, triggered the original scare about the vaccine with research papers in 1995 and 1998 suggesting it could be linked with bowel disease and autism. (The Independent, January 2001)

(...) Now their fears have been heightened by new research into the link between the MMR vaccine, autism and a newly identified bowel disease. The study by experts at the Royal Free Hospital School of Medicine and reported in *The Lancet* medical journal discovered a new syndrome in children that connects inflammation of the gut and autism. (Mirror, March 1998)

This class also contains the opposite side of the debate, and references to studies that contradict Dr Wakefield’s findings are present:

The Department of Health and Medicines Control Agency insisted the safety of MMR vaccines has been reviewed repeatedly by independent expert advisory committees which found the evidence does not support any link with inflammation of the bowel or autism. (Daily Mail, January 2001)

His views were heavily criticised and repeated studies since then have found no link between the MMR vaccine and developmental disorders. One of the latest studies by the American Academy of Paediatrics reviewed evidence from 1,000 different scientific papers and concluded there was no connection. But Dr Wakefield's research has remained a concern for parents and been publicised by anti-vaccination campaigns ever since. (The Independent, February 2002)

The lexical context, or list of words associated with this class, reflects also the language typically used by the scientific establishment to present its findings and question them. Words such as find, conclude+, evidence, examine+, findings, are used to describe the processes by which a scientific discovery is introduced into the public sphere and then becomes the subject of debate. Words such as The Lancet, professor+, expert+, international+ are frequently used to establish the credentials of the different actors concerned, confirming the role of ethos as an effective rhetorical device in the scientific world, used to establish, maintain and reinforce its credibility in the public domain (see Gross, 1996 for a fuller discussion of this point). The following quotes give an example of this scientific-based discourse:

The Department of Health said last night that although Dr Krigsman's evidence had been presented to the U.S. Congress, it had not yet been published in a scientific or medical journal. It added: We are not aware that it has been reviewed by other independent scientific experts. There is no evidence in any of his reported findings of a causal link between MMR and inflammatory bowel disease or autism. (Daily Mail, June 2002)

Children's vaccine is safe, say experts. A group of 37 scientific experts has concluded that the combined MMR vaccine against measles, mumps and rubella is safe after reviewing all the evidence linking it with bowel disease and autism. (The Independent, March 1998)

5.3.3 Individual stories

Personal stories linked to the MMR controversy are covered in Class C of Analysis 4. This class is less statistically significant than the first two classes

discussed previously with only 570 elementary units of context or 11.8% of the total and lower chi-square values attached overall to the words in this class. However, as pointed in Section 5.3 (p. 148), there seems to be an association between Class C and Class D - which deals with personal views and opinions in particular of parents and columnists (see below), and one may therefore be justified in amalgamating these two classes. This possibility will be examined more closely in Section 5.3.5 (p. 158).

This class presents the ‘personal’ aspect of the MMR controversy, the ‘need to tell’ common to all humans, discussed by Jovchelovitch in her study of public spheres (1995). It makes much use of words connected to family life (home+, bed+, husband+, mother+); to named individuals (Jamie+, James+, Stephen, Anne, Claud+); and to the symptoms developed or problems experienced by the children whose conditions are described (speak, speech, rash, scream+, temperature+). One can safely assume that parents of ‘damaged’ children need to find possible explanations for the condition of their affected child and the activity of story telling revealed in this ‘lexical world’ serves just that purpose: “The function of story telling involves intentional states that alleviate, or at least make understandable, events and feelings that confront cultural canons. They do so by engendering links between the triviality of everyday life and the exceptionality of unexpected situations” (Jovchelovitch, 1995: 177).

As pointed by Hargreaves, Lewis and Speers (2003) and confirmed by Boyce (2005), the stories told by the parents of autistic children must be seen as part of the debate about the safety of the MMR vaccine presented by the newspapers. This debate sometimes took place between scientists only (see Classes B and E) but was often conducted through affected parents, thus generating an immediate wave of public sympathy towards them and shifting the weight of the evidence in favour of the latter: “Including parents when balancing stories allowed anecdotal evidence from parents with autistic children to enter the discussion – which, while not authoritative as scientific evidence, is powerful rhetorically” (Boyce, 2005: 338). Examples of these personal stories are provided below:

It was just like his lights had gone out. On December 4 1989, one year-old Robert Miles was helping his sister Kate celebrate her fourth birthday. 'We have pictures of him looking like his old happy self,' says his father Richard, a fine arts and antiques dealer. The next day, Robert had the MMR vaccination. (The Times, February 2002)

At 13 months old, Melissa Mackay was a happy, healthy baby. She could speak a few words, walk a few steps, and loved laughing and playing with her elder sister Vanessa. (Mirror, March 1998)

After the vaccination she had a very high temperature and a measles-like rash, said Mrs Woodward, pictured left with Francine. A few weeks later she started losing interest in playing with her toys and stopped making eye contact. For a long time I was told she was borderline autistic. (Daily Mail, January 2001)

The 'tool-words' used in this class are also words typically used by people when telling a story. Among these words, one can find: never, after, when, was. The personal pronoun 'I', 'she', and 'him' are used extensively here with a chi-square value of respectively 120, 240 and 93. The same applies to possessive adjectives such as 'her' and 'my' with chi-square values of 325 and 125, respectively. The significant presence of personal pronouns and possessive adjectives is indeed corroborated by the chi-square value for this category of words (271) compared with a chi-square value of -166 and -230 for this category of words respectively in Classes B and E (see below).

These words belong to the discourses of individuals telling their life stories, talking about their own children and the disastrous consequences for their life they impute to the MMR vaccination or, in some rare cases, to the fact that their children had not received the injection at all or in time. An example of the latter possibility is shown in the following quote:

People too complacent about risk of measles. Clara was put into paediatric intensive care, where doctors said the virus might have spread to her brain, but there was little they could do to combat it other than try to alleviate the symptoms. 'Suddenly they said, get your husband here now, your baby is touch and go,' said Mrs Forbes. Clara showed signs of improvement three days later. She was discharged after a week. "I do feel guilty that we delayed vaccination for Clara, because she had a cold," she said. (The Times, February 2002)

5.3.4 Facts and figures

Factual and numerical evidence linked to the MMR debate are included in Class E of Analysis 4. With 1122 contextual units, that is, more than 23% of the total units, this class is the second largest identified by the software. The story told in this class concerns the visible consequences of the MMR controversy in terms of the decrease in the uptake of the vaccine and the accompanying risks of epidemics. Here, a very factual vocabulary is used with words such as: fall, area+, case+, death+, disease+, epidemic+, immunis+, level+, outbreak+, per cent. Names of specific locations (eg, South London, Scotland, Dublin, Gateshead) are used frequently as journalists report on the uptake of the MMR vaccine in various locations. Representative sentences of this discourse follow:

(...) [the uptake of the MMR vaccine] which has fallen from 93 per cent of the child population to 88 per cent nationally, with rates dropping as low as 74 per cent in some areas. Health officials warned last week that Britain faced the threat of a measles outbreak after 3,500 cases and five deaths were recorded in the last year in two outbreaks in the Dublin area of Ireland and in the Netherlands (...). (The Independent, January 2001)

Only 73 per cent of children in the borough of Lambeth, which covers Streatham, have had the MMR injection. A cluster of seven suspected cases has been detected in Gateshead and South Tyneside, bringing the total number of suspected and confirmed measles cases nationally to 45. (Daily Mail, February 2002)

Numbers are used throughout this context to quantify the increases or decreases in the uptake of the MMR vaccine, the risks of epidemics developing, of contracting specific illnesses or of developing side effects. This is corroborated by the chi-square value for the category 'numbers' which is 210 for this lexical context.

This class is characterised by a discourse of fear where the sometimes deadly consequences of measles, mumps or rubella are exposed in unequivocal terms. This latter observation helps explain the prevalence of terms such as brain damage+, deafness, death+, fatal+, and serious+:

Mumps can also cause permanent deafness. Measles has nasty complications including encephalitis, ear infections and pneumonia. Fifteen per cent of children who suffer from

measles encephalitis will die and 20-40 per cent of survivors will suffer from brain damage. (Mirror, June 2002)

Such is the threat of an epidemic in Britain that 20 local authorities, many in the London area, have been asked to prepare emergency vaccination programmes. Models drawn up by the government's Public Health Laboratory Service (PHLS) predict a worst-case situation in which tens of thousands of children contract the disease, which can lead to blindness and even death. (Sunday Times, July 2002)

5.3.5 Other significant classes

As discussed above, the number of classes obtained in the six rounds of analysis performed on the original corpus of newspaper articles varied between five and eight, with the four discussed above considered to be key discourses. Of the four additional classes obtained, two appeared only in Analyses 5 and 6 and can be understood as sub-sections of the four meta-classes. For instance, the discourse pertaining to facts and figures concerning the MMR debate (discussed just above) has been divided in two smaller classes, the first one focusing on the uptake rates and cases of measles in areas where parents have notoriously been against the vaccine, and the second dealing specifically with the risks of childhood diseases. The same split happens over the discourse concerning the scientific evidence surrounding the MMR controversy with one class dealing with the pro-MMR evidence and the other one focusing on the anti-MMR case.

Although not a feature of the six analyses performed, the two remaining classes ('Personal views and opinions' and 'Single vaccines'), however, appeared respectively in four and five of the analyses (see Table 5.1, p. 149) and point towards the existence of slightly different discourses than the ones covered by the four meta-classes. They are discussed in the next two sections.

5.3.5.1 Personal views and opinions

This class has been identified by ALCESTE in four of the six analyses conducted and, in particular, in Analysis 4 used for the discussion of the 'meta-classes' (Class D). As mentioned before, the positive value between Classes D and C in Table 5.4 (96) suggests a statistical dependence between these two classes. The lack of solidity of Class D is also visible through the lower chi-square values of

words belonging to this lexical context, with only three words showing a chi-square value above 100 and only 26 out of a total of 179 having a chi-square value above 50. Both Class D and Class C of Analysis 4 put the emphasis on the 'human' side of the MMR controversy but, in Class D, this dimension goes beyond the stories told by the parents of autistic children found in Class C. Here, the public and journalists themselves put the MMR vaccination controversy in a larger context and discuss different aspects of the debate. As pointed by Boyce (2005), in this case, journalists write as parents and, more often than not, add their weight to the anti-MMR side.

Much use is made of verbs such as 'feel', 'know', and 'think'. People are trying to make sense of the MMR debate by reflecting about it in their own terms, and through the perspective of their own situations. The issue of trust in what the government and the medical establishment are trying to do with respect to the MMR vaccine comes out clearly. Parents object to the way the information about MMR has been presented to them and about how the medical and scientific establishments have treated them. The theme of 'patient as consumer' and 'patient's choice' highlighted by Boyce (2005), and mentioned on several occasions in discussions with experts and mothers, figures prominently as visible in the following extracts:

There is so much propaganda being handed out by all sides that it seems impossible to make an informed choice. We are all reasonably intelligent, rational people, and yet we are being treated like idiots by the medical profession, one mother told me. (Daily Mail, January 2001)

It is we who pay for the NHS. We are entitled to have our children dealt with as we wish. We do not want to be treated like farm animals herded through a trough of sheep dip, too stupid to know what is good for us, too irresponsible to worry about our own flesh and blood. (Mail on Sunday, February 2002)

The discourse found in this lexical context extends beyond the MMR as such and embraces other areas where the issue of trust in the authorities has been

questioned. This explains, for instance, the reference to the BSE crisis that we find in this class³². Indeed, the term ‘BSE’ has a chi-square value of nearly 70:

As ever, there are contrary minority scientific viewpoints [on the supposed link between MMR and autism], just as there were on Aids (wrongly) and BSE (rightly). The Department of Health has put out its own best guess. (The Independent, December 2001)

Finally, one finds in this semantic class the direct discourses of some of the actors involved in the MMR controversy (eg, Andrew Wakefield, Sir Liam Donaldson) justifying themselves but, this time, using a non-scientific language, a much more personal language, which is closer to people’s everyday talk:

That was a fair point, ‘I accept the criticism,’ said Sir Liam. ‘We have put out a lot more information to help the professionals. We cannot do it all nationally, it needs to be a one-to-one discussion between you and whoever is looking after you. ‘If you want me to help, give me the name of your GP and I will try to make sure you get some tailor-made advice’. (Mail on Sunday, February 2002, extract from a debate between four mothers and Sir Liam Donaldson)

He [Andrew Wakefield] told a Sunday newspaper: ‘I have been asked to go because my research results are unpopular. I did not wish to leave but I have agreed to stand down in the hope that my going will take the political pressure off my colleagues and allow them to get on with the job of looking after the many sick children we have seen’. (The Independent, December 2001)

This focus on the ‘human’ dimension of scientific-related issues has also been noted by Malone and her colleagues (2000) in their coverage of passive smoking. The authors note how, very often, “journalists focused on what we call the ‘human’ aspects of the science – the scientists themselves, the effects of their work on others, and the conflicts that arose over the interpretation of their work” (Malone, Boyd, and Bero, 2000: 716) as opposed to focusing on the scientific facts and evidence themselves. As noted by Boyce (2005), the media have been

³² A similar point is made by Hargreaves and his colleagues (2003: 40): “... the MMR issue is often compared to the BSE/CJD crisis, both stories involving potential risks to the public initially denied by both government and mainstream science”.

inclined to accuse the government more than actual science and she gives a number of examples of this attitude, especially in newspapers that took an overt anti-MMR position such as *The Sun* and the *Daily Mail*. Thereby, what was fundamentally a scientific issue was turned into a political one. To this was added the ‘Leo Blair’ issue, which would become a crucial component of the MMR controversy.

5.3.5.2 Single vaccines³³

The last class examined appeared in five out of the six analyses, but surprisingly, not in Analysis 4 used for this chapter (the discussion that follows is based on the findings of Analysis 6). Dealing as it is with the issue of single vaccines seen as a compromise solution by many parents concerned with the MMR vaccine, it represents a relatively significant aspect of the MMR debate as represented in the British press between 1998 and 2003, even though the percentage of ECUs included in this class never exceeded 14% in all five analyses concerned.

Significant words covered by this class include: administer+, charge+, clinic+, company+, doctor+, GP, practice+, single+, private+. The names of doctors offering these vaccines appear frequently as is the financial aspect of this option:

Dr Copp charges £115 for vaccines available in pharmacies in France for just £3. He has defended his prices saying that once the cost of buying the vaccines and administration had been taken off, the practice profits by only £15-20 a course. (Mirror, February 2002)

The fight between the establishment, represented here by the NHS and other official medical organisations, and individual doctors is often presented in a way that emphasises the almost heroic nature of the latter, a dimension which is also present in the analysis of the specialist interviews:

³³ The expressions ‘single vaccines’ and ‘separate vaccines’ have been used interchangeably by the press and by interviewees who participated in this project to refer to the administration of three different stand-alone vaccines against measles, mumps and rubella – by contrast with the administration of the MMR combined vaccine.

The GMC's interim orders committee could ban Dr Mansfield for 18 months, impose restrictions on his practice and refer a case for a full hearing of the council's professional conduct committee, which could strike him off the medical register. (The Times, August 2001)

5.4 Classes, types and modes of knowledge

As mentioned at the beginning of this chapter, ALCESTE has been developed using the works of linguists such as Zellig Harris and Benzécri, but also of philosophers such as Wittgenstein and his notions of 'language games' (Reinert, 1998b). Building on these influences, one of the fundamental hypotheses made by ALCESTE is that all discourses automatically bring into play a system of *topoi* and that these are statistically identifiable (Reinert, 1998b). By *topoi*, Reinert refers to the 'commonplaces' ('lieux') selected for use in a particular discourse according to the social practices that surround the object under study. These *topoi* are activated by the 'fondement topique' of a proposition, by which Reinert means the first isotopic impression conveyed by the meaningful words it contains.

For the purpose of this research project, I would like to propose that the *topoi* identified by ALCESTE are similar to types of knowledge, available as sense making resources for social individuals faced by a particular issue, here, the MMR vaccine controversy. As such, they represent a set of structuring and dynamic devices used both towards and modified as a consequence of actions and/or social practices, and located in an activity context (Keller, 2005). Building loosely on Gurvitch's (1971) typology of knowledge, it is proposed that the four meta-classes discussed above can be associated to three types of knowledge:

- ***Scientific knowledge***: Classes B and E make use of facts and figures and highlight notions closely associated to a scientific process such as hypothesis testing, checking, reliability, etc.
- ***Common sense knowledge***: this knowledge, originating mainly from Class C, is firmly located in the everyday life of private individuals, and is developed from their own 'lay' observations of unique events affecting their lives.

- ***Political knowledge***: this type of knowledge, as used in the context of the MMR debate, includes notions of fairness, justice, morality, rights and obligations of people. It locates the debate within larger societal issues and highlights the power games and positioning moves played by the different actors concerned.

Another interesting connection can be suggested, this time concerning a possible link between the meta-classes and Bruner's modes of cognitive functioning discussed in Chapter Two. As emphasised in that chapter, modes of cognitive functioning can be distinguished on the basis of the type of evidence they rely upon. From this, one can assume that the lexical context in the different classes identified is an indicator of the type of evidence used to assess the truthfulness of a piece of information and hence, of the mode of cognitive functioning that underlines it³⁴.

Building on this assumption, one can distinguish the two modes of cognitive functioning in the four classes discussed above. Classes B and E, dealing with the scientific evidence and facts and figures concerning the MMR controversy, are based on the paradigmatic mode. They both use a very factual and logical type of evidence and rely on a causality characteristic of scientific knowledge, and expressive of a "rigorous and logic cognitive procedure, mindful of the facts and methods that validate it" (Moscovici, 1992b: 303, my translation). Indeed, Lemke (1998) refers to the canonical ways of talking about topics that is especially frequent in science and other academic subjects. This is confirmed by the following ECUs, representative of these two classes:

No evidence of link between MMR and autism, doctors find (...) His research team concludes: "We found that the study does not establish MMR as a cause of inflammatory

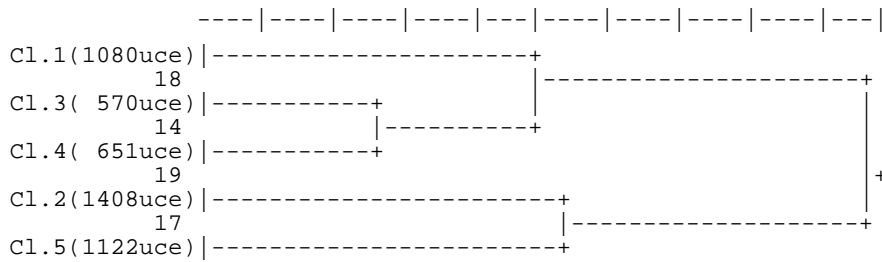
³⁴ Further time and additional resources would have enabled me to assess in greater detail the implications of the field of sociolinguistics, in particular, genre and register analysis (Lemke, 1998), for my research.

bowel disease, autism or developmental regression and that its hypothesis has been satisfactorily tested by scientifically reliable study.” (The Independent, June 2002)

Dr Miriam Stoppard’s health focus today: the MMR vaccination: scare that puts baby lives in peril. (...) Britain’s last measles epidemic was in 1988, just before the MMR vaccine was introduced, when there were 80,000 cases. However, London, with an immunisation rate eight per cent below the national average, is at greatest risk because of its large population and number of visitors from overseas who bring the infection with them. (The Mirror, January 2001)

On the other hand, Classes A and C (and D inasmuch as it can be associated to Class C) can be said to belong to the narrative mode. Their ways of establishing the truth is based on truth-likeness or verisimilitude (Bruner, 1985). Class C, in particular, puts the emphasis on establishing connections between events (Bruner, 1986), here, the MMR vaccine, children, and their developing autism or other severe side effects. The stories found in these classes help the individuals concerned, and those reading the articles, to develop a sense of their and others’ reality. They also define “the range of canonical characters, the settings in which they operate, the actions that are permissible and comprehensible” (Bruner, 1986: 66). The political nature of the lexical world found in Class A makes use of the narrative dimension of the government’s actions in the MMR controversy. In particular, the story around Leo Blair and whether or not he received the MMR vaccine exhibits these traits. The narrative undertone of these classes points to the need for the public to make sense in their own terms of a controversy whose alleged implication (the triggering of autism in previously ‘normal’ children) resonates deeply with mothers and fathers and triggers what, for many in the scientific and the government circles, can be seen as an ‘irrational’ fear.

Figure 5.1 Dendrogram for Analysis 4



The contrast between paradigmatic and narrative modes of cognitive functioning found in these classes is supported by the dendrogram produced by the descending hierarchical classification, and reproduced in Figure 5.1 above (Bartholomew et al., 2002). The greatest opposition amongst classes is located between Class A, which deals with the role of the government in the MMR debate, and Classes B and E which focus respectively on the scientific evidence and the facts and figures concerning this controversy. The latter two classes are quite closely associated although, as seen above, not as closely as Class C on individual stories and Class D on personal views and opinions.

5.5 Discussion on ALCESTE

ALCESTE has a number of drawbacks that must be kept in mind when reading this section:

- It is not a ‘neutral’ technique and implies a number of decisions that may affect the validity of the results. For instance, ALCESTE’s operating principles imply the loss of the actual organisation of the text and its syntactical structure. Hence great care must be taken when interpreting the results.
- By losing the overall picture of the articles, there is also the risk of missing ‘significant absences’ (Gervais, Morant and Penn, 1999), in this case, words that carry a greater meaning than what the statistics associated with them may presage (eg, there were only seven occurrences of the

expression ‘Big Brother’ in the corpus analysed by ALCESTE but one could hypothesize that the impact of this expression on readers was greater than that).

- There are a number of problems with the process of ‘lemmatization’ or radicalisation of ‘meaningful words’ (see Allum, 1998 for more details). For instance, ALCESTE does not recognise the irregular plural of certain words (eg, virus and viruses, child and children). Modifications of the corpus to remedy these problems explain a large degree of the instability in the number of classes.
- The program does not pay attention to whether the words have been used in a literal or metaphorical ways and may thus oversee some of the subtlety of the messages being communicated.
- More importantly, ALCESTE comes with several theoretical assumptions (see Reinert, 1998a, 1998b; Lahlou, 1996, 1998) that presuppose an epistemological point of view, which may have significant implications. In particular, the key notion of ‘fondement topique’ discussed by Reinert (1998b) calls upon notions of the unconscious, of archaic traces influencing people’s specific discourses (Allum, 1998).

The software must therefore be seen as a tool that gives interesting leads that need to be corroborated by other methods and in accordance with the research objectives being pursued.

5.6 Conclusion of media analysis

Despite a number of drawbacks, ALCESTE has allowed a rapid identification of the main discourses circulating in four major British newspapers about the MMR vaccine. Four main themes emerged from this media analysis:

- During the period covered, the press focused, first and foremost, on the scientific aspects of the controversy, presenting and summarising Dr

Wakefield's works and, to a lesser extent, introducing counter-evidence refuting the alleged link between the MMR vaccine and autism.

- The impact of the MMR debate, especially in terms of the decrease in the take-up rate of the vaccine and the risk of epidemics, was also extensively covered. This theme was often accompanied by a discussion of the risks involved in childhood diseases.
- The role of the government in the controversy, in particular the question about whether the Prime Minister's son had been vaccinated, represented another significant discourse used by the press. One could argue that the 'Leo Blair' question symbolised people's mistrust in the government and the power of individual stories in people's process of sense making.
- Finally, the personal stories of affected parents, especially parents of autistic children, constituted a substantial part of the press coverage of the MMR controversy. As noted by Hargreaves and his colleagues (2003) and Boyce (2005), despite being originally a science story, with Dr Wakefield reporting the results of his study in *The Lancet*, the MMR debate became a news story in itself, most probably because of the extreme dramatic character of the condition, autism, to which it has been associated: "Popular media responds to drama, whether in the form of victims of vaccines or epidemics. It serves to reduce the complex kinds of arguments made in medical journals to the level of human interest stories" (Hargreaves, Lewis and Speers, 2003: 5).

In the next two sections, we will look at the results of the specialist interviews and of the focus groups. As we will see, similar themes as those identified by ALCESTE were put forward by the participants, raising the question as to the direction of the influence between the British public and the British media.

Chapter Six – Overview

This chapter presents the key findings of the six specialist interviews conducted for this project. The main objective of these interviews was to help develop the larger context for the sense making efforts of parents facing the MMR controversy. Each of these specialists had an expert perspective on the MMR vaccination. Three of these specialists were health professionals, involved in the daily life of London clinics, two of them had an expertise in communications and had written on MMR-related issues, and one was an academic specialising in childhood immunisation (see Table 6.1 on next page for more details).

During the interviews, these experts discussed what they considered to be the key dimensions of the MMR debate and the significant factors attached to the decision to vaccinate one's child with the MMR vaccine. The interviews also revealed some of the larger themes drawn upon by people when making their decision about the MMR vaccination, themes that were confirmed during the focus groups and individual interviews presented in the next chapters.

Although no formal attempt was made at identifying instances of cognitive polyphasia among these participants themselves, the empirical data collected through these conversations allowed for the first elements of a typology of cognitive polyphasia to be assembled. This is presented at the end of this chapter.

Table 6.1 **Details of the six specialists**

Specialist	Expertise	Professional role
Specialist 1	Health professional	Newly qualified general practitioner working in a north-west London clinic.
Specialist 2	Communications	Previously, research manager at the now defunct Health Authority Agency. As such, commissioned research studies to inform communication work of the Agency on a variety of topics of which immunisation. Currently working as freelance communications advisor.
Specialist 3	Communications	Investigative reporter in a British weekly with a special interest in health-related issues.
Specialist 4	Health professional	London-based general practitioner. Was offering single vaccines free of charge to his own NHS patients and, for a fee, to other people.
Specialist 5	Research	Doctor in public health and epidemiology specialising in childhood immunisation issues.
Specialist 6	Health professional	Practice nurse in a London-based clinic with responsibility for childhood immunisation. Previously worked as a midwife and as a health visitor.

6 Results of specialist interviews

6.1 *MMR vaccination decision*

This section presents the principal characteristics of the decision to vaccinate with the MMR vaccine as described and perceived by the six specialists interviewed. It thus contributes to a better understanding of the reasons behind the scope of the controversy triggered by Dr Wakefield and his colleagues in 1998. Two sets of factors are discussed: those relevant to any vaccination and those directly related to the MMR controversy.

6.1.1 **Vaccinating one's child: a difficult decision**

As with all types of vaccination, the decision to have one's child vaccinated with the MMR vaccine is a major one and this was recognised by all the specialists interviewed. The decision was seen as a complex one, influenced by several factors, and as very fluid, subject to changes of opinion depending, for example, on the vaccinating experience one may have had with one's first child:

It is a big decision to get your healthy child vaccinated, isn't it? And you'd never forgive yourself if anything did go wrong, so you can't vaccinate without a question. (Specialist 6)

Specialist 5, an expert in childhood immunisation, discussed these aspects of the MMR decision in the following terms:

You know, we're influenced by a huge range of things, and the decision to immunise your child is almost, it's not a decision that's made on one day. It's a decision that's sort of developed over the years, you know, through your childhood and young adulthood and your experiences talking to other people. And it may actually, you may decide okay, I'm going to have my children immunised but then it may change as a result of the immunisation process. You may take them to their first vaccine, perhaps not be given as much information as you would like or perhaps your child is unwell after their first vaccine and that's going to influence what you do about the next vaccine for that child and subsequent children. So it's a very sort of fluid decision if you like. And you know, hugely influenced by so many things around us. (Specialist 5)

She even confessed to having felt uneasy at the time of her own children's vaccination:

And I know myself, you know, I've read a lot about immunisation, I'm convinced it's very safe, not a 100% safe because nothing is, but I still had anxieties taking my own children. And you know, it's just the human, human nature bit of it, and you can't sort of have a huge influence over it at the end of the day. (Specialist 5)

Another factor adding to the complexity of the vaccination decision concerns the opposition between the good of the community, which underlines the principle of herd immunity behind mass vaccination programmes (Rogers and Pilgrim, 1995; Hobson-West, 2003), and parents' obvious concerns for the well being of their own child. This came out quite clearly in Specialist 2's criticism of the line adopted in the government's communication policies throughout the MMR controversy:

(...) the line that we're [the government] putting forward is the best line, we've got the interests of the whole population at heart, the risks to the individual are kind of miniscule but the risks of not immunising far outweigh the risks of immunising. And I think, you know, that's been their line but it's not a very convincing line for a lot of people who are... I mean everybody's really only concerned about their individual circumstances. (Specialist 2)

This bias for one's own children over anything else was thought by Specialist 5 to reflect a deeper transformation within society in the way people care about community, and to be a manifestation of the larger societal changes brought by the Thatcher government:

And I think there has been some suggestion, I don't know if there's any evidence but it's partly of a result of the Thatcherism, which was all to do with the individual, that people are less concerned about community, much more concerned about their own child. I don't know whether that's true or not but I do think that the bottom line is that most people are obviously most concerned about their own children. (Specialist 5)

The paradoxical idea that childhood vaccination programmes may be the 'victims of their own success' was, for some specialists, another key dimension in the decision-making process regarding childhood vaccines. They stressed how several childhood diseases targeted by these vaccines have been more or less eradicated

and have thus become less visible and less scary, reducing the incentive for parents to have their children vaccinated³⁵. The appreciation of this paradox led Specialist 1 to make the following provocative comment:

Measles is a trivial illness because, you know, they don't see it. I've never seen a case of measles. (((...))) You know, there is a need for an awful epidemic of measles to let people return to it. (Specialist 1)

This hypothesis was also supported by the high uptake rates of vaccines among the immigrant population attached to the clinics of Specialists 1 and 6. They both stressed that these people, having seen by themselves the side effects of childhood diseases, had no hesitation in giving their children all the vaccines recommended by the Department of Health:

But because we've got a very large refugee population, a lot of non English-speaking patients, the refugees and people from countries where they've seen problems with children and they've had a few dying from childhood illnesses, they're much keener, I think, to have their children vaccinated against anything that they possibly can, and not to query it as much as other practices, where I think you've got more of a middle-class, English group of parents who probably criticise or certainly want to query about everything. (Specialist 6)

Part of the complexity involved with vaccination decisions was also attributed to the inherent difficulty in understanding risk and, indeed, in communicating about scientific issues in a language that can be easily understood by the lay public. In the context of the MMR controversy, this difficulty was compounded by the fact that one cannot prove a negative (Specialist 5). As a consequence, the authorities could never state categorically that there was no risk attached to the MMR vaccine – even though much of the evidence was supporting this conclusion, but yet were trying to minimize the risk by refusing to acknowledge the concerns raised by Dr Wakefield and the parents that supported him:

³⁵ This would explain, for instance, why the vaccine against meningitis has not been the object of much contestation among parents, a point made by Specialist 2.

One is, risk is very difficult to understand because when you say, you're at a risk of... ((...))
And similarly, I mean, I don't know, I mean, this is a very interesting thing with MMR. If we said: 'Yes, Wakefield was right. In fact, if you have this jab, you've got – if we made up a figure, you've got a one in ten chance of getting autism', would it, maybe people would have their vaccine more because maybe there would be something acknowledged. (Specialist 1)

6.1.2 Factors specific to the MMR vaccine

The severity and dreadfulness of autism, the condition allegedly linked to the MMR vaccine, was raised by the majority of specialists interviewed as a significant source of fear and anxiety for parents of young children. It also helped to explain the almost total lack of concern for the other diseases (eg, Crohn's disease or other intestinal disorders) mentioned in Wakefield's original study (see also Boyce, 2005):

That autism, we'll focus on autism 'cos actually I don't think the public is that concerned about bowel disease, I think that's autism and autism, you know, is the worst. Your child is in a kind of constant emotional pain and divorced from your life, that's not human. I know it sounds terrible but in all the ways that, on a day-to-day basis, we feel human, you know, an extremely autistic child has none of that. (Specialist 1)

By contrast, some specialists noted how many parents considered the diseases targeted by the MMR vaccine (measles, mumps and rubella) as 'normal' illnesses that could easily be nursed at home (the same finding was discussed on several occasions by participants in the focus groups):

And I think one of the problems partly with MMR vaccine, is that measles is often perceived to be a normal part of childhood and that, when you describe measles and its complications, people feel that's not a true reflection because they had measles as a child and they're fine. (Specialist 5)

The MMR vaccination decision was said to epitomise the contrast between omission and commission, that is, the idea that one feels more responsible about a negative outcome if it results from an action as opposed to inaction (Meszaros et

al., 1996; Ritov and Baron, 1995).³⁶ Two specialists (1 and 5) discussed this opposition:

And then, on top of that, to have this concept that because I gave this child the 'jab', I've caused it. This child... the future was like this and he's now got no future at all. (Specialist 1)

It's an act of, this business of whether it's omission versus commission. So, somehow natural disease is seen as an act of God, it's something out of your control but if you choose to have a child vaccinated, and then they become ill, you have done that to your child. And somehow, parents are more willing to live with something that they see as a natural thing, even though there may have been a vaccine that could have prevented it, than something that they have actually chosen to go along to do and had put into their child's body. That makes it much harder for people, I think. (Specialist 5)

Natural feelings of protection towards one's own child or children were said to reinforce these potential feelings of guilt, an idea mentioned by the majority of specialist participants:

(...) all parents... you want to do the best by your children either way, don't you? If there is a genuine concern around vaccinations, that's an issue for parents and for children and everything else. (Specialist 3)

The sheer volume of the media coverage received by the MMR vaccine and the contradictory nature of the messages conveyed were said to have created much confusion in parents' minds:

Most parents, and I've seen hundreds and hundreds now, are incredibly confused. They do not know what to think, most of them. They are terribly confused with the totally different things they're hearing. They're hearing on the one side, you know, MMR is safe, safest drug this planet's ever discovered, you know, you're being foolhardy and putting your child in danger if you don't give it to them. They're hearing that message on the one hand, a very strong message. And on the other hand, they're hearing, look, MMR causes autism. (Specialist 4)

³⁶ The contrast between omission and commission is also linked to the notion of parental guilt that was discussed by a number of participants in the focus groups (see Chapter Seven).

Indeed, not only the volume but also the type of coverage was seen as an issue by some specialists who deplored the poor quality of information. Specialists acknowledged the fact that most parents did not read the scientific papers and went instead for their popularized version in the mass media which, taken into account what they saw as their poor quality and bias in favour of the anti-MMR camp, could only add to feelings of confusion and fear:

And, you know, a lot of parents get their science and medical information from that type of publications and it just, it just makes it worse for them because it makes them more afraid, more confused. (Specialist 5)

You know, it's such a one-sided argument all the time. (Specialist 6)

Linked to the above assessment of the media coverage was the recognition that the personal stories of parents of autistic children, used by many journalists as a counterweight to the scientific evidence presented by both the anti and the pro-MMR camps (Boyce, 2005), had a very powerful impact on the public:

You can have all the research in the world but people cannot get beyond that, one thing that had such a powerful emotional impact on them. And it's something to do with health care beliefs that are plugged into your emotions rather than your rationality. And until the medical profession address the emotions of this... When people open a paper and they read an article saying, you know, addressing these very issues about the emotions (???). You can throw a study after study after study and it will have absolutely no effect. (Specialist 1)

Indeed, several specialists recognised that scientific evidence might not be enough to convince people and that one had to appeal to other types of evidence, in particular of a narrative nature (see also Gross, 1996):

But I think one of the most powerful things, I think, is that you know, in my conversations with parents, very often, I might have been talking to them for half an hour, they don't know who I am. They've just rung up asking for advice. But at the end of the conversation, many parents say, 'have you got children, have you had them immunised?' And I say yes. And that actually is incredibly powerful. They don't know who I am, you know, I could be completely barking mad but as far as they're concerned, they've made a judgment presumably that I'm, you know, sound, reasonably well-informed and on that, that is a powerful thing to do. (Specialist 5)

And the kind of evidence that they also might have used was kind of a familial or a personal contact with people who have got, who've had an experience of a child who's been immunised, who's had a bad reaction. (Specialist 2)

Oh, yeah. My friend said this or my friend that. And you think, how come, where did your friend hear this, you know. Yeah, yeah, and it seems that they're more interested in listening to them, their friends sometimes, than they are to nurses or doctors. (Specialist 6)

In the case of the MMR controversy, the power of these narratives, as communicated by the media and/or by friends and relatives, had been strengthened by certain features of the story itself, which fitted with the characteristics of the narrative mode of cognitive functioning noted by Bruner, in particular, the fact that the story went against the canonical nature of everyday life. For instance, Specialist 3 mentioned the feelings of unfairness linked to the stories of parents of autistic children:

So what I'm saying is that if the government took their children seriously because, you know, these were parents who did the right thing. They're not anti-vaccine. They took their children along, you know, to be vaccinated. They wanted to do, you know, so then, but then their fate, they then go into another part of the health system which is pretty mean to them actually. They get little help. They get fobbed off an awful lot 'cos, you know, GPs can't cope, you know. (Specialist 3)

The fact that these parents did not have the necessary resources to fight their case and the difficulty they had in having their concerns acknowledged were also perceived to be unfair by Specialists 2 and 3 especially when compared with the means and resources of the government and pharmaceutical companies against whom they were fighting:

And you know, I mean I, I suppose you know, the inevitable thing about this sort of thing is that the government's spokespeople are always able to be better briefed and more professionally trained to handle the media than individuals who have suffered some loss or his child's, you know, become ill or something like that. (Specialist 2)

And they have, you know, lawyers with not a lot of Legal Aid, families who are quite poor because they're raising these children 24 hours a day, terribly difficult you know, job. And trying to fund, you know, research to find out what's going on in their kids' bodies. And you see that huge might on the other side and you actually think if they really do believe what

they're saying, you know, they should fund the kids, you know, to really get to the bottom of it and to the truth of it. (Specialist 3)

Here, the age-old theme of 'overcoming the monster', best exemplified by the story about David and Goliath, comes to mind with its implications of the imbalance between the small and the strong, the poor and the rich (Booker, 2005). Indeed, Andrew Wakefield is sometimes described as a whistle-blower working against the 'establishment' for the benefits of devastated parents³⁷:

And there is this sense that, you know, the whistle-blower, that this is very important... that Wakefield was a whistle-blower who showed publicly his concerns that the government and the medical profession are gaily jabbing these kids with this toxic thing that is going to cause terrible side-effects. (Specialist 1)

6.1.3 Larger context of MMR decision

The conversations with the six specialists also allowed for the MMR controversy to be located in a wider societal context and to start identifying the larger themes that were drawn upon by parents of young children who were faced with this difficult decision. Not surprisingly, the changing relationship between doctors and patients was viewed by these experts as one of the most significant factors affecting people's efforts at making sense of the controversy:

I mean, I think it came at a point of low trust in doctors and general scepticism. I think it came at a point where people suddenly had access to information, which made them think, oh! You know, it's almost like: 'I don't have to go to school because I can learn everything I need to learn myself.' You know, some kind of anger or rejection of the medical profession. It was a point in time. I think if it had come out 10 years earlier or 10 years later, it would not have happened in the same way that it has. (Specialist 1)

Other factors discussed included the lay health beliefs held by some sections of the public, their views and attitudes towards alternative therapies, the conspiracy 'theories' held by some people, and the resulting decline in trust towards medical

³⁷ See also Burgess (In press) for a discussion of the phenomenon of whistle-blower in the context of societies in which risk has become a permanent feature of everyday life.

and other forms of authority. These different factors will be considered in turn in the following sections.

6.1.3.1 People's changing relationship towards the medical profession

Several factors were said to have modified the relationship between doctors and patients. For instance, many specialists discussed the increased access to information, itself aided by the relatively recent availability of the Internet. Some specialists complained about the lack of control over what was publicly available and the fact that the press got hold of medical stories before health professionals had a chance to evaluate the story in a more orderly, scientific way, a fact also noticed by Elliman and Bedford (2001):

But, because now there's that massive wealth of information that is readily available unedited on the net, it's... it's overwhelming and it's impossible to say which one is the right one, you know. (Specialist 1)

The problem is things often, you read things in the newspaper and you get questioned about things before we, as professionals, have been given any information or any protocols or any advice about what we should do. (Specialist 6)

This increased availability of information on health-related issues was accompanied, according to a number of specialists, by a much more pro-active attitude from a growing number of patients who questioned more often and more systematically their doctors' decisions and actions, an attitude generally welcomed, however, by the experts:

And people then, I mean, they either say you know, I do think that up until the last 20 years, people didn't have to make this decision in the same way because there wasn't a kind of counter evidence, there was just 'the medical profession says yes, there's no alternative.' (Specialist 2)

I think it's changed a lot. Probably mainly my generation that has seen the change. Years ago, patients used to come along and if the doctor said 'do this' they'd do that, you know, well, doctor knows best. But now no, patients are questioning things more, and we are having to give out more information, and I think it's good. (Specialist 6)

This more pro-active attitude appeared to be linked to the gradual deployment of a new doctor-patient relationship across the NHS which calls for a more open attitude on the part of doctors, and a model of shared decision-making in the patient/health professional relationship (Green, Thompson and Griffiths, 2002; Prior, 2003). From mere patients, happy to listen to their GP's advice, people have been encouraged to act as 'partners' and as 'consumers' of health-related services. This change in expectations and roles has been encouraged by and reflects the reforms introduced, first by the Conservative government but continued by the Blair government under the name of 'NHS Plan', a programme of reforms whose mission is to provide the UK population with a "health service fit for the 21st century: a health service designed around the patient" (Department of Health, 2000).

These changes were viewed by the two general practitioners interviewed as positive developments that encourage people to take their own health in their hands and adopt a healthier lifestyle, and that could possibly contribute to a reduction in the cases of lawsuits:

But that is beginning to change and that is a very good thing because we have to be responsible for our own health and after all, we know our own bodies far more than anyone else. (Specialist 4)

And if you share decision-making, you know, then you are partners, the doctor and the patient are partners in making the decision to take this tablet. As long as the doctor has given adequate information and instructions, then, you know, together, you give adequate information about the treatment and the patient gives adequate information about their beliefs about what's wrong with them and what they need. And somehow that should mean there should be no controversy. (Specialist 1)

However, in the context of the debate over the MMR vaccine, these reforms highlighted the discrepancy between the professed aim of the NHS to give greater choice and control to patients and the attitudes of the government throughout the MMR controversy, in particular, its refusal to allow single vaccines to be administered on the NHS. Specialist 4 commented upon this contradiction, discussed by many parents in the focus groups and individual interviews:

They say we should have the choice, and I think they should have the choice. ((...)) We're being told not to tell people what to do. We're being encouraged to, you know, the newer generation of doctors, we're not, you know, doctors of the 21st century are not meant to tell our patients to do, we're meant to share the options with them and quite rightly so as well, most of the time. But on this aspect, it has been decided that no, they shouldn't have the choice, we have to tell them what to do. So it's inconsistent with the general way that medicine is going. (Specialist 4)

Finally, for some specialists, people's attitudes towards the medical profession had also been transformed as a result of what could be described as the increased 'scientisation' of medicine. Indeed, through its deep, inescapable connection to the fundamental aspects of what it is to be human, the position of medicine as a pure science has always been the subject of debates (Horton, 2003). This ambivalence around the concept of medicine and the role of doctors was discussed at length with the two general practitioners, Specialists 1 and 4. On one hand, their answers stressed the almost magical dimension of the profession, something difficult to explain, visible through the total, sometimes unconditional trust placed in doctors:

Where does it come from? Okay... Well, I think it's partly, it's historical, that you are a healer and there's something human that makes them want... at a subliminal level, they feel that, if you don't trust, you don't get healed. (Specialist 1)

Maybe I'll withdraw the word rational to some extent and say that sometimes you have to follow a gut feeling. Sometimes someone will come in and I will just have this feeling that something's not right. I can't tell you why. Blood pressure's fine, pulse is fine, blood tests are fine but I have this feeling and I need to act on that feeling, and I may or may not be right. But I think I would be negligent not to, even though the hospital doctor will say why are you referring him? And I think most GPs would agree with me, that yes, hunches are important. (Specialist 4)

On the other hand, they emphasised the shift of medicine towards an ever-increasing scientific version. This movement was said to have accelerated over the last few decades and to have affected how medicine is practiced on a daily basis, influencing patient-doctor relationships and the setting of priorities in terms of research, treatment, etc.:

And Western medicine comes under that umbrella because Western medicine has become, predominantly over the last half century, scientific, Western medicine. It's become very mechanistic and it's broken down the body into small parts and taken out certainly any spiritual element. And though it acknowledges psychological elements, it pays lip service to a large degree because they can't be measured. (Specialist 4)

This 'scientisation' of medicine was perceived to have taken place to the detriment of a more traditional approach to medicine and to emphasise in the mind of the public the similarities between medical doctors and scientists, with major implications for the amount and degree of trust put in the former, something discussed in greater detail in Section 6.1.3.4 (p. 184):

I like to think that medicine is a combination of art and science and I'm concerned that at the moment, most of medicine is shifted too much towards the science rather than the art. (Specialist 4)

6.1.3.2 Conspiracy theories

So-called conspiracy theories about the medical profession, pharmaceutical companies and the scientific and governmental authorities were said to have influenced people's understanding of the MMR vaccine controversy (indeed, this theme appeared on several occasions in the focus groups and individual interviews) by adding to the mistrust the population may have had towards government-sponsored health policies:

But there does seem to be this conspiracy theory thing that the medical profession are out to get you. The government only decides on vaccinations because they're going to make money out of it, and the doctors only want you to have babies vaccinated because they'll get paid to do it. And they look at it, and that's all they see, money, you know. They don't sort of stop to think that the government aren't really making any money out of it. You know, it's costing them a lot of money. (Specialist 6)

Interestingly, these theories were also shared by some of the specialists, highlighting the difficulty for experts to draw a clear line between their professional roles and their personal opinions. For example, Specialist 3 suggested that the pressures applied by pharmaceutical companies and by the medical

profession were preventing some doctors from speaking publicly about their concerns over the pro-MMR evidence:

I mean, what I find amazing is, I mean one of the scientists who helped me interpret some of the papers is incredibly high up in the medical scientific world. He's too frightened to put his name to what he said, you know, because he feels he'd be kicked out in the way that Wakefield has. And, you know, I find that staggering that, you know the profession is that closed and that people are genuinely fearful for their jobs or their research grants, you know, all that kind of stuff. It's almost Big Brother stuff I think, but actually it's happening, you know. And the power of the drug companies and the (???) of the medical profession, you know, especially when you're talking about (???). (Specialist 3)

The possibility of undue inference by pharmaceutical companies through their sponsoring of scientific research was viewed as a major issue also by Specialists 2 and 4, and even by Specialist 1 who, overall, came across as less 'politicised' and more on the side of science than the other ones:

In a way, every single treatment is being constantly re-evaluated through bigger and better research. Some of it has to be, and I don't know... but I know that the pharmaceutical industry has a huge investment in it, so I don't know how neutral it is. Maybe if you're researching something that has no pharmaceutical value at all, you would actually have better research. (Specialist 1)

By reducing the credibility granted to authorities, the presumed links between drugs companies, doctors and the government may have interfered with the public's reception of the information and educational materials produced by the government in its quest for increasing the take-up rates of the MMR. Grinyer (1995: 41-42) alludes to this possibility in her study of occupational injury in the health service:

If information designed to reassure is received from a source which has already had its credibility damaged, or which the recipients of the information believe it has a vested interest in cutting costs, any further attempt to inform, however accurate and well-intentioned, may be mistrusted and therefore rejected.

6.1.3.3 Lay beliefs and alternative therapies

Many specialists discussed the role of health-related lay beliefs in shaping and influencing people's attitudes towards the MMR vaccine. While for the majority of the population, these beliefs were still very much shaped and influenced by practices and theories from traditional medicine, the increasing prevalence of 'unconventional' beliefs was noticed and seen as a significant factor for those parents opposed to the MMR vaccine:

You know, it's almost like, each individual or couple or family constructs their health care beliefs and that is where they draw the line. And the vast majority of people do just what the vast majority of people do and are guided very much by the medical profession and scientists. But then, there are people and, in a way you have to credit them for having the independence of thought, that have analysed this in a completely different way and come up with a different set of beliefs. (Specialist 1)

Reinforcing this view, Specialist 2 talked about how nowadays some individuals put much more emphasis on the impact of factors such as genetics, environment, health behaviours and hygiene in the prevention of diseases. This comment echoed a finding of the study conducted by Evans et al. (2001) in which parents who had decided not to have their children immunised with the MMR vaccine believed that the overall good levels of health and nutrition found in the United Kingdom were sufficient to protect children against the risks associated with childhood diseases:

And I think it's all those things, you know, just a greater understanding of what makes, what determines health. The fact that it's not just, you know, what the medicine can do for you but it's to do with genetics, environment, health behaviours, social, stress, work, you know, the whole, you know, it's a kind of holistic approach to health and well-being. (Specialist 2)

Closely associated to this was the increased popularity of alternative health therapies with their emphasis on the holistic nature of health and their opposition to immunisation:

Because as well as that, there's been an increase in alternative health care, complimentary medicine and this whole idea about, you know, keeping children healthy, giving them organic food, and all these kinds of things which are actually not based on good science. It's just sort

of ideas that you know, we want to be looking after our children in a more sort of wholesome way, if you like. And giving vaccines, well, it's potentially not. (Specialist 5)

But then ... a lot of things, sort of alternative sort of practitioners who tell people that vaccinations aren't a good idea and how a lot of medication isn't good, so that's a tricky one, really. (Specialist 6)

As with conspiracy theories, some of these more unconventional beliefs were also held in some form or another by some of the specialists interviewed (Specialists 2, 3 and 4). This point will be discussed in further detail in Section 6.2 (p. 187):

And the burden that is placed on the body by, you know, again I think it's a kind of intuitive, and I think the medical profession would discount it, but there is a kind of intuitive worry about what a small baby's body can cope with in terms of vaccines. ((...)) And I think that's something that, I mean, I find that totally very convincing and I'm not convinced by the medical stamps on it, so you know, if I'm concerned about it, I imagine a lot of people are too. (Specialist 2)

6.1.3.4 Decline in trust

The erosion in the trust held by the public vis-à-vis the medical profession in particular, and the government and scientific authorities in general, came out as a significant factor in parents' understanding of the MMR controversy and their attitudes towards the vaccine.

For the specialists interviewed, this loss of confidence was the product of some of the trends mentioned in the preceding sections. For instance, people's expectations for the medical profession and medical science had been raised by the greater availability and easier access to health-related information, the rise of 'patients as consumers' encouraged by NHS reforms, and the appeal of complimentary medicine with its promises of instant and easy cure. On the other hand, the greater questioning of doctors' actions, the alleged collusion between the medical profession and the pharmaceutical industry, and the introduction of a more commercial and business-like attitude in the dealings between doctors and patients all conspired to remove the 'magical' dimension of that relationship which, for some specialists, still formed a key part of the treatment.

Another factor in the declining trust towards the medical profession concerned the realisation by the public of the limitations attached to medicine, both in terms of what medical science can achieve and in terms of the financial constraints attached to a public health system like the NHS. The second general practitioner interviewed commented on this phenomenon and linked it to the bigger issue of science's status in today's society:

I mean what I think people are realising now in, when I grew up in the 60s and I was a child in the 60s, I remember every other, on television, virtually every day there was a problem that science was going to cure. Science was in its youth if you like at that time and it was going to produce the answer to everything. (((...))) A lot of these promises that it was going to do, and/or many of the illnesses that we were going to have cures for, we haven't got cures for. They're still lots of chronic illnesses in the world and the best that Western medicine can do is alleviate the suffering. (Specialist 4)

The shift of medicine towards a more scientific approach might also have contributed to this decline in trust by associating the medical profession in people's minds with all the scientific-related 'scandals' of the last few years such as BSE and foot-and-mouth disease:

And you know, there is a general, GPs are often seen as scientists, and scientists are sometimes viewed by the public as those mysterious white-coated people who do horrible things to laboratory animals. (Specialist 5)

People's scepticism towards the scientific establishment that resulted from these controversies had been extended to medical areas, now viewed as having a greater scientific dimension. Indeed, for the majority of specialists, the growing distrust of government, scientific authorities and 'big business' actions made a significant contribution to our understanding of the MMR controversy, its emergence onto the British scene and its gradual evolution into a major public issue. The perceived incompetence and dubious role of government officials and scientific representatives in the management of crises such as BSE or foot-and-mouth disease was cited as a major source of cynicism towards the authorities:

Yeah. I mean we've had a lot of, over here we've had quite a few sort of BSE and you know, all these things where the government put out the line and, you know, it's been proven not to

be right. So there's quite a lot of mistrust between, I think, between the public and the kind of scientific/government health community. So there's a fair old amount of, you know, cynicism coming out ... (Specialist 3)

On the one hand, we've been told by the government that it's fine, and it might be, but who believes the government with everything these days? They made a complete pig's ear of foot and mouth and a complete pig's ear of BSE and we just don't, who trusts a politician anyway? (Specialist 4)

In that context, the refusal of Prime Minister Blair to disclose whether his younger son, Leo, had received the MMR vaccine was mentioned as an additional factor behind the loss of confidence in the authorities involved in the MMR controversy:

But the parents' perceptions of the players in this whole issue are very important and you know, government as well is seen with mistrust and particularly we have this business where the Prime Minister wouldn't actually say for certain whether his own child had been immunised which has caused, caused a lot of trouble actually. (Specialist 5)

The decline in trust towards the medical profession was also put in the larger context of the disappearance of mediating institutions discussed by Giddens (1991)³⁸:

I guess maybe, it's just part of the backlash against a paternalistic medical system for many decades, centuries. And then this must be the most dramatic moment in medical development because, you know, before, it seems that patients were very willing to just take on board what the doctor said in a kind of, ironically more than a religious sort of way. ((...)) These priests and doctors are interesting 'cos maybe, in the old days, everyone was invested with a spiritual authority whereas now they are too sceptical as a species to believe that. (Specialist 1)

³⁸ The contradictory nature of the public's relation with medical professionals is worth highlighting at this stage. On one hand, one sees doctors in the olden days being trusted much more unquestioningly despite their more paternalistic attitude. On the other hand, contemporary doctors are keener to share the decision-making process with their patients but these do not trust them as before.

6.2 Cognitive polyphasia among specialists

The six specialists had all children and, therefore, were likely to have developed their own private views on the MMR issue in addition to their ‘expert’ perspective on it. In addition, two of them did not have an expertise directly connected to the medical profession and, as a result, were likely to have a more ‘lay’ perspective on the controversy. It would have been interesting, therefore, to examine their cognitive strategies vis-à-vis the MMR debate in greater detail. However, due to the exploratory nature of this research project, the specialist interviews were conducted before the development of the theoretical framework for the operationalisation of cognitive polyphasia. Still, a number of interesting findings emerged from their conversations, pointing towards some very provisional conclusions.

Specialists 1, 5 and 6 appeared to be drawing more or less completely on scientific knowledge in their own assessment of the MMR vaccine controversy, thus representing an example of what can be called, provisionally, cognitive monophasia. Despite their own reliance on science, however, they acknowledged that scientific knowledge was not always sufficient to make sense of a controversy such as the MMR. For instance, Specialist 5 related the case of a woman psychiatrist who went through a lengthy questioning phase before deciding to have her sons vaccinated with the MMR:

Despite all that training and scientific evidence that she’d gone, looked at and thought about, the bottom line is she’s a mother and has this primitive desire to protect her child. And if health professionals are doing that, then, you know, how can we expect parents to just fall in line and say okay, I’ll do it. (Specialist 5)

Specialists 2, 3 and 4, on the other hand, appeared to engage in cognitive polyphasia, mixing elements of scientific knowledge and political knowledge to make sense of the MMR debate.

The split between these two groups was most visible in their assessment of scientific evidence, their personal opinions about parents who refused to vaccinate their children with the MMR vaccine or went for the separate injection route, and

the importance granted to the alleged collusion between the pharmaceutical industry, the medical profession and the government. These themes are discussed in turn in the next three sections.

6.2.1 Types of evidence

In discussions concerning the health of the public, ‘science’ has traditionally been treated as an impartial arbiter, providing the evidence upon which to weigh and evaluate the risks (or benefits) associated with certain behaviours, such as smoking, drinking, diet, exercise, or sexual behaviour. (Malone, Boyd and Bero, 2000: 713)

The privileged position of science ‘as an impartial arbiter’ in today’s society came out clearly in the majority of the specialist interviews. However, specialists varied in the extent of their belief in the virtues of scientific evidence, as opposed to other types of evidence, providing us with the first possible dimension with which to evaluate their use or not of cognitive polyphasia. Respect for scientific knowledge based on the evidence available was especially significant for the first general practitioner interviewed, the lecturer in child health and the practice nurse:

(...) the scientific knowledge is the basis of what can be done. (Specialist 1)

But I do believe that as health professionals we have a responsibility to work on the basis of, you know, scientific evidence, whilst taking on board parents’ concerns, very real concerns about it. (Specialist 5)

There’s been hundreds and thousands of vaccines given with no problems, and no other research has ever shown any link between autism or any bowel problems. (Specialist 6)

The primacy of scientific thinking did not prevent these same specialists, however, from discussing openly some of its limitations. For instance, the always-present possibility that current scientific evidence will be challenged and proved to be unfounded was well understood:

I think what the patient population, and even doctors who are patients feel, might not be aware or might not want to be aware of this constant notion of conflicting knowledge. ((...)) And depending on how you study it, what sort of trials, bla-di-bla-di-bla, but that’s how firm it is. And some things are wonderful which have come out, you know, like aspirin and heart disease, has been a wonderful thing that has happened that is cheap and it’s brilliant and it’s

one of these great things. But there are so many things that we thought were wonderful but actually the next study just screws it or whatever. (Specialist 1)

For these specialists, there seems to be an incompatibility between a scientific approach to health-related issues and emotions, with the presence of one involving the absence of the other and vice-versa. Commenting about the timing of the publication by Dr Wakefield and his colleagues of the now famous article in *The Lancet*, Specialist 1 argued that:

I mean there was something about that historical moment. And once it's there, once the idea is there, all the rationality is out of the window. (Specialist 1)

On the other hand, Specialists 2, 3 and 4 were much more ambivalent towards the value of scientific evidence as the standard against which to compare other types of evidence and promoted the use of other types of evidence in controversies such as the MMR:

So science is only of limited value. You can argue anything you like in a scientific paper and you can produce a counter-scientific argument in a scientific paper. In fact, even as I alluded to earlier, you can draw completely different conclusions from the same scientific paper. So medicine is not an exact science, if you like, the way it's used. It is used to manipulate in far too many cases rather than as an actual objective, sincere search for the truth. [And a few pages later] I see it as rational to think that we are human beings driven by many different influences, and that includes not only logical thought processes and the mechanisms of the body but also irrational feelings, desires, and influences that necessarily can't be scientifically explained. (Specialist 4)

More specifically, these experts expressed reservations about the validity of the scientific evidence used in the MMR context stressing the fact that the government and the medical establishment had not even looked at the autistic children allegedly damaged by the MMR vaccine and had relied instead on large epidemiological studies. In addition, the latter studies were said to present a number of significant flaws leading specialists to question the safety of the MMR vaccine. The investigative journalist interviewed made this point very explicitly (see also T. Heller, 2001: 838):

And there was a particular big Finnish study, there were two or three major studies that they said proved categorically that MMR was safe. (...) And then we kind of found that actually, you know, they didn't say what the government said they said. And that made us then start looking more and more at the issue, you know, because the government were on the one side saying, you know, Andrew Wakefield's study is flawed and all this stuff. And then we looked at their studies and actually they were equally flawed and, you know, that just made you start ringing alarm bells a little bit about the other side, you know, that's not completely one way or the other (...). (Specialist 3)

And I think the problem with all this evidence debate is that there is never, never a foolproof notion of evidence, but that's not something that's communicated beyond a very small circle. Most people believe that if the government said it's evidence-based, it's evidence-based and that's the end of the debate. Most of what counts as evidence, there's always some element of doubt. (Specialist 2)

6.2.2 Opinions about 'anti-MMR parents'

Parental opposition to the MMR vaccine was perceived differently depending on the personal agenda of the specialist concerned and his or her professional expertise. For instance, at the time of the interview, Specialist 1 had just qualified as a general practitioner. Herself the daughter of two medical doctors, she brought to the interview set views on what relationships between doctors and patients should be. This was revealed when she described her irritation towards parents opting for separate vaccines for measles, mumps and rubella:

And, part of me feels like a child and saying: 'Look, we told you this is the way to do it, you do it that way or not at all'. And I do feel that. I do feel that childish irritation at what, you know, who are you to judge 'cos there's no evidence either that giving it separately makes a difference. (Specialist 1)

Commenting on the socio-demographic background of those parents objecting to the MMR vaccination³⁹, she also expressed the idea that the anti-MMR stance was a luxury that only middle-class parents could afford. In her views, most opposition came from ‘better-off’ parents who could afford, both intellectually and financially, to stand up and raise the issue:

I mean, where I am, it’s quite deprived and not being middle-class. But the people from [relatively comfortable area of London] and so on, those are the patients that I have to have a discussion with, and actually, some more deprived populations, so quite a lot of black families I’ve noticed who are, who come from a very deprived background but are, actually, starting to have a good life. (Specialist 1)

For these more ‘scientific’ specialists, the separate vaccines were not a ‘rational’ option since the length of time involved between each injection meant that children were not fully protected against these diseases before a long time and because they had not been vetted by the appropriate authorities:

But there is also the practical thing that is, you know, if you give them separately, you know, you’re just not going to have them all done, there’s going to be millions of opportunity. And a lot of people say, if you’re told, you can’t have it separately, we’ll have it done and do the right thing. (Specialist 1)

Well, at the moment, the rubella vaccine is licensed to be given as a separate item, but measles and mumps vaccines are not licensed. And the Medicines Control Agency has put restrictions on the importation of unlicensed products from other countries. And the reason for that is because products have been imported into this country, which don’t meet adequate safety efficacy levels. (Specialist 5)

On the polyphasic side of the spectrum, parental opposition to the MMR vaccine was perceived as being reasonable with the separate injection option described as

³⁹ Traditionally, the lower rates of vaccination take-up were found in socially and economically deprived areas reflecting poor access to health resources. However, this pattern has been changing recently. The inequality in take-up rates between affluent and deprived areas decreased between 1991 and 2001, reflecting both a better coverage in deprived areas and a more rapid decline in uptake rates in affluent areas than in deprived ones (Middleton and Baker, 2003).

the most sensible compromise solution while further research was made into the issue, a sensible choice that should be offered to parents. This was the view for instance of Specialist 4:

So what a lot of them are doing is they are following what I'd consider to be an eminently sensible middle road in this situation, is giving the vaccine separately. (Specialist 4)

Feelings of rebellion against what was perceived to be an unfair situation were viewed as the main motivating factor behind the institutionalised opposition to the MMR vaccination programme organised by parents of autistic children whose condition has been linked to the vaccine. In that context, Dr Wakefield was viewed as a 'saviour', one of the rare medical professionals to have listened to what these parents had to say:

You know, people would report these conditions and they'd be told 'well that's normal or else, we can't connect that to the immunisation.' So there was a lot of distrust about, you know... What was kind of obvious to and commonsensical to the parents wasn't being taken seriously by the health professionals. (Specialist 2)

So I think you know, not surprisingly, they rebel and, you know, and if they come across odd ones like Andrew Wakefield and two or three others who actually took them seriously and listened to them. But there aren't many, and clearly they're going to clutch on those ones. (Specialist 3)

6.2.3 Personal attitudes towards MMR vaccine

Opposition to the MMR vaccine among health professionals was a reality discussed by several of the specialists interviewed. Although these cases were perceived as being rare, it was recognised to be a reality especially in the first moments of the controversy when the pro-MMR case had yet to be developed fully and communicated properly to health professionals:

But also a lot of health professionals had kind of, it's raised anxiety amongst them for a number, either because they're not familiar with all the research that's gone on subsequently or because you know, they, like any other person, are susceptible to these particular stories. (Specialist 5)

I think partly because we weren't given enough information and we didn't know quite what was going on. The problem is things often, you read things in the newspaper and you get questioned about things before we, as professionals, have been given any information or any protocols or any advice about what we should do. So yeah, to start with we, a lot of us wondered whether we were doing the right thing by giving it, and whether there was some truth in the allegation. (Specialist 6)

Interestingly, Rogers and Pilgrim (1995) had already identified this paradoxical situation a few years before Wakefield's 1998 article. In this study, the authors interviewed several primary health care workers and noticed the self-identity dilemma faced by these people: on one side, they were perceived as the depositary of 'rational' scientific knowledge while, on the other, they shared the same anxieties and same potential feelings of guilt as any parent of young children.

To a varying degree and with some qualifications, Specialists 2, 3 and 4 all expressed reservations about the MMR vaccine and used elements of political knowledge to air them. For instance, Specialist 2 admitted, after the interview, that he had not given his children any of the childhood vaccines. This communication expert had a clear political agenda, which had made it very difficult for him, in his former job, to promote the government line about mass immunisation programmes in general and the MMR issue in particular:

And I think that was a conflict for myself, certainly and, you know, it became a conflict to a degree that I didn't want to work on MMR anymore because there was no way that I could, you can't live with yourself if you're being forced into something to do that you don't agree with. (Specialist 2)

In addition, this specialist's opposition to mass childhood immunisation programmes was accompanied by a call for anti-poverty and education programmes, deemed to be more efficient at reducing the risks associated with childhood diseases:

I mean polio only became available, the immunisation against polio only became available in the West around 1945 I think, after the War. And if you look at graphs showing or charts showing the instance of polio, in fact, all of these infectious diseases, they were all making a steep decline prior to immunisation, the introduction of immunisation. And the impact of immunisation appears to have been like very, very small. You know, the biggest changes were

improvements in sanitation, nutrition, hygiene, yeah, the kind of traditional public health improvements. (((...))) But some of the arguments could be, well you need to spend less, you need to spend much more on the anti-poverty because at the moment all we're doing is, you know, doing the quick fixes. (Specialist 2)

As for Specialist 4, one of the two GPs interviewed, he was offering the single vaccines free of charge to his NHS patients while making them available to other people for a fee. He also had a clear agenda, trying to promote another type of medicine than the one being encouraged, in his views, by the government, the medical profession and the pharmaceutical industry:

However, I've taken a particular interest in the MMR and I believe there is sufficient concern about the safety of the MMR that single vaccines should be available as an alternative. (...) And I started offering these here on the NHS to my patients. [And a few pages later] It's one of my agendas that I have at the moment that I'm sharing with you here, is that I'm concerned that the whole health agenda of the developed world is far too influenced by the multinational drug companies. (Specialist 4)

Specialist 3 also referred to the idea of collusion between the pharmaceutical companies, the medical profession and government as a way of justifying her support for those parents involved in the lawsuits against the manufacturers of the MMR vaccine. However, it was Specialist 2 who expressed most forcefully the potentially significant impact of this type of political knowledge on the sense making efforts of people:

(...) the other factor, which made me more distrustful, was the relationship between the pharmaceutical industry and the government. And what seemed to me to be too close a relationship which is, it's kind of, you know, it's that relationship between the government and the pharmaceutical industry which supplies the immunisations, the vaccines, and how that relationship informs or contributes to what government policy might be, which is beyond medicine. It's a commercial relationship and I think that's, that was another thing in the melting pot for me which made me more sceptical. You know, I would like to see that relationship removed. And (???) certain clarity over what was determining government policy, that it wasn't being informed by the dictates of the pharmaceutical industry, which had obviously the profit motive as its driving force. (Specialist 2)

6.3 Reflections on specialist interviews

In addition to their practical implications for health-related communication policies (see Chapter Nine for a discussion of these), the interviews conducted with the six specialists highlighted a number of interesting aspects of the MMR vaccine controversy that can help refine our understanding of cognitive polyphasia.

In particular, they brought to light the role played by a number of key social representations, or core background beliefs, in people's attitudes towards the MMR controversy. Views and attitudes concerning medicine and health professionals, government and other authorities, alternative health beliefs and complementary medicine emerged as key factors to be taken into account in order to understand how parents of young children made sense of the controversy and decided whether to have their child(ren) vaccinated.

In a different domain, the specialists' comments on the particularities of medicine underlined the special nature of medical science, by contrast with other areas of science, and pointed towards some of the reasons behind people's need to draw on other types of knowledge when trying to make sense of health-related issues, thus providing some support for the synchronic perspective on cognitive polyphasia proposed in Chapter Two. In particular, the quasi-spiritual dimension attributed to doctors, reminiscent of the healing tradition found in more traditional societies, echoes Moscovici's (1992b) reflections on the appeal of 'new magic' and the persistence of religion as a type of knowledge even in Western, 'modern' societies. Specialist 1 summarised that aspect of the medical profession in the following way:

And then I think, there's also what they're saying about... in some ways, because people are not so religious anymore, that the doctor has taken on some kind of religious role for some people which... potentially, the burden, because you're not religious, or that's not your role. But it's something, I guess spiritual, that people put on you (...). (Specialist 1)

The changing nature of the relationships between patients and doctors and the 'scientisation' of medicine, however, go against this need for a more personalised

relationship with their health professionals and can help to explain people's disenchantment with traditional medicine and the concomitant appeal of complementary medicine which, in the words of Rogers and Pilgrim (1995: 85) "is individualistic, stresses holism and is compatible with ecological approaches to understanding health".

These interviews also revealed the possibility of cognitive monophasia, or the use of only one type of knowledge when trying to make sense of a controversial issue, and the need to take into account the specific circumstances of each social individual when trying to understand their choice of a particular cognitive strategy. In particular, the conversation with Specialist 4 confirmed the views by Callon and Latour (1991) that the making of science is not free of personal considerations.

The role of social representations within the sense making efforts of mothers of young children is examined in greater detail in the next chapter, which reports on the focus groups that were conducted in parallel with the specialist interviews. That chapter also looks more closely at the actual decision-making process these mothers used to make sense of the MMR controversy.

Chapter Seven – Overview

The results of the three focus group discussions that were conducted with 13 mothers during the spring of 2003 are presented in this chapter.

As with the specialist interviews, the objectives of these focus groups were manifold:

- to deepen and sharpen my understanding of the factors that had influenced these mothers in their decision to give or not the MMR vaccine to their children;
- to get a finer understanding of the decision-making process over the MMR vaccine;
- to confirm or qualify the views expressed by the specialists;
- to refine the theoretical framework for cognitive polyphasia.

In addition to factors specifically related to childhood vaccination programmes, the focus groups highlighted the fundamental role played by mothers' representations of motherhood, by their attitudes and perceptions towards the medical profession, and by their lay health beliefs and views of alternative health therapies in the development of their position on the MMR controversy.

Attitudes towards and perceptions of the media were discussed but not included in this document due to space constraints and as they had been covered extensively in other works such as Boyce (2005). Suffice to say that most people have commented on the partiality and sensationalism of the British press while also noting the positive and real impact they can have in triggering further interest in a particular issue.

7 Focus group results

7.1 *Themes specific to MMR vaccine controversy*

As with the specialist interviews, some of the considerations raised by mothers during the focus groups as having an impact on their decision to give the MMR vaccine applied to all childhood vaccines while other factors were specific to this particular vaccine. These two sets of factors will be covered in turn.

7.1.1 Issues with childhood vaccination programmes

The themes of complexity and fluidity of vaccination decisions raised by the specialists adopted a much more emotional connotation during the focus group discussions. Indeed, whatever the specific disease(s) being targeted, all childhood vaccinations, the MMR one included, appeared to trigger similar feelings of fear among the majority of mothers. This was especially the case for the first childhood vaccines, diphtheria-tetanus-polio or DTP, given at two, three and four months of age (Department of Health, 2006a). The imagery associated with the vaccination process is very powerful (Leask, Chapman and Hawe, 2000), and brought scary emotions for many participants:

I think there's something very sort of frightening about injecting something into a child. You talked about blood coming out. I think there's a psychological kind of barrier. (Participant 4, Group 1)

And the advice is to have it and so, after talking yourself round in circles, you know, ultimately they all have it because that's the line that's being given out. But I'm not comfortable with it really at all. [And a few paragraphs later] But it's always, you know, I can't wait. If I have [daughter's name] done, I can't wait for it to be over and think we've survived that barrage of drugs, you know, because it's not a pleasant journey. (Participant 7, Group 2)

Especially when they get very... I had one of my triplets who got hysterical with it and she cried for hours and hours, you know, the one, you know, the one that they do in the leg. They're so good, oh you know, they're only how many weeks, eight weeks? (Participant 11, Group 3)

Confirming the specialists' views, the primacy of one's child(ren) vis-à-vis other children and the desire to do what is best for them, even at the expense of the larger community good, were also significant aspects of people's attitudes towards childhood vaccines. For the following participant in the second focus group, this opposition between the good of the community and one's own interests was an intrinsic part of being a mother:

One of the feelings I got from talking to various doctors and health people and things was this, that I mean their interest is slightly different to ours, in that they are looking at society and I think that there is no question that as far as society is concerned, to have a high herd immunity is the best thing and obviously it's a nasty disease and obviously it wants, you know, the more people that have it the less chance it is around. But as a parent, you are looking at your individual child and you are weighing up the chance of, not only how nasty is this disease, but also, you know, if there is this possible problem. And some doctors will even admit there is a possible problem, you know, 'am I looking at society's benefit or my child's benefit.' And it's the first sort of time, I suppose, when you have children, I found with a lot of issues, you know you, this question of having a sort of society attitude and thinking 'yes, sometimes, I've inconvenienced myself for the sake of the greater good sort of thing,' runs up against, 'but this is my child and I want absolutely the best for it and I don't actually care that much now.'

(Participant 6, Group 2)

More pragmatic considerations concerning childhood vaccinations were also mentioned, albeit by fewer mothers than with the more emotional aspects. For instance, one mother had had serious concerns about the quality of the vaccines used by the NHS and this had led her to pay for her daughter to have a number of the routine vaccines administered privately and using her own supply of vaccines that she imported from America. These concerns resulted from a conversation she had had with a relative of hers who is a medical expert on vaccination issues:

And we did it in a different way. Because of my cousin telling me the horror stories, we went to [doctor's name], this doctor that does injections, and we ordered our vaccines from the States because the standards there are very different from the NHS. And it was a nightmare because we ordered them, we didn't know when they would arrive but they had to be given in a certain time frame. So we would just get a phone call that would say: 'Come at such and such a time.' Rushing down, get [daughter's name], and you couldn't prepare or anything.

(Participant 2, Group 1)

7.1.2 Factors specific to the MMR vaccine

7.1.2.1 Alleged link between MMR and autism

For the mothers interviewed during the focus groups, the role played by autism in the MMR debate was much more subtle and mitigated than what the specialist interviews suggested. Thanks to the media coverage, the allegations of a possible link with the MMR vaccine were known to all mothers, a fact that came out implicitly throughout the discussions. However, as can be seen from Table 7.1 below, this awareness did not always translate in fears about whether to go ahead with the MMR vaccine.

Table 7.1 Vaccination patterns and concerns

Vaccination patterns	Type of concerns		
	No concern	Autism	Other reasons
Yes to MMR	P9, P10	P1, P4	
Yes, but...			P6, P7, P8
Single vaccines		P11, P12, P13	P2
No vaccines			P3, P5

For example, Participant 10 only mentioned autism to explain that she had thought this condition was something more directly associated with boys than with girls and hence she did not have to worry about giving the MMR vaccine to her daughters:

I don't know why, I just thought that maybe if I'd have had a boy I might have felt differently, and I don't know why, and I did wonder if the MMR was sort of linked to all these things that are more prone in boys for some reason. I don't know why I thought that like autism and is it Crohn's and other things, I'm not really sure. But I am pleased I've had them done. That's my personal view. (Participant 10, Group 2)

Two mothers, Participants 1 and 4, had obviously been enough concerned by Dr Wakefield's allegations of a link between autism and the MMR vaccine to seek advice and reassurance from trusted health professionals, such as relatives who are doctors in the case of Participant 1, or the family GP for Participant 4:

I basically followed my... my brother's a cardio-thoracic surgeon, his wife is an ophthalmologist and my sister-in-law a GP, husband is an A & E consultant. So they all have children and they've all been immunised. So I just followed suit, you know. You think that, they're doctors (...). (Participant 1, Group 1)

I don't know the specific story but my GP's discussed what her opinion was and she knows the doctor at the Royal Free, the doctor that started this. And her opinion was that, there's a lot of developmental things that happen around the first birthday and you can't always expect that autism has come from something like that. You would first discover autism around that time anyway cos'... (Participant 4, Group 1)

Indeed, only three mothers out of the 13 interviewed during the focus groups (Participants 11, 12 and 13) gave autism and Asperger's syndrome, a milder version of autism, as their main reasons for rejecting the MMR combined vaccine and opting for the separate vaccine option. Interestingly, an additional six mothers justified their rejection of the MMR vaccine or their ambivalent feelings towards it by referring to other factors such as concerns with overall childhood vaccines, or lay beliefs about immune systems and preference for alternative health therapies (see below).

Although the data collected did not specifically deal with this hypothesis, it would seem that, for many mothers, the publicity and media coverage around the MMR vaccine acted as a catalyst for the expression of other anxieties about vaccination in general – a fact confirmed by the individual interviews (see next chapter). The possible causal relation between MMR and autism was only a small part of the story and therefore, for these mothers, the decision to have one's child vaccinated with the MMR injection extended to factors beyond the immediate aspects of the story.

For all but two of the focus group participants, Participants 3 and 5, opposition to the MMR vaccine did not translate into an outright opposition to childhood vaccinations and the majority of the mothers did not have any qualms about having their children vaccinated against what they consider to be serious diseases (eg, meningitis). For instance, the following comment was made by one of the most 'anti-MMR' mothers:

I think, for most of the vaccinations, I didn't have a problem with the vaccinations themselves. I mean, diphtheria, all those other things they do, polio and so on. Sure, because it's a life or death thing. (Participant 6, Group 2)

Another mother who went for single vaccines against measles, mumps and rubella nonetheless made clear her support for the principles of immunisation:

(...) And I also vaccinated against chickenpox which a lot of people don't do, but I did it for my elder child because I was expecting the triplets and I just couldn't face everyone having chickenpox in the next five years. (Participant 11, Group 3)

Indeed, the three mothers who opted for single vaccines were well aware of the possible side effects associated with measles, mumps and rubella and actually resented those people who decided not to vaccinate their children at all against these diseases:

See that's a risk. Not people like us who opt for the single vaccine. The problem is people can't cope with it and they blow it off, they don't have the money to do a single one but they don't want to do the combined, and that's the danger in the whole thing. (Participant 13, Group 3)

7.1.2.2 Power of individual cases

Confirming the opinions of specialists, the personal stories of damaged children, either published in the newspapers or through someone they knew, as opposed to the scientific evidence used by both the anti and pro-MMR camps, figured prominently in the focus group discussions. Several mothers related the story of an acquaintance or a neighbour demonstrating the possible links between MMR and autism:

I do know a child that's part of this autism, [Participant 3 interrupts her] to say been damaged that hasn't necessarily been proven but he's got autism. (Participant 4, Group 1)

Yes. I mean, I've got a friend of my parents' who's a GP, his grandson has been affected. He, he still takes the party line that generally children should have it, but he's the first to openly admit that his grandson has fits as a direct result of the MMR, he believes. And he stood up and said that, you know, in the relevant medical circles, you know so it sort of... (Participant 7, Group 2)

For two of the three mothers who opted for single vaccines, these personal stories, either from someone they knew or from the press, provided the clinching argument in their decision to reject the combined vaccine:

Well, I didn't. I had the single vaccines for [son's name]. Just because I know, two of my husband's best friends, both guys from work, have had children who've subsequently had, turned out to have Asperger's. And it was just around the time that the second one was diagnosed with Asperger's. (Participant 13, Group 3)

Yes I did the same. I didn't do an awful lot of research but my mother sent me one of two newspaper articles. And it was the emotional articles that swayed me because I just thought if there was any risk, if one mother believed that her child had got autism from that, then why would you take the risk when it only cost you a few hundred pounds? (Participant 12, Group 3)

For Participant 13, the power of these individual stories was compounded by the credibility attached to the mother of one of these children with Asperger's syndrome:

One of the, I think, the thing that swung it for me was one of the mothers was a neo-natal nurse at the Great Ormond Street. And before she had her first child, she was very clear that if the NHS was saying have MMR, then she was going to do that. And she then had this child with Asperger's and she did, she said it was, she's very calm and rational, sensible woman. (Participant 13, Group 3)

In that context, it is easy to understand the media's obsession with Leo Blair (see Chapter Five) and the similar interest in this story expressed by about half of the participants in the focus groups. Indeed, Hargreaves, Lewis and Speers (2003: 25) expressed a similar point in their study of the reception of science by noticing the difficulty for scientists to counteract "the more emotive and sympathetic figures of parents concerned for the welfare of their children" with only "dry generalisations" as their main tool.

7.2 Other significant themes in the MMR debate

As discussed with the six specialists, other themes, not directly linked to the MMR controversy, seemed to have had an impact on the decision whether to give

the MMR combined vaccine. Beliefs and attitudes towards the medical profession, the mistrust of authorities, lay health beliefs and views vis-à-vis alternative health therapies all played a significant role for the participants in the focus groups. In addition, however, the group discussions brought to life the fundamental importance of these mothers' social representations of motherhood in their efforts at sense making of the MMR debate. Each of these themes will be discussed in turn in the next few sections.

7.2.1 Medicine and health professionals

Some resistance to vaccination may therefore signify a fundamental opposition to the dominant biomedical understanding of health and disease. (Hobson-West, 2003: 278)

Throughout the discussions held with mothers, health and the medical world in general stood out as primary concerns that should be examined further to make sense of the debate about the MMR controversy. Attitudes towards and expectations for health professionals were found to influence mothers' reactions by providing the overall background in which the different components of the controversy were understood and by acting as a filter through which to make sense of the information offered by health professionals.

However, in contrast to the specialist interviews, the focus of the relationship between the medical profession and the public was of a much more personal and emotional nature, confirming the fundamental role played by health issues in people's life (Gervais and Jovchelovitch, 1998a; Jovchelovitch and Gervais, 1999).

7.2.1.1 Attitudes towards health professionals

As pointed out by the experts, the theme of the changing relationships between doctors and patients played a key role in mothers' perceptions of the MMR vaccine controversy through its impact on the reduced amount of trust they now place in the medical profession. The changes in how patients perceive and behave towards their doctors reflect the policy changes introduced over the last 15 years but, as discussed by Green, Thompson and Griffiths (2002) are also symptomatic of a fundamental shift in the biomedical model. These authors argue that the

population is now “being subjected to a form of social control based on ‘normalising’ health narratives founded on self-regulation, self-monitoring and the avoidance of ‘risk’, through developing healthy lifestyles and keeping well” (Green, Thompson and Griffiths, 2002: 277). By asking individuals to take responsibility for their health and well-being, the medical profession – and the government sponsoring these measures, have indirectly encouraged people to become more assertive, more confident in their knowledge and, thus, to be more questioning of what used to be ‘routine’ actions such as childhood vaccines.

These changes were visible in the opinions and views of the majority of mothers interviewed in the focus groups. These mothers showed a great amount of confidence when dealing with doctors and a willingness to question their diagnosis and the treatment proposed. For example, one mother recalled how she had pursued the issue of the need to inject her child with the MMR booster by requesting a blood test measuring the level of antibodies:

Yes, I confronted this. Why can’t they take a blood test or something? (Participant 6, Group 2)

The related theme of ‘patients as consumers’ had also been assimilated by a number of mothers interviewed and become part of their relationships with their doctors:

Well that’s my choice, isn’t it. It’s my decision at the end of the day. (Participant 10, Group 2)

In that context, the access to single vaccines became an issue in its own right. Irrespectively of the scientific evidence supporting the use of single vaccines as opposed to the three-in-one MMR vaccine, most parents interviewed strongly felt that they should have the right to this option and that the NHS should offer it free of charge:

And I just think that I should be free... I can understand there are public health issues when people aren’t immunised, but I just feel people should be free to choose single vaccines if, as long as they do vaccinate their children. (Participant 11, Group 3)

These women valued their experience and knowledge as mothers which, combined to their – overall, higher level of education, gave some of them the

feeling that they actually knew more than the medical authorities and had the right to question their doctors. For instance, a mother who had been very active in her opposition to the MMR vaccine discussed her relationship with the medical profession in the following way:

Yes, exactly. And you come to the conclusion that actually you know more about your child's health than the doctors do and I'm now highly cynical. I don't go into a doctor's surgery thinking that they are going to provide any answers for me. I feel that I've got to talk as an equal and I don't go with reverence. (Participant 5, Group 2)

Indeed, this same mother related how one of her friends, a general practitioner, turned towards her when came the time to have her own child vaccinated as she knew that the interviewee had done a lot of research on the subject:

And I had a friend who was a doctor who, I think it must have been when my second child was due for MMR. Anyway, she came up to me and said 'you didn't, you were querying the MMR years ago' and suddenly she wanted all the information because she'd heard about Crohn's, and Crohn's is in her family and she never did the MMR. (Participant 5, Group 2)

Other factors may also have contributed to this greater assertiveness and confidence. The majority of the mothers interviewed during the focus groups had their first child relatively old and were well educated. Furthermore, the introduction of the Internet in everyday life has translated into easy, immediate access to health-related websites reducing, for many, the need to consult a GP whenever something goes wrong with one's child. One participant thus discussed her reliance on a website where one can follow a logical tree and come up with a self-diagnosis:

You get this information from the flowchart (???) possibilities and you take that to your GP, which makes them think, you know, you've got quite focused things... (Participant 2, Group 1)

The greater questioning of medical authorities seemed also to reflect real concerns about the competency and the expertise of medical profession, following the publicity that surrounded well-publicised cases such as the heart operations on babies in Bristol (Dyer, 1999), and the removal of organs on children's corpses done without due approval from the parents (Dyer, 2000). Indeed, one of the

mothers discussed how uneasy she felt after learning that the team who had assisted her at the birth of her triplets was the same team that had been involved in the death of a mother some time before:

And again, you know, afterwards you're a bit uneasy 'cos I read they had also had another death in St Mary's with again, my doctor and my anaesthesiologist, and the woman had said that her heart was hurting, they basically didn't deal with it. She was anxious. I think that was it. And they thought 'this woman's just a bit nuts and she's a very anxious person' and they didn't, anyway she had a heart attack and... (Participant 11, Group 3)

7.2.1.2 Expectations for health professionals

This greater confidence in one's knowledge and experience translated in higher and specific expectations for the medical profession. These expectations addressed different aspects of the relationships between health professionals and patients and did not focus only on the concrete results or achievements of the medical profession.

For instance, mothers discussed how they wanted to feel that they were being looked at as individuals and not as numbers to be processed by a system:

It's a long waiting list, you are in the queue and it's that general quality of care, however good they are, and you feel like you are just a number. (Participant 1, Group 1)

This was contrasted with situations in which mothers were able to build a rapport with their health professionals by being given the time and attention they needed to feel they were being dealt with as an individual. Commenting on how her current surgery was providing good care, the following participant explained:

They've got time for you, that's one thing. I mean, if you go in there, it's not like 'yes, right, OK, what's wrong, yeah fine, OK, write out a prescription for antibiotics, bye bye.' They will listen to you and take time with you. (Participant 10, Group 2)

Another consequence of this increased confidence in one's knowledge was a request for more respect from doctors who were sometimes described as very patronising:

You know it was just sort of, don't worry about it, basically. The GP said: 'It's something you should have dealt with yourself.' I'm made to feel like a hypochondriac from my GP (...).
(Participant 3, Group 1)

On the other hand, the feeling of being taken seriously, when it happened, was seen as a major advantage in one's relationship with one's doctor, as the following quote shows:

And you feel like it's a partnership and it feels like you're doing it together and he will guide you through. He will also run any barrage of tests that, you know, they're very cautious. They will check for everything if that's what you want you know. They're not sort of saying, 'oh, how much will it cost to sort of do this sort of scan or whatever.' You feel like you have very thorough care and that you're directly involved in every decision that is made there.
(Participant 10, Group 2)

The ability to think outside the 'scientific' box and to encourage alternative options was also perceived as a major asset for health professionals. One mother in the second group told how the health visitor that visited her after the birth of her first child exhibited just these traits:

(...) and she said that's absolutely fine, you do what you're doing and she said, I wanted to try something different, you know, because she is a skinny little runt of a child and we need to do something about it. She was so supportive of me taking the alternative view, she was the one that suggested cranial osteopathy, you know, she was wonderful. (Participant 8, Group 2)

Having much medical and professional experience was obviously seen as something that good doctors have. But, in a sense, this was perceived as less important than having the humility of knowing when to say that one did not know something and being able to refer the patient to other, more specialist doctors. This seemed to bring a feeling of reassurance very much looked for in people's minds:

But as you know, he is a very nice guy and will listen and is prepared to listen to alternative views. But also he is very prepared to send me onto a specialist. And the number of times he has referred me to specialists for all of us, it's like, 'fine, thank you, that's all I need to know. If you don't know the answer, we'll move on.' (Participant 8, Group 2)

7.2.2 Issues of trust and idea of conspiracy

In the context of the MMR controversy, conspiracy ideas converged on the NHS policy to pay a certain amount of money to general practitioners depending on the number of children vaccinated. None of the mothers interviewed seemed to know the actual details of this policy and relied rather on hearsay but, a number of them mentioned it, nonetheless, as another reason to question the advice given by one's doctor. For instance, one mother expressed her conviction that doctors had a financial interest with respect to the MMR vaccine by saying:

They do definitely... Oh yes, of course they do. That's the reason they do it so, when they're [the children] so young. The only reason they give all the rest of, you know the three, two, three, four, month ones whenever it is, so young, is because they know that at that, and they'll admit if you tax them with it, that at that point most mothers are bringing them into the clinics to be weighed and checked and they will get everyone, and it's easier for them. (Participant 6, Group 2)

One mother pushed the possibility of conspiracy even further by linking GPs' attitudes in the MMR controversy to a larger conspiracy between the pharmaceutical industry and the medical profession:

Because they don't even want to go down there to look, they don't even want to open the door, I... that's my... cos' they know if they open the door, you know, they won't get grants anymore for research cos' the big business will just block them (...). (Participant 3, Group 1)

Pursuing this line of thought, some mothers also questioned the overall objective of the government-sponsored vaccination policy and what they saw as the unquestioning obedience from the medical profession. For instance, some mothers questioned the principle of vaccinating children against childhood diseases that were seen as 'benign' such as mumps. The fact that they themselves had caught some of these diseases as a child and had come out of them perfectly healthy just reinforced their points of view. The proposal by the government to vaccinate against chickenpox came under fire for the same reasons:

And then as the disease gets less serious, then, it's a question of pros and cons, isn't it? I mean, by the time it gets to chickenpox, which of us is going to do it? And measles is like, you know, it's not actually definitely going to kill your child, but there's quite a high

percentage chance that it is going to maybe damage their eyesight or something like that. And I think measles is probably the most difficult. It is a difficult one to decide, isn't it?
(Participant 6, Group 2)

Some mothers also resented what they saw as the inappropriate use of fear by the medical authorities to force parents to have their children vaccinated, corroborating some of the concerns over the overuse of the notion of risk in official communications raised by Hobson-West (2003):

So that it all, that it sort of: 'Hang on a minute, they don't really know what they're talking about here.' And I sort of thought, an awful lot of this is about fear. I mean, immunisation does seem to me to be an incredible thing to me about fear, anyway. (Participant 3, Group 1)

In that context, the Leo Blair episode was yet another example of incidents breeding a greater amount of mistrust in and cynicism towards the government. The decision by the Prime Minister and his wife not to divulge whether their youngest child had been vaccinated with the MMR was said to be full of hypocrisy, especially in view of this same Prime Minister's governmental policy towards the vaccine:

But he took a personal stance on this. You know, trying to persuade people to do it and... absolutely refused. If he hadn't wanted to disclose it, he should have kept out of the discussion as far as I'm concerned. (Participant 6, Group 2)

But of course if he'd done it, he would have told everyone. (Participant 4, Group 1)

We thus see how conspiracy ideas involving the government, pharmaceutical companies and the medical profession, combined to the mothers' greater assertiveness and confidence and their higher expectations for the medical profession, resulted in a decrease in their trust towards authorities and, therefore, possibly influenced the evaluation of any information communicated about the MMR combined vaccine.

7.2.3 Lay health beliefs and alternative medicine

Mothers' views and attitudes in the MMR vaccine controversy were also influenced by their lay beliefs about a number of health-related issues. A first set

of beliefs concerned what can be described as fundamental issues to do with human nature, and human life in general. For several of the mothers interviewed during the focus groups, there was something cyclical about human life, an idea accompanied by the belief that things had to follow their own rhythm. In that context, childhood diseases such as measles, mumps or rubella were perceived as 'events' one had to go through in one's life and part of a child's normal development:

Did you not have? I had, I had, I caught everything. I had measles, I had German measles, I had mumps, I had the lot. And then you had a developmental jump, you had a leap. I mean, that's the thing. It is that these things are there to, I mean, a lot of homeopaths feel very strongly they're actually there to burn off old stuff literally. Because you need that kind of fever quite often to burn stuff through to come through. And these are quite necessary diseases to make you stronger. (Participant 3, Group 1)

I don't know whether it's just my children but it seems to me that these children as they're growing up are going through that stage that we've all had, we've all had the ear infections and the gromits at a certain age, the speech therapy. (Participant 4, Group 1)

These beliefs often contrasted with what some mothers saw as the heavy-handed approach of contemporary medicine. They were also used to justify the use of alternative health therapies and as a proof of their effectiveness:

Because the proof is that homeopathy works just as fast because it's a slow process. It's all about growth. Basically, when you're actually big enough your tubes get wide enough for it to flow (...). (Participant 3, Group 1)

In the context of the MMR debate, the most interesting examples of these lay beliefs were those dealing with the immune system. These showed how people can use scientific knowledge (there is such a thing as immunology) and apply it to other areas than those for which it was originally conceived, a point discussed by Fitzpatrick (2002) and Parry (2004). Lay beliefs about the immune system were used to justify both the acceptance and the refusal of the MMR vaccine. The following quotes illustrate this fact:

I thought: 'I need to do whatever I need to do to get, help her along the way, exactly.' And because she was so squishy, it was like, well actually, yes, you do need this immunity because there's none of you to fight anything off. (Participant 8, Group 2)

And then I didn't immunise [son's name] because he had an incredibly weak chest and I just thought his system wasn't ready for it. (Participant 3, Group 1)

Linked to these beliefs was the idea of a dichotomy between 'natural' and 'chemical' with vaccines being classified in the latter category:

But it's a vaccine, it's not natural, you know, this is the thing. (Participant 1, Group 1)

Herzlich (1973) unveiled a similar connection in her works on illness, highlighting the strong relation between people's representations of health and their concepts of nature. Alternatively, using Marková's thinking on *themata* (2000), one can speculate that the dialectical relation between 'natural' and 'chemical' is a very basic one that needs to be taken into account in the MMR debate and many health-related subjects.

The impact of the ever-increasing interest in alternative health therapies on people's relationship with the medical profession in general and their position in the MMR debate in particular, much discussed with the specialists and identified in Rogers and Pilgrim's study (1995), did not come across as a significant theme in the focus groups. Only two of the 13 participants specifically mentioned the issue of alternative health therapies as an important factor in their attitudes towards the MMR vaccine. For the first one, Participant 3, alternative health therapies had become a 'way of life' and had directly and unequivocally affected her views on vaccination issues:

So I've gone completely alternative. I've always been, they haven't had their jabs or anything. (Participant 3, Group 1)

Another mother in Group 2 made a clear rapprochement between her opposition to the MMR vaccination and her interest in alternative health therapies. Discussing how she had started to have doubts and fears about the MMR vaccine,

she stressed the fact that the group to which she belonged and who decided to investigate this issue further had a real interest in alternative health therapies:

Yes, particularly alternative. And also people were talking about immunising homoeopathically as well, if they were going to do at all. (Participant 5, Group 2)

7.2.4 Motherhood

Thoughts and views on motherhood, on what is involved in being a mother today, and on the emotions linked to this role played a significant role in shaping the perceptions of and the attitudes towards the MMR controversy.

7.2.4.1 Being a mother

For the majority of mothers interviewed during the focus groups, being a mother was seen as a 'job' involving a number of tasks and responsibilities. For instance, the first group had a lengthy discussion about children's diet and how mothers should go about ensuring that their children eat a well-balanced diet despite most children's lack of inclination for 'healthy' food. The job of a parent was thus seen as involving the application of principles such as perseverance and sticking to one's guns over things such as the type of food allowed at home:

This is what I believe also with children, you have to persist. Everything is too natural. If you don't, if they don't eat vegetables you still have to serve them a plate of vegetables. They might eat one or they might eat a little bit of the broccoli but you're doing something because if you don't, if you stop it, they will never ever try. (Participant 1, Group 1)

But yeah, I mean I still am very conscious about what she eats and try and make sure it's as salt-free, sugar-free, home-made, organic as possible as much. (Participant 12, Group 3)

Indeed, children's diet represented a major area of concern for most of these mothers and one where the conflict between doing one's best and being pragmatic came out very clearly. It also encapsulated many of the concerns that played a role in mothers' assessment of the MMR controversy. For instance, the dichotomy between 'natural' and 'chemical', discussed earlier, was used here again with 'chemical' products of all sorts being perceived as 'bad' and dangerous:

But Aspartame, Aspartame, you see, this is the really frightening thing. That the Ribena Light, it had a dentists' approval. [All participants talking at once.] Actually, sugar is better for them. Sugar is a natural thing and they will just go and use their energy. Aspartame has, through research that was done in Ronald Reagan's time, but he suppressed it because it actually causes Alzheimer's disease. Seriously, I used to be addicted. (Participant 3, Group 1)

This discourse was also associated with the idea of a conspiracy, this time from large food companies. As we have seen in Section 7.2.2 (p. 209), the conspiracy theme emerged on several occasions, both during focus groups and specialist interviews, and appeared to be a major contributing factor in the decline of trust in authorities, be they medical or governmental:

All the companies are locked into other things, you know, to each other in a way. I never feel I'm being told the truth and even organic things. It is about pressure. It is about being blackmailed. I really feel like I'm being blackmailed into buying organic food. I buy it because otherwise I don't feel a good mother and it's rubbish. (Participant 3, Group 1)

Many mothers deeply resented this feeling of 'being cheated upon by the system', of not being able to trust the external environment. Related to this was the impression that scientific and health-related issues had become more complex over the years, making it more difficult for mothers to do their job (the idea of complexity was also mentioned by experts but in the context of decisions about childhood vaccines). For instance, one mother in Group 1 complained about the difficulty of checking if food products contain E-number chemicals:

I mean, a few years ago I looked at labels and everything had an E-number and it was really easy. Now I look and they don't, unless you recognise exactly what they are, they've reverted to their chemical name. (Participant 4, Group 1)

7.2.4.2 Dilemmas of motherhood and guilt feelings

Along this view of motherhood as a job that needs to be done, participants in the focus groups discussed in great detail the idea that motherhood is full of dilemmas, a long series of compromises one navigates through from the birth of one's first child. Related to this was the feeling of guilt associated with motherhood. This came out as a prevalent emotion and was discussed in some

way or another by the three groups. For instance, one mother felt guilty about not having picked up the eye condition of her daughter sooner:

Well, I felt terribly guilty because I thought 'you're an appalling mother not having picked it up before.' (Participant 3, Group 1)

Another was having doubts about having gone through the NHS rather than going private:

[Daughter's name], in particular, has eye problems so we've gone down the NHS route and there's a lot of guilt taken on board along the way because you feel like: 'Are you giving her the best care possible?' (Participant 1, Group 1)

The decision to go back to work after the birth of one's child as opposed to staying at home was rarely guilt-free and represented a very concrete example of the dilemmas facing these mothers. This theme was covered in great length in Group 3 in which two out of the three mothers were preparing to go back to work after the recent birth of their second baby. The difficulty attached to this decision was summarised by one mother in the following way:

I suppose one the things I struggle with, is when I actually go back to work and leave my two children with superb, excellent nannies, but nonetheless it's not me, it's a nanny. (Participant 13, Group 3)

On the other hand, full-time mothers sometimes felt 'deprived' when they compared their current life with what they were used to before becoming a mother. This was a feeling expressed by the one mother in Group 3 who had decided to stop her high-profile career after the birth of her first child. Discussing the pros and cons of breastfeeding, she linked her decision to stop it after five months in the following way:

(...) but with my first I was leaving a career in investment banking that was extremely fast-paced and to be honest I could not sit on the sofa and breastfeed. I did five months and then I just said, I can't do this anymore because I just can't live my life when I need to be on the go. (Participant 11, Group 3)

The different social pressures mothers felt were being applied on them compounded dilemmas of motherhood and guilt feelings. These pressures were

said to come from relatives – in particular one’s parents or parents-in-law; from what may be perfect strangers; or from society as a whole. Pressures were felt right from the start of one’s life as a mother with, for instance, the issue of breastfeeding:

Whereas here, it’s pressure on you to breastfeed. Well there’s pressure in ... I mean I have a few friends who chose not to. And I mean, I have to admit, in my heart of hearts, I’ve been looking at them thinking, you know, why are you not giving your child the best for their health? (Participant 12, Group 3)

These feelings of guilt were counter-balanced by the realisation that being a ‘good enough mother’ was a perfectly acceptable position (see also next section). This feeling of being a ‘good enough mother’ could be achieved in different ways. For example, mothers stressed the differences among their children to justify the idea that there were limits to the amount of guilt one could feel when things did not turn out as expected. The idea that each child was different was useful in alleviating some of this guilt:

You see, I’ve got one child that has always inclined to be podgy, and one who’s fairly normal, and one who’s skinny as a rake, you know, and I bring them all up. (Participant 6, Group 2)

With the birth of the second and subsequent children, and as children got older, came a greater confidence about one’s ability as a parent that helped to alleviate any feelings of guilt:

I’m getting a) increasingly cynical, b) increasingly bolshy and I suppose confident as well... it’s not just with that it’s with other stuff that I sent my first one to nursery because he was shy and so I felt that I had to get him ready for school and... sod it, why waste your last years of freedom, you know? I didn’t have the confidence to make that decision and I think that’s one of the things. (Participant 6, Group 2)

7.2.5 Identity questions

For some mothers in the focus groups, the last two themes, alternative health therapies and motherhood, came across as two significant elements of their identity. Their positioning vis-à-vis these themes formed an important part of their efforts to define themselves vis-à-vis their own self and also, vis-à-vis significant

others. More importantly, in the current context, how they positioned themselves vis-à-vis these dimensions appeared to be a major factor in their attitudes and perceptions of the MMR vaccine controversy, and an explanatory variable in their engaging or not into cognitive polyphasia.

Motherhood, in particular, constitutes a significant part of women's lives. A life-changing event, it represents a key part of how women see themselves and how the society and 'significant others' perceive them. One such 'significant other' for a number of participants was their own mother, and some of them commented on the latter's influence both as a source of information about child-related issues and as a role model one tries to emulate. Specific examples of mothers' influence on their daughters were discussed in the third group. For instance, one mother in that group had stopped buying a particular type of food as a result of her mother's concerns:

I had been buying Marks & Spencer's chicken teddy bears for [daughter's name] as a real treat and Mum found me the article, which proved that even Marks & Spencer's chicken teddy bears were full of rubbish so I stopped instantly. (Participant 12, Group 3)

Another mother in the same group had looked for her mother's views on the emotional well-being of her son after feeling guilty for working outside the house:

And the fact that I work, I tend to work long hours and I'm not, I travel, my husband does the same thing. My three and a half year-old seems an incredibly balanced, sensible child, my mother was over at the weekend and I said 'you can see him ... do you think he's suffering?' And my mother who's a very sensible Irish woman said, 'absolutely not, he's a balanced, happy little boy.' (Participant 13, Group 3)

The influence of one's own mother was also present in some mothers' decision to go for single vaccines:

I didn't do an awful lot of research but my mother sent me one or two newspaper articles. (Participant 12, Group 3)

The influence of mothers as role models to be emulated emerged also through a discussion of the canonical character of childhood diseases such as measles or mumps. Here, the ability of these mothers' mothers to nurse them out of these

illnesses was viewed both as a reason to doubt the need for the MMR vaccine and as a valued skill that had been lost. For instance:

I mean, when we were all kids, I know, there were a lot more diseases, I was sick a lot more than my children are. I think, we had loads more fevers and this and that and our mothers knew how to nurse us frankly and their mothers even more. (Participant 6, Group 2)

One could almost discern a feeling of nostalgia for the skills mothers of olden days were assumed to have possessed, and hypothesize that some of the participants felt ‘torn’ between the image they had of their mother and their own self-image as a mother.

While all mothers were keen to do ‘the best for their children’, some also made clear the limits one had to set oneself. In particular, some mothers discussed the value of aiming to be a ‘good enough mother’, a formula proposed by Winnicott (1953). Dilemmas and guilt feelings were lived to a different extent by each of them and some mothers had adopted a more pragmatic approach towards motherhood compared to others who came across as relatively more anxious about it.

For the pragmatic ones, inasmuch as they would have liked to conform to their ideal of the ‘perfect mother’, the reality of their existence prevented them from sticking to all the behaviours they associated with this image. For instance, one mother in Group 1 who has had four children in six years and raised them without much domestic help had much to say about this theme:

All of these things you know, you might be risking things by going down some alternative ways... and you’re risking things by allowing your children... and they have to learn how to cross the road on their own. And all of these things, you’re weighing up all the time whether you’re doing it right. What everyone else thinks of you and their opinion of the way your handling it. And you just have to be pragmatic about these things and try and take on what, you know, you may not be in a position to go private. You may not have that alternative or you may not have the knowledge or the nous to fight a doctor if you feel they’re not quite giving you good advice. (Participant 4, Group 1)

Summarising her views on motherhood, the same mother said:

But it's a case of not beating yourself up about it and trying to do what's best and get the balance right and, you know, not taking it personally if things don't work out. (Participant 4, Group 1)

As discussed above, motherhood is characterised by a series of dilemmas mothers face, and thus offers several opportunities for them to define themselves depending on their positioning vis-à-vis several issues such as the MMR one. Indeed, it can be argued that the MMR debate and the resulting interest in other issues related to immunisation was used by a number of mothers as a proxy for the intellectual stimulation they may have had in the workplace. This seems to have been the case, in particular, for the two most vocal mothers in Group 2, Participants 5 and 6, both of whom used to have an interesting career (one as a lawyer and the other as a pharmacist). These two mothers came across as very articulate, and their engagement into the MMR debate appeared as a quasi-intellectual challenge:

Well, you can only talk about nappies for that long, can't you? (Participant 6, Group 2)

Interestingly, the active engagement of these mothers had been encouraged by their belonging to a group of mothers organised by the National Childbirth Trust⁴⁰. This group supported these 'alternative' views and encouraged each of their members to find out more information about them. The same mother discussed this in the following terms:

I suppose we supported each other to the extent that, if everybody you knew was having it and you had doubts, you would probably go along and have it, but if half the people have said no, there is no way we are going to have the baby done, you know it gives you that strength of mind to sort of decide one way or the other. (Participant 6, Group 2)

For these two mothers, being part of a group that adopted an anti-MMR stance seemed to mean a lot more than just being able to agree on the MMR issue. It also

⁴⁰ The National Childbirth Trust is a charity organisation founded some 40 years ago. It provides advice and support to mothers-to-be and new parents and organises pre- and post-natal groups of mothers and parents.

meant being part of a way of life one wanted to identify with. As such, these attitudes appeared to confirm the significance of the relation between specific social representations and the particular group that hold them discussed within the context of the theory of social representations. Members of the group implicitly know that their individual views will be shared by other group members and so have no or fewer reservations when expressing them or when undertaking specific actions based on them (Elejabarrieta, 1994).

For one of the mothers interviewed during the focus groups, one's positioning towards alternative health therapies came across as another key factor in the process of identity construction and one to take account when trying to understand the use of cognitive polyphasia during the MMR controversy⁴¹. Alternative health beliefs seemed for her to be a way to differentiate her from other parents. They gave her a sense of being in control over her and her family's health despite the efforts they requested (eg, finding the right therapies, going far away, changing one's habits):

I've been taking both of them [her children] to an extraordinary woman down in Kent, once every month. And she has brought together all sorts of techniques such as they listen to special sounds for fifteen minutes a day. (Participant 3, Group 1)

Her use of alternative therapies was also explained through her desire to belong, to identify herself with her family and exhibited, in that sense, a quasi-spiritual dimension:

My family is completely alternative. My mother is fighting cancer alternatively. You know, it's kind of, in a way, it is about a faith thing because it's... I'm part of that and we... it's, it is like a line, you know, and I don't want that line in a way to end. (((...))) And that, that health is a very, what is health, you know. I mean, and what are we here for really. And it's all quite a bigger journey than that. (Participant 3, Group 1)

⁴¹ Attitudes towards alternative health therapies also played a significant role for three mothers who took part in the individual interviews.

Finally, a more indirect connection between the MMR issue and the question of identity was visible in the case of Participant 11, an American born and bred mother. During the focus group discussion, she recalled how her decision to have her first child vaccinated with the single vaccines had been influenced, to a very large extent, by a conversation she had had with her American doctor (based in London):

I have to say, I also wasn't that up on the issue, and when I was offered it to do it the American way, being American... that made me comfortable. (Participant 11, Group 3)

Interestingly, her decision to forego the MMR vaccine, and to go for the single vaccines, had followed a lengthy discussion with scientifically minded friends and, even, medical doctors that had made clear the safety of the combined vaccine. This participant acknowledged the value and soundness of the evidence collected or offered but one can only hypothesise that the need to belong to one's culture was a more convincing argument.

7.3 Decision-making process

Although the specific dynamics of focus groups prevented their systematic exploration, the three focus groups conducted for this project allowed the outlining of the different decision-making processes used by the 13 mothers interviewed. These different processes can be conveniently put on a continuum defined in terms of the degree of systematicity and the amount of efforts (both in terms of time and intellectual input) invested by the mothers.

On the left-hand side of the continuum are mothers who were quite happy to 'go with the flow', to act according to their 'gut feelings' or to follow the actions of friends and/or relatives without engaging into any type of research:

You see, you go with the flow because then you think if you haven't and everyone else has, then your child has a risk a greater risk (...). (Participant 9, Group 2)

To their right are parents who, without engaging themselves into much research, followed the advice of experts, whom they trusted, thus representing an example of what could be described as vicarious trust in scientific knowledge. These

mothers were generally respectful of scientific knowledge and expertise but, acknowledging their limited expertise in medical issues, were happy to follow the advice of trusted people. This was the case, among other ones, for Participants 1 and 7⁴²:

(...) and I think it's like, you know, if the doctors, and they're the experts, are saying you should have it, then and you don't know better. (Participant 7, Group 2)

Following the advice of a trusted expert was also the decision-making process used by another mother in Group 1 who relied on her cousin, a medical researcher based in the US. He convinced her to use the American-produced vaccines and to vaccinate her daughter according to the schedule used in America. However, in her case, the information thus obtained appeared to have been processed in a more thorough way which put her slightly to the right of the previous participants:

Oh yes, I went on the Internet. I bought a couple of books. Got to talk to a doctor who was a GP on the corner who's not too helpful. And we basically just said look (???) my cousin just sent this e-mail saying: Okay, when she's at this stage, and we (???) and charted out the programme. And we took that to [doctor's name] who specialises in this. (Participant 2, Group 1)

At the other end of the spectrum were Participant 5 and, to a lesser extent, Participant 6 who undertook a significant amount of research in order to understand the MMR debate and to decide whether to give the combined vaccine to their children. Participant 5 told her story in the following way:

Well, I went a totally different way. I had huge problems with the MMR when my daughter who's nine was due for it, so that was eight years ago before all the problems arose on the MMR. [Participant 6] and I both were in a group where we were discussing it in great depth. (((...))) Anyway, the long and the short of it is that I said I also wasn't happy that the documentation said that the MMR should be given to a child that was 15 months old or above, and we were being, our children were being given at 12 months old and I said look, three months in a baby's life is huge and I wasn't happy about that. (...) In the end, I did give it to her when she was 18 months old and thought that her immune system would cope with it

⁴² See quote on page 201 for relevant quote from Participant 1.

better. I also did toy with the idea of separate injections, but again that was unheard of and I was causing a big stink really (...). So, when my second child was due for MMR, he didn't get it. [And a few paragraphs later] When you queried as to why the pre-school booster was needed, if it was meant to be effective for ten years, they said, 'oh well...' I said, I even went to the manufacturers and said 'what is the dosage?' (Participant 5, Group 2)

7.4 Building on the focus group results

The analysis of the group discussions produced interesting and revealing material both in terms of the content and the structure of the sense making efforts of mothers facing the MMR controversy.

First, the focus groups confirmed many of the observations made during the six expert interviews (see previous chapter) concerning the key factors influencing the parental decision whether to give the MMR vaccine, be it those directly linked to this vaccine or those linked to childhood vaccination in general. The alleged link between the MMR vaccine and autism proved to be only one factor among many others that mothers took into account when deciding whether to have their children vaccinated. The group interviews also highlighted how what should have been a limited controversy triggered doubts about the childhood vaccination programme as a whole.

The need to locate the MMR controversy within a larger context delineated by a set of key social representations was also confirmed by the focus groups. The social representation of medicine and the medical profession, including issues of confidence in medical expertise, played a pivotal role in positioning people vis-à-vis the MMR issue. Views and beliefs concerning complementary medicine and the assumptions it entails were also re-confirmed as an important factor for some mothers.

The social representation of motherhood, in particular the emotions and thoughts typically associated with being a mother, also appeared to be part of the set of key social representations used by mothers to make sense of the MMR controversy. This emphasis on emotions, or on 'warm cognition' as discussed by Schwarz (2000) was in contrast with the more dispassionate outlook on the MMR debate

offered by the specialists. Indeed, beliefs and attitudes about motherhood had not been mentioned by any of the specialists thus confirming the value of triangulating different methods of research.

Although not the main focus of these interviews, the examination of the decision-making process used by the focus group mothers revealed the existence of different ways of processing whatever information these mothers had collected or accessed concerning the MMR, and thus confirmed the need to include the modes of knowledge processing in the cognitive polyphasia model outlined in Chapter Three. In particular, the interviews revealed the possibility of using scientific knowledge vicariously through the use of a heuristic rule that enables people to follow the advice they received from trusted individuals. They also revealed the power of heuristics to produce what is considered by the individuals concerned as ecologically rational decisions (Gigerenzer and Todd, 1999a). This was the case for two of the four mothers who decided in favour of the single vaccines despite the advice of trusted people who had used what the interviewees perceived as reliable, scientific-based evidence. One of these two mothers, whose close friend had engaged into much research supportive of the combined vaccine, summarised her decision in the following way:

But I felt better about having done it singly. I just felt instinctively it was the right thing to do.
(Participant 12, Group 3)

At stake, for these mothers, seemed to be the need for a rule that one could easily follow. One was faced with the uncertainty of the MMR and needed to reduce this uncertainty by using a set of criteria that would enable closure. That being said, the decision-making processes discussed in the previous section appeared to be context-specific. Some mothers discussed their use of a much more active approach when faced by other health-related decisions, a reflection of the contextualised nature of cognitive strategies (Grize, 1989). This was the case for one of the two mothers mentioned above who had engaged into relatively complex research when deciding about her son's circumcision:

And there was a big debate in my family when we found out we were going to have one boy about circumcision, because in America we always circumcise pretty much. ((...)) So there was this study coming and actually people were sending me things about, you know, testicular cancer and what could it do to their partners in not so many years. I mean there's all this research now about why you should circumcise and then also about why there's really no need. And my husband had a view and I had sort of no view so I was trying to take these things, I mean it was very funny. (Participant 11)

The focus groups also made clear the importance of looking at the personal circumstances of each social individual in order to understand the different aspects sense making efforts can adopt. For instance, Participant 1 exhibited a rather anxious attitude towards motherhood but the availability of trusted medical professionals in her family meant that the MMR controversy did not evolve into a major issue for her.

The group interviews thus confirmed the value of a number of elements included in the cognitive polyphasia model. The individual interviews, discussed in the next chapter, supported these findings and allowed a more detailed exploration of the sense making efforts – and the cognitive strategies they imply, of mothers facing the MMR controversy.

Chapter Eight – Overview

This chapter presents the results of the individual interviews that were conducted with 18 mothers of children of vaccination age. Using a combination of NVivo-based coding and argumentation analysis (see Chapter Four), four exemplars are identified, characterised and differentiated by the type(s) of knowledge these mothers drew on when trying to make sense of the MMR controversy. Together, these four exemplars represent a possible typology of cognitive polyphasia that incorporates both the social and individual dimensions of this phenomenon.

The implications for the cognitive polyphasia model presented in Chapter Three are discussed at the end of the chapter.

8 Proposed typology of cognitive polyphasia

8.1 Introduction

The analysis of the specialist and focus group interviews identified a number of key themes present in the sense making efforts of parents facing the MMR controversy. It also confirmed the need to look more closely at the individual circumstances of each mother, and pointed at different ways of processing the information available. Making use of these findings, the analysis of the individual interviews conducted with 18 mothers in June 2005 examined in greater detail the decision-making processes adopted by them. The objective here was to formalise the theoretical framework proposed in Chapter Three for the operationalisation of the hypothesis of cognitive polyphasia and, in particular, to clarify the role of the different elements of the cognitive polyphasia model and the interactions between them.

Through the identification of the types of knowledge used by these mothers⁴³, it was possible to segment the latter into four main exemplars characteristic of different ways of engaging into cognitive polyphasia. Interestingly, the analysis brought to light the possibility of cognitive monophasia whereby social individuals relied exclusively on one type of knowledge.

The four exemplars are described in the next sections. These are followed by a discussion of the implications of these results for the proposed cognitive polyphasia model⁴⁴.

⁴³ As discussed in Chapter Four (see Section 4.6.3, p. 136), three types of knowledge were identified: scientific knowledge, common sense knowledge and political knowledge. Evidence of religious knowledge was also documented but only in the case of one participant (Participant 17).

⁴⁴ Examples of the interview summaries that were prepared for each of the 18 individual interviews (and which incorporate the argumentation analysis performed on them) are attached in Appendix 5.

8.2 “*Science is enough*”

The first exemplar comprises five participants (Participants 01, 02, 06, 07 and 14) who relied more or less exclusively on scientific knowledge in their decision-making process concerning the MMR vaccine, an example of what can be defined as ‘cognitive monophasia’. This exclusivity results from these mothers’ total trust in medical science and medical experts, a key social representation - or core background belief - that played a role at different steps of their decision-making process.

For instance, this trust in medical science and in medical experts meant that the awareness of the MMR controversy did not evolve into a real concern about the vaccine. One participant, Participant 01, did not even feel the need to raise the MMR issue with her doctor, while two others, Participants 06 and 07, simply took advantage of a routine appointment with their paediatricians to ask their views about it:

So I guess because I have been surrounded by professionals who have kind of washed away the fear, I haven’t really got into all this debate, yes, no... (Participant 06)

It was, you know, a thing when we went to this paediatrician it was a routine visit and we had some questions and one of these was some information for the MMR and what does he think. (Participant 07)

Another mother, Participant 14, felt the need to examine the evidence on the MMR vaccine but only so as to satisfy a curiosity that had been triggered by the media furore about the controversy:

No, I just wondered what all the fuss was about. It’s like what is all this fuss about? I’m just going to see for myself and that was it. Because everyone was talking about it, I thought ‘well, I’ll research it.’ (Participant 14)

Only one participant in that exemplar, Participant 02, seemed to have had some real issues with the three-in-one vaccine. Her concerns, however, did not originate from a lack of trust in medical science and expertise but rather, from her social representation of motherhood and, more specifically, her desire to be identified as a ‘good mother’, a point that will be discussed later in this section.

There were small variations, however, in the degree of trust in medical science and expertise shown by the mothers in this exemplar and these influenced how they made use of scientific knowledge. For Participants 01, 06 and 07, this trust took a personalized form and had more to do with their views on medical experts and health professionals than with their views and understanding of medical science per se. Their trust in medical experts did not justify the use of other types of knowledge, and hence of cognitive polyphasia, to make sense of the MMR controversy. The scientific knowledge and professional experience embodied in their health professionals were sufficient to convince them of the need to give their children the MMR vaccine:

Because I'm sure if the GP or the nurse from the clinic that do that, I just trust to the doctor, I will trust to the doctor. (...) Everything, the knowledge from the medicine, I trust to the doctor. (...) Just things, when the doctor what they say it's good, I follow. Everything what the doctor says is good and I'm going to follow. (Participant 01)

She's a very good paediatrician. She's got a lot of experience, she's got, she's hospital-based as well so, you know she sees all sorts of cases, deals with emergencies. And I asked her if there was any danger in them having it and she said look 'no, there's always talk about the MMR, especially in the UK' but she said 'no, just do it.' And I just trust her, she's always done a good job with my children. (Participant 06)

I have a private paediatrician here, and we discuss it a bit and he said that I don't really have to worry. (Participant 07)

In these three cases, scientific knowledge was used vicariously through a simple heuristic decision rule along the lines of "experts' statements should be trusted", an example of the 'one-reason decision-making' discussed by Gigerenzer and Goldstein (1999). In the context of the MMR debate, there was no need to draw on other types of knowledge as the issue was easily assessed.

It is worth noting that both Participants 06 and 07 came from Southern European countries where a different attitude to medicine and to health professionals seems to exist (see Pardo and Calvo, 2004 for a discussion of the influence of cultural factors on the public understanding of science). According to these mothers (this also includes Participant 08 in the next exemplar), nationals of these countries

tend to have a very high degree of trust in their health professionals and not to question their opinions and judgments:

I think that there is a different attitude to medicine in general. And you kind of, from what I have realised, you kind of trust doctors more implicitly, and you're more used to, you know, just take it for granted: okay, they need to have a vaccination, have a vaccination. (Participant 06)

This lack of questioning of medical practice applies to childhood vaccination programmes, which are thus taken for granted. Participant 07, a Greek national, summarised this situation when she said:

But in my country, MMR is obligatory, you don't have the option not to do it, and for me, it was normal to have it. I was reading out of curiosity and my husband was reading and asking people around all, out of curiosity but we were going to do it anyway it was just... We wanted some more information but we were going to have it. (Participant 07)

By contrast, Participant 14's exclusive use of science as a type of knowledge with which to make sense of the controversy originated more from her trust in and inclination towards scientific knowledge and its methods than from her trust in health professionals or medical experts. For her, science, and its factual-based evidence, was the privileged route through which to make sense of health-related issues. In her words, she is a 'believer in science' and she likes to gather the factual evidence before making a decision:

Yes, that's just, I'm an analytical person. I like to know what I'm doing, and even if I hear something from other people, I think 'OK, I'm going to look into that for myself.' (Participant 14)

In her case, scientific knowledge was used in a very systematic manner and, with respect to the MMR controversy, involved the examination of academic and scientific-related websites and the search for any factual evidence that could have contradicted her positive views towards childhood vaccination programmes:

Usually I was after, like I would go to some of the various universities, the centres for disease control, you know, the academic and the scientific side of it. (Participant 14)

In this, she totally differed from the three participants discussed before (01, 06 and 07), highlighting the usefulness of including the modes of knowledge processing in the exploration of cognitive polyphasia.⁴⁵

Participant 02's efforts at making sense of the MMR controversy were located midway between the other mothers in this exemplar. Scientific knowledge and, in particular, the risks attached to childhood diseases versus the risks of the vaccine, were the key elements in her decision to vaccinate her son with the MMR vaccine. In a similar way as Participant 14's, she was very systematic in her quest for and analysis of facts and data about the different options, and she reckoned that the whole process of investigating the MMR issue took her and her husband six months. In her case, a high need for cognition applicable to various topics of interest seemed to be a major factor behind this systematic mode of knowledge processing:

(...) we [Participant and her husband] try and gather information as much as we can through the media and if we're not satisfied we'll look at books and things. I mean there's always the Internet. (Participant 02)

However, she differed from Participant 14 and came nearer the other mothers in this exemplar in that a significant portion of the scientific information she used came from friends and relatives who work in the health sector, a fact justified by the participant by their greater availability and easier access than 'regular' GPs and health professionals. It may also be the result of a heuristic rule along the line of 'the opinions of people I like and who are experts can be even more trusted.' However, ultimately, it was these people's expertise that justified her need to discuss the issue with them:

⁴⁵ However, Participant 14 admitted that she may well have used a heuristic mode of information processing had she known someone who was factually informed and had enough time to discuss the scientific evidence behind the MMR controversy, something she felt her NHS doctor did not have. This is line with Eagly and Chaiken's (1993) point about the need for heuristic rules to be available.

So even though you can read lots of pamphlets, it's important to know from somebody who's in the medical profession. (Participant 02)

As mentioned briefly above, another social representation, this time about motherhood, played a significant role in these mothers' attempts at making sense of the MMR controversy. In particular, through their impact on identity needs (see Figure 3.1, p. 85), perceptions and opinions on how a mother should behave influenced the selection of the modes of knowledge processing used by these participants. Two conceptions were present in this group of mothers. Adopting what came across as a very pragmatic attitude, Participants 06 and 07 subscribed to the view that motherhood is a natural part of a woman's life and that one should feel quite relaxed about it and avoid being over-anxious about everything:

I pay attention, but I don't go out to look for the information because I just don't really have time and I also think you can start reading too much and '*everything is bad for you.*' One moment, tomatoes cause cancer and then the next there is something else, so, you know, if you go down that route you can become a bit hysterical and blow things out of proportion. (Participant 06)

My parents and my husband's parents, you know, the way that our parents brought us up. I believe it was a normal way, not the best not the worst, but a normal way, an absolutely normal way. So I'm going to follow something similar. (Participant 07)

On the other hand, Participants 01 and 02, who both had their child relatively late in life, committed much of their energy to raising their child and were very keen to do the best they could for them:

I am just a full-time mummy for my children, for my boy. So I want everything that is good for him. (Participant 01)

I'm an older mother, a mature mother and I waited a long time to have a baby so the thought of leaving him with somebody else and not watching him grow up because it's very hard work, the work I did was long hours and demanding. [And a few paragraphs later] So, you know, it's so important, food, and that's one of the things that I didn't, the reason why I stayed home, was because I wanted to make sure that he had all these things to start a happy healthy life and I just knew that if I had childminders, nannies, they wouldn't pay the attention that a mother would to what goes in his body and so it was very important to me. (Participant 02)

These two mothers came across as social individuals wishing to be identified as ‘good mothers’, which for Participant 02 translated, it is proposed, in the need to look at the MMR debate in a very thorough and extensive manner:

And, you know, we’re *educated* people, we can make informed decisions and it was important that we just discussed it amongst our little group of close family and friends. (Participant 02)

However, Participant 01, whose social background was totally different and did not have the linguistic or the educational tools to deal with scientific information, had to make do with her total trust in her doctors:

Because I’m not very good with the English. Sometimes, even though I watch from the TV, I also can’t understand what they’re going to talk. (Participant 01)

We can see therefore how people from totally different backgrounds, with very different educational qualifications, and leading totally different lives, such as Participants 01 and 14, can be part of a group for whom scientific knowledge provides a very effective means of making sense of controversies such as the one concerning the MMR vaccine. While in the case of Participants 01, 06 and 07, science acted as a justification not to worry unduly about these controversies and, thus, as a reassurance mechanism, in the case of Participant 14, it worked as the most efficient tool with which to address the questions one may have. What differentiated these mothers was the mode of knowledge processing, with the first three participants happy to follow a simple heuristic rule while Participant 14 felt the need to deal with these issues in a more systematic way.

This first exemplar also highlights the ability of the media to make people aware of an issue and to create a certain amount of anxiety even amongst people who do not tend to question scientific evidence. This confirms the views of Elliman and Bedford (2001: 184) on the impact of reporting of scientific evidence about the MMR vaccine by the popular press: “However weak the scientific evidence which triggers vaccine safety scares, they provoke anxiety among parents and health professionals which can lead to a decline in vaccine uptake”. Participants 02 and 07 described this impact from the media in the following terms:

Because it was so blown up in the media, they would talk about it every day on the news, don't they, for about a week. And I used to start thinking 'oh, oh, he's going to have his soon, what do we do? Do we have it, do we not have it?' (Participant 02)

The only reason I would start asking and reading was that other parents had concerns not to have it, here. (Participant 07)

This power of the mass media and the social responsibility they should feel when dealing with issues such as the MMR have been discussed extensively by Tammy Boyce in her 2005 doctoral thesis.

8.3 “*Science is enough but ...*”

The second exemplar comprises four participants (03, 04, 08, and 09) who showed a certain amount of cognitive polyphasia, relying on three different types of knowledge to make sense of the MMR issue and come to a decision.

Scientific knowledge represented the dominant source of sense making for these mothers but their trust in medical science and expertise was not sufficient to quell all their fears towards the MMR vaccine and to provide them with all the information they needed to make sense of the controversy surrounding it. As a result, these mothers had to rely on a certain amount of common sense knowledge and political knowledge.

Conventional medicine represented these mothers' first port of call when faced by health-related problems, and alternative approaches to medicine played a minor role, if at all, in their approaches to health and illness. This trust in medicine was, however, sometimes qualified by their personal experiences. For instance, Participant 03 questioned some of the actions and judgments of health professionals vis-à-vis her son who suffers from a respiratory condition:

You never see the consultant, you see one of his juniors and their test to see if his nostrils are working is to hold a tissue in front of his nose and see if it blows it and it seems very kind of primitive in some ways. They have done an X-ray, which shows his adenoids aren't that big. But I think consultants are very much 'if you don't do this we won't see you again'. They're very dogmatic about how they approach things and I think, you know. (Participant 03)

The four mothers in this exemplar all used scientific knowledge although in a slightly different way depending on the particular social individual concerned. Participants 03 and 09 obtained their scientific knowledge vicariously by discussing the MMR controversy with friends and relatives in the medical profession whereas Participants 04 and 08 obtained this information more pro-actively by reading books and consulting the Internet. In all cases, this knowledge manifested itself mainly through a comparison of the risks associated with childhood diseases against the alleged risks of the MMR combined vaccine. For Participant 04, the reliance on scientific knowledge was also visible through her emphasis of the benefits of vaccination programmes for the community (principle of herd immunity discussed by Hobson-West, 2003) and parents' obligation to take this into account. Indeed, van Bavel and Gaskell (2004) have highlighted how an emphasis on social good as opposed to a more personalised interest could be said to be an example of paradigmatic thinking, a theme also adopted by Moscovici (1992b) when contrasting science and magic in *La nouvelle pensée magique*. In the words of this mother:

And I think you have to look at things as a whole society sometimes rather than, you know, selfish, I don't think that's quite the right word. But I think you need to look beyond just yourself. I think you need to look at it at a bigger picture, you know. And then I'd hope that when I send [son's name] to school that, you know, all the other children have had their shots and everything as well so that, you know. I think it would be sad if that wasn't the case.
(Participant 04)

Common sense knowledge also contributed to the assessment of the risks involved with each option by adding evidence from personal stories. For instance, the most forceful argument in Participant 03's decision to give her son the vaccine came in the form of her own personal experience of measles when she was a child, which resulted in her eyesight being damaged, and the experiences of several of her relatives who suffered from contagious diseases (eg, her mother nearly died from scarlet fever; her father-in-law who had polio). Participant 04 discussed the controversy with her relatives and close friends during a visit back home in Australia and realised that the MMR vaccine was the same she and all of

her friends had received as children some 30 years ago. In her views, this was the clinching argument that convinced her she should go ahead:

We went back to Australia in April and that's when I spoke to my mum and my couple of girlfriends back there that have children, and I found out that this MMR was the same as the triple antigen which is what we're calling it back home and everyone out there was having it. I think that sort of convinced me that, yeah, ok, this is the right thing to do. (Participant 04)

Common sense knowledge for this participant also came in the form of realising that none of the children she knew who had received the MMR vaccine had experienced side effects, now or in the past. For Participant 09, similar common sense arguments accompanied the more scientific arguments her sister, a family doctor, provided her in favour of the vaccines, mainly through the use of graphic examples of specific cases of side-effects she had seen in her professional role:

She gave some very graphic examples of patients that she'd seen that had become ill. She gave one very graphic example of a GP who'd gotten ill. Yes, he got encephalitis, I think. And he'd coughed or something, he ended up his whole, he ended up having a massive stroke from it. (Participant 09)

A degree of political knowledge also played a role in the sense making efforts of the four mothers in this group. This knowledge came principally through the questioning of the motives of the government and official health authorities involved in the controversy and, more specifically for Participants 03 and 08, of Prime Minister Blair's reasons for refusing to disclose whether his youngest son had received the MMR vaccine:

Like with the MMR there will always, you know, even the Tony Blair attitude with his son whatever he did it for privacy, I don't know why he did it, but whatever he did, was the wrong thing to do and the wrong picture for the public. You know what I mean? (Participant 08)

These doubts over the honesty of the authorities extended, for Participants 03 and 09, to pharmaceutical companies and the idea that they can put undue pressure on scientists. O'Dell and Brownlow, in their discourse analysis of news reporting and readers' opinions published on the BBC news site, also noticed how "scientific 'knowledge' in relation to the MMR has become tainted with the concerns and agendas of corporate finance (...)" (2005: 197). Interestingly, these concerns

about the actions of pharmaceutical companies worked both in favour and against the MMR vaccine. For instance, for Participant 09, this proposition was used to justify the fears she continues to have about vaccines (especially concerning the quality of the serums used). This came through when she discussed the case of Wakefield's colleagues who had recently published a partial retraction in *The Lancet* (see Chapter One for additional details):

Now, I'm very sceptical of pharmaceutical companies, and I'm very aware of the pressure that they put on doctors and, you know, I'm not a conspiracy theorist. But I certainly wasn't beyond my thought process that *I wonder, I wonder* how, how they backtracked so completely and utterly. (Specialist 09)

By contrast, in the case of Participant 03, these concerns with pharmaceutical companies were used to reinforce her doubts about the validity of Wakefield's research and her demotion of the possible links between the MMR vaccine and autism proposed by Andrew Wakefield:

And then of course you don't know which drug companies he's [Dr Wakefield's] being sponsored by. (Participant 03)

Participant 03's political discourse also covered her criticism of what she sees as the current culture of victimisation (see Bruckner, 1999 for a similar argument) by which many people try to put the blame for their failings or difficulties on something or someone else, an opinion she seemed to have developed through her part-time job as a teacher. She used this as a way to downgrade the fears over autism by saying that the number of children diagnosed with it may be artificially inflated⁴⁶:

I think a lot of children, who I don't really think are that badly disabled, are given a statement and a special education statement, diagnosed with Asperger's or autism and I think, you know, people often want to pinpoint behavioural problems or family problems and would rather have a label of Asperger's or autism when there's very little wrong with the child that

⁴⁶ In a related area, O'Dell and Brownlow (2005) have shown how the media reporting about the MMR controversy contributed to the perpetuation of negative stereotypes about autism.

couldn't be remedied by say family therapy or a different kind of environment at home.
(Participant 03)

As with the mothers in the first exemplar, the MMR vaccine became an important issue as a result of the media coverage that surrounded the controversy (although, in the case of Participant 09, this was compounded by her acquaintance with the mother of an autistic child who has been campaigning against the MMR vaccine). Simultaneously, these mothers also believed that the media had inflated the issue, and questioned the validity of Andrew Wakefield's research:

The bloke that actually did the research to say there was autism, there was something not quite right with his research and I'm trying to think now what that was. But his study wasn't conclusive at all. I think that was another thing I thought 'oh, it's just a media hype, there just trying to stir up trouble here', do you know what I mean? (Participant 04)

Indeed, prior to the media interest in the vaccine, none of these mothers had questioned childhood vaccination programmes, and mothers with older children had already given the MMR vaccine to their first children. For instance, Participant 09's first two children were born and raised in Jerusalem:

It was easy in Jerusalem where it was, nothing was ever whispered, Jesus you just do it, you didn't even think about it, didn't even think twice about it. And I had, you know, complete trust in the medical establishment there. (Participant 09)

This possibility was noticed by and commented upon by Boyce (2005: iv):
"Nevertheless, there is clear evidence of the ways in which the extent and nature of the reporting 'sowed the seed' of doubt in parents' minds, raising concerns about a vaccine which most would have previously accepted without question".

In terms of the modes of knowledge processing used to make their decisions, participants in that group can be divided into two tendencies. On one hand, Participants 03 and 09 did not go to extra length to investigate the MMR issue and were quite happy to delegate some aspects of their data collection to trusted friends and relatives who were also health professionals, relying on a similar heuristic rule as Participant 02's (see p. 231) along the line of 'the opinions of people I like and who are experts can be trusted.' On the other hand, Participants

04 and 08 were both very systematic about finding and analysing the information they had obtained and took a relatively long time to draw their conclusions.

In this exemplar, thus, we see how one type of knowledge was not enough to close the gap between actual and desired levels of confidence, a key element of the cognitive polyphasia model. Additional types of knowledge were needed to achieve the level of desired confidence.

8.4 “*Science is not enough*”

In this exemplar, the largest of the four, scientific knowledge, although largely respected by all the mothers in this group, did not dominate the types of knowledge that were used to make sense of the MMR controversy. Instead, common sense and political types of knowledge (accompanied for one participant by religious knowledge) were major elements in their sense making efforts. Participants in this exemplar can usefully be divided into two groups. The first one (Participants 05⁴⁷, 10 and 17) was characterised by a large amount of confusion and uncertainty while the second one, composed of Participants 11, 12 and 13, was able to reach a satisfactory situation by opting for the separate MMR injection option.

The lesser role of scientific knowledge in the decision-making process of the six mothers in this exemplar resulted from a much more ambivalent attitude towards medical science and expertise than the one found in the first two exemplars.

Although they believed in science and the scientific approach that underlines it, these mothers had their doubts about some aspects of medical science and/or had had negative experiences with health professionals. For instance, Participant 17’s son developed whooping cough after receiving his first DTP vaccine but the doctors she consulted when he fell ill were adamant this could not have happened until they had to face the reality:

⁴⁷ This mother, however, managed to reduce some of her uncertainty by going for the separate jabs option.

Ten days later he had whooping cough and was ill for the entire summer, seriously ill. (...) They completely denied this but I am so sure that it's no coincidence that he got ill ten days after the vaccine and with full-on whooping cough. (Participant 17)

This ambivalence led these mothers to question certain aspects of medicine, such as the MMR vaccine. While for the second group, these questions over the MMR vaccine would probably not have appeared were it not for the extensive media coverage that surrounded the issue, for the first group, doubts over the MMR were part of wider questions and anxieties about conventional medicine and were given a boost by their beliefs in alternative approaches to medicine and the different 'theories' that underline them⁴⁸. This applied, for instance, to the workings of the immune system (see Baker, 2003 for a more detailed discussion on mythical ideas about vaccination), the need to take a holistic perspective of individuals, an emphasis on prevention rather than cure, and a general preference for non-invasive approaches to health and illness issues. Examples of such concerns are provided in the following quotes:

But I suspect that there's an effect on individuals going on with the vaccinations that hasn't been, we don't know what it is, but I suspect it must be affecting, because it doesn't enter the body in the same way that a disease would. It's overriding one of the body's natural first lines of defense. See I feel very un-knowledgeable but this is my, this is one of the things I've read that I was convinced about was that the body's not reacting in the same way it would to a disease normally entering. So it's already asking the immune system to act slightly unnaturally. (Participant 10)

I also think it brings your immune system down. I also think it stops your own body from trying to heal itself and, from what I've learned over the years, holistic medicine, certain kinds, can try to boost your immune system up to try to fight it as opposed to just *block off*, you know, the responses. (Participant 05)

⁴⁸ Indeed, a study published in 1995 on the main reasons behind some parents' refusal to have their children vaccinated identified an inclination towards homeopathic approaches to vaccination (Simpson, Lenton and Randall, 1995).

I've got friends as well who do alternative medicine like homeopathy and craniosacral therapy and different things. I also do like (???) therapy and I'm quite into alternative things and a lot of people have given me literature on MMR and I've asked them their advice. (Participant 17)

These mothers' social representation of complementary medicine encouraged them to use different types of knowledge by lowering their level of actual confidence vis-à-vis the MMR vaccine irrespectively of the level of desired confidence they may have had.

Scientific knowledge contributed to the decision-making process of the six mothers in this exemplar even though its significance was considerably less than for the first two exemplars discussed above. In this exemplar, as was also the case for the two previous exemplars, scientific knowledge came across in the shape of scientific assumptions that have entered the collective psyche and are now taken for granted as, for instance, the belief in the effectiveness of immunization, at least for a number of diseases, and in the value of scientific methods. Indeed, the latter helps explain why the more 'alternative' mothers were not totally convinced by the arguments of the alternative practitioners with whom they discussed the controversy. These doubts about the alternative approaches to vaccination were expressed most clearly by Participant 10:

So they seemed to have an alternative view about vaccinations and also why they thought vaccinations might be problematic to a child's health? So there was that. Why were they asking this, why were they doubting the whole system because it's like a sacred part of medicine, really? So why were they asking these questions? And then, I suppose what sort of evidence did they have? But that's a very grey area I suppose. (Participant 10)

Interestingly, the three mothers in the first group plus Participant 13 shared a low degree of confidence in their ability to understand and grasp the scientific intricacies of the MMR debate, pointing to the need for further and better communication of scientific information. For instance, when asked about the most appropriate type of information she would like to have when faced by controversial issues, Participant 05 answered in the following way:

I guess statistics, but it's not just statistics because, you know, I'm not educated in the medical field, (???) so it's hard for me to read them. (Participant 05)

Reliance on one's instinct or gut feelings, which for the purpose of this study had been subsumed under common sense knowledge, also played a major role in how the three mothers in the first group approached the whole MMR issue. In particular, Participants 10 and 17 explained their decision not to give the MMR and other vaccines to their children by a premonition that 'told' them not to do it:

So, I was in a real dilemma but I actually just went with my gut instinct which was not to do it, which I felt really scared about, I think because I felt like maybe I'm doing the wrong thing, maybe it's really irresponsible. But it was almost like, I was about to take her one day and I almost had a kind of thing like 'don't do it.' (Participant 10)

In the case of Participant 17, who converted to Buddhism and seemed to be deeply influenced by her religious beliefs, this common sense knowledge had combined with religious knowledge, thus transforming her attitude vis-à-vis the MMR controversy into a reflection of much deeper and more fundamental issues defining one's identity:

And my wisdom is saying not to give it to [son's name] as well, and I have to follow that because I've followed that all my life in every situation and I think it's so important to look into ourselves for the answers to things. (Participant 17)

This mother also used a certain degree of political knowledge in her assessment of the MMR issue. For instance, she questioned the validity of government-related or government-sponsored scientific studies, Tony Blair's decision not to reveal whether his son had received the MMR, and the motives of 'big pharmaceutical companies' in the controversy:

I think the big pharmaceutical companies are making an absolute fortune on this and there's no way that it would be banned basically, even if it did terrible things to children. I think they are so into their money and greedy and, you know, big business that they don't care if a few children, like one in however many, is affected by it, I really do feel like that. (Participant 17)

One way or another, Participants 05, 10 and 17 all deplored the absence of an authority that they could have trusted and whose recommendations concerning the MMR they would have followed. Indeed, research is now emerging which suggests that patients might not have the skills to find this information and that, as a result, "many patients do not want to take responsibility or seek out information

for themselves – they are more happy to trust their health professionals and leave decisions to them” (Henwood et al. 2004: 88, quoted in Boyce, 2005: 30).

Participant 10 discussed a book written by a medically-trained homeopath, which seems to come very close to the type of information Participant 05 would have liked to have:

But if you had that one, that mystical doctor that also had a whole lifetime of experience in holistic medicine and they could give you the pros and cons that would be wonderful.
(Participant 05)

Participant 17 extended this need for someone to trust to the Dalai Lama:

((...)) I practise the teachings of his Holiness Dalai Lama, and I think if he said, which probably sounds... to most people that would probably sound so way out and so I don't say it really very often, but as you are asking me... Probably if he said 'oh, I would suggest that the MMR is very good,' I probably think I would trust him, but it is very different because he has a great wisdom and compassion and a deep understanding of things in a way that a professor or the government don't have. (Participant 17)

Alternatively, this reassurance could have resulted from a detailed and personalised assessment of the child's sensitivity to vaccines, an ideal solution, Participant 10 described in the following way:

Before they do vaccinations, like they look at her history and I think if I felt that they were considering individual physiology or how, because it seems to me people react so differently to different substances. (Participant 10)

Going back to the reflections on science made in Chapter Two, one can easily see the benefits of such a solution. This personalised assessment would bring together the solidity of evidence offered by scientific knowledge while acknowledging people's desire for them and their loved ones to be treated as unique individuals. As commented by Moscovici (1992b), scientific knowledge, through the methods and principles on which it is based, is 'guilty' of turning people into a set of statistics as opposed to unique individuals. Tammy Boyce makes a similar point when she contrasts the research conducted by Dr Wakefield and his colleagues (Wakefield et al., 1998) against the one presented by the medical and government

authorities in their defense of the MMR vaccine (for examples of this ‘official’ approach, see Elliman and Bedford, 2003b; Offit et al., 2002):

The majority of research examining Wakefield’s theories have [sic] been epidemiological and have [sic] refuted the link between autism, bowel disease and the triple vaccine. One of the criticisms of these large epidemiological studies is that they would not reveal a problem with the vaccine if the risk only affected a small subset of the population. In epidemiological studies the risk needs to be common enough to be visible in large population studies. Indeed, this is one of Wakefield’s main criticisms of research that attempts to refute his allegations. (Boyce, 2005: 20)

The social representation of motherhood had a significant impact for Participants 05, 10 and 17. The gap between their views of what is a good mother and their perception of how they themselves were performing as mothers generated feelings of insecurity. Participant 05 expressed these feelings in the following way:

It was really a big thing for me, ‘cos I kept thinking ‘I’m obviously doing something wrong ‘cos it’s not meant to be this hard’, and, you know, it is that hard. It also didn’t come naturally to me, partially because I waited for a while. You know if I’d had them in my 20s, early 20s, I could have made my mistakes and not cared, but you think so much in your 40s. You’re thinking: am I doing wrong, damage here? In 20 years are they going to be sitting in therapy saying: and then my mother did this?’ You get totally out of your brain, thinking these things. (Participant 05)

These, in turn, influenced these mothers’ efforts at sense making of the MMR controversy both by decreasing their level of actual confidence and by increasing their level of desired confidence, thereby prompting them to rely on more than one types of knowledge.

Participants 11, 12 and 13, in the second group of this exemplar, all opted for the separate MMR vaccine option. In their case, the decision to do so was relatively straightforward, thanks possibly, to a greater belief in the benefits of science and, in particular, of vaccination programmes. Reasons behind their decision to go for

separate vaccines varied, with Participant 11 giving as her main argument the unknowns about the impact of giving a multiple dose of vaccines to infants⁴⁹:

Anyway I gave, because for me the thing of giving a, some multiple inoculation is I just don't think it's particularly good for a small child's body to be subjected to so many strains of bug.
(Participant 11)

Indeed, this mother argued that had she been given the right type of information about the actual impact of giving the MMR vaccine to a small child (eg, what happens to the immune system, what to expect) she may well have been willing to go ahead, an example of what is described in this project as common sense knowledge. As it happened, her prejudices against the medical profession and the healthcare system in this country tainted her treatment of the information she received by the health professionals she contacted.

For Participants 12 and 13, the decision to give the separate vaccines to their children was guided principally by their feeling that if there were any risks attached to the MMR combined vaccine (as was implied in the press at the time), and since they had the financial means to afford it, then the best way ahead was to minimise the risk and go ahead with this option. Their decision was confirmed and supported by common sense knowledge, in this case, the opinions and advice of friends and relatives.

This second group's assessment of the safety of the MMR vaccine made extensive use of political knowledge, principally, through the questioning of the government's attitudes throughout the controversy and of the real motives behind the vaccination policies of the NHS. Participant 11 deplored what she described as

⁴⁹ Participant 11 was living in Hong Kong at the time of her first child's MMR vaccination. However, she had returned to the UK by the time of her second child's injections and, in this case, resigned herself to give him the MMR combined vaccine due, according to her, to the difficulty of giving children the separate injections because of the government's decision to block the import of these vaccines.

the politicisation of healthcare, the emphasis on hitting quotas and the patronising attitude by the authorities towards mothers:

I very much distrust, especially this government, but nearly... I distrust governments in their obsession with hitting quotas and targets and they, I think they can lose sight of the patient at the end of it. (Participant 11)

In a related domain, Participant 12 quoted the BSE scandal, and the mistrust it created towards the authorities, as one factor behind the escalation of the MMR controversy:

Well, I suppose there's been a certain amount of cynicism about the way government's dealt with health issues, especially in the... after the BSE thing, and that's probably the background for it. (Participant 12)

Participant 13, for her part, questioned Prime Minister Blair's refusal to disclose whether his son Leo had received the MMR vaccine and also the merit of paying bonuses to general practitioners based on the number of vaccines administered:

Yes, and his son. There is a cynical element to the whole thing and, you know, reinforced by the fact that doctors get money for injections, for the number they give. Nothing's quite what it seems in that respect. (Participant 13)

For this group of mothers, the MMR separate injections could therefore be understood as a second best solution, in the face of fears about the combined vaccine triggered by the alleged risk of autism and/or by wider doubts about the risks of giving a multiple dose of vaccines to a small child. Participants 05, 11, 12 and 13 gave their children the MMR separate injections because they had the financial means to do so, and they were willing to pay that price to have a peace of mind, a variable not yet integrated in the cognitive polyphasia model. Having the financial means to afford the separate injections helped these participants in their search for 'ecological rationality', that is a rationality that fitted with the reality of the situation (Gigerenzer and Todd, 1999a). Participant 13 summarised this position in the following manner:

But I had a choice, and right around the time it was very much in the press at that time. And I have a great friend who has an autistic child and feels very strongly about injections

altogether. And I don't strongly believe that there's a link or a conspiracy of a link but I think if you have a choice and you have the financial means to make that choice, it's money well spent for peace of mind and assurance, I suppose, insurance policy. (Participant 13)

Modes of knowledge processing differed between the two groups that comprise this exemplar. The first group, characterised by much confusion and uncertainty, was rather systematic in its approach, gathering various books, leaflets and websites and discussing the issue with friends and relatives. In addition, Participant 05 made use of an example of fast and frugal heuristics (Gigerenzer and Todd, 1999a), in this case a one-reason decision-making tool which implied that if there was any way to reduce the risk attached to the MMR vaccine (in this case, the separate injections), then it should be adopted. This heuristic rule was also behind the decision-making process of the mothers in the second group who all went for the separate MMR vaccines. For this group of mothers, a heuristic mode of processing prevailed but was nonetheless accompanied by some systematic processing in that they discussed the issue with a number of friends and relatives and health professionals.

This exemplar raises a number of interesting questions and highlights the difficulties faced by the authorities when dealing with a controversial issue like the MMR. Many participants in this group expressed their feelings of insecurity as mothers and the MMR controversy seems to have been especially well suited to play on these fears. How is it possible for well-educated women not to want to listen to the scientific evidence presented to them? What is needed for it not to be the case? Participant 13 highlighted the power of repetition when she stated that she had been rather cynical about the allegations first made by Andrew Wakefield but that, in spite of her cynicism, the media coverage had managed to trigger enough doubts in her mind to prompt her to go for the separate vaccines:

I definitely remember being quite cynical at the time even, that the report was, you know, a real connection between the two. I don't really... I remember it being, feeling that it was quite sensationalised, the whole thing. But obviously it impressed me enough to make a decision. That costs money. It was a big cost for us, with three injections at £100 a shot. It was a £600 decision. So, you know, it obviously impressed me enough to, I think, I don't know. I don't know. It was in for a long time too, it didn't go away. (Participant 13)

Lastly, the proposed cognitive polyphasia model sheds an interesting light on a number of processes at play in this exemplar by highlighting the need to pay attention to the time and resource constraints social individuals are facing when taking decisions or making a judgment. For example, Participants 05 and 13 emphasised in their interviews the fact that, as mothers, they do not really have the time nor the energy to examine in great detail all the health-related issues they are facing as, for instance, the MMR issue. Whatever need for more scientific information they may have had had to be compensated by the common sense knowledge they gathered or had access to.

8.5 “*Narratives are enough*”

The last exemplar consists of participants for whom the clinching argument came more or less exclusively in the form of common sense knowledge. For these mothers (Participants 15, 16 and 18), the MMR vaccine became an issue purely because of the media coverage that surrounded it. In particular, they were concerned by the alleged links between the vaccine and autism:

And at least then she's covered and I think it's better to give them injections to protect them, you know, but obviously because of the *stories*... (Participant 15)

However, none had the desire or the inclination to invest much time and energy in making a decision about it. Common sense knowledge provided a convenient and satisfying way of filling a major proportion of the relatively small gap they had between their levels of actual and desired confidence (see Section 3.2, p. 70).

In addition, these mothers came across as having a relatively low ‘need for cognition’, most likely a reflection of their basic trust in medical science and expertise and their taking for granted of basic scientific facts. Comments such as “*And at least then she's covered and I think it's better to give them injections to protect them...*” (Participant 15); “*... but then it's best for them to have it done anyway I think so, I do.*” (Participant 18) go to show how the benefits of vaccination programmes have become something many people take for granted. This attitude was reinforced, for all of them, by a relatively laid-back perspective

on child-rearing issues where the need to ‘get on with it’ and to use one’s gut instinct dominated, a social representation of motherhood shared by some mothers in the first exemplar.

Common sense knowledge came in two forms. For Participants 15 and 16, the opinions and/or actions adopted by members of their social network (ie, friends and relatives with children) vis-à-vis the MMR controversy were the clinching arguments behind their decision to give their child the MMR vaccine. For instance, on several occasions during the interview, Participant 16 stressed how reassuring it was for her to know what the majority of people were doing:

I think it’s that reassurance, isn’t it, to hear that other people would go with it ‘cos you want to know what the majority are saying, and the majority of people are saying ‘yes I would do it.’
(Participant 16)

In particular, in her case, a major source of reassurance was provided by one of her friends who had done a lot of research in the issue, and whose opinion she valued more because of this. Through this friend, Participant 16 may be said to have used a certain amount of scientific knowledge although in a very vicarious manner. In her own words, she did not have the inclination or the ability to deal with scientific type of information:

And, as I say, I think it was because the other person had looked into it so much whereas I’m not one of these people, I must admit, I’d rather go out and do research the people who have read it and done it rather than sit there and read through it myself ‘cos I’m not really very good like that but, so yeah. (Participant 16)

This contrasted with Participant 15, for whom the actual validity of her friends’ opinions did not count for much:

I didn’t really go into great detail with them. I just asked them and said, you know, if they had it done basically or not. And they said pretty much the same as me. They weren’t too sure but then they thought it’s better to have it done rather than not. (Participant 15)

For Participant 18, common sense knowledge came mainly in the form of looking around her and noticing that children in her social network who had received the MMR vaccine had not suffered any side effects:

But then as I say, I sort of thought about it, changed my mind and I thought, and I've seen other kids that have had it and they're all fine, loads of children they're fine. (Participant 18)

The 'Tony and Leo Blair' episode influenced these mothers' assessment of the MMR controversy in two main ways:

- First, it lowered their level of actual confidence vis-à-vis the MMR vaccine and, thus, encouraged them to discuss it with friends and relatives as opposed to just going ahead.
- Secondly, by refusing to discuss his decision concerning the MMR, the Prime Minister allowed these mothers to assume that his son had received the separate injections and, thus, legitimated this alternative option.

What was interesting for these mothers was the narrative element of that episode. To paraphrase van Bavel and Gaskell (2004), the Prime Minister's decision not to divulge whether his son had been vaccinated with the MMR became the core of a believable and convincing story that made use of intuitively plausible connections to justify their acquaintances' decision to give their children the single vaccines and to encourage them to go the same way. Participant 16 summarised these various connections in the following way:

And I think at that time 'cos when it, a lot of people did go for the single jabs because at that time, the hype was so much that the majority of people did so. Maybe I was just following suit as well from friends that had it done and thinking well 'if they did this maybe that is best.' And they were saying 'oh well, if Tony Blair didn't do it, then obviously, it's not the best way to go about it.' (Participant 16)

Knowledge processing in this exemplar was mostly of a heuristic nature although it could be argued that Participant 16 made use of a certain amount of systematic processing in her desire to make up her mind through her decision to raise the issue with a number of friends and health professionals, and her conscious decision to ask this friend who had thoroughly researched the issue.

As discussed above, these mothers' reliance on common sense knowledge was associated, at least for Participants 16 and 18, to a limited interest and ability

towards understanding scientific knowledge, something Bernstein (1976) addressed in his differentiation between restricted and elaborated codes of meaning. Viewed from this perspective, one could argue that mothers in this exemplar relied principally on restricted codes characterised by their dependence on the local context and that, given a different context, they would have acted differently.

8.6 Implications for the proposed cognitive polyphasia model

8.6.1 Core background beliefs

The analysis of the 18 individual interviews brought to light a number of key representations that formed a preliminary framework for the sense making efforts of these mothers, a possibility suggested by the cognitive polyphasia model discussed in Chapter Three. More specifically in the context of the MMR controversy, the social representations of medicine and medical expertise, of motherhood, and for a number of them, of alternative medicine set the ground for how this issue was being understood and dealt with. Using ideas expressed by van Eemeren and his colleagues (1997) in their discussion of argumentation, one could possibly compare these social representations to unexpressed premises, a “set of tacitly shared beliefs and meanings [which] are taken for granted in building these arguments” (van Eemeren et al., 1997: 222), and which are characteristic of enthymematic arguments⁵⁰.

In particular, the social representation of medicine and medical experts played a pivotal role in explaining these mothers’ need to engage or not in cognitive polyphasia. Using the cognitive polyphasia model, it would appear that the lack of trust in the relevant experts increased the gap between levels of actual and desired

⁵⁰ Wertsch (1991) provides an alternative perspective on the role played by these core background beliefs with his tool kit approach. Seen through this perspective, social representations are similar to tool kits available to social individuals with each ‘tool’ selected depending of the particular circumstances of the mediated action being examined.

confidence, thus encouraging people to engage into additional cognitive efforts and to rely on more than one types of knowledge to make sense of a controversial issue. Two major representations seemed to be present among the 18 participants' representational field of medicine and medical experts. The first representation holds that experts know better and can be trusted (this was undoubtedly the case for Participants 01 and 06), whereas the second one questions the authority of medical experts and brings them together with such 'disrepute' people as politicians and journalists. In the first case, this social representation minimized the amount of cognitive effort that people engaged into and also translated into a heuristic rule that went along the lines of 'experts' statements can be trusted.'

For the second type of people (in particular, the mothers in the third exemplar), the less than complete trust in medicine and medical experts translated into the need to look for additional information based on other types of knowledge than the scientific one. The lack of trust in experts and, overall, in authorities was often linked to the presumed existence of a conspiracy (eg, with the pharmaceutical companies) and of hidden agendas. The latter possibility was especially mentioned when discussing Dr Andrew Wakefield's study and subsequent comments reported by the media.

The social representation of motherhood also helped to determine the gap between the levels of actual and desired confidence for a number of mothers interviewed (eg, Participants 02, 10 and 17) through its impact on the 'identity needs' element of the model. Their desire to conform to their perceptions of what is a 'good mother' influenced the degree of desired confidence they required before being able to decide whether to give the MMR vaccine to their children. This contrasted with the more pragmatic views of other mothers (eg, Participants 03, 04 and 06) characterised by the need to take one's responsibilities, to 'get on with it' and not to panic for relatively minor issues, which produced a smaller gap between their levels of actual and desired confidence.

Finally, despite not being specifically addressed in the topic guide, views on the media and their role in the controversy seemed to play an important role for the

mothers interviewed individually. The social representation of the media appeared to influence the mode of knowledge processing used by mothers by providing them with a heuristic rule that went along the lines of ‘British media coverage is of a sensationalist nature and information from them should be disregarded’. This was especially the case of Participant 03, a former journalist. It encouraged her to use other heuristics based on her common sense and intuition and to use narrative evidence from her family history. A similar picture, though less marked, emerged with Participants 02 and 04 who accused the media of creating this controversy, of blowing things out of proportion and of trying to scare people especially when dealing with sensitive issues such as those related to children. In these cases, however, these views, combined with a high need for cognition, prompted them to use a systematic mode of information processing.

Core background beliefs – or social representations, thus acted both as a source of heuristic rules and as a variable explaining the need of social individuals to engage in more or less systematic knowledge processing⁵¹.

8.6.2 Needs and motives

The limited scope of this project prevented the detailed exploration of all the elements assumed to be part of the cognitive polyphasia model. In particular, the needs and motives of the mothers who took part in the individual interviews were not always discussed in detail making it impossible to comment with any certainty on their nature and influence in the different cognitive strategies employed to make sense of the MMR controversy. The following reflections are therefore rather sketchy and provisional.

To start with, the accuracy motive seems to have been present in all the mothers interviewed. To a lesser or greater degree, mothers wanted to know what and

⁵¹ My definition of ‘systematic’ knowledge processing is wider than the one originally implied by the heuristic-systematic model (Chaiken, 1987; Chen and Chaiken, 1999; Eagly and Chaiken, 1993) and covers, in addition, the amount of effort engaged in by people to access and analyse the information they deem necessary to obtain in order to make sense of the issue.

whom they should believe concerning the safety of the MMR vaccine and were all trying to assess the validity of the messages they were facing while trying to make sense of it. This was undeniably the case with Participant 14 whose sole objective while looking on academic and research sites on the Internet was to assess the validity of the claims that were being made against the vaccine. Participant 09 also seemed to be exclusively accuracy-motivated, discussing the pros and cons with her sister in order to decide whether to go ahead and give the MMR to her son.

As suggested by Chen and Chaiken (1999), other motives also played a role for some of the participants, thus confirming the validity of the multiple-motive framework these authors put forward. For instance, some mothers were clearly impression-motivated, leading them to use specific types of knowledge or heuristics to justify their attitudes and views to significant others and/or to be perceived by significant audiences in a desired way. Thus it could be assumed that Participant 04 was impression-motivated. She seemed keen to feel part of her peer and relatives network back in Australia and, ultimately, based her decision to give her son the MMR vaccine on what the situation was out there. Participant 02 engaged into a meticulous and systematic cognitive strategy in order, to a large extent, to be perceived by her social environment as a 'good' mother and an intelligent woman able to grasp complex scientific issues.

Defence motives influenced a number of participants who came to the MMR with very positive views of vaccines and whose sense making efforts, however major or not they were, only took place in order to confirm these opinions. This appeared to be the case for Participant 07 for whom children vaccination was taken for granted, and for Participant 03 who came to the debate with strong views about the benefits of immunization and a negative opinion of the media's ability to report scientific issue in an objective and truthful manner.

8.6.3 An alternative conception of groups?

The four exemplars described in the previous sections are characteristic of different ways of sense making and of different ways of engaging into cognitive

polyphasia. They brought together mothers that relied on a similar combination (or lack of combination) of types of knowledge to make sense of the MMR controversy. An alternative conception of the social group can thus be proposed, one that brings together people who share a common positioning with respect to core background beliefs and to the proposed typology of cognitive polyphasia. Building on Duveen's (2002) reflections on the epistemic functions of social representations, the four exemplars identified in this analysis could be conceived of as 'epistemic communities'.

This alternative definition could represent a more flexible perspective on the notion of groups, one possibly more in line with the fluid identities of modern, contemporary societies. This proposition will be discussed in greater detail in Chapter Nine.

Chapter Nine – Overview

This conclusion chapter brings together the significant empirical and theoretical elements of the thesis. The first part focuses on the implications of the proposed cognitive polyphasia model at a theoretical level. In particular, it is argued that the model points towards an alternative conception of the group more in line with the realities of today's society than the one traditionally found within the context of the theory of social representations.

The second part discusses a number of practical recommendations, especially in terms of communication policies, that can be derived from the examination of the empirical data collected for this research project.

9 Cognitive polyphasia in the MMR debate: theoretical and empirical implications

9.1 Taking stock

The research project presented in the previous eight chapters aimed, first and foremost, at exploring the hypothesis of cognitive polyphasia and, in particular, at proposing a theoretical framework with which to operationalise this concept. This was done through the empirical examination of the controversy around the MMR vaccine that took place in the UK between 1998 and 2005. In parallel, by focusing on the cognitive strategies visible in the sense making efforts of parents facing this issue, it was hoped that interesting aspects of this controversy would be revealed with practical implications for the way medical and governmental authorities deal with contested health-related issues.

Productive and challenging research should include a measure of sociological imagination whose essence, according to the ‘father’ of this notion, comes from “the combination of ideas that no one expected were combinable” (Mills, 1967: 211). Overcoming decades of distrust between two fundamental approaches in social psychology, the cognitive polyphasia model integrates elements of social cognition within the framework of the theory of social representations in, it is hoped, an imaginative fashion. The rapprochement between these two social psychological approaches produces a different interpretation of the term ‘social cognition’, one that emphasises the social nature and context of the perceivers and the social character of the knowledge constructed by members of particular groups or societies (Condor and Antaki, 1997). Indeed, even Moscovici (1984a) called for the study of cognitive phenomena to be done through the combination of different approaches arguing that this would allow for a more precise understanding of their social and individual dimensions. Accepting the possibility of conflict between these different concepts and methods, he argued for a different criterion to be used when assessing the results thus obtained: “Hence one should judge them not by ‘what can be done with them’ but by ‘what can be thought with them’” (Moscovici, 1984a: 940-941).

The cognitive polyphasia model proposed in this paper focuses at how cognitive polyphasia, here defined as the co-existence and the concomitant use of different types of knowledge, is lived at the level of social individuals who are “constantly involved in trying to reconcile, or simply hold in an uneasy balance, messages which conflict with one another or with the values and beliefs embedded in the routine practices of their daily lives” (Thompson, 1995: 177). This theoretical framework is still tentative and, for the time being, is valid to the extent that it is, only within the context of the MMR debate. This cautious approach is in line with the recommendations of Boudon (1992) for whom the most useful theoretical activity is the one that consists in the multiplication of models that gradually encompass an increasing number of phenomena as opposed to the one that pretends to cover them all and in one go. Coming from another perspective, Fontana, in his review of postmodern trends in interviewing, argues that despite their intellectual appeal, meta-theories with their focus on “a single interpretation, which is commonly touted as ‘the truth’, rather than a choice among many possible truths” must be put aside in favour of more humble intellectual efforts that focus on “the minute events of everyday life, seeking to understand them in their own right rather than gloss over differences and patch them together into paradigmatic wholes” (Fontana, 2002: 52).

The first part of this chapter focuses on the theoretical implications of this project. It takes stock of its impact for our understanding of the hypothesis of cognitive polyphasia and proposes some avenues by which these findings can clarify some aspects of the theory of social representations. There follows a discussion of the MMR controversy and of the practical recommendations in terms of communication policies that can be derived from the empirical part of this work. Some reflections on areas for further research conclude this chapter.

9.2 Reflections on the concept of cognitive polyphasia

9.2.1 Revised definition

As understood in this project, cognitive polyphasia represents the simultaneous use of different types of knowledge to make sense of a specific social object, in

this particular case, a controversial health-related issue. The different types of knowledge can be used in a systematic or heuristic fashion. At the level of social individuals, the specific types of knowledge and modes of knowledge processing that are used depend principally on two elements:

- the set of social representations that delineate the context within which the social object of interest is located;
- people's personal circumstances.

This definition goes beyond the previous understanding of this concept in several ways. First, as defined here, cognitive polyphasia is clearly perceived as an active situation in which social individuals, groups or societies select a number of types of knowledge. This contrasts, in particular, with the description of cognitive polyphasia offered by Duveen (2002).

In this article on construction, belief and doubt, Duveen views cognitive polyphasia as one of three possible ways by which a state of dissonance triggered by doubt and “a lacuna in people's ways of understanding” (2002: 148) can be solved. (The other two are conversion – the construction of new forms of knowledge, and compliance – that is, a move to another system of belief.) Cognitive polyphasia is thus described: “Firstly, and perhaps most surprisingly, sometimes the disjunction between one way of thinking and another can just be accepted. We simply find a way to live with it in a state which Moscovici has described as one of cognitive polyphasia” (Duveen, 2002: 148). His definition seems to imply the passive acceptance of the state of dissonance thus created.

However, as the analysis of the individual interviews has shown, cognitive polyphasia must be understood as much more than the sheer acceptance of a state of dissonance and, on the contrary, must be conceptualised as an active and efficient way for social individuals to make sense of an issue that has created a doubt in their systems of beliefs and knowledge. This perspective makes clear the location of cognitive polyphasia within a Hegelian paradigm wherein knowledge

“is conceived as an active, practical and constructive affair (...)” (Purkhardt, 1993: 58).

In addition, the cognitive polyphasia model helps us to understand why some people are prepared to invest additional cognitive effort and to use more than one types of knowledge to make sense of specific issues. It also allows for a useful distinction between process and content and shows how it is possible, for instance, to use a scientific type of knowledge in a heuristic fashion, thus presenting a more sophisticated image of cognitive polyphasia than the one found so far in the social representations literature.

Echoing the works of other social representations theorists (eg, Gervais, 1997; Jovchelovitch, 2001a, 2001b, 2002; Wagner et al., 1999, 2000), the empirical results show how cognitive polyphasia, by acknowledging and legitimizing the mobilisation of different types of knowledge, represents a cognitive style particularly suited to a society characterised by late modernity (Giddens, 1991). In such societies, people are aware of the risks and danger associated with science and technology, while being grateful for the possibilities they offer. The decreasing role played by providential reason has brought with it a greater reliance on alternative types of knowledge, which help lay people navigate in a world where science has become uncertain. Thus, at a sociological level, cognitive polyphasia may be interpreted as a manifestation of a ‘malaise’ within modern societies where the traditional sources of authority have all but disappeared and in which social individuals have lost their credibility structures (‘structures de crédibilité’) (Moreux, 1978).

The proposed definition also marks a departure from previous ones by being more specific about what is involved. Here, the emphasis is on the co-existence and simultaneous use of different **types of knowledge** being used in a single context. Wagner and his colleagues (1999, 2000), by contrast, refer to cognitive polyphasia as the co-existence of different **social representations** with each of them enacted in one context at a time mainly because of their contradictory nature.

At another level, and to paraphrase Gervais and her colleagues (1999: 422), one could say that cognitive polyphasia provides a framework for understanding the dynamic processes through which historically and culturally specific belief systems, forms of knowledge and practices develop and circulate. As understood through the cognitive polyphasia model, the strength of the hypothesis lays in its ability to conceptualise, simultaneously, both the power of society and the agency of social individuals. Cognitive polyphasia (and its counterpart, cognitive monophasia) explains how social individuals make sense of, and locate themselves within, their social world by using the types of knowledge most appropriate to their personal circumstances and in line with the specific social representations they partake of vis-à-vis a specific issue.

9.2.2 Functions of cognitive polyphasia

(...) ces croyances non fondées s'installent dans la tête du sujet social, non parce que celui-ci serait d'une inexplicable et improbable crédulité, mais parce qu'il a des raisons d'y croire.
(Boudon, 1992: iv-v)

By confirming the existence and operationalising some of the ideas behind the concept of cognitive polyphasia as a cognitive strategy used by social individuals in contemporary societies, this project also brings to light some of its functions and benefits. These are discussed below.

Importantly, cognitive polyphasia allows for and explains the existence and the mobilisation of different *adult* rationalities within a same society, all of equal functional value because they are adapted to the particular context. Wagner and his colleagues (2000: 304) make a similar point in their study of mental illness in India: “If people need to conquer different sectors of their life-space that are all relevant for their social and even physical well-being, the different modes of thinking associated with each one must be considered equally relevant and of comparable worth”⁵².

⁵² The legitimisation of different types of knowledge and of different rationalities should not be equated with an extreme form of relativism by which ‘anything goes’. One cannot negate the

Mothers making sense of the MMR controversy relied on different types of knowledge, selecting each of them on the basis of their fit with their personal circumstances and the social representations they used to delineate the controversy. The synchronic perspective discussed in Chapter Two makes clear this possibility by suggesting a number of dimensions that can characterize types of knowledge. Cognitive polyphasia thus reveals how people's understanding of their reality extends beyond the Cartesian logic of non-contradiction, of 'either/or' dualism (Marková, 1996). The apparent contradiction that results from the co-existence and simultaneous use of different types of knowledge is only so when viewed from a Cartesian perspective that promotes a view in which "action and communication do not play a significant role in the acquisition of knowledge" and where "knowledge is somehow acquired through reflection and is assessed by stable external standards such as mathematical and logical systems and the laws of nature" (Purkhardt, 1993: 52). This contradiction disappears when filtered through a view of rationality that assumes that different rationalities can all be logical depending on the social context and the object concerned (see also Jovchelovitch, 2001b)⁵³. This use of "rationality" in the plural is expressive of an alternative view of rationality, one where there is no longer an 'ideal' type of rationality but rather different types of rationality dictated by norms, themselves a product of society's workings.

In its temporal incarnation, by ensuring the persistence of traditional knowledge, cognitive polyphasia can also bring an element of innovation and of creativity by

possibilities and advantages allowed by the use of more symbolic form of knowledge such as the scientific one. In the words of Bruner (1968: 406): "Translation of experience into symbolic form, with its attendant means of achieving remote reference transformation, and combination, opens up realms of intellectual possibility that are orders of magnitude beyond the most powerful image forming system".

⁵³ However, one must also acknowledge issues of access to different types of knowledge and, concomitantly, issues of power which mean that specific societal arrangements will result in a hierarchy of types of knowledge with some being promoted at the expense of others.

allowing what is commonly perceived as ‘old’ ideas to become fashionable and interesting again. The recognition of the America-grown cranberries as an effective medicament against cystitis (Saget, 2004) confirms old wives’ tales about the benefits of cranberry juice and thus provides an interesting example of this benefit.

We thus see how society offers a range of resources to determine the truth and how social individuals from different backgrounds buy into what is on offer. Seen from this synchronic perspective, cognitive polyphasia draws attention to the agency of social individuals and provides an element of solution to the debate between a particularistic and universalistic view of social representations (Billig, 1988). Indeed, by positioning cognitive polyphasia as the ability of people to select different types of knowledge depending on the latter’s fit with their personal circumstances and needs, we move away from a particularistic perspective where social representations are understood as the result of the opposition between reified and consensual universes towards a universalistic perspective where social representations are viewed as the amalgamation of different types of knowledge defined in other terms than by their belonging to a reified or consensual universe.

As proposed by de-Graft Aikins (2005), cognitive polyphasia then becomes a universalistic concept applicable to any society facing some form of change and not only to Western, modern societies. As a support for this affirmation, the author, in her study of the social representations of diabetes in Ghana, shows how: “More generally, healers hopping and dual use choices were shaped not by ‘faulty’ cultural knowledge, but by flexible and creative use of social logic: the careful weighing of effective affordable options available in a complex pluralistic medical sphere” (de-Graft Aikins, 2005: 236). The dominant role attributed by Moscovici to reified universes is thus relativised, a reality suggested by van Bavel and Gaskell in their work on economic thinking:

We reject the notion, prevalent in social representations tradition and advocated by authors such as Fleck (1979), that information originates in expert circles and subsequently diffuses in to the public realm. (...) There is evidence to suggest that there has been a process of

colonization by expert discourse, yet there also appears to be evidence of resistance to the advances of systemic thinking in the culturally situated narrative mode of thought. (2004: 435)

The debate between the particularistic and universalistic understandings of social representations may well be explained by this focus on the temporal dimension of types of knowledge as opposed to other dimensions that acknowledge the role and functions fulfilled by each of them. Cognitive polyphasia is thus more than just a reaction against modernity where people are perceived as ambivalent modernists who talk in terms of science, but also in terms of pre-scientific notions. It may well be true that Moscovici initially thought of social representations as an opposition between reified and consensual universes with science being considered as ‘higher’, more worthy of respect than other types of knowledge. But his later thinking on the subject, especially in *La nouvelle pensée magique* (1992b) and in his interview with Marková (2000) shows a transition towards a more universalistic view of social representations.

Morin (1969) gives some support to this universalistic perspective in *La Rumeur d’Orléans*. In his analysis of the crisis that affected this French town at the end of the 1960s, Morin identifies what he calls a ‘new archaism’, one in which new myths and new irrationalities are created to address a different type of problems and of crises. For him, the whole episode must be conceived not “as a sequel or the return of the Middle Ages in the modern world, but as an example of the modern Middle Ages” (Morin, 1969: 108, my translation).

However, the typology of cognitive polyphasia presented in the last chapter also makes clear the possibility of cognitive monophasia, that is, a cognitive style whereby people rely exclusively on one type of knowledge to make sense of a controversial issue, provided this knowledge does not come in contradiction with the key social representations they use to frame the issue. In the context of a non-Cartesian perspective on rationality, cognitive monophasia represents a legitimate cognitive strategy and reflects people’s capacity to choose a specific type of knowledge with which to make sense of a social object. As the results of the individual interviews discussed in Chapter Eight demonstrate, depending on their positioning vis-à-vis a key set of social representations, mothers are comfortable

with the idea of using one single type of knowledge to decide whether to vaccinate their children with the MMR. Based on some of these mothers' comments, it can also be assumed that in other situations, the same people will engage in cognitive polyphasia combining a number of types of knowledge. In that regard, the research presented here goes beyond the prevailing view within the social representations framework that views cognitive polyphasia as the norm (de-Graft Aikins, 2005) and presents lay people as even more clever than it is usually assumed.

The possibility of cognitive monophasia supports the thoughts of Gigerenzer and Todd (Gigerenzer and Todd, 1999a; Todd and Gigerenzer, 1999) about ecological rationality and, surprisingly, gives some support to social cognition's idea of people as motivated tacticians. In that sense, it is interesting to think about cognitive polyphasia/monophasia in terms of costs and efficiency. Within the context of the MMR debate, the appeal of scientific knowledge can indeed be easily understood. Since the Renaissance and, maybe more markedly, since the Enlightenment, social individuals have been confronted with claims that science knows best. It is therefore tempting for people to adopt some of the 'language' or the 'grammar' associated with the scientific domain and to integrate it into their everyday thinking.

Similarly, the use of a heuristic mode of knowledge processing found in several of the mothers interviewed individually must be understood as an alternative rationality, a rationality where people think in terms of efficiency and cost (both in terms of time and energy) of resources. This perspective contrasts with the traditional view of heuristics as 'shortcuts in judgments', a reflection of a deficient thinking in lay people as portrayed by Tversky and Kahneman (1974, discussed in van Bavel and Gaskell, 2004). By contrast, in this project, heuristics are understood as an ecologically and socially valid mode of information processing in as much as they are "adapted to the structure of the information in the environment in which they are used to make decisions" (Gigerenzer and Todd, 1999b: vii).

9.2.3 Implications for the theory of social representations

Within the Hegelian paradigm the conduct of research and the development of theory go hand in hand: both description and explanation are essential components of understanding. All too frequently researchers have employed social representations theory as a framework in which to describe a particular phenomenon but have failed to explicate the implications of their research for the theory or to develop any of its theoretical principles. (Purkhardt, 1993: 64)

A review of this project would be incomplete without some reflections on its implications for the theory of social representations. As noticed by de-Graft Aikins (2005), cognitive polyphasia has yet to occupy its position as one of the key concepts within the theory of social representations along with the ideas of anchoring and objectification (Moscovici, 1984b). The theoretical framework proposed, along with the empirical results, which appear to support its main tenets, suggest a number of interesting areas where the hypothesis of cognitive polyphasia can help to clarify some key notions within the social representations framework. In particular, cognitive polyphasia may be argued to add to our understanding of the process of change of social representations by enabling one to appreciate better the role of social individuals within that process. It also allows for a more dynamic conception of the group and a more precise and up-to-date theorisation of individual agency than the ones proposed traditionally by the theory of social representations.

9.2.3.1 Cognitive polyphasia and the transformation of social representations

While many theorists have often commented on the functions of group cohesion and group coercion performed by social representations (Moscovici, 1984a), the key role played by social individuals in the development of the social and cultural environment has been relatively neglected. In her criticisms of the theory of social representations, Purkhardt (1993) makes clear this need for an integration of the individual and the cultural. She focuses on the difficulty the theory has when dealing with the dualism between the individual and society, in integrating the psychological in the cultural, and highlights with good reason the role of the individual in the maintenance and production of social representations but an

individual seen as a social being interacting with his/her environment in a particular cultural context⁵⁴. This dual perspective on social representations is summarized in the following paragraph:

By adopting an evolutionary or historical approach, it can be seen that the individual cannot be understood outside the social relations and culture of which he or she is a part. (...) At the same time, society is not set apart from individuals. It is individuals who together sustain and create the social and cultural environment in which they live. (Purkhardt, 1993: 71)

The focus on cognitive polyphasia at the level of social individuals enables the development of a better understanding of the latter's role and significance in the maintenance and transformation of social representations and, thus, helps to ensure a fairer equilibrium between the three levels of analysis (individual, groupal and societal), one of the criticisms often made at the theory of social representations.

In their paper on the concept of thematisation, Moscovici and Vignaux conceive of a social representation "as a process in which one can locate an origin, but one which is always unfinished to the extent that other facts or discourses will come to nourish or corrupt it" (2000: 158). Although the scope of the research project did not allow a full exploration of this hypothesis, it is proposed that the cognitive activity that results from cognitive polyphasia (or monophasia) occurs at the level of the periphery of the initial social representation associated with the social object of interest - in contrast with its core (Abric, 1993, 1996, 2001; Vergès, Tyszka and Vergès, 1994), and that one of its main functions is to facilitate the adaptation of existing social representations to local, and in the current case, individual context/circumstances⁵⁵.

⁵⁴ This point has been partly addressed in this thesis by the introduction of the notion of 'social individuals' discussed in Chapter Three.

⁵⁵ An example of this creation work is provided by the changes that occurred in the social representation of dietary supplements. Perceived a few years ago as 'gimmicks', these supplements have acquired a respectable status by being slowly perceived through scientific

In the case of the MMR vaccination debate, one can assume that, prior to the controversy, there existed a social representation of childhood vaccination and that this representation was disturbed by the various allegations made in the debate and the events that accompanied the controversy (eg, Prime Minister Blair's refusal to divulge whether his son had been vaccinated with the MMR vaccine). This triggered for many mothers the need for a certain amount of sense making efforts whereby the initial social representation of childhood vaccination was modified under the influence of the different types of knowledge drawn upon. The transformation of social representations may therefore happen through the use of different types of knowledge that bring to light different dimensions and perspectives about an issue or social object previously taken for granted. These contributions get communicated through "the unceasing babble and a permanent dialogue between individuals, a dialogue that is both internal and external, during which individual representations are echoed or complemented" (Moscovici, 1984a: 950-951).

Using thoughts on thematisation (Marková, 2000; Moscovici and Vignaux, 2000), it could be argued that the idea of childhood vaccination became problematised, although it is debatable whether it gave rise to a fully-fledged new social representation, in this case, of the MMR vaccine. Two factors could explain why there may have been no need for a specific social representation of the MMR. Despite its intensity at some point during the period it covers, the controversy finally subsided in 2005 and is now rarely discussed in the media. In addition, throughout the controversy, the opposition remained the realm of a minority and, based on both the group and individual interviews, it would appear that the existing social representation of medicine and medical experts included a sufficient amount of trust to accommodate the resulting tensions and to prevent a new social representation to emerge. As pointed by Wagner and his colleagues in their review of the theory of social representations, new social representations are

knowledge. Cognitive polyphasia thereby plays a key role in assuring the dynamism and the adaptation of social representations in contemporary society.

the result “of tension and conflict when gaps or divisions appear within existing patterns of understanding” (1999: 415). In this case, it would appear that the existing social representational field around the idea of childhood vaccination and other key areas was flexible enough to accommodate the tensions brought by the MMR controversy. These thoughts point to the need to include the initial social representation of social object under consideration in the cognitive polyphasia model.

Nevertheless, by making sense of the MMR debate through the use of different types of knowledge as they each saw fit, a number of mothers, on their own, managed to transform the social representation of childhood vaccination. One could argue that these mothers, through their use of different knowledges that highlighted alternative dimensions of the MMR debate, acted as a significant minority able to influence the social representation of the majority. As such, the hypothesis of cognitive polyphasia could be argued to provide one possible link between the theory of social representations and minority influence. Echoing Purkhardt’s words (1993), one could propose that the mothers who were opposed to the MMR vaccine generated a measure of social conflict and instability in the social representation of the majority, highlighting problematic aspects of a state of affairs previously taken for granted through their use of different types of knowledge acting as various prisms and revealing hitherto hidden or silent aspects of childhood vaccination programmes. For instance, while for mothers in the first exemplar (see Section 8.2, p. 228), the MMR debate remained related to science, mothers in the second and third exemplars managed to present it also as a political issue.

Viewed from that perspective, cognitive polyphasia can be conceived of as one “the socio-psychological processes involved in the active construction and reproduction of social representations” (Purkhardt, 1993).

9.2.3.2 Epistemic communities

I would like to go back at this point to the ideas expressed in Chapter Three (see Section 3.4.1, p. 83) about the multiple memberships of groups that characterise the reality of social individuals in our contemporary heterogeneous societies.

By privileging the examination of social representations at the level of groups as opposed to the level of social individuals, and emphasizing how these representations are “bound to social contexts, to groups and their life-worlds” (Wagner and Hayes, 2005: 233-234), the theory of social representations has neglected the role of social individuals and put forward a conception of the ‘group’ that may be perceived as too rigid and misaligned with what is happening in contemporary societies. In particular, not enough time and efforts have been spent examining the production, maintenance and transformation of social representations at the level of social individuals whose memberships of groups have become less entrenched and whose social identity has become more fluid and less constrained by pre-established norms.

The theory has been slow at acknowledging and addressing the implications of a situation as increasingly found in our contemporary societies where allegiances have all but disappeared and where more and more people choose to define themselves using more than one dimension, a point made by Amartya Sen in his recent book, *Identity and Violence* (2006). For him, the categorization of individuals in terms of a single dimension (eg, their religious faith) ignores the fact that people are always complex, multi-faceted individuals who select their identities from a wide range of economic, cultural and ideological alternatives. The theorisation of the social individual’s relationship to groups has, therefore, to be reworked to take into account this notion of multiple and volatile group memberships.

The current examination of the MMR controversy at the level of social individuals has revealed a number of ideas that can help us work towards this objective. In particular, the four exemplars identified in the last chapter point towards the

existence of what I will call ‘epistemic communities’⁵⁶, here conceived as loose associations of social individuals who share similar cognitive strategies in terms of their positioning in the cognitive polyphasia/monophasia dichotomy, the types of knowledge they use to deal with a specific issue, and the social representations they use to delineate this issue.

Bauer and Gaskell’s (1999) concept of project becomes linked to the notion of shared cognitive strategies, and we thus obtain a more fluid perspective on the ideas of group and group membership that now vary with the social object or issue being considered. This new perspective on the group grants social individuals a greater fluidity, flexibility and agency in their membership of communities (although this is not to say that its reality may not be difficult to live due the absence of firm boundaries which, for many, provide a well-appreciated feeling of security).

Epistemic communities allow social individuals to accommodate the conflicts and contradictions that may exist between social representations and the identities that are associated with them (Purkhardt, 1993), by providing them with the cognitive tools they need to juggle and move between the various roles they play in their everyday life (Moscovici, 1992c). These communities reflect the ability and agency social individuals have to choose cognitive strategies that are adapted to their specific circumstances. As such, they produce a form of social knowledge

⁵⁶ The notion of epistemic community has been used in other scientific disciplines, notably in a famous international policy studies paper published by Peter Haas in 1992. In this article, an epistemic community is described as a “network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue area” (Haas, 1992: 3). Haas’s understanding of this notion therefore differs from the one proposed here by focusing on groups of professionals working within a specific domain. However, his emphasis on the “shared intersubjective understandings” and “shared way of knowing” (Haas, 1992: 3) found among members of epistemic communities point towards some commonalities.

that “takes on a different shape according to the specific aim it strives to achieve” (Moscovici and Marková, 2000: 246).

9.3 Reflections on the MMR debate

The MMR controversy represents an interesting example of a complex issue that has real and significant consequences for the social individuals facing it and the larger society in which they evolve. On one hand, although they turned out to be unfounded, the allegations of a possible link between the MMR vaccine and autism transformed the decision whether to give it to one's child into a moral dilemma. On the other hand, the decline in the take-up rate of the vaccine that accompanied the controversy had serious and concrete implications for public health. Lessons can and should be drawn from this crisis. In the next sections, interesting dimensions of the debate are discussed and their implications drawn in terms of public communication policies.

9.3.1 Characteristics of the MMR controversy

9.3.1.1 Autism

One of the major factors behind the scope of the MMR controversy is to be found in the seriousness of autism, the condition allegedly linked to the vaccine. Autism is a complex and chronic condition whose causes have yet to be found with any certainty. In addition, no clear explanation has been offered for the increase in recorded cases of this condition (Horton, 2004b). Encompassing a wide spectrum of behaviours, it is characterised by “impairments in normal social skills, disturbances in speech, language and communication, an absence of imagination, the need for predictability and routine, over-attention to some stimuli in the environment (...), and a different pattern of early development, especially in social interaction” (Horton, 2004b: 105-106).

These symptoms make it very difficult for parents of affected children to accept its diagnosis. For parents about to give the MMR vaccine to their ‘normal’ child, the nature and severity of autism translate in a miscalculation of the risks with autism being attributed a far greater weight than the three diseases targeted by the

MMR vaccine. These miscalculations came out clearly during the focus group interviews (see Section 7.1.2, p. 200).

9.3.1.2 Located within a larger context – upstream connections

The analysis of the specialist interviews, of the focus groups and of the individual interviews confirmed the need to study societal issues within the larger context in which they take place. Controversies do not happen in a void and take their meanings from their connections with other aspects of society that may, at first sight, appear to be unrelated.

Historically, the MMR controversy must be located in “Britain’s long history of suspicion regarding vaccines evident among both the public and the medical profession, a theme dating back to the compulsory vaccination laws of the 19th century” (Baker, 2003). Prior to the latest debate, this deep-seated opposition had manifested itself through the pertussis vaccine controversy in the 1970s and 1980s.

For one mother in the individual interviews (Participant 17), this controversy had a concrete impact on her stance vis-à-vis the MMR vaccine. Her mother had refused to give her the pertussis vaccine as a result of the controversy, thus planting the seed of doubts about vaccines in her daughter’s mind and getting her to develop full-blown whooping cough when her son developed it after receiving his first vaccine (see Section 8.3, p. 234, for more details).

Another historical connection is made by Bazin (2001: 104) who notices how “the anxiety of the individual or his/her parent before vaccination is still much the same” as when the first vaccines were developed. Indeed, the concerns raised by several mothers about injecting three live vaccines in the small bodies of their child echo traditional concerns about poison.

The results of the empirical phase also showed the impact of larger themes on the way a controversy is understood. For instance, the dichotomy between natural and chemical, which can be described as a basic thema in the sense given by Marková (2000), was discussed by various participants in the focus groups both in the

context of food and of vaccines. People's ways of dealing with controversial questions about food were thus used as a sort of template or anchor with which to make sense of a vaccine. In a similar area, concerns about the safety of food were influencing people's understanding of non-food issues such as MMR. This was especially the case with the BSE and the foot-and-mouth episodes that made clear for many the limits of science and instilled a high degree of mistrust in the government. Indeed, the BSE 'scandal' provided for many mothers a background onto which to project the official and governmental statements made about the MMR combined vaccine.

The MMR controversy also highlights how totally unrelated events might have an impact on something else by discrediting people involved in both. This has been the case with Prime Minister Blair where one suspects that criticisms of his government's actions in Iraq may have contributed to a decrease in people's trust towards him even when applied to sometimes as remote as the MMR vaccine.

Connections between the MMR controversy and larger themes are also to be found in the fact that for a number of the mothers interviewed, the official policy concerning the MMR vaccine became symbolic of the authorities' approach towards childcare. This approach is perceived by some as showing no concern for the overall development of the child, as not giving parents much say in decisions to do with their child's health, and as imposing a number of measures. As stated before, the refusal by the health authorities to offer the single vaccines free on the NHS was seen as even more controversial when contrasted with the NHS's professed policy to increase consumer choice (see T. Heller, 2001 for a similar view among general practitioners).

One can see how ideas about customer choice and patient responsibility have made their way into the collective psyche. As a result, mothers are increasingly less prepared to be told what to do and demand that their ability and right to choose be respected. (British-born participants, in particular, made this position clear by contrast with continental Europeans whose attitude towards health professionals was characterised by a higher degree of respect.)

9.3.1.3 Unintended consequences – downstream connections

Downstream, the MMR controversy drew attention to the presence of unintended consequences thus making clear the need to pay attention to health-related issues very early in their development.

In their 1995 paper, Rogers and Pilgrim describe how, in its beginning, the MMR controversy affected mostly middle-class mothers who were opposed to it mostly on the ground of their preferences for alternative methods of immunisation. With hindsight, one could argue that this movement of resistance provided the seed bed for what was to follow with the publication of the original paper by Andrew Wakefield and his colleagues (1998). Opposition concentrated in the middle classes for some time but spilled throughout the population thanks to an effect described as ‘bandwagoning’ (Petts and Niemeyer, 2004). As explained by these authors, news of lower take-up rates of the vaccine in certain parts of the country gradually generated a certain amount of concern in parents who normally would not have questioned this decision, and provided an unexpected support to parents who had already their doubts about it.

Rogers and Pilgrim’s study (1995) was the first of its kind to show the importance of paying attention to vocal minorities, in this case, middle-class people that had already started to question childhood immunisation policies. The decision by many people to give their children the single vaccines objectified this opposition and became symbolic of their desire to do as they please despite the official governmental policy. As a result of this policy, the single vaccine option started to be perceived as a luxury that only better off parents could afford, a sort of status symbol the rest of the population started to envy and wanted to emulate. This was confirmed by Specialist 1, a general practitioner based in North West London and acknowledged by some parents (eg, Participants 13, 15 and 16):

And that’s why I said, why am I going to risk my child as well if I can afford to do single vaccines. (Participant 13, Group 3)

The ability of middle-class mothers to turn the MMR controversy into a population-wide issue was especially visible in the focus group discussions. The

majority of mothers who took part in these groups can be described as middle-class mothers carrying with them many stereotypes associated with this group. They were very articulate and brought a self-reflexive perspective to the discussions showing an ability to distance themselves from their actions. This was especially the case in the third group where the three mothers concerned had all opted for the single vaccines.

Middle-class mothers had the financial means and access to resources to make their stance vis-à-vis the MMR vaccine known to the rest of the population. For instance, these mothers' attitudes towards the media and the value of the information they carry demonstrated a deep understanding of how they function and of the need not to take too seriously some of the stories reported:

And like the tuna thing, I mean it still makes me laugh because then I'll ask somebody who's a doctor and they'll say you'd have to eat, you know, 50 cans of tuna a day for that to make any difference, what a load of rubbish and it just kind of makes you laugh... So I think I do sort of take it with a grain of salt because I know the way that things get into the papers and it's usually not necessarily, you know. So don't believe what you read, you know. (Participant 11, Group 3)

Their relationship to the NHS and the medical profession was also influenced by their ability to use private health alternatives if so desired and, in the case of the MMR vaccine, to pay for the single vaccines to be administered privately. The decision to go for single vaccines thus became a natural compromise facilitated by the possibility to afford it.

The role and impact of the middle classes were summarised by Fitzpatrick, a general practitioner and himself the father of an autistic child in the following way:

It has a particular resonance among the disaffected middle classes, who have become increasingly anxious and insecure as a result of wider social and political shifts over the past decade. A combination of a sense of vulnerability to environmental threats and distrust of scientific and medical expertise and of all forms of authority has made many receptive to a wide range of scares about health-related issues. This outlook cuts across traditional

sociological and political alignments – it can be found as readily among readers of the Guardian as among those of the Daily Mail. (Fitzpatrick, 2004: 1-2)

The controversy around the MMR vaccine also emphasised how certain issues, relatively minor seen from the outside, have the capacity to crystallise several key dimensions of social individuals' lives and to turn, therefore, into key events. By touching upon fundamental questions of health, motherhood, identity and trust in authorities, the MMR debate proved to be, for several people, a catalyst for their questioning of larger issues.

For instance, it is interesting to note how, for some people, the questions raised by the MMR vaccine had a domino effect and made them question the vaccination programme as a whole. On that basis, one could divide the parents interviewed during the group and individual interviews into two groups: on one hand, those for which the MMR controversy and its media coverage generated fears limited to this particular vaccine and, on the other hand, those for which the debate led to a total reassessment of the childhood vaccination programme. For the latter group, Dr Wakefield's initial findings and proposal of a link between autism and the MMR played the role of a catalyst, unleashing dormant fears that these parents may have had towards vaccine. However, even for people who believed in vaccination programmes and in the MMR, the sheer existence of the controversy brought doubts they had to address.

At a deeper level, the debate over the MMR vaccine gave some weight to Giddens's assertion that conditions of high modernity "expose everyone to a diversity of crisis situations of greater or lesser importance, crisis situations which may sometimes threaten the very core of self-identity" (Giddens, 1991: 184). In particular, this was the case for two of the mothers interviewed individually (Participant 10 and 17) for whom the controversy put the spotlight on fundamental aspects of their life as mothers trying to accommodate the various elements of their identity.

9.3.2 Role of the media

As with the majority of scientific controversies that have affected Western contemporary societies in the last decades, the media had a significant role to play in shaping the substance of the MMR debate and was an important contributing factor in the scope it took within the British population.

Boyce (2005) has discussed in detail these questions. In a previous paper (Speers and Lewis, 2004), she highlights with good reason the assumption that journalists have the power of shaping the public understanding of scientific issues. However, this leaves aside people's representations of the media, which very often provide a counterweight to what gets reported in the media. As discussed in Section 8.6.1 (p. 251), many participants in the individual interviews expressed their doubts about the credibility of media reports and their beliefs that journalists were often only trying to go for the sensationalism at the expense of the truth. Although not the focus of this current project, this points towards the existence of a social representation of the media that influences how people treat the information they receive from the media.

9.4 Recommendations in terms of communication

It is extraordinary that many people proclaim their distrust of the government and the medical establishment, only to put their trust in a doctor who has failed to convince even his former colleagues at the Royal Free Hospital of his case. (Times, 16 February 2002)

Health professionals face a difficult job when confronted by a controversy such as the one over the MMR vaccine. Notwithstanding the validity of the scientific evidence they want to convey to the public, this information will be filtered by the media based on their own readings and their use of a range of journalistic practices such as the ones identified by Boyce (2005) – see Chapter One for more details on these. It will then circulate among the public who will appropriate this information through the use of different types of knowledge, thus transforming what was a scientific issue into a social object that incorporates different dimensions. Here the thoughts of Moscovici on the perceptions of social representations of scientific issues come to the fore:

They are generally viewed as ‘curiosities’ which have no special significance. As such they are relegated to the despised realm of vulgarization. We submit that they should be viewed as a specific phenomenon, which is indispensable for understanding the beliefs, ways of thinking, and practices of our societies. In any case, they will have to be taken into account sooner or later. (1984a: 954)

In addition, as pointed by Specialist 6, even health professionals do not always have access to the scientific information behind the latest piece of news discussed in the media. How they react and how they deal with the anxieties of the public is crucial but difficult. The recommendations that follow are based on my readings of the empirical evidence collected for these projects.

First and foremost, health and scientific authorities must acknowledge the existence of different rationalities, which, in the context of the parents concerned, are as logical and valid as the one behind scientific knowledge. Based on the group and individual interviews conducted for this project, those parents who refused to give the MMR vaccine to their children or opted for single vaccines did not act in an irresponsible manner. For many mothers, the single vaccine option appeared as an ideal compromise solution protecting their children against childhood diseases while addressing (wrongly or rightly) the issue of the alleged link between autism and MMR.

In the case of the two mothers who had yet to decide whether to give their children the MMR vaccine (Participants 10 and 17), this indecision was explained by their own personal circumstances and past experiences, and the result of a long and complex reflection. They were fully aware of their responsibility vis-à-vis other parents as shown by the following comments:

So, I was in a real dilemma but I actually just went with my gut instinct which was not to do it, which I felt really scared about, I think because I felt like maybe I’m doing the wrong thing, maybe it’s really irresponsible. (Participant 10)

No, I think science is amazing. I think it’s brilliant to have vaccines to protect us from dangerous diseases but... It’s just something about MMR, maybe it’s all the media hype. (Participant 17)

This need to respect the moral dilemma involved in difficult decisions such as the MMR's was highlighted in an exchange of correspondence published in the British Medical Journal. In one of these letters, Stephen Pattison, the head of the department of religious and theological studies at Cardiff University, stated the following: "Not acknowledging others' moral dilemmas does not make them go away. (...) In doing so, scientists must take care not to treat fear and reservation as ignorance and then try to destroy it with a blunt 'rational' instrument" (2001: 840).

9.4.1 Content and style of communication

The above quote contrasts with the traditional view of the scientific community for which doubts among the lay public must be counterbalanced by "hard science and evidence" (Nicoll, Elliman and Ross, 1998: 716; see also D. Heller, 2001). On the contrary, those responsible for communication policies must find way to address the specific beliefs and concerns of people affected by a specific issue making use of "terms and metaphors that carry local meaning" (Wagner et al., 2000: 302).

9.4.1.1 Addressing the real issue

For instance, Participant 11 expressed her opinion that the government was too busy answering Wakefield's allegations to spend some time answering the real questions parents had about the whole vaccination programme. In her view, what was required in terms of communication by the health authorities was a detailed explanation of how the vaccines work, their potential effects on the immune system, etc. as opposed to a counter-attack on Wakefield's allegations:

So I think I would say that if someone was able to say to me that giving your baby three fairly hefty vaccines and we can show you that this is... the vaccines going into the blood don't, it's actually not a big deal for the child's system, then I think that that would have been better. But because they were so busy proving that there was no link between MMR and autism and no link between MMR and Crohn's disease, they just, I don't think that there was enough, there was as much publicity or freely available research. (Participant 11)

On the other hand, and in line with Miller's (2004) study, the great majority of participants in this study expressed their beliefs in the value of scientific knowledge. What was problematic was their social representation of medicine and medical experts but, generally, they did not question the validity of scientific methods and procedures. Thus, the empirical results underlined the centrality of science in our contemporary society while pointing towards a number of problems faced by science as an institution. Here the debate between a too rigid demarcation between reified and consensual universes discussed by van Bavel and Gaskell (2004) comes to mind (see also the discussion about the difference between science and scientific knowledge, p. 47).

9.4.1.2 Making use of narratives and other types of knowledge

There were many such stories, and he understood just how important they were, and listened with patience and with respect. A life without stories would be no life at all. And stories bound us, did they not, one to another, the living to the dead, people to animals, people to the land? (McCall Smith, 2004: 205)

The analysis of the individual interviews underlined the significance of common sense knowledge, and of the narrative mode of cognitive functioning associated with it, in the sense making efforts of mothers facing the MMR controversy. Mothers in three of the four exemplars identified drew upon this type of knowledge in order to decide whether to give the MMR vaccine to their children. Other types of knowledge, political and religious, also played a key role.

Examples of cognitive polyphasia among specialists were also identified though not explored in a systematic manner. In particular, some experts combined political knowledge to their scientific knowledge in their attempts to explain the MMR debate and their positioning vis-à-vis this issue. Specialist 3, whose expertise in the debate was of a more general nature, appeared to rely also on common sense.

Health communication specialists must find ways to address this polyphasic reality, and thus take into account "the complex psychological dynamics involved in the relations between knowledge and behaviour" (Gervais and Jovchelovitch,

1998b: 5). The hard facts and evidence that need to be communicated must be so in a narrative framework that highlights their verisimilitude as well as their truth (Bruner, 1986, 1991). For instance, Participant 09 discussed the significant impact made by the graphic examples of possible side effects of childhood diseases used by her sister when advising her about the different vaccines for her son. This is the same method that was used by the anti-MMR camp when reported in the media and could be used with great success by scientific authorities.

The individual interviews also pointed towards the important role played by heuristics, understood here as examples of an ecologically rational mode of knowledge processing justified by a set of key social representations and allowing the efficient use of scarce resources, be they time, or intellectual resources. Medical authorities must realise that mothers of young children quite often do not have the time (nor sometimes the ability) to access, read and digest the latest information concerning a given controversy, a fact emphasised by Participant 05, in the context of her wish to know more about alternative ways of treating her daughter's eczema, and also by Participant 13:

But, again, as a parent you don't have enough time to study it. So again all you can do is go by what the doctors say, and the doctors are extremely flippant with antibiotics and they just give them all the time. (Participant 05)

So I think, but I'm not at all surprised, and nor do I regret my decision [of going for separate vaccines], but I'm not at all surprised that now there's been a huge watering down of the whole thing. I still think that at the time that knowledge wasn't available, and you make your decision on the knowledge that's available at the time. And it's not my thing to get reams and reams of medical documents. I don't understand them, it's beyond my... (Participant 13)

In their study on the factors that impact upon health decision-making for women in midlife, Green, Thompson and Griffiths (2002) go even further by drawing a distinction between information seeking and decision-making. They notice that an active search for information does not necessarily translate into a desire to take an active role in decision-making. Availability of and accessibility to a set of heuristics (Eagly and Chaiken, 1993) that facilitate the decision-making process must therefore become a priority in the design of health-related communication

policies. Similar observations have been made by Gamson and Modigliani (1989: 10) in their review of media discourse and public opinion on nuclear power: “Making sense of the world requires an effort, and those tools that are developed, spotlighted, and made readily accessible have a higher probability of being used”.

The effectiveness of the media in influencing the scope and direction of the MMR controversy may be linked to their ability to interpret scientific issues in moral or human terms, a proposition discussed by Malone and her colleagues in their study of journalists’ constructions of passive smoking as a social problem. In particular, they show how journalists, through their selection of the relevant quotes, portrayed the non-tobacco scientists as more uncertain “and therefore, morally creditable and credible” (2000: 725). The authors argue that by bringing in an element of moral concerns, this portrayal managed to increase the impact of the claims made by these scientists.

Although not the focus of this study, a quick examination of the media reporting of the MMR controversy would support a similar interpretation. By portraying Dr Wakefield as a sort of ‘David against the Goliath of the government and medical authorities’, the media may well have contributed to his message being taken more seriously than those of the opposed camp (see also Bedford and Elliman, 2003 for a similar argument).

9.4.1.3 The need for a relative certainty

As discussed in Chapter Two, during most of the twentieth century, lay people were led to believe in the virtue of science, the benefits of a society welcoming scientific and technological progress. Progressively, however, this picture was transformed with an increasing number of people acknowledging the limits of science and technology. What we may be facing today is a situation where the public is still asking for certainty from scientists, especially in view of the decline of other authorities, but a relative certainty that acknowledges these limits. Indeed, attitudes and beliefs towards the medical profession discussed in the focus groups (see Section 7.2.1.2, p. 207) point to the need for health professionals to maintain a delicate balance between acting as experts and having the necessary humility to

accept theirs and their science's limits. In a sense, this supports Boyce's (2005) observation that the central theme raised by parents facing the MMR debate is trust and not risk and, as pointed in the previous paragraph, that this trust may be associated with the ability to present oneself as a fallible person.

Several of the participants in the individual interviews also expressed their desire for a medicine that would take into account the specific circumstances of their children as opposed to the more anonymous approach associated to medicine as practiced today in the UK. In the context of Bruner's modes of cognitive functioning, one could argue that those people are opposed to a 'context-free, timeless and universal' (van Bavel and Gaskell, 2004) type of medicine and are asking for a more caring and personalised one. Indeed, Feinstein acknowledges this possibility when he concludes his discussion of erroneous paradigms in the area of medicine by proposing that "perhaps the most important change now needed for clinical medicine is a new paradigm that restores patients – rather than diseases, molecules, or statistics – to the center [sic] of the clinical universe" (1996: 616).

9.5 Conclusions

"The world isn't just the way it is. It is how we understand it, no? And in understanding something, we bring something to it, no? Doesn't that make life a story?" (Martel, 2002: 302)

The review of the theoretical and empirical implications of this research project hints at a number of benefits offered by the proposed cognitive polyphasia model. Even at this early stage in its development, this theoretical framework seems to allow a more sophisticated and finely honed understanding of cognitive polyphasia at the social individual level than the one that has appeared in the social representations literature so far. In particular, the identification of cognitive monophasia as a valid and ecologically rational cognitive strategy testifies to the relatively high degree of agency lay people may exhibit in their sense making efforts. The alternative perspective on groups brought by the concept of 'epistemic communities' provides a welcome reply to some of the criticisms made at the theory of social representations.

The links suggested between the hypothesis of cognitive polyphasia, the periphery aspects of social representations and the theory of minority influence are still very provisional but worth exploring in greater detail. Above all, the cognitive polyphasia model proposed shows the possibility of a rapprochement between different traditions if one is prepared to accept the inevitable epistemological conflicts and methodological issues involved in such an approach.

The external validity of the model (Yin, 2003) would benefit from its application to other social objects. Indeed, by itself, the choice of an alternative issue will raise a number of interesting questions:

- In the context of the MMR controversy, cognitive polyphasia was associated to an active process (ie, the decision to vaccinate one's child with the MMR vaccine) but this may not always be the case. Can cognitive polyphasia happen when there is no problem? Is cognitive polyphasia as defined here a cognitive strategy visible only in life-related issues such as health or food? Would it apply to other scientific-related controversies?
- Medicine has been described by one of the specialists interviewed as a combination of art and science. Could medicine be a perfect example of a discipline open to cognitive polyphasia because of its unique location between science and individual stories? This hypothesis is supported by Moscovici's (1984a: 965) views on the field of medicine: "Medical consultations and therapies are actually one of the most important sources of social representations. Patients spontaneously transform the doctor's interpretations and comments, which they then proceed to disseminate and use for 'diagnosing' or 'advising' their friends and relations".
- As discussed in the results section, the set of social representations that delineated the MMR controversy included principally medical science and expertise, motherhood and alternative therapies. However, the actual mix of social representations is most likely to differ depending on the exact nature of the issue being considered. What would these alternative combinations be?

Empirically, this research reaffirms the opinion of many social representations theorists that there is a need to acknowledge and respect alternative forms of rationalities. It remains to be seen whether the required changes in the design and execution of health-related communication policies can be implemented.

As discussed by Brown (1995), in his examination of the role played by lay epidemiology in the development of social movements in the area of toxic waste, members of the scientific establishment tend to oppose any challenge to the theories and methods they traditionally rely upon. In particular, they tend to dislike and negate the value of lay input. Will the accumulation of health-related controversies in the last 15 years or so be enough to convince them of the need to change?

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