Foundations of demographic theory

Choice, process, context
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Foundations of demographic theory
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Preface

I tend to be fast in some things and slow in others. Writing this thesis definitely belongs in the second category. Although there was never a doubt - at least not in my mind - whether a final sentence would ever be committed to paper, for a long time it remained unclear when this would take place. In the event, the question turned into where it would take place: these final paragraphs were composed on the other side of the world. What better place to write such reflective words than an island in the middle of the Pacific? I know of some, but there cannot be many.

In accordance with one of the major themes of this book, the process of accomplishing this study has been as interesting as the final outcome. I would like to express my gratitude here to the people who facilitated and supported this process and made the outcome worthwhile. First of all I want to thank my supervisor Frans Willekens for taking me on this voyage of discovery: a voyage full of challenges, often demanding, often surprising, but above all, valuable. Time and again as I left his room in Groningen or his house in Voorburg after a discussion brimming with his ideas, I would be drifting along on his inspiration, be able to see things in a proper perspective and have at my disposal the simple means to tackle complex matters. But my thanks to Frans go beyond the bounds of intellectual encounter; they equally extend to the working atmosphere at the Population Research Centre and to such moments when I cycled through the Groningen darkness in the middle of the night, with him riding pillion on my bike, having spent several inspiring hours together in the pub. The rest of the staff at the PRC Groningen provided a pleasant working environment: special thanks go to Harrie van Vianen for his optimism, his down-to-earth criticism and for sharing the joy of mens sana in corpore sano. And of course to Inge Hutter, with whom I shared the room in Groningen, journeys in India, disappointment and success, anger and happiness, as a colleague but more importantly as a close friend.

Along with Claartje Mulder, Dorien Manting, Janneke Helleman, Leon Crommentuijn, Inge Hutter, Veronique Schutjens and Wim Konter, I was one of the participants in the first course of the Netherlands Graduate School of Research in Demography (PDO). I would like to express how much I have enjoyed being part of this group and now being able to share the experience of attaining a PhD degree and forming a new generation of demographers in the Netherlands.

I am greatly indebted to the Netherlands Interdisciplinary Demographic Institute for the facilities they provided in the last stages of this project. Among the present (although now distant) colleagues at the NIDI who showed their interest in my dissertation some deserve a special mention; Ewa Tabeau for her quiet but important encouragement during the pleasant time we shared a room; Nico van Nimwegen for always being ready and willing to help; Frank Eelens for his stimulation and his part in almost every stage of my demographic career since our stay in Sri Lanka; Jolande Siebenga for unlocking the library treasures and for her patience; Jeannette Schoorl and Liesbeth Heering, project leaders of the project Push
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There are a number of people outside this professional context who stood beside me in the years it took to finalise this dissertation. My mother and father, who spent so many days with their grandchildren and taught them the meaning of moorkop (with pleasure) and voetbalknie (with regret). Hans, Xan, Rutger and Larissa, who shared the dungeons of their château with me, as well as all the other conveniences a château should have, including high-spirited companionship. Their commitment has been crucial. Ton, who read parts of the manuscript and gave advice, precise and reliable as I know him to be. Lien, who corrected and enriched the English text and took care of the final manuscript. It was always a comforting thought that whenever or wherever the day would come, she would be there to provide the finishing touch. Wouter and Jeroen, who patiently waited for me to keep my promise for a game of football or other exciting things: be prepared, it may be shark hunting next.

And finally, but actually foremost, Leonieke who brought to a happy conclusion the task of living for so many years with a partner occupied by writing a dissertation, and of living for so many days without a partner occupied by writing a dissertation. Did you ever anticipate that you would find him again in the Solomon Islands? Well, here I am

Honiara, October 1998
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Chapter 1. Introduction

1.1. Background: theory in demography

The task of demography, as of any science, is to describe and explain a part of reality, to understand the emergence of various aspects of this part of reality, to formulate reliable statements about their future development, and to conceive solutions to problems associated with these aspects. The specific part of reality that is the concern of demography is the size, the composition and the distribution of populations, and the changes of these characteristics in time. The direct objects of demographic enquiry consist of measurable entities and vital events such as births, deaths and moves. Given this definition and the direct objects of study, the discipline of demography is relatively concrete and demarcated, and the significance of quantitative analysis is obvious.

Quantitative approaches are understandable strategies given the relevance of numerical representations) numbers, rates, proportions) of the discipline’s subject matter. More so given demography’s historical roots in actuarial sciences. Certainly there are inherent dynamics in population development that justify the emphasis on mathematics in stable population theory and on quantitative aspects in specific models of fertility, migration and mortality. Moreover, the competence for objective measurement and statistical representation are highly valued in positive scientific endeavour. Thus, the distinctive statistical and mathematical accomplishments in demography cannot be viewed otherwise than with warranted satisfaction. But they are not sufficient to make a mature science. No matter how elegant and sophisticated, quantitative analysis alone cannot fulfil all the tasks of demography as a scientific discipline. Although the mathematical interest is a distinctive, and indeed an indispensable, feature of demography, it is not sufficient for a mature science capable of interpreting, understanding and forecasting demographic reality; even less for conceiving conditions for behavioural intervention strategies or policies related to population change. Such capabilities can only emerge from a body of explanatory theory: a set of interrelated concepts and propositions which specify relevant entities and events, the relations between them, and the underlying causal mechanisms (Willekens 1990b, Wunsch 1995).

The development of such a body of theory for demography remains a matter of great concern. Notwithstanding many exceptions, demographers tend to be more comfortable with data than with concepts, and demographic analysis tends to yield descriptions rather than understanding. The emerging picture of demography is that of an accurate, but relatively dull science; strong in accountancy, but relatively weak in conceptualisation. Through the years, social demographers have regretted the discipline’s preoccupation with mathematical analysis and statistical description, and the relative neglect of efforts to specify the mechanisms governing population processes. In this respect, Hauser and Duncan’s remark that demographic inquiry has not yielded a principal body of knowledge to explain the discipline’s phenomena of interest is still valid today (Hauser and Duncan 1959, p. 36, cf. Hawley 1980, McNicoll 1992,

“Any subject which finds it necessary, or indeed possible, to consider its material divorced from an appropriate body of theory must be in trouble. This seems to be the case with demography at present” (Schofield and Coleman 1986, p. 1).

The present state of the art consists of a number of partial theories and conceptual approaches, with a limited capacity to provide a comprehensive understanding of demographic change.

The search for theory is not a purely academic issue. The main areas where demographers are called on to apply their disciplinary expertise such as population projections and population policy) importantly depend on appropriate theoretical understanding. However, none of the major international organisations that apply such demographic expertise to produce estimates of population development such as the United Nations or the World Bank) explain which theory or conceptual model underlies their assumptions about, for instance, the future course of fertility (cf. Lee 1990).

With regard to the development of policies and programmes directed at fertility change or reproductive health, demography has contributed little more than a justification for and an assessment of family planning programmes (cf. McNicoll 1992). Even the recognition that the impact of demographic events in terms of health, environment or human development involves “human drama on a large scale” (ibid, p. 3), has not lead to a significant advancement of ideas on how to design effective intervention strategies for fertility control or health improvement. A major problem in this respect is posed by the deficient conceptual base of the discipline of demography and an insufficient understanding of human fertility behaviour (R. Freedman 1987, McNicoll 1992). Several evaluations of family planning programmes have concluded that for effective strategies, more information about and a better understanding of health and reproductive behaviour will be required; more suitable methodologies need to be developed to study people’s choices in this respect; and a stronger social-theoretical foundation must be acquired to scientifically underpin behavioural interventions (e.g. Andorka 1989, Bashar 1993, ESCAP 1988, 1993, Jejeebhoy and RamaRao 1992, Tsui *et al*., 1992, World Bank 1992). The recent policy shift from population targets to the wellbeing of individual people as reflected in the Programme of Action of the 1994 Cairo International Conference on Population and Development) is an even stronger signal of the relevance of a fundamental and scientific understanding of how and why people decide and behave the way they do.
1.2. Aim, approach and scope of the study

The aim of this study is conceived from a viewpoint that the accomplishments of demography in terms of descriptive abilities and statistical and mathematical achievements, are not met by an equally sophisticated theoretical fundament. Its primary aim is to be a contribution to the theoretical foundation of demography by developing a framework of concepts and causal mechanisms that are required to attain a comprehensive understanding of demographic phenomena and demographic change. Closely connected to this is the aim to contribute to the conceptual tools for the design of effective reproductive health programmes.

The course taken in this study is not to contribute to theory development by exploring the hidden theoretical treasures in existing data sets, nor to uncover generalisable (or ungeneralisable) principles of demographic phenomena by means of research in the field. This study takes a more deductive approach: the formation of a general theoretical structure based on explicit behavioural premises which can be employed as a conceptual reference for research design and interpretation of observations. This approach is not intended to deny the potential of empirical observation to direct and expand the body of demographic theory. Nor is it intended to deny the need to move back and forth between theory and reality; they are considered as two complementary and mutually dependent worlds which cannot operate optimally if severed from one another. However, the choice made in this study is to elaborate the crucial but too often neglected theoretical frame of reference for research and policies.

The fact that demography concerns human behaviour classifies the discipline definitely in the branch of social and behavioural sciences (cf. Caldwell 1996). Therefore it faces basic challenges and questions similar to those of other human sciences with regard to the development of concepts, frameworks and theories needed to take up the challenge of dealing with existing and emerging realities. In this respect demographic theory has to resolve such issues as the balance between abstraction and realism in scientific explanation, the required levels of analysis, the role of time and change, aspects of subjectivity and introspection, the interdependency of structure and process, and the dilemma between context and agency (cf. Archer 1996, Hjelle and Ziegler 1981). The position taken with respect to such issues partly depends on the specific aim of this study, but it crucially also depends on the model of man that is supposed to populate the demographic world: the fundamental assumptions about human nature, expressing people’s basic capacities and limitations, and the propelling forces in their behaviour. These assumptions provide the keys to the selection and elaboration of the concepts in the theoretical framework, and therefore part of the study is devoted to the characterisation of a model of man for demography.

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1 Model of man as a concept to describe the general nature of the human being applies to both men and women. Although the term may not seem very gender-sensitive, it will be maintained in a neutral connotation because of its widespread usage in social-theoretical studies. It is, for instance, a central concept in the work of Simon (cf. H.A. Simon 1957, 1985, 1987), but it is also much referred to by others like Bandura, Hollis, Leibenstein, Lindenberg and Willekens (cf. Bandura 1986, Hollis 1977, Leibenstein 1977, 1980, Lindenberg 1990b, Willekens 1992).
The closeness between demography and other human sciences permits the fertilisation of demographic theory by insights from neighbouring disciplines. The many aspects to be covered for a comprehensive understanding of population development, moreover, define theory building as a multidisciplinary, if not an interdisciplinary, enterprise (Wunsch 1995, p. 206, cf. Greenhalgh 1990, Mayone Stycos 1989). At present, the conceptual landscape of demography is multidisciplinary in nature, characterised by partial approaches and without much mutual reinforcement. The theoretical model of this study aims to synthesise contributions from different disciplines, and the integration of these approaches marks it as an interdisciplinary framework.

It will not be possible, nor necessary, to cast a uniform epitome of theoretical foundation in concrete for every possible demographic setting. Inquiry in the field of mortality differs from that concerning migration; theoretical requirements for descriptive purposes do not necessarily correspond with those for forecasting or involvement in action research; explanation of specific demographic phenomena crucially depends on time and space; and theoretical insights themselves may change. Therefore, a ‘grand unifying theory’ of demographic behaviour may remain far beyond the capacities of the discipline (Freedman 1987, van de Kaa 1996, Schofield and Coleman 1986, Wunsch 1995) and, for that matter, any social science.

This restraint is fully recognised and to avoid some of the difficulties, the scope of the study narrows down from demographic behaviour generally to reproductive behaviour. But as the massive project on the determinants of fertility in developing countries (Bulatao and Lee 1983) shows, even this will by no means resolve the conceptual problems encountered in a formulation of a comprehensive framework. The variety of factors involved in human reproduction, the large differences in childbearing behaviour observed at the global level, the various theoretical approaches applied in the field and the different purposes of fertility studies might lead to the suggestion that any effort to even consider the possibility of a general conceptual framework for reproductive behaviour is a futility. Yet there are several convincing arguments that progress can be made with respect to the attainment of a more encompassing approach in the study of fertility:

- The specific character of reproductive behaviour simplifies to a certain extent the efforts to develop a theoretical framework: the physiology involved provides some tangible starting points and has an undeniable universal significance. Fertility models based on (socio-)biological intermediate variables or proximate determinants have been of immense value for elucidating the large variety of fertility patterns.
- Although even the most comprehensive synthesis in the field of fertility will remain imperfect and the disregard of certain theoretical perspectives is inescapable, the cumulative character of scientific endeavour and encounters between disciplines continuously provides new stimuli and possibilities for updating and integrating existing theoretical frameworks. Integration will depend on the degree to which different concepts...
and approaches can be translated at the meta-theoretical level into terms of one ruling perspective.

- The fact that different social, economic, cultural and political contexts generate different fertility patterns implies the need for context-specific explanations, but not for context-specific theories or frameworks. Very different contexts can be interpreted by applying one single approach if context is incorporated as an analytical concept in the theoretical perspective (cf. Hammel 1990, p. 455).

- Despite the great diversity in fertility patterns, human reproductive behaviour (even apart from its biological substance) is governed by a number of universal principles. These principles pertain to the basic premises about capabilities, constraints and characteristics of human nature which direct or restrict the processes and outcomes of individual behaviour. While social and behavioural sciences reflect structural differences in these premises, there is considerable scope for narrowing what is tenable as theory on the subject of fertility (McNicoll 1992, p. 404).

These considerations may justify the effort to develop a frame of reference that transcends current partial and mono-disciplinary interpretations of fertility, and that is applicable irrespective of time and place. This study conceives of such a theoretical framework. It does not offer a new formal theory for demography. It is intended, even if only as a kind of benchmark, as a way of looking at demographic phenomena: an interpretive framework to understand their existence and change better by structuring attention to relevant aspects and suggesting an interpretation of underlying causal processes. Although the elaboration of the conceptual model focuses on fertility behaviour and its relevance for family planning or reproductive health programmes, the general underlying approach may well serve as a theoretical foundation of other demographic domains as well.

1.3. Outline of the book

This first chapter of this book sets out the background and problem setting of the study. It formulates the objectives, the scientific context and the social relevance of the undertaking. The subsequent Chapters 2 to 6 elaborate the starting points and concepts that are required to achieve the study’s goal of contributing to a theoretical fundamant of social demography through the development of a comprehensive framework for fertility. This framework is presented in the synthesis of Chapter 7. The study also includes a case study in which the conceptual framework is applied to family planning and reproductive health in India (Chapter 8). The concluding Chapter 9 summarises the main findings of the research. Lastly, a list of definitions of the major concepts is annexed. The overview below provides the main contents and purposes of the various chapters following this introduction.

Chapter 2. Social theory, models of man and the concept of rationality
This chapter addresses the requirements and starting points of the study and identifies the various concepts needed in the conceptual framework. It defines the framework for fertility in terms of social theory. More specifically, it adopts a microperspective which focuses the theoretical perspective on individual behaviour. However, this behaviour is explicitly framed in an embedding social context. A further requirement that is considered here is a dynamic perspective that adds a time dimension to the conceptual model. The chapter outlines the conceptualisation of behaviour, context and a time perspective in terms of choice, social institutions and a learning-theoretical perspective on the life course, respectively. These three key elements are separately elaborated in Chapters 4, 5 and 6. Their conceptualisations have a cognitive perspective in common, which provides the model with a significant potential for integration.

A further background for the elaboration of the different elements in the framework is the view on the basic assumptions about human capabilities, constraints and characteristics. The view elaborated in Chapter 2 takes into account mental agency, motivation, rationality, social embedment, dynamic aspects and biological factors as crucial considerations for a realistic model of man for demography. The chapter devotes a separate section to the concept of rationality. The broad sense of rationality which is defined here is crucial to a theory of choice as a general approach to behaviour.

Chapter 3. Multidisciplinary backgrounds of fertility theory
Chapter 3 assesses the state of the art of fertility theory and serves to delineate the weak and strong points of the major social-behavioural approaches in current demography. These approaches have, by and large, separate disciplinary backgrounds in other human sciences. The criteria used to evaluate these lines of thought are derived from the starting points and requirements that are outlined in Chapter 2. The chapter distinguishes the following approaches: Malthusian theory, transition theory, biological approaches, micro-economic theories, socio-psychological theories, cultural and structural approaches and diffusion theory. The outcome of this evaluation indicates that many disciplinary perspectives are not up to date with theory development in their respective sciences. However, social-psychological and institutional approaches, as well as the biological models of intermediate determinants are considered valuable, albeit insufficient, contributions to the development of a comprehensive framework for fertility.

Chapter 4. Choice
This chapter commences with an elaboration of the cognitive perspective that underlies the fertility framework. It clarifies the interpretation of information as a central concept in the framework, and also interprets how people process information and extract the considerations that structure their behaviour. In this respect, the notion of cognitive schemes takes a central position.
The elaboration of the key concept of choice is meant to provide a theory of individual behaviour. It relies on the broad notion of rationality defined in Chapter 2 and includes a number of issues required to capture the large part of human behaviour within a decision making perspective: problem space, motivation, perceived control and decision styles. The model of intermediate fertility determinants functions as an objective structure to organise these considerations.

Chapter 5. Context
The context in which individual choice and individual fertility behaviour is situated, is interpreted in terms of social institutions that are made up of complexes of rules of meaning and behaviour. This chapter elaborates on the interaction between people which is crucial to the construction, maintenance and adjustment of these rules. This renders a dynamic perspective to the interpretation of the social environment. The structure institutions give to the social environment is captured in terms of contextual levels, substantial dimensions of institutions and their impact on different life domains. The cognitive interpretation of institutions elucidates the mechanisms through which context acquires meaning for individual decision makers.

Chapter 6. Time and change
This chapter distinguishes different dimensions of time that are relevant to provide a dynamic perspective to various elements of the conceptual framework. It distinguishes historical, institutional, social and individual time, as well as time in elementary processes. Given the attention to institutional change in Chapter 5, here attention focuses further on the individual time dimension. The chapter elaborates the notion of life course as an organising principle for the synchronous and diachronous aspects of people’s lives. A more substantial interpretation is given in terms of psychological development theories, in particular social learning theory. This emphasises the life-time related character of individuals’ considerations about reproductive behaviour.

Chapter 7. An interdisciplinary perspective on fertility
The various starting points and conceptualisations elaborated in the previous chapters are synthesised in a general framework for fertility that is presented here. Chapter 7 recaptures the various components and their underlying mechanisms, as well as the framework’s main characteristics. The graphic representation of the conceptual model highlights these components and processes and elucidates how they are positioned vis-à-vis one another and how they are causally connected to reproductive behaviour and levels and patterns of fertility.

Chapter 8. Application of the model: the case of India
Fertility in developing countries is one of demography’s most crucial and socially relevant subjects. This domain of demography, and particularly the elements of family planning and reproductive health, served as the main background and inspiration of the study. The practical value of the conceptual model consists of a social-scientific basis and a behavioural
perspective to develop more effective policies and programmes in these areas. In the absence of empirical research to examine the usefulness of the conceptual framework, Chapter 8 provides an illustration of the theoretical framework for the particular setting of India.

Chapter 9. Conclusions
On the basis of the case study presented in Chapter 8 and the conceptualisations in earlier parts of this book, Chapter 9 summarises the need of theory development in demography and the relevance of different concepts incorporated in the framework. Furthermore, it briefly depicts the methodological implications of the approach and the contributions of the model to a theoretical foundation of demography.
Chapter 2. Social theory, models of man and the concept of rationality

2.1. Introduction

The aim of this chapter is to identify the requirements which an interpretive framework should meet to permit a comprehensive understanding of fertility. In this respect the research follows a deductive approach, starting out from the formulation of basic behavioural premises and general requirements of social theory. Section 2.2 delineates a number of assumptions with regard to human agency in general and in the reproductive life domain in particular. The emerging conceptualisation delineates a model of man for demography\(^2\) which focuses the lines of interpretation of demographic behaviour. Section 2.3 generally reflects on the role of theory in the social and behavioural sciences. In concurrence with the behavioural assumptions from Section 2.2, it provides the starting points for the development of the framework for fertility, which outlines the model’s structure and which identifies different conceptual elements and the contours of their elaboration in subsequent chapters. Given these specific elaborations and the adoption of a microperspective, the concept of rationality takes a prominent position in the understanding of individual behaviour. Section 2.4 distinguishes different types of rationality and arrives at a broad and realistic interpretation of the concept in view of the aim to reach such understanding. Chapter 2 provides the general background for the development of the fertility framework and the directions and initial elaborations of its specific components. The concluding section (Section 2.5) represents the position and contents of the subsequent chapters in relation to this background.

2.2. A model of man for demography

Social and behavioural sciences deal with human behaviour. The most fundamental notion that has directed the development of the scientific disciplines and subdisciplines is their conceptualisation of the human being. These models of man\(^2\) or concepts of the person\(^2\) are identified in terms of the basic postulates about human behaviour that are sufficiently fundamental to be considered self-evident, although they may be proposed on the basis of prior inductive evidence. Any science should, however, critically scrutinise the model of man on which it relies in terms of its adequate formulation, its realistic value and its relevance to the subject matter of the discipline. Nobel prize winner Herbert Simon phrased the issue in these terms:

\(^{2}\) See footnote 1 on page 3.
“Nothing is more fundamental in setting our research agenda and informing our research methods than our view of the nature of the human being whose behavior we are studying” (H.A. Simon 1985, p. 303).

Simon’s conclusion about the necessity to explicate the basic assumptions of human nature is the consequence of his concerns that sometimes disciplinary canons rest on weak or even untenable fundament which can obstruct the development of theory and understanding of human behaviour. In many social sciences where introduction of new approaches or integration with those from neighbouring disciplines is attempted, the change often emerges from the acknowledgement of fundamental aspects of human nature that are not covered by traditional approaches. The need to formulate an appropriate model of man and the possible need for a paradigm shift is encountered in economics in the work of Simon, but also in institutional economics (Langlois 1986a, Nelson and Winter 1982, North 1994); in sociology in the work of rational choice theorists (J.S. Coleman 1990, Lindenberg 1990b) or previously in that of interpretive sociologists (Blumer 1969, Mead 1934, Schutz 1973a). Given the state of affairs in demographic theory, the issue of formulating an appropriate model of man for demography is a matter of great concern (McNicoll 1989, Willekens 1990b, 1992).

The cardinal role of the model of man is to provide the theoretical guidance for analysis and research. The basic conceptions of human nature embraced by theorists from different human sciences influence which determinants and mechanisms of human functioning are explored and which remain unexamined. The assumptions affect not only what is studied, but also the analytical tools devised to explore the factors that are considered the most relevant (Bandura 1986, p. 1, cf. Hollis 1977, Lindenberg 1990b, Plott 1991, H.A. Simon 1985). The main criterion to evaluate the appropriateness of a model of man is whether it can accurately account for the behaviour of people (Sears 1987, p. 17). As an abstraction of the human being, its function is not to explicate the behaviour of one specific individual, but the leading principles of people’s behaviour in general.

The requirements of accuracy and universality pose an inherent contradiction to the concept of the person assumed in social research: the first emphasises the realistic value of the conceptualisation and the maintenance of factual connections with the complexity of real life and the way people actually perform, whereas the second stresses abstraction and universal applicability. Striking a balance between this boundary between realism and abstraction is a major theoretical challenge. One cannot escape the impression that the trade-off is frequently characterised by a kind of disciplinary inertia and responsiveness to methodological requirements rather than by a substantial understanding of human behaviour (cf. Greenhalgh 1996). Thus while the empirical evidence reveals that assumptions attributed to Homo Economicus such as transitivity, invariance and dominance are frequently and systematically violated (Bøhren 1990, Fishburn 1991, Machina 1990, Tversky and Kahneman 1990), few economists are inclined to introduce more realistic considerations, as this complicates a formal representation of behaviour. On the other hand, purely phenomenological approaches could be criticised as applying a concept of the person that is too exhaustive and too involved with particular circumstances and operations (cf. Abell 1992).
The question about the criteria to decide which embellishments of a model of man should be included is not a priori answerable. A general consideration is that the balance between abstraction and realism should be founded on criteria related to the specific subject of research and the specific aim of the research. Given this study’s aims for understanding fertility and enhancing the capacity to bring about behavioural change, the balance clearly inclines to the position of a realistic assessment of reproductive behaviour, rather than one that primarily satisfies the requirements of mathematical modelling. Population policies, by definition, have to be applicable in real life situations; family planning strategies must relate to actual behaviour; more specifically, they must concern the actual processes leading to (reproductive) behaviour (Willekens 1990b, p. 22). This requires a notion of behaviour formation that rests on a realistic model of man. This section identifies a number of relevant issues to be considered in this respect.

An argument which prominently delineates the battlelines between intellectual orientations is the actor’s position along the continuum between voluntarism and determinism (cf. Alexander and Giesen 1987). Whereas voluntaristic concepts of the person primarily emphasise inherent aspects such as individual motivation, internal reflection and creativity, deterministic models of man may identify external and internal forces impinging on human behaviour. These forces are usually defined in terms of environmental constraints and internal drives, respectively.

Furthermore, given the nature of reproduction, the concept of the person in a theoretical framework of fertility must acknowledge the relevance of biological factors. Lastly, part of the understanding is assumed to be embodied in the notion that life is an expression of a developmental process, which introduces a dynamic element in the concept of the person. These aspects (voluntarism versus determinism, biology and development) provide the initial colours to sketch the model of man in the field of fertility and will be further elaborated.

Man in fertility studies usually woman) is defined as a social being. No social scientist will ever deny that reproductive behaviour is crucially bound up in the social, economic, political and cultural make-up of any society. The connection with the larger social world is an undetachable aspect of the individual in the sense that reproductive outcomes have a direct impact on this world and in the sense that the individual is socialised in this environment and depends on other people therein. Opportunities, expectations and incentives, and in general people’s understanding of the world, are importantly derived from the social environment either directly or via internalisation. They systematically depend on the structure of the environment as well as on the person’s position and the position of others in this structure. This sociological perspective does not necessarily lead to a deterministic position in the original Durkheimian sense and to the passive conception of Dahrendorf’s Homo Sociologicus. Sociology’s main contribution to a realistic model of man is the notion that environment matters, that structure and dependency are relevant, and that actors are not completely free agents only responsive to intrinsic motives and constraints.
Sociology has deterministic counterparts in the field of psychology. Here human behaviour is commonly viewed as propelled from within by various needs, drives, impulses and instincts. In psychoanalytic theory, for example, human behaviour is the manifestation of an interplay of inner forces, most of which operate below the level of consciousness. Such inherent or otherwise internalised motives are not principally different from external motivators in the sense that both set a structure of incentives and constraints.

Both psychology and sociology have come a long way from the deterministic portrait of the human being to one who thinks, perceives, remembers, reasons and is often reasonable (Sears 1987, cf. Bandura 1986). People act by virtue of the unique capacity of confronting reality with meaningful action; rather than a direct response to external (or for that matter internal) stimuli and facts, actions are conceived to be mediated by thought and as products of conceptions and representations of such facts (Bandura 1986, Bower and Hilgard 1981, Tenbruck 1989). This capacity for reflection is a basic characteristic of humanity, and a central feature in the concept of the person. It is also this quality that most profoundly differentiates the human from the animal world and distinguishes social sciences from natural sciences.

Whereas physical sciences rely solely on causal analysis, the proper paradigm for the social sciences also depends on intentional explanation (Elster 1984, 1991, Runde 1988, Sica 1988, Widdershoven 1987). The acknowledgement of this capacity for reflection implies a source of explanation that is inherent in human beings and largely independent of contextual backgrounds. It identifies the degree of individual freedom or people’s causal contribution to their own behaviour as acquired by the reflective appraisal of purposes, options and capabilities (Bandura 1986, Hargreaves Heap 1992). This inherence does not deny that many meanings and significations about the world are fuelled by contextual backgrounds. The idea is that people exert some influence on what they do by the alternatives they consider, how they foresee and weigh consequences of behaviour, how they perceive and appraise, and perhaps even manipulate, a set of preferences, how they deal with uncertainty and risk, how they integrate new information into existing frameworks of understanding and how they appraise their capabilities to execute successfully the possibilities they consider (cf. Bandura 1986, p. 39). In this view, the notion of motivation in the sense of the outcome of internal reflection becomes highly significant as a basic feature governing large areas of individual behaviour. The contribution of this abstract notion of motivation to a conception of a model of man can even be substantiated by suggesting the existence of universal motives and motivation structures.

The fact that in many life domains many, if not most, actions involve routine procedures with minimum efforts in terms of consciousness and active consideration is well in line with ascribing an important role to mental agency in human behaviour. Cognitive psychology has taught us that the original mastery and modification of routines involves thought and awareness (e.g. Bandura 1977b, p. 171, Bower and Hilgard 1981, p. 467) and that conscious and subconscious considerations rely on cognitive frameworks with associative functions developed over time. Since most behaviour in this sense involves some degree of thought (H.A. Simon 1987, p. 25, Piaget and Inhelder 1973, p. 3), people can make causal
contributions to their own behaviour and these mental processes should be part of the starting points of any formulation about human nature.

The empirical and theoretical efforts of the past decades have brought us closer to understanding such mental processes: they questioned the relevance of the standard notion of rationality which the introduction of thought made into a key concept in the understanding of human behaviour. Acknowledgement of rationality as a central concept is the main argument to devote a separate section to it (Section 2.4). There it will be argued that the rationality attributed to man in various intellectual landscapes is too simplistic and not relevant for the purposes of this study.

The notion that behaviour has a temporal dimension has long been recognised. The idea that temporal ordering can also imply a developmental dimension is increasingly accepted. In this perspective behaviour is not simply related to a certain period in people’s lives, but seen as the result of emerging processes which functionally relate a person’s present state to earlier positions or to those later in life. This dynamic perspective, as encountered in developmental psychology and life course approaches, implies a person as involved in a continuous process of becoming.

Lastly, the biological factor is particularly relevant for a demographic model of man, since it identifies the biological limitations and possibilities of people’s reproductive behaviour. In fertility and even more so in mortality, although hardly in migration) outcomes are principally results of physiological processes, even though behavioural considerations may importantly influence these processes. These biological factors have received very little attention in sociological, economic and psychological approaches to fertility, but appear prominently in some conceptual frameworks in demography (Bongaarts 1978, Davis and Blake 1956, Easterlin 1978a).

The several facets of the person portrayed here represent basic premises about human capabilities, constraints and characteristics. They deductively contribute to the elaboration of theoretical aspects in the conceptual framework by indicating the aspects to be taken into account: the biological dimension of demographic behaviour, the role of mental agency in human behaviour, the importance of motivation and rationality in decision making, the social embedment of individuals, and the time-dependency involved in personal development. A useful acronym for this demographic model of man might be coined as BMMRSDM: biological, mentally endowed, motivated, rational, social, developing man (cf. Lindenberg 1990a). These aspects constitute the skeleton of the model of man residing in the framework. In the following sections and chapters they will be fleshed out and will permeate the elaboration of different conceptual components.
2.3. Theory in social sciences

2.3.1. Explanation, understanding and levels of analysis

It is the task of social sciences to develop a coherent understanding of human behaviour and its intended or unintended outcomes (J.S. Coleman 1990, p. 17, Sica 1988, p. 83). Additionally, and presumably on the basis of such understanding, science can be deployed in more applied fields such as forecasting, social engineering or individual therapy. To assert the relevance of social theory for demography, several reflections are in order: the general role of theory in scientific endeavour and the specific position of demography in social science as related to the nature of the subject to be explained as well as to the relevant elements that must be taken into account. Despite the emphasis on accounting and the sometimes uneasy marriage of ‘formal’ and ‘social’ demography, the discipline can be classified as a social science and perhaps increasingly so (Caldwell 1996).

Theories or conceptual models are used in all social scientific endeavour, explicitly or implicitly and more or less elaborately. If a theoretical model aims at universal applicability, it should provide a general framework to interpret behaviour, but allow for the history and idiosyncrasies of specific situations. This means that theory should articulate abstractions of behaviour in order to ensure a general appeal, but it must permit succeeding levels of specificity. According to Homans, a theory or an explanation of a phenomenon should exist of a deductive system of lower order propositions that follow as a logical conclusion from general propositions under conditions of situational salience (Homans 1964, p. 812, also Lindenberg 1990b, p. 737). The following statement lies at the heart of his argument:

“I now suspect that there are no general sociological propositions, propositions that hold good of all societies or social groups as such, and that the only general propositions of sociology are in fact psychological. [General propositions are] propositions about the behavior of men, not about the behavior of societies” (Homans 1964, p. 815-817).

In fact, Homans is wrong when he states that the only general propositions are psychological: for fertility at least, one has to acknowledge the biological dimension as a fundamental property. However, his message is clear: if we want a framework that yields a general understanding, we must build it on the available general principles of human behaviour and be aware of representations of context and individual behaviour connected with these principles. This starting point signifies the microfoundations of social theory which also indicate the importance of the explication of a realistic model of man (Section 2.2).

A principal role of theoretical frameworks is to articulate the relations between variables or entities that are relevant to the subject under study. A full explanation of a phenomenon, however, should ) in addition to the suggested, and possibly empirically observed, correlations) involve an understanding of these relations. The function of understanding in social theory ) indeed in any theory) is to answer the question why such a relation exists.
Doing so requires a deeper insight into the mechanisms through which one variable influences another (Bandura 1982, p. 123, Boudon 1987, p. 46, Wunsch 1995, p. 203). These mechanisms may refer to causal principles (on which natural sciences rely) or to mental and reasoning principles (cf. Elster 1991, p. 167). In both cases they refer to more elementary processes that operate at levels below the one where the subjects of interest and, often, the principal determinants are situated. This perspective is in line with Homans’ view on social theory.

The involvement of underlying processes and mechanisms implies that full explanation needs to incorporate different analytical levels. It might be argued that each lower level introduced to address a phenomenon’s underlying causal mechanisms, creates the need to push analysis back another level to understand the processes and components involved in these mechanisms (cf. P.H. Miller 1983, p. 391, Langton 1989, Munro 1992). Each level opens up new horizons for specification and understanding of higher-level relations, without eliminating the significance and integrity of these relations. This perspective illustrates the autonomy and the interdependence of scientific disciplines. Each tends to focus on phenomena at a certain level and may perceive adjacent levels as more encompassing and contextual or as underlying and more microscopic. Therefore, as Alexander asserts, the reference to emergent levels of analysis as micro and macro is a relative one: what is micro at one level is macro at another (Alexander 1987, Gerstein 1987, cf. Blau 1987). Although the different layers give different accounts of reality and highlight different properties of this reality, they pertain to this same reality and cannot survive in complete isolation of the others. An effort to establish the links between various levels and integrate the different properties may require the conversion of conceptual entities into a common interpretive standard.

The scope of human science encompasses a broad range of conceptual planes. Although they are far from neatly arranged in contiguous levels, they range from global, societal or institutional layers, via individual behaviour and interaction to such intra-individual processes as pertaining to decision making, information processing or physiology, and even down to chemical processes or the physics of elementary particles (cf. Alexander 1987, p. 290). An important key, then, to fully understanding a phenomenon of interest is finding the essential constituent components and processes, which involves the question about which or how many conceptual levels need to be involved. The relevant levels to be included in analysis are determined in the first instance by the level of the subject of interest: a level pertaining to neuro-physiological processes is directly relevant to information-processing theory in psychology, but not to grand-scale theories like evolutionism in anthropology (cf. Gerstein 1987). Furthermore, the number of incorporated levels will often be set by practical considerations, such as our capacity to detect and measure phenomena or the availability of theories, insights and empirical findings.

With respect to levels of analysis, Lindenberg refers to a discipline’s analytical primacy \( \text{\textsc{it}} \) its primary focus \( \text{\textsc{it}} \) and the theoretical or explanatory primacy \( \text{\textsc{it}} \) its tools to deal with the
primary focus (Lindenberg 1986, p. 21, 1990b, p. 736). Following his arguments, in disciplines such as sociology and micro-economics, the analytical primacy is on the macro level and the theoretical primacy is on the micro level. The term macro refers here to such concepts as society, social systems or macrolevel phenomena, whereas micro pertains to individual action and interaction between people, and to choice, emotions, thought or motivation. Lindenberg’s line of thought reflects to a certain extent the sociology advanced by Weber. In his view, the concern of sociology is the observed modes of action, empirical uniformities in courses of action as repeated by an actor or occurring among numerous actors - and not individual actions as such (Weber 1968, p. 29). However, he explicitly acknowledges the central position of the individual level to allow sociology to find a causal explanation and true understanding, Verstehen as he calls it, of social action (ibid., p. 4). This theorising represents a multi-level approach as it moves back and forth between the macro-analysis of societal complexes and institutional systems and the micro-analysis of how individuals within such situations make interpretations and act with purpose.

The discipline of demography can be situated in a similar perspective. Its primary focus is on the explanation of elements situated on a macro level: population size; age and sex distribution; age-specific fertility; migration and mortality rates; nuptiality patterns; or differentiation of subpopulations according to socio-economic and socio-cultural criteria. All these subjects transcend the micro level of individual behaviour and decision making. Equally, derivative fields of interest in which demographers have been involved - labour market participation, the consequences of dejuvenation and ageing, family planning, sustainable development, reproductive health, etc. - concern subjects that are principally related to society, social systems and aggregate levels. Moreover, elements on which the explanation of demographically relevant subjects depend are frequently themselves macrolevel variables: level of education, the state of the economy, legislation, religion, culture, health care systems, social services, the population structure itself, etc. Following Lindenberg’s distinction between theoretical and analytical primacy, it can be argued that in demography, the analytical primacy is on the macro level and the theoretical primacy should be on the micro level. Emergent phenomena at the macro level - be they complex social systems or relatively simple population aggregates - are considered the result of actions and interactions of individual agents. As effected in micro-economics and in several prominent branches of sociology, theoretical approaches in demography need to incorporate microlevel analysis, not as an end in itself, but as an indispensable device to achieve understanding of its subject matter.

In such a micro perspective the focus of explanatory endeavour is on individual behaviours. Since these behaviours are not accidental actions of detached and blank persons, but tend to appear in distinguishable patterns, part of the explanation will be to relate these patterned

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3 Without these consequences necessarily being intended or predicted by the individuals (J.S. Coleman 1990, p. 2, Boudon 1987, p. 46, Hindess 1987, p. 138).
behaviours of individuals to the structuring backgrounds from which they were derived and the processes which they involved. Referring to the ideas of Runyan (1982), Sugarman (1986) and particularly Hollis (1977), these backgrounds might be perceived at three distinct levels. One relates to the individual generally as a human being; a second to the individual as a social person in a specific context and historical time; and a third to the individual as a unique identity (Hollis 1977, p. 101, Runyan 1982, p. 7, Sugarman 1986, p. 6, cf. Rokeach 1973, p. 3).

- The first background concerns the basic premises of human nature which may be conceived as providing the fundamental principles of human behaviour formation. This signifies the need to define an appropriate model of man. Section 2.2 elaborated on the relevant universal features for demographic theory.
- The middle background level is of principal interest of disciplines such as anthropology, sociology and demography. While the other two background levels are often correctly or not) silently assumed or disposed of as noise from individual idiosyncrasies, this level constitutes the substance to which the collective phenomena covered by these disciplines are ultimately to be related. It identifies relevant contextual or structural aspects (again located at the macro level) as main determinants in explanation.
- The last background level pertains to personal characteristics. These might include aspects such as personality characteristics, specific mental, social and physical abilities or personal history. Some of these include features that were developed because of the specific context in which individuals live; others can be understood as characteristics that are particular and inherent to certain persons. Although such inherent aspects are rarely part of the core of social theory, they might gain importance as in modern societies the role of societal forces give way to the free will of the individual agency.

Although the mere identification of relevant aspects at any one of these background levels remains a major basis for explaining individual behaviour, it largely neglects the dynamics involved in behaviour formation. Both individuals and the contexts in which they live change over time, although at different rates or in different time scales. The changing impact of the individual and contextual backgrounds on behaviour may be expressed in terms of their transformed contents and relevance. The time dependency of this transformation, however, may provide an additional source for understanding behaviour. Therefore, thorough explanation requires the development of a dynamic theoretical framework.

In summary, the above perspectives on social theory carry a message for the shape of theoretical frameworks for demography. Demographic phenomena are evidently associated with a great number of societal and structural aspects which can be identified at the macro level. Although these direct macrolevel relationships, measurable in terms of statistical correlations, are acceptable as ‘shorthand’ (Abell 1992, cf. J.S. Coleman 1990), causal inference runs through the individual level (Homans 1964, Lindenberg 1990b, H.L. Smith 1989, Willekens 1990b). This is the major rationale for adopting a microlevel approach for
the development of a general framework of fertility: it is only at individual level of analysis that the crucial question can be answered why aspects at the macro level are found to be associated.

The contour of such a framework suggests a proposition system as presented in Figure 2.1, which begins and ends at macro levels, but in between dips to the level of the individual. Obviously, this idea is in line with the starting points of methodological individualism. Understanding the emergence or change of demographic phenomena depends to large extent on explicating the processes leading to individual behaviours. The forms of these behavioural processes in turn depend on a realistic interpretation of the general nature of human beings, while their content depends on the context in which people live and, possibly, on personal characteristics.

Figure 2.1 provides the basic lay-out for the development of a framework of fertility. Depending on the various assumptions, starting points and specifications mentioned above, this basic conceptual scheme will be modified and extended. One important modification concerns the incorporation of the concept of time to transform the present static approach into a dynamic one. The next section elaborates the principal choices with regard to the further specification of the different components and relations presented in this basic conceptual scheme.

2.3.2. Basic conceptual components: initial specifications and integration

_Identification of basic conceptual components and integration standard_

To a considerable degree the social theoretical starting points in this study can be encountered in the ‘skeleton’ of rational choice theory (Friedman and Hechter 1991). The explanatory model developed in the course of this book is also in basic agreement with this perspective. In several fundamental aspects, however, it departs from standard rational choice models: what it makes explicit is the concept of the person and linking mechanisms; what it modifies is the exact interpretation of the various components; what it adds is the notion of time.
In accordance with the methodological individualism, Coleman argued that to explain social systems, the single proposition of a direct relation at the macro level breaks up into three: one with an independent variable characterising the society and a dependent variable characterising the individual; a second with both independent and dependent variables characterising the individual; and a third with the independent variable characterising the individual and the dependent variable characterising the society (J.S. Coleman 1990, p. 8; see figure 2.1). This approach implies the relevance of several analytical elements in the theoretical framework:

- a theoretical approach to assess the context of individual behaviour (macro level);
- the mechanisms by which the context influences and structures individual action (macro-micro connection);
- a theory of individual behaviour (micro level);
- a transformation mechanism (micro-macro connection).

Starting from Coleman’s explanatory scheme, a satisfactory theory would cover all the conceptual requirements implied in these four elements. There is however no general and integrated theory in the social sciences that does sufficient justice to each of these elements (Coleman and Fararo 1992, p. ix). Nor is a seamless integration of complementary theoretical perspectives within reach that is able to catch every relevant component of an all-encompassing approach. This means that, in order to approximate a full explanation of fertility, we have to rely on partial theories and this unavoidably involves awkward lacunas, discrepancies and forced transitions.

Nevertheless, if careful starting points and theoretical approaches are adopted there is considerable scope to integrate insights from various directions and to cover many of the requirements of the constituent elements within one comprehensive approach. The emergence of a cognitive perspective in many branches of social and behaviour science offers particularly attractive opportunities in this respect. In this line the concept of information is suggested to provide a common starting point for the different explanatory components at a meta-theoretical level.

The basic theoretical framework as suggested in methodological individualism and rational choice theory encounters a transition between micro and macro levels at two points: the way in which the socio-cultural and socio-economic context influences individuals, and how the concert of individual behaviours is transformed into a social or collective phenomenon. These two questions relate to the micro-macro gap and are among the core interests of human sciences. The second in particular poses a central theoretical problem to the discipline of sociology, as the production of social system elements usually involves intricate interactions between individuals and groups (Alexander et al., 1987, J.S. Coleman 1986, Friedman and Hechter 1991). Since demographers’ interests are mostly patterns of vital events) in the present case patterns of birth) rather than complex sociological phenomena, a simple
aggregation mechanism will account for the transformation problem of relating individual fertility behaviour to macro outcomes. The elaboration of the basic scheme therefore focuses on the three remaining elements of the approach: a theory of individual behaviour, a perspective on context and the relationship between context and individual behaviour. Also, the concepts of time and personal development will be introduced, to modify the static nature of context and behaviour as presented in the basic conceptual scheme of Figure 2.1.

The three subsequent sections provide the outlines of these components. In this respect, they constitute the background for and introduction to Chapter 4 (on choice), Chapter 5 (on context) and Chapter 6 (on dynamic perspectives). The concept of information functions as a common interpretive principle for these analytical components. A more specified interpretation of this concept is also provided in Chapter 4, as an introduction to a cognitive elaboration of choice and context.

A theory of individual behaviour
A theory of behaviour should explain the formation of individual behaviour. Behaviour may mean overt action, as well as refraining from any action or passively acquiescing in a situation.


Part of the popularity of choice theory can be ascribed to its methodological and quantitative development, which is especially favoured in social disciplines where the urge to represent behaviour quantitatively has evolved into a dogmatic position. Another aspect of its wide application in social sciences is the, perhaps intuitive, appeal of the idea that any behaviour implies the forbearance of other behaviour, that somehow a selection mechanism is employed by the actor which induces one specific occurrence rather than another, and that the logic of this selection might be coined in terms of decision making (Esser 1993). Furthermore, a reason to adhere to a choice approach is the presumption that it is flexible and offers better scope to integrate other aspects of action rather than vice versa (e.g. Lindenberg 1989, p. 176). Thus, the incorporation of learning in a choice perspective has been advocated, among others, by H.A. Simon (1978, 1987) and North (1994), the incorporation of phenomenology by Esser (1993), emotions by Kemper (1993), Etzioni (1992) and Niphuis-Nell (1981) and self-efficacy by Ajzen (1991).

The value of a choice approach as a theory of behaviour is acknowledged and it constitutes a major starting point for this study. The basic idea of a choice approach is that people’s lives consist of a continuous chain of situations that imply a major or minor choice between a number of behavioural courses. It assumes that people solve the implied decision problems on the basis of the situations’ meaning as specified by the behavioural routines and the
options, consequences and goals they associate with it, and in accordance with their individual capacities and constraints to manage this information.

The notion of choice cast in neo-classical economics and rational choice theory is, however, considered too narrow to serve the purpose of understanding individual behaviour. In these traditions the identification of actors is modelled too much as idealised, conscious and determined decision makers, almost by assumption steeled against the bearing of a confusing reality and restraining psychological considerations. The mechanisms that relate decisions and behaviour to the specific context are disregarded and there is far too little attention for the impact on behaviour of, for instance, biological processes and for routine behaviour and unintended or unforeseen outcomes of choice processes.

The notion of choice and the closely connected concept of rationality) proposed here, has a much wider meaning. The promise that choice theory holds for understanding not only people’s explicit decisions, but the full breadth of human behaviour, can only be redeemed if the concept of choice is extended beyond the narrow connotation in mainstream decision theories. The development of this more encompassing choice concept is dealt with in Chapter 4 and relies extensively on the elaboration of the broader meaning of rationality in Section 2.4.

Context and the connection between context and agency

The notion of context is prominently incorporated in social theory. The context has a structuring impact on behaviour, since it draws people into commonalities, dependencies and interdependencies. Not only does it generate structuring forces, it too is structured: context should be perceived as multi-dimensional (including for example physical, cultural or economic dimensions), multi-level (ranging from the local environment to the world at large) and fragmented (although not without a considerable degree of consistency). Whereas the last two sources of contextual differentiation will be maintained in the elaboration of the concept, the dimensional considerations will focus on the social context, which also captures cultural, political, legal and economic aspects. The social environment, in all its differentiation is seen as the major contextual ingredient in the explanation of individual behaviours and the resultant outcomes at the societal level. Although physical environments may have some determining influence on behaviour, the final outcome is usually dominated by the intermediating effects of the ruling social structure.

The attempt to articulate the social context must be guided by the prospect of solving the principal questions of what qualities and meanings are embodied by the environment in the process of determining individual behaviour, and what mechanisms are involved. The solution to this transition problem depends on the degree to which it is possible to interpret macrolevel elements on the micro level. That is the degree one can, theoretically, bridge the actor’s situation and the elements appearing in the theory of behaviour (Esser 1993, p. 9), and, practically, express the social environment in terms relevant to the individual (cf. Bandura 1982, Mason 1989). To a large degree this is possible by adopting an institutional-cognitive approach which seems to develop into a carrier of integration in the social sciences. The

Although actual behaviour is also influenced by the social context through restrictions (physical, financial, legal, et cetera) imposed on the implementation of people’s choices, the choice process itself is determined by the information that people acknowledge in their social environment. Since an assessment of the possible restrictions is usually part of this information, actual behaviour can to a large extent be understood in terms of the informative role of the social context.

The emphasis on context as a structured source of information has important implications for the elaboration of a theoretical framework. These implications are closely connected to assumptions embodied in the model of man: a definition in terms of information implies that the impact of context on behaviour is not a mechanical, law-like effect, but to a substantial degree involves mediation of the human mind in the sense of attention, perception, and interpretation. The recognition of such cognitive aspects indicates the relevance of learning processes and social learning theory to account for the mechanism through which the environment influences behaviour (Bandura 1977b, 1986, Bower and Hilgard 1981, Rosenthal and Zimmerman 1978).

Putting an active agent on the scene implies an interactional relation between context and actor, a relation which also involves the mental construction of the environment, rather than only the determination of individual behaviour (Bandura 1986, Filipp and Olbrich 1986, Giddens 1984). Notions about learning and creative reflection have had their share in the development of theory in the social sciences. At the macro level this resulted in the articulation of mechanisms of institutional evolution (North 1994, Langlois 1986b) and the understanding of their present manifestation. At the micro level it is expressed in the evolution of the concepts of choice and rationality (Hargreaves Heap 1992, H.A. Simon 1987). The elaboration of these aspects concerning context and its influence on individual behaviour will be addressed in Chapter 5.

Time and personal development

A crucial aspect that is not dealt with in the basic model is the notion of time. The explanatory scheme of Figure 2.1 remains a static representation: the analytical components are assessed with regard to their existential qualities, but without considering their time-related character. In a dynamic perspective, the components of the conceptual framework are comprehended, in addition, as a function of their evolvement in time.

The different analytical components cannot be appraised on a one-dimensional time scale. The rates of change of macrocontextual elements differ substantially from that of the life of individuals, or from those related to development on a sub-individual level. Therefore, different time scales must be considered to elevate the basic conceptual scheme in a dynamic approach. In turn, this underscores the relevance of different theoretical perspectives that
deal with time and change on such various dimensions. Thus, life course theory and development psychology emphasise the individual histories and evolving processes of people’s lives to account for behavioural patterns. Similarly, many institutional perspectives emphasise the evolutionary and path-dependent background of social, economic, political and cultural contexts. Given the theoretical focus on the micro level, the time dimension involved in individual life course development occupies the central position in the eventual dynamic conceptual framework.

Chapter 6 considers the elaboration of the concepts of time and life course. In addition, it identifies and elaborates modern learning theory as a theoretical perspective for the substantiation of the individual life course. This line of thought holds the promise for an interpretation of the mechanisms involved in life course development and for an integration with other theoretical perspectives on the common basis of the concept of information.

2.4. The concept of rationality in social sciences

2.4.1. Rationality in social theory and everyday life

Both within scientific endeavour and in everyday life, rationality is used as a guideline to interpret, understand and predict the outcomes of behaviour. In our attempts to make sense of other people’s actions, we usually employ some concept of rationality as it conveniently arranges factors of means and ends in an interpretive framework. Elements of rationality are supposed to underlie behaviour in general, and decision making in particular. Whereas the origins can be traced back to the realm of philosophy, rationality assumptions are used, either explicitly or implicitly, in all social and behavioural sciences. Submerged in the maximisation principle of micro-economics and in rational choice theory it even appears explicitly in the core of theory. Only in the very strict behaviourist tradition of psychology is any reference to rationality, or any internal reflection whatsoever, explicitly excluded from theory. Although, or perhaps because, it is widely applied, rationality remains an ambiguous concept. In the scientific and the common world its notion is different; its meaning has changed in the course of philosophical history; and within scientific domains different forms of rationality are employed to grasp aspects of behaviour. Depending on the field of application, rationality has descriptive, normative or prescriptive connotations (Bell et al., 1988, Levi and Cook 1990). The concept differs in terms of incorporating an actor’s degree of consciousness and calculation and in the extent to which the actor’s considerations or behaviour is regarded to correspond to an objective reality or coincide with the observer’s (or the researcher’s) perception of reality. In the field of decision making, rationality sometimes refers to processes of choice (as, for instance in psychology, logic and ethics) and sometimes to the choices themselves (as usually in economics and sociology) (H.A. Simon 1987). Correspondingly, rationality can be considered in a very specific form, such as the rationality in the sense of utility maximisation, or in a much broader sense, covering other types of rationality such as

As such different perspectives of rationality exist in social science, the question is: what is meant by rational behaviour or, more specifically, rational choice? And given the various appearances of the concept, which perception of rationality serves best for understanding human behaviour and what are the limits of rationality in this respect? The following sections scrutinise the concept of rationality and argue for a broad definition. Section 2.4.2 starts out with some basic considerations and advances that a subjective interpretation of rationality is required for the purpose of understanding behaviour. The subsequent sections deal with the implications of this position as they address the various developments of the rationality concept in the behavioural sciences. In these elaborations the notion of rationality developed in micro-economic choice theory functions as a point of reference. First, because economics has most extensively developed the rationality concept and postulates the narrow view of rationality. Second, because the notion of rationality from economics is widely applied in other behavioural disciplines, including demography. And third, because many alternative views on rationality have been developed in reaction to the position taken by economists.

2.4.2. Elementary notions of rationality and the actor’s perspective

The common feature in the different conceptualisations of rationality is the centrality of the means and ends pair in human behaviour. Rationality in its trimmest form denotes a style of behaviour that is appropriate to the achievement of given goals (H.A. Simon 1964, p. 405, cf. Weber 1947, p. 117). Any addition to this basic interpretation, any specification of means and ends, or the nature of their association implies division into types of rationality. The theoretical arguments raised by such additions and specifications often refer to a complex of closely associated philosophical concepts such as reason, logic, subjectivity and consciousness (see e.g. Hollis 1977, Webel 1976, Widdershoven 1987). Although any detailed involvement in such philosophical debate is far beyond the scope of this study, some aspects have to be mentioned to set the scene for further discussion about the use of the concept of rationality in the social sciences.

One way to capture rationality has been to focus on the sensibility of behaviour. This interpretation deals with the behaviour’s functional value with respect to reaching an objective or fulfilling an existing need, without considering the nature of their intentional-causal relation. An individual may benefit from a particular behaviour, without necessarily performing that behaviour because of that benefit, or even being aware of it. In this way rationality is used as a description of behaviour, rather than as a description of the mechanisms underlying behaviour (Lea et al., 1987, p. 104). This particular interpretation of rationality is not exclusive to human beings; in fact, there is no objection to its application to the non-human world (biology and animal psychology) or to cultural and social systems, as in functionalist perspectives in sociology and anthropology.
The rationality concept in choice perspectives is different. The essence of rational behaviour in these perspectives is precisely located in people’s capacity for internal reflection, which is sometimes more narrowly defined in terms of calculative and deliberative intellectual virtue and the explicit use of logic (H.A. Simon 1964, Langlois 1986c, Popper 1968). Here the active, intermediating human mind appears as a central feature in the model of man: the essence of the concept of rationality is not sought in the functionality of behaviour, but in the assumed use of mental capacity preceding actual behaviour. The origins of this approach can be traced back to the Rationalist tradition of Aristotle, Plato, Descartes and Kant, in which rationality depends on the employment of reason, and where reason in turn is conceived as a transcendental and a-historical faculty of the human mind (Webel 1976).

The degree of objectivity that this line of thought implies has met the criticism of those who remain sceptical of people’s abilities to obtain ‘objective’ understanding and a priori knowledge of reality. From the Greek Sophists to Macchiavelli and modern cultural relativists, philosophers and social scientists maintain that truth and knowledge do not inhere in things themselves, but depend on the interests and frame of reference of the historical subject (Webel 1976, p. 51). In the perspective of Rationalism and Enlightenment this appears to move back the centre of human life into the whirlpool of prejudice and ignorance. Also the mainstream of every-day conceptual thought rather cherishes the idea of an objective truth. Thus, in common life rationality is associated with ‘facts’ and ‘reality’ (particularly as presented by science) or with tangible aspects such as economic growth and technological innovation as exponents of modernity (cf. Lash and Whimster 1987, Webel 1976, Weber 1968). Although this also applies to the world of science, social sciences usually hold more nuanced views on the concept of rationality. The contrast between objective and subjective perspectives can be recognised in normative versus descriptive interpretations of rationality (Bell et al., 1988). This distinction is encountered in Weber’s discussions about rationality:

“...A subjectively ‘rational’ action is not identical with a rationally ‘correct’ action, i.e., one which uses the objectively correct means in accord with scientific knowledge. Rather it means only that the subjective intention of the individual is planfully directed to the means which are regarded as correct for a given end” (Weber 1949, p. 34; his italics, see also Hollis 1977, p. 131).

Thus, although objective rationality (how an idealised individual should think and act (which is related to a normative interpretation of rationality)) might be valuable in itself, it is not an adequate interpretation if the aim is to understand behaviour: how and why people think and act the way they do. From a subjective viewpoint, truth or accuracy is not a necessary qualification of rational action. People use their ability for reason (well or badly) within certain conditions and constraints to reach their goals (H.A. Simon, 1987, p. 25, Abell 1992, p. 196, Ajzen and Fishbein 1980, p. 244). Even much, or most, of the behaviour that is called abnormal or paranoid involves the exercise of thought and reason, as is pointedly suggested in Pollonius’ reflection on Hamlet’s lunatic behaviour: “though this be madness, yet there is method in ‘t” (cf. Hindess 1987, p. 140, Lea et al., 1987, p. 480).
This position also corresponds with Popper’s view that rational action does not presume justified knowledge, but only that action is consistent with the (possibly true, possibly false) knowledge the decision maker decides to act upon (Popper 1968, p. 42-46). Or, to quote Von Mises:

“... human reason is not infallible and ... man very often errs in selecting and applying means. An action unsuited to the end sought falls short of expectation. It is contrary to purpose, but it is rational, i.e., the outcome of a reasonable (although faulty) deliberation and an attempt (although an ineffectual attempt) to attain a definite goal” (Von Mises 1949, p. 20; my italics).

Errors and failures are, therefore, not a priori evidence of irrationality, but usually of social scientists’ inability to correctly specify the subject’s reference frame of goals and options (Rutherford 1988, p. 41, J.S. Coleman 1990, p. 18, Handwerker 1986a, p.11-12, Lea et al., 1987, p. 480), an argument which underlies Rachlin’s (1980) and Rawls’ (1971) more radical versions of rationality.

The capacity to understand everyday human behaviour importantly depends on how the rationality of action is captured. Assessment of the functionality of behaviour without referring to any underlying mechanisms seems inadequate. It may indicate the sufficiency of certain behaviour to meet certain ends, but it cannot demonstrate its necessity to be there, then and in exactly that form. The acknowledgement of mental capacity and the employment of reason adds a crucial aspect of rationality. Behaviour may be rational in the first sense (functional, e.g. food intake by animals) without being so in the second sense (reasoned through). Vice versa, behaviour may be based on sound reasoning but appear not to be functional at all (cf. Lea et al., 1987, p. 105). In this respect Elster distinguished between acting with a reason and acting for a reason:

“Acting with a reason means that the actor has reasons for doing what he does, acting for a reason implies in addition that he did what he did because of those reasons” (Elster 1983a, p. 70).

Without interpretation of the underlying considerations and mental processes the rationality of behaviour is hard) if not impossible) to assess. The issue here is to replace a normative interpretation of rationality that presumes infallibility and objectivity, by a descriptive interpretation that increases the realism of explanation by searching for the personal logic of the subject (J.S. Coleman 1990, p. 19, Langlois 1986c, p. 230, cf. Sica 1988, p. 35). The weakness of this subjective rationality is that the concept is much more elusive and is much less appropriate for mathematical modelling.

The crucial message here is that although ‘objective’ rationality (often carelessly substituted by the researcher’s idea of objective rationality) might be a valuable concept for other purposes, it can never be employed as a tool to understand why people behave in a certain way. From this point of view there is, in fact, no sound assessment of the rationality of
behaviour without incorporating the perspective of the actor him or herself. This makes rationality conditional on behavioural processes and constraints, implying a shift from narrow substantive rationality to broader conceptualisations of rationality.

2.4.3. Substantive rationality: the basis of rational behaviour

Rationality in micro-economics: criticisms and lines of defence

Substantive, or instrumental\(^4\) rationality is the notion most widely applied in social scientific studies; it is also the connotation most close to the everyday understanding of rationality. Substantive rational behaviour refers to behaviour which optimally achieves given goals within the limits imposed by given conditions and constraints (H.A. Simon 1979b, p. 67). The suggested employment of thought and reason in this concept of rationality clearly distinguishes it from a functional interpretation. The development of the substantive rationality concept has been taken furthest in neo-classical economic theory, but it has been adopted in other social scientific fields, in particular in rational choice sociology. In these decision making approaches, the rational agent is a utility maximiser with a clear view on available means and their consequences, and with an ability to evaluate them against a preference ordering which is usually posited to be stable, consistent, precise and exogenous to the decision problem.

Over time elaborations of the standard economic theory of utility maximisation have tried to incorporate various nuances to improve its empirical validity, while retaining those elements which are essential to the neo-classical paradigm. Thus, the concept of utility is replaced by subjectively expected utility to deal with decision making under conditions of uncertainty. Game theory has emerged as a reaction to the problem of interaction and dependency in choice behaviour. Other elaborations incorporated such elements as learning (in the Bayesian\(^5\) sense), information search (cf. Stigler 1961) and time preference. The *Homo Economicus* as the exponent of the orthodox neo-classical economics is under severe attack, both from within the discipline and from other sciences like sociology and, particularly, psychology. Within micro-economics the neo-classical model of man encounters much opposition from behavioural economists such as Simon, Leibenstein and Earl, and from institutional economists like Nelson and Winter, O’Driscoll and Rizzo and North. Much of their criticism focuses on the limitation to a substantive type of rationality which is considered a gross simplification, if not wrong altogether (cf. Levi and Cook 1990, p. 2). It can be rightly argued that the original *Homo Economicus* and much of the criticism does not reflect the present state of the art in economics (Albeda 1987, Pollak and Watkins 1993, van

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\(^4\) Following Simon’s distinction between substantive and procedural rationality, the term ‘substantive’ is preferred over ‘instrumental’; the connotations are used interchangeably, although in some philosophical literature substantive and instrumental rationality are distinguished (e.g. Sen 1987).

\(^5\) Bayes’ rule infers how people revise (or should revise, since it is a normative description) initial assessments in the light of new information.
Wittel oostuijn 1991). Theoretical refinements have improved the empirical validity in accordance with a better understanding of human behaviour. On the other hand, whereas such developments may have occurred, whether they are in fact consequently applied in various fields of human behaviour is another matter. Thus the inputs from economics which drove theory development in demography largely stuck to the simple versions of utility maximisation and new home economics (McNicoll 1992). Even more elementarily, several critics argue that the very explanatory force of rationality in economics (or rational choice in general) does not come from the understanding of substantive rationality, but from auxiliary assumptions and supplementary hypotheses (cf. Arrow 1987, Brennan 1990, Earl 1986, Lea et al., 1987, Leibenstein 1980, Lindenberg 1989, H.A. Simon 1987). Many of them consequently maintain that the fundamental notion of rationality in economics is inadequate. Improvement of theory should therefore not be sought primarily in further refinement within the confines of substantive rationality, but in a broader definition of rationality itself (Levi and Cook 1990, Nelson and Winter 1982, H.A. Simon 1978).

The micro-economic paradigm as a general theory of human behaviour

There is extensive debate in scientific circles about the contribution of economic theory to the understanding of human behaviour. In general, few theorists will reject the universal validity of the most fundamental principle of the economic approach which refers to the allocation of scarce resources among unlimited and competing uses (Keizer and Soeters 1987b, H.A. Simon 1978). For economists, the solution to this problem of scarcity basically provides the understanding of human behaviour. The objections to this perspective include the recognition that the scarcity problem, although important, is not the only aspect that influences people’s behaviour. Other objections involve the theory’s analytical elaboration and properties that are assumed in) or sometimes just ascribed to) economics, such as omniscience, consciousness, selfishness, materialism or de-contextualism. As a consequence, doubts have been raised about the applicability of economic theory in certain behavioural domains.

Although the neo-classical paradigm originated in the field of consumer behaviour, economists have extensively applied it to other fields of behaviour. Neo-classical and new-home economists argue that the principles of economic theory transcend the borders of pure economic and materialist considerations and encompass the whole area of human life (cf. G.S. Becker 1976, Hirshleifer, 1985). In the tradition of new home economics, Becker and others applied it to a large variety of human behaviour, among which demographic events (e.g. G.S. Becker 1981, Oppenheimer 1988) and contended that the economic approach does not conceptually distinguish between major and minor decisions or between emotional and materialistic decisions.

Part of the resistance against the economic approach, however, relates to the possible fundamental difference between a choice for consumer durables and one for vital substance or life fulfilment (such as having children), because of the involvement of concerns like morality and emotion (e.g. Blake 1968). Miller and Starr, for example, emphasised that there
is no sound way to combine all such motivating aspects into a utility measure with a single common metric (Miller and Starr 1967, pp. 25-26). This psychological viewpoint has generally and for a long time been shared by sociologists (e.g. Collins 1981, Elster 1983b, Jeffry 1974), but also by several economists (e.g. Earl 1986, Harsanyi 1955, Sen 1979). Rational choice theorists Friedman and Hechter, on the other hand, seem to reject permitting what they call “fuzzy non-material incentives” into decision theory but rather because of the fear that these may bring the theory close to a tautology (Friedman and Hechter 1991 p. 212). Scheff (1992) and Etzioni (1992) indeed show that the role of emotions in rational choice theory is often neglected or only superficially treated. Correspondingly, Keizer and Soeters acknowledge that in practice economic analysis usually boils down to the study of exchanges in terms of money (Keizer and Soeters 1987b, p. 5, cf. Hollis and Nell 1975), even if Becker claims to include ‘love’ in his economic approach (G.S. Becker 1981).

The position to exclude non-material considerations from explanation can hardly be justified if one aims at understanding human behaviour and capturing social reality. Emotions are surely among the most complex and obscure aspects of the behavioural landscape, but if emotion is a key to explanation, then it must have a place in theory (Scheff 1992, Klosko et al., 1987). Indeed, Niphuis-Nell includes emotional factors in her psychological choice approach as they directly influence people’s considerations on having children. As such they do not require a principally different treatment from material or social considerations that favour or disfavour family building (Niphuis-Nell 1981, p. 193). Similarly, Simon acknowledges the function of emotions in rationality as their informative contents clearly influence the definition of the situation (H.A. Simon 1987, p. 26), while Etzioni even aims to refocus the logical-empirical orientation of decision making models toward a normative-affective one (Etzioni 1992). This might imply that the role of emotion can be phrased in terms of information and (although different) is on parity with other important concepts, such as norms, perception and thought (Scheff 1992, cf. Bandura 1986, Kemper 1993).

A great deal of the reservation against economic approaches of behaviour relates not to the basic dilemma of scarcity, but to the particular way this is expressed in terms of choice, general utility, maximisation and rationality. Referring to Simon, economics has not simply been the study of the allocation of scarce resources, it has been the study of the (substantially) rational allocation of scarce resources (H.A. Simon 1978, p. 2). Following Simon’s line of thought, many of the doubts about the relevance of choice in behavioural science can be disposed of if the specific sense of rationality assumed in economics is replaced with a broader notion.

Consciousness, intentionality and calculation

The neo-classical variant of rationality requires a number of assumptions for defining a preference ordering and mathematically modelling rational decision making such as reflexivity, completeness, transitivity, continuity and invariance which imply the attendance of cognitive activity. In addition to presuming the decision maker’s mental agency, the rationality concept in economics is usually believed also to involve consciousness, inten-
tionality and calculation, understandings which are shared with many other interpretations of rationality and decision making. Thus, Weber included consciousness, purpose and calculability of means and procedures (whatever the end pursued) in his versions of rationality (Weber 1949, 1968, cf. Hindess 1987, H.A. Simon 1964, Webel 1976). In the psychological decision theories of Ajzen and Fishbein, intentions and planned behaviour occupy a central position (Ajzen 1991, Ajzen and Fishbein 1980). Schutz, one of the main founders of interpretive sociology, explicitly characterised everyday behaviour as planned and deliberate in the sense of the anticipation of goals (Esser 1993, p. 22). Generally, according to Elster, rationality is understood as a variety of intentionality: “for something to be rational, it has to be within the scope of conscious, deliberate action or reflection” (Elster 1990, p. 23). This position is widely used to refute the concept of rationality, or discard it as irrelevant for understanding everyday behaviour. Much behaviour is considered to eschew these characteristics and therefore the decision maker cannot be seen as a rational agent.

On closer consideration most approaches in fact accept the postulate of mental agency, but they qualify the specifications of consciousness, intentionality and calculation. There is evidence that people dislike calculation effort (Leibenstein 1980, p. 75) and even actually resist it (Collins 1993a, p. 63). Mental frameworks, normative considerations, emotions, pleasurable inner states and understanding of instrumental relations enter importantly into the (cognitive) explanation of behaviour, but not necessarily as conscious elements (Collins 1981, Elster 1983b, Etzioni 1992, Kuhl 1986, Rokeach 1973). Accordingly, the psychological choice model of Fishbein and Ajzen suggests that cognition is involved, but without necessarily being accessible by explicit introspection:

“[...] we do not mean to imply that prior to each and every action, people systematically scrutinize the determinants of their behavior. Rather, we view the processes involved as largely automatic or implicit, and only in rare cases do we become fully aware of these processes” (Ajzen and Fishbein 1980, p. 245).

Similarly for the economic approach, Becker states that:

“[it] does not assume that [people] are necessarily conscious of their efforts to maximize, or can verbalize or otherwise describe in an informative way the reasons for the systematic patterns of their behavior” (G.S. Becker 1976, p. 7).

Leibenstein therefore enhanced economic choice theory with the idea of perceiving purposiveness and calculation as a variable, rather than a given (Leibenstein 1980, cf. Etzioni 1992, Janis and Mann 1977). The real issue then is no longer whether agents should be seen as rational, but whether their rationality should be portrayed exclusively as the conscious maximisation of an explicit objective within the constraints of well-defined alternatives (Langlois 1986b, p. 6, Janis and Mann 1977, p. 23, Rutherford 1988, p. 37, H.A. Simon 1978, p. 2). Given the study’s purpose of understanding behaviour rather than the understanding of rational behaviour in a narrow sense) the broader sense of rationality is more appropriate.
The judgement that certain behaviour is substantively rational that is, represents the optimal alternative for achieving some objective can be reached only by viewing the behaviour in the context of given options and goals. In the neo-classical approach these aspects are believed to be obtainable while refraining from any direct investigation into the actor’s representation of this context. The concept of utility is assumed to comprise all the ends pursued by the actor and the options are presumed to depend on the conditions and constraints such as availability, prices, time and income imposed by the environment. In more recent versions of micro-economic theory, uncertainty, ignorance, information costs, and mutual expectations are also incorporated into the contextual constraints. Under the assumption of substantive rationality, people’s goals can thus be inferred from their actual behaviour. As Sen (1986) remarked, this in fact blends the decision act with the preference that informs it. The underlying notion of revealed preference tends to give the economic interpretation of rationality a functionalist twist: without any reference to the actor’s perspective, the manifested outcomes of decisions are considered to have served his goals within the prevailing conditions and constraints (cf. Lea et al., 1987, p. 104). Assuming utility maximisation as people’s overarching goal, behaviour then becomes determined by the characteristics of the environment. Any change in behaviour is considered to be directly related to a variation in these external conditions and constraints.

In this line of thinking no information or understanding about the actor’s internal representation is needed and analysis can seemingly refrain from any psychological consideration about decision making beyond the postulate of substantive rationality and the assumption that people can subsume all matters of motivation under the cardinal measure of utility. Since traditional neo-classical economics treats the preferences underlying utility as if they are fixed (Stigler and Becker 1977) and the factors that determine a person’s behaviour as entirely external to him, Homo Economicus is in fact a deterministic model of man. The discipline’s focus on behavioural outcomes rather than on the processes by which they are accomplished, minimises the agent’s role in decision making (cf. Hogarth and Reder 1987, H.A. Simon 1978, Lea et al., 1987). The standard economic model of man therefore does not represent the human being who influences his or her behaviour by means of the subjective interpretation of the decision frame.

2.4.4. Bounded and contextual rationality

The rationality of behaviour can only be assessed against the goals and the opportunities and constraints in the decision context. These conditions and constraints may be objective characteristics of the environment, they may be perceived characteristics or they may be characteristics of the decision makers themselves. Similarly, the goals may be the goals of the actor, the goals of a social system or the goals imputed by the observer (H.A. Simon 1964, p. 405). In the original neo-classical approach the actor’s decision context is presumed to be consistent with an objective world (H.A. Simon 1987, p. 26). And the values of all
objectively available alternatives are measured in terms of their overall utility, incorporating all possible objectives of the individual. In this economic perspective the decision maker evokes the image of omniscience and perfect accuracy (cf. Hollis and Nell 1975, p. 54). The question is whether the objective alternatives of the real world (or the kind and number that the external observer perceives) correspond with what the decision maker concedes in his considerations; and whether the preferences inferred by the observer from performed behaviour correspond with the purposes that drove the actor to the act. Especially in complex situations there is likely to be a considerable gap between the real environment and the environment as the actor perceives it.

Simon has powerfully argued that in a realistic account human choice is seen not in terms of grand maximising behaviour, but as a series of particular decisions, not fully integrated with each other, but taken in situations of partial information and based on limited reflection. His argument for bounded rationality rests on the limitations of the individual’s computational capacity in relation to the complexity of the world and the size of the problems whose solution is required for objective rationality (H.A. Simon 1957, 1978, 1979a, see also Arrow 1987). This argument falls back partly on Miller’s seminal contribution to cognitive psychology about the ‘the magical number seven’ (G. Miller 1956). Based on behavioural experiments, Miller concluded that people’s information-processing capacity is restricted to seven (plus or minus two) pieces of information at one moment in time. To another extent the notion of bounded rationality may be related to people’s inclination to avoid mental efforts associated with conscious consideration and calculation (cf. Collins 1993a, Etzioni 1992, Janis and Mann 1977, Leibenstein 1980). The concept of bounded rationality recognises that behaviour is rational not with respect to the richness of the objective world and the full meaning of life, but with respect to a simplified and cognitively manageable model of reality. As a consequence, the principle of maximisation cannot be maintained, but must be replaced by that of ‘satisficing’: people opt for solutions that are ‘good enough’ without the assurance that they represent the best ones (H.A. Simon 1957, p. 204).

Another consequence is that in order to understand or predict people’s behaviour, we must specify this subjective representation of the agents’ means-end framework or, to use Popper’s terminology, the subject’s situational logic. This, in turn, requires a theory that articulates the principles of attention, perception and judgement as part of the choice process (Nelson and Winter 1982, H.A. Simon 1987). One attempt in this respect is provided by Kahneman and Tversky’s prospect theory. Their concept of ‘framing’ is entirely consistent with Simon’s bounded rationality (Kahneman and Tversky 1990). Moreover, If it is accepted that people act on some subjective model of means and ends, it is then legitimate to ask where these frameworks come from (Brennan 1990, p. 53, Elster 1983a, p. 75, Friedman et al., 1994, p. 380, Leibenstein 1982, p. 38, cf. Easterlin 1975, De Jong and Fawcett 1981).

Simon originally developed the notion of bounded rationality to analyse individual behaviour within the contexts of organisations and firms. He pointed at the correspondence between the individuals’ subjective models of reality and the structure of the corporate environment. Similarly, cognitive approaches in sociology and anthropology acknowledge the relation between people’s considerations in terms of goals, options, rules, strategies and meaning,
and their position in the socio-cultural environment (e.g. Berger and Luckmann 1966, Burns and Flam 1987, D’Andrade 1984, Langlois 1986c). They emphasise the importance of context as a commonly shared and sanctioned knowledge about the world. This means that, to quote a prominent economist, “rationality is not a property of the individual alone, it gathers its force, and its very meaning from the social context in which it is embedded” (Arrow 1987, p. 201). March advanced the term ‘contextual rationality’ to emphasise the extent to which choice behaviour is embedded in a complex of various claims on the individuals’ attention and on the structures of social and cognitive relations (March 1978, p. 36). This leads to the need, as Levi and Cook argue, to develop a theory of choice that includes the context of decisions as well as the decisions themselves, while acknowledging the actors’ cognitive limitations (Levi and Cook 1990, p. 8).

2.4.5. Procedural rationality

If we accept the propositions of bounded rationality and the distinction between the real world and the decision maker’s perception of it, then choice theory must include not only the selective substance of considerations, but also the processes that generate the actor’s subjective representation of a decision problem. In other words, theory must explain how particular aspects of reality, rather than other aspects, come to the decision maker’s attention, how the formation and ordering of preferences emerge and how reasoning processes are applied to draw out the consequences of such representations (cf. H.A. Simon 1978, p. 12, 1987, p. 27). Thus the replacement of objective substantive rationality by the concept of bounded rationality also implies the acknowledgement of Simon’s ‘procedural rationality’, which refers to the processes that generate the actor’s subjective representation of a decision problem.


The introduction of procedural rationality may be perceived as having three major implications for the concept of choice. One is that it involves the introduction of a dynamic perspective to decision making and behaviour. Choice situations are not ‘givens’ for decision makers, they are outcomes of processes in which choice situations are attended and mentally
constructed in terms of options, constraints and goals. These mental constructions are continuously modified on the basis of social change and individual development. Although Simon did not devote much time to processes involved in such learning, he explicitly mentioned it as the main feature of procedural rationality (H.A. Simon 1978, p. 8, 1987, p. 39). Others, however, built their dynamic interpretation of rationality and choice on more elaborate and advanced versions of social learning theory. In this way, for instance, North adds the dimension of time in the promising approach of institutional and evolutionary economics (cf. North 1994).

As a second implication, procedural rationality embeds choice in the broader social and historical context of networks, peer groups and social institutions through learning processes. Anchoring the decision making perspective into the broader field of human cognition, relieves man the decision maker from much of its alleged voluntaristic and decontextualised image (cf. Hargreaves Heap 1992).

A third consequence of the acceptance of procedural rationality involves a shift of methods of research and analysis. Investigations about learning, rules and heuristics call for empirical inquiry at the microlevel: detailed studies of decision makers engaged in the task of choice. They are not questions easily answered by even the most sophisticated analysis of aggregate data. Understanding the processes calls for the observation of these processes directly, while they are going on, and for interrogation of the decision makers about their beliefs, expectations, and methods of calculation and reasoning (H.A. Simon 1987, p. 27).

2.4.6. Expressive rationality: aiming at moving targets

A last, and perhaps most elusive, notion of rationality considered here is that of ‘expressive rationality’, a label coined by Hargreaves Heap (cf. Hargreaves Heap 1992). It has the dynamic feature in common with procedural rationality. But whereas procedural rationality focuses on the processes that generate and change decision makers’ means-ends framework, and more on the means than on the ends, expressive rationality questions the very plausibility of people always being capable of expressing their goals (e.g. March 1978). People are often not sure what they should value in themselves, which makes choice a formidable and perhaps unresolvable task. Hargreaves Heap (1992, p. 22) portrayed the problem as ‘making sense of the self’, while Jeffry referred in economic jargon more narrowly to the establishment of ‘preferences among preferences’ (Jeffry 1974). The underlying model of man is clearly in line with Mead’s symbolic interactionist interpretation of ‘the self’ as a creative and self-interactive being (Mead 1934).

The notion of expressive rationality is thus closely linked to the profoundly human capacity for reflection. Humans have goals or preferences just as animals may be perceived as having goals or preferences. The point of expressive rationality is that human beings, unlike animals, have higher-order preferences: they can be aware of their goals in a self-conscious way. Goals may be disliked or valued for their inner aesthetic beauty or moral power and therefore can
be sought after or avoided. In the expressive rational perspective, goals themselves become the subject of evaluation and choice (Hargreaves Heap 1992, Jeffry 1974).

Expressive rationality is echoed in Weber’s discussion about ‘value rationality’, as opposed to ‘instrumental rationality’, referring to the “conscious belief in the absolute value of some ethical, aesthetic, religious, or other form of behaviour” (Weber 1968, pp. 24-25). In various other manifestations expressive rationality is encountered in behavioural sciences, particularly in psychology. Thus Freud’s distinction between ‘Id’ and ‘Superego’, the perceived discrepancies underlying Festinger’s cognitive dissonance theory (Festinger 1957, cf. Fishbein and Ajzen 1975, p. 42), Bell’s regret and disappointment theories (Bell 1982, 1985) and Kelly’s personal construct theory (Kelly 1955) can be interpreted in terms of the uncertainty and inner conflict associated with goal articulation and expressive rationality. Several such psychological perspectives have appeared in the economic literature. Festinger’s cognitive dissonance can be found in the formal economic model of Akerlof and Dickens (1982); Leibenstein (1980) was clearly inspired by Freudian concepts; and Kelly’s thesis informed the work of Earl (1986). Sen’s article on ‘Rational fools’ takes up Jeffry’s philosophical line of thinking and similarly argues for considering ‘rankings of preference rankings’ (Sen 1979, p. 103). Lastly, Elster should be mentioned, as he advocates the notion of adaptive preference formation in his broad theory of individual rationality (Elster 1983b). Moreover, he elaborates the interesting viewpoint that the preferences underlying people’s choice may be shaped by constraints.

The element shared by all these perspectives is the internal conflict and uncertainty articulated in the existential question ‘What type of goals should I have?’ (Bohman 1992, p. 218, Hargreaves Heap 1992, p. 24). This reflexivity allows an agent to value and choose the goal or measure (moral, ethical, emotional) by which behaviour is judged. In this perspective, inconsistent objectives need not a priori be taken as evidence of irrationality. Rather, as Hargreaves Heap (1992) argues, they should be judged in the light of a broader type of rationality which embodies people’s self-reflective and creative qualities (cf. Earl 1986, p. 142). Indeed, these expressive aspects of humanity might be considered a source of ideational and social change. But the acknowledgement of this type of rationality is clearly subversive to the standard notion of substantive rationality.

2.5. Conclusion

The aim to contribute to a better explanation and understanding of fertility emphasises the requirement to articulate the nature of the human being whose behaviour we try to understand and the causal mechanisms that generate the subject we want to explain. Given these aims and requirements, a micro perspective is considered the most appropriate approach. This perspective takes individual behaviour as the principal tool for understanding demographic phenomena. However, individual behaviour must be conceptualised in the broader setting of context, time and the general notion of a demographic model of man. The primary challenge then is how these components, and the processes involved, should be elaborated
and represented in an integrated framework for the interpretation of fertility. This chapter provides the outlines of the effort to deal with this challenge.

The present study suggests that at a meta-theoretical level the concept of information can provide a ruling perspective for the different components of the fertility framework. In such a cognitively flavoured perspective, context will be interpreted in terms of an institutionally structured universe of information. Choice theory will be employed to assess the central role of individual behaviour in the model. A dynamic perspective will be introduced into the conceptual scheme through a learning-theoretical interpretation of personal development and institutional change. Chapters 4, 5 and 6 will elaborate these theoretical interpretations of context, behaviour and personal development.

In the microperspective adopted in this study, choice theory takes a central position as a conceptual device for the understanding of individual behaviour. The choice perspective is intended to cover the full breadth of human behaviour and not to limit itself to explicit decisions. Therefore, its conceptualisation abandons the narrow assumptions of substantive rationality. Instead, it relies on a much broader and subjective notion of rationality, which includes bounded, procedural and expressive interpretations. Here the concept of rationality (and correspondingly that of choice) is largely rid of its connotations of omniscient, calculating and voluntaristic individuals that sometimes obscure the debate on the relevance of decision making theory. It involves the subjectivity, imperfections and limitations that affect people’s decisions and performance. Moreover, a broad interpretation of rationality attributes significance to the environment of decision making and to the process through which decisions are realised, which allows for inconsistencies and changes in behaviour.

The strength of a broad perspective of rationality is not located in its contribution to developing formal theories of behaviour; it lies in providing a realistic analytic starting point, as it urges the quest for the individual’s rationality in their subjective representation of a choice situation. Even if a broad rationality assumption is not able to cover specific behaviour, this does not mean that it is not understandable. Where the limits of rationality are reached, the concept can still provide a reference point to deal with behaviour under conditions of irrationality or non-rationality (Elster 1983b, 1984, H.A. Simon 1979a, Stiglitz 1991). Although widening the concept of rationality may produce a realistic description of behaviour (and therefore better understanding) pushed to extremes it may undermine its own explanatory power by becoming too permissive and turning the foundations of its analytical cornerstones into liquefied sand (Albeda 1987, p. 223, Bohman 1992, p. 224, Hargreaves Heap 1992, p. 23-24).

The identification of ‘choice’, ‘context’ and ‘time’ as the key concepts of the theoretical framework provides the structure for the rest of this book. Each of these building blocks forms the theme of the subsequent chapters. Together with the basic premises concerning rationality, social embedment, motivation, mental agency, dynamic aspects and biological factors, they also serve as reference points for the evaluation of fertility theories in Chapter 3.
Chapter 3. Disciplinary perspectives on fertility behaviour

3.1. Introduction

What is the position of demography within the field of human sciences? How does the discipline deal with the basic issues and problems of social science? What are its contributions to the explanation and understanding of demographic patterns and change? What are the accomplishments in theoretically underpinning demographic forecasting and population policies? In general, what is the status of demographic theory? These questions are the concern of this chapter.

For many demographers the state of demographic theory is a matter of concern. Whereas there is an abundance of empirical data, and analysis can rely on a considerable set of advanced statistical techniques, the corresponding theoretical frame of interpretation is often inadequate. This inadequacy (if not absence) of sound conceptualisation impedes the accumulation of fundamental and useful insight into demographic processes. Accordingly, the poor performance in designing effective family planning and health programmes has been attributed to a considerable extent to deficient links with an appropriate body of theory.

The subject of this chapter is the current state of affairs with respect to demographic theory, at least as far as fertility is concerned. Others have undertaken similar excersises (e.g. Van de Kaa 1996, United Nations 1973, 1990), but this review differs to the extent that it evaluates the various theoretical contributions with regard to their usefulness within the perspective of the conceptual framework outlined in Chapter 2 and the theoretical starting points underlying this framework. Additionally, it wants to identify theoretical elements and elaborations that are missing in the envisioned comprehensive framework for which contributions might be found in other social and behavioural disciplines.

This chapter starts out with a general assessment of present demographic theory (Section 3.2.1), and gives an account of the selection and classification of theoretical frameworks to be considered in more detail and of the criteria for this evaluation (Section 3.2.2). These criteria draw on the starting points of a theoretical approach and a model of man appropriate for demography, as outlined in Chapter 2. This section is followed by the main part of Chapter 3 (Section 3.3), dedicated to the evaluation itself. The concluding part will recapture the main results by condensing the weak and strong points of existing conceptual traditions in demography and it will identify the theoretical lines on which the elaboration of the interpretative framework in Chapters 4 to 6 will draw.
3.2. The status of fertility theory

3.2.1. Janus-faced with little vision

An attempt to assess the state of the art of current demography will almost certainly leave an impression of ambivalence. On the one hand the discipline has accomplished a considerable level of sophistication with regard to mathematical analysis. On the other hand the theoretical foundation of demography as a behavioural science has only been poorly established (McNicoll 1992). Some demographers even state that the discipline tends to be a ‘tool kit’ rather than a substantive science (Livi-Bacci 1984a, Taeuber et al., 1978).

The representation of the subject matter of demography as being arranged within a sphere with a hard mathematical core and a softer surrounding of an explanatory body of theory (Schofield and Coleman 1986, Caldwell 1996), reveals the relation between these two faces of the discipline. The central core consists of models and techniques to estimate and statistically analyse demographic phenomena. It has shown the ability to provide an adequate description of the size, composition, distribution and rates of populations and some of the principles of their dynamics, as well as the historical depth necessary to perceive trends (Lee 1990).


The theoretical accomplishments are, however, much less impressive. They amount to an array of ideas and approaches which are neither very coherent nor very complete. This ‘surrounding body of theoretical propositions’ is necessary to provide a framework to interpret descriptive results as well as to conceive answers to the questions of why a found phenomenon occurs, why certain behaviour happens to occur in a particular patterned sequence, relative to other behaviour, and how this might change, given certain conditions. Some theoretical basis is indispensable for any scientific endeavour, since it provides the directions of what exactly to look for in the process of explaining fertility and how to interpret empirical data once they have been collected. Despite quite a number of valuable insights developed over the years, many demographers voice the complaint that by and large we still do not have a clear and comprehensive idea of why or how changes in demographic behaviour take place. Piles of statistics have been analysed, but little vision has emerged, at least little vision that pertains to and is applicable in concrete situations (e.g. Freedman 1987, Handwerker 1986a, McNicoll 1992, Ryder 1983). This status of demographic theory has serious repercussions on the ability to arrive at sound forecasts (Willekens 1990a, 1991) and to provide the underpinning for efficient and effective means for population policies (ESCAP 1993, Tsui et al., 1992, World Bank 1992). If this represents the status of fertility theory, it equally pertains to that of the theoretical body of demography generally.

The separate theoretical approaches to fertility that the demographic discipline has welcomed over the years each cover specific aspects of human reproduction. There is, however, no central paradigm which links all ideas together or which is able to relate individual behaviour to processes on population level. Again, this not only applies to the field of fertility, but also to migration (see e.g. Massey et al., 1993) and mortality (see e.g. Kunitz 1987, Wunsch 1995).

Little progress seems to have been made in the last decades if we compare contemplations with regard to the theoretical equipment of demography (Vance 1959, p. 296, Ford and De Jong 1970, p. 19-20, McNicoll 1980, p. 441, Schofield and Coleman 1986, p. 4, again McNicoll 1992, p. 405, Greenhalgh 1995b, p. 11). An important part of the problem seems not to be one
of a scarcity of ideas as much as one of ability or willingness to synthesise these into an
organising conceptual framework. As generally encountered in social science, a considerable
number of separate areas of investigation have each sought locally coherent theoretical models
without displaying an intention to consider integration with adjacent fields (Munro 1992).
Such a situation, characterised by partial and competing theories, may be typical for
behavioural sciences in general, micro-economics being perhaps a notable exception (although
institutional economics is now seriously challenging the neo-classical paradigm). But
demography is even deprived of the centrality of a specific starting point that dominates and
unites other sciences, like that of the individual, contextual definition, scarcity, physiology or a
methodological starting point. More than probably any other social science, demography is
identified and demarcated by its subject matter (population and population change) rather than
by conceptual premises of how to study it. It is the specific character of certain phenomena
(fertility, mortality, migration, nuptiality), constituted of specific events (births, deaths,
residential moves, marriages), rather than the specific approach to explain them that distin-
guishes demography as a separate discipline. One property these events do have in common is
the quality of being turning points in life, and to a lesser extent their age specificity. Levinson
and Gooden (1985), studying behaviour from a life-cycle perspective, refer to demograph-
type events as those that give shape and substance to the individual life course. They are time
and energy consuming, involve high commitment and generally tend to dominate developments
in other spheres of life. The occurrence and timing of these events imply major life choices and
are often extremely stressful because they may involve high degrees of uncertainty, and
compelling and far-reaching consequences, both in range of behaviour and in time perspective
Luijn (1996) with women who were considering having a child are very good illustrations of
this specific character of demographic behaviour.

This focus on specific events to be explained, rather than on conceptual premises of how to
explain them, resulted, according to Ryder, in a pragmatic and empiricist bias that has pulled
demographers toward the study of available data sets, often produced for non-scientific
purposes, and typically multi-disciplinary, if not non-disciplinary, in design (Ryder 1983, p.
16). This reflects the context of Keyfitz’ remark that “demography [...] has withdrawn from its
borders and left a no man’s land which other disciplines have infiltrated” (Keyfitz 1984, p. 1).
Because of the unbiased focus, it is possible to cover under the umbrella of demographic
theory a multitude of theoretical approaches originating in other disciplines: anthropology,
biology, psychology, economics, sociology, history and medical science. It also indicates that
the development of the theoretical instruments to understand population issues is beyond the
scope of demographic concern alone and that in this respect demo-graphers have to draw upon
other disciplines that attend human behaviour (Davis 1990, Hawley 1980, Lesthaeghe and
This does not mean that social demographers need to take for granted an indiscriminate
intrusion of neighbouring sciences into their field of action. They must keep in mind the demo-
graphic specificity of the phenomena to be explained, which may render certain approaches
more relevant than others. But it is the interdisciplinary character of the explanation that
requires them to keep up with what neighbouring sciences have to offer and to be susceptible
to developments at the frontiers of knowledge in these fields. This seems hardly the case,
micro-economics theory has largely stuck to the new-home economics of fifteen to wenty
years ago and there seems to have been little development in psychological theorising in
demography, since the emergence of the ‘value-of-children’ concept in the 1970s and the early
applications of the Fishbein-Ajzen kind of attitude models. The notion of culture in
demographic studies is notoriously reduced to austere proportions (if it is conceptualised at all) and is still a long way off from the evolution of cultural understanding in the last decades (Greenhalgh 1995b, Hammel 1990, Handwerker 1986a). New institutional approaches, social
learning theory and cognitive sciences in general have hardly touched the work of
demographers or have only recently entered the field (Burch 1980, McNicoll 1992). Some
theoretical traditions (like phenomenology, holistic anthropological approaches)
have never made it into the canonical streams of demography because they stand too far apart from the positivist starting points of objectivity and quantification that are valued in demographic
inquiry. Moreover, apart from the newly emerging institutional approaches, the arena of
theories applied in demography remains divided into antagonistic micro and macro positions,
notwithstanding the developments in sociology and anthropology which substantially solved
the problem of structure and agency.

Despite these caveats and simplifications, the variety of theories and conceptual approaches in
demography form a basis for the development of a more encompassive interpretation frame.
The evaluation of the major lines of thought currently applied in the field of fertility (Section
3.3) identifies a number of promising elements and conceptual building blocks for this
framework. But on its own, a simple heaping of ideas, however relevant, will lead to nothing.
A conceptual framework which is capable of explaining demographic phenomena or, more
particularly, providing the scientific basis for fertility and health intervention programmes,
requires the integration of many conceptual considerations.
Several authors have acknowledged the partial and incomplete designs of existing approaches
and made substantial integrating efforts. Easterlin’s synthesis (Easterlin 1978a, Easterlin and
Crimmins 1985) tried to reconcile economic and sociological interpretations of fertility.
Starting from an anthropological point of view, Greenhalgh (1990, 1995b) and Handwerker
(1986a), among others, call for the establishment of links between micro and macro
1982, 1989) put forward an institutional approach to bridge the gap between individual
behaviour and the role of the embedding socio-economic and cultural environment. But, owing
to the diversity of disciplines involved in demographic theorising and their distinctive angles of
vision, in the end, even the most comprehensive synthesis will remain imperfect. Although a
‘grand unifying theory’ of demographic behaviour is at present far beyond the capacities of the
discipline, the cumulative character of scientific endeavour continuously provides new stimuli
and possibilities for the process of reformulating and updating existing theoretical frameworks.
As the advancement of social science originates importantly in the division lines separating
disciplinary traditions, an interdisciplinary science like demography must be able to take
advantage of the rapprochement between several disciplines that increasingly can be observed.

3.2.2. Reviewing fertility theories

A review of fertility theories can develop in several ways and according to different criteria.
The total set of current fertility theories display a range of subject definitions, approaches,
starting points and abstraction levels as well as a varying specificity, scope and methodology.
The resulting theoretical landscape of fertility is a colourful and mountainous patchwork of ideas, often without much coherence or substantial cross-fertilisation. Leridon (1982) depicted the situation as a ‘cubist painting’, and in a recent overview of half a century of research into the determinants of fertility, Van de Kaa (1996) recounts it as an evolving story consisting of a series of sub-narratives from different disciplinary orientations (see also Greenhalgh 1996).

With regard to the classification of theoretical approaches, one important and very obvious differentiation is that between micro and macrolevel theories. Hawley (Hawley 1980, p. 174) takes this as the major watershed in approaches to explain fertility, but most others discern these positions as well. Macrolevel approaches, like Malthusian and transition theory, refer to population characteristics in relation to macro-economic and political contexts and changes. They are concerned with phenomena of an aggregated nature and assumptions with regard to underlying human behaviour are few and often implicit. Sometimes the assumptions are not theoretically postulated, but are in fact inferences of empirically observed data. In micro-analytical approaches, like psychological and micro-economic ones, assumptions are mostly much more elaborated and explicit. The individual, as the basic element in explanation, is credited with certain characteristics, capacities and limitations. Although the disciplinary backgrounds induce marked differences in this conceptualisation, a common attribute is the relative autonomy of the individual and, therefore, the centrality of the notion of choice. Many other theoretical approaches do incorporate individual behaviour in the process of explanation without relying so much on the concept of choice or any behavioural theory. They explicitly situate behaviour of individuals or groups in the wider context and stress the importance of social phenomena, which may be as tangible as living arrangements or farming techniques, or as abstract as social norms or family systems. This theoretical area is notably occupied by sociological and anthropological orientations. The primary interest here is at the social level but for explanatory purposes connections to the individual level are often maintained. So in this respect they can be situated between micro and macrolevel approaches and may play an important role in linking individual behaviour to processes at population level. Furthermore, at each level fertility theories advance their own particular starting points, often rooted in theoretical traditions of disciplines adjacent to demography itself. The encroachment of these disciplines into the field of population studies provides the major colouring and relief of theoretical demography. This justifies the use of disciplinary backgrounds as the main classification principle to be used in the following review. This classification will not do full justice to the subtleties of and variations within various disciplines, nor will it meet the criteria of comprehensiveness and mutual exclusiveness. Whereas theory is considered an abstraction of reality, an evaluation of theories is an abstraction of abstractions. This necessarily implies a large amount of reduction, but it entails sufficient realism to represent the main messages propagated in the various theoretical orientations. Moreover, a disciplinary classification emphasises that the advancement of the study of fertility depends to a large degree on the developments and integration of neighbouring disciplines.

With respect to the evaluation of the different approaches, the points of reference draw on the elaboration in Chapter 2 of a realistic model of man for demography, and the components and starting points of realistic and comprehensive social theory. Specifically, this relates to the adoption of a microperspective, the interpretation and integration of micro and macrolevels (choice and context), the role of time as well as to the acknowledgement of motivation, the involvement of mental agency, broadly defined rationality, biological functions, personal
development and social embeddedness as fundamental aspects in the understanding of human
behaviour. Given the interest in the issue of family planning and reproductive health, the
overview considers developing countries in particular.
The following overview will not deal with theories and ideas put forward in the past but failing
to survive to the current body of thought about fertility. For an introduction to these notions,
some of which can be traced back to classical antiquity and to the ancient Chinese
philosophers, other sources will serve better (e.g. Bhende and Kanitkar 1992, United Nations
1973, Vilquin 1997). Nor will the evaluation go into the lines of thought that go back to the
more mathematical origins of the study of population patterns and dynamics, such as stable
population theory, the work of Lotka, model life tables, et cetera. The overview limits itself to
the social-theoretical constructs in as far as they have penetrated the canons of demographic
thought, although the perspective is now and then widened by the relevant background
provided by other disciplines considered.

3.3. Determinants of fertility theory

3.3.1. Malthus in the background

Several scholars can be identified to have addressed the subjects of population and fertility long
before Malthus wrote his various editions of Essay on the Principle of Population (United
Nations 1973). Their ideas and observations foreshadowed the development of many principles
of population, population growth and development, and often addressed the implications for
public policy, but they remained largely speculative and at a low level of generalisation.
Therefore, the publication of Malthus’ Essays at the end of the 18th and beginning of the 19th
century (see e.g. Malthus 1976) is generally acknowledged as the outset of modern
demography. Malthus was the first deal comprehensively with a concept of population that is
subjected to general laws regulating the factors of its expansion and decrement. Malthus’ body
of thought was clearly rooted in the political, economic, social and moral issues of his time.
The core of his first Essay on the principle of population (published in 1798) consists in the
idea that the capacity of human populations to reproduce is (in principle) unlimited and
proceeds with a geometrical ratio, while the capacity to produce the means of subsistence is
necessarily limited and increases at best in arithmic fashion. In subsequent versions of his
Essay, he further developed his theory and added various considerations.

Malthus considered a total population system which is inherently inclined to expand. His belief
that population and means of subsistence increase with different ratios implied that populations
will grow where food production increases, but that eventually they will face a level where no
more people can be sustained and any surplus population will die of starvation. Whereas
Malthus maintained that populations always tended to a maximum increase, they were limited
by the ‘positive checks’ of mortality. These positive checks not only included famine and
starvation, but also other ‘misery’, like epidemics, wars and plagues. In addition he conceived
of a number of ‘preventive checks’ which operated through people’s voluntary acts to limit
their number of children. The major principle Malthus saw in this respect (although it
surprisingly only appeared in his later writings) was deferring marriage or refraining from
marriage altogether. The other ‘moral restraint’ he acknowledged was sexual abstinence within
marriage) was considered ineffective because of the overpowering ‘passion between the sexes’. Malthus’ world view (particularly as that of a clergyman), was violently opposed to other means of birth control, like abortion and contraception. The political implication of his view (which has been a controversial theme in demography ever since) is that famine, war and epidemics disproportionately affect the lower classes of society and that it is primarily these classes that should be persuaded to control the size of new generations.

History has proved certain initial assumptions of Malthusian population theory to be too simple or incorrect. Since its inception, the Malthusian project has been often and severely criticised on empirical as well as ideological grounds, and indeed is still the subject of heated debate among scientists and policy makers (cf. Rothchild 1995). One of the main lines of attack concerns Malthus’ assumption of the capacity to increase agricultural output. Preceded by many others, Ester Boserup’s orientation is a main contender of Malthusian theory. She advances that technological progress might keep food production ahead of population increase (e.g. Boserup 1981). In her view, population growth, and particularly increasing population density, is a main stimulus to innovative techniques in agriculture. Moreover, she reverses the Malthusian logic by suggesting that technological progress only occurs under pressure of population growth. In this respect, Boserup is part of the political-scientific spectrum that put its faith in technological progress and the feasibility to replace conventional natural resources with other, possibly renewable, ones (e.g. J.L. Simon 1977, National Research Council 1986). In other publications Boserup elaborated on the intricate links between technology and fertility, asserting that modes of production have far-reaching effects on marriage patterns, gender relationships and reproduction (Boserup 1970, 1990).

Also the predominant role of positive checks in population control has been questioned. From a conference on population and biology, Livi-Bacci (1984b) concludes that although the level of nutrition is closely connected with the incidence and gradient of infectious diseases, it “... is not the sole determinant of the level of normal mortality since the social and environmental setting has often preponderant influence”. Bideau (1984) refers to studies which show that in former times mortality was the main element in population dynamics, but that is was independent of the available resources. In fact, population is not ‘necessarily limited’ (Malthus 1976, p. 56) by a scarcity of the means of subsistence. It is limited by whatever contributes to mortality, such as wars, epidemics, but also overeating, alcohol consumption, smoking, or whatever else one can think of to die of (Davis 1990).

Another shortcoming of Malthusian reasoning is its failure to distinguish the power of populations to increase from their tendency to do so. Many anthropological studies (e.g. Bledsoe 1990, Howell 1979, 1986, Kreager 1982, 1986) have shown that populations have a large variety of mechanisms at their disposal to keep population size in accordance with the carrying capacity of their environment, ranging from marriage patterns and migration, to contraception and child fostering. However, this is an adaptation of the Malthusian scheme of balancing population and subsistence rather than a rejection, and in this respect Malthus’ ideas remain an important background of fertility analysis. A more fundamental refutation of Malthus’ idea that populations always tend towards the limits set by subsistence is implied by the presently observed near zero or sub-zero population growth in most of the highly developed countries. The means and motivation for fertility control takes completely different forms and is much more diverse than Malthus had envisaged or considered acceptable. For one thing, the explanation of fertility requires much more than its relationship to income and food supply: people do not live simply to sustain themselves. Instead they have a complex
motivational structure, socially and culturally inspired, that has decisive impact on the level of fertility in a population (Davis 1990, Ní Bhrolcháin 1993).

The consideration of the consequences of present fertility on the subsistence of future generations, which Malthus had in mind when he referred to ‘preventive checks’, has probably never been a main or even an important argument to adjust reproductive behaviour, at least not from the individual point of view. It is extremely naive to think that a majority of individuals have been ) or ever will be) primarily dedicated to maintaining a demographic balance at the population level (Blake 1994). Arguments that do play a role are usually not directly responsive to societal needs, but are concerned with needs at the individual or family level (cf. Bideau 1984), in some cases leading to situations analogous to Hardin’s ‘tragedy of the commons’ (Hardin 1968). Even if the overall effect threatens the general well-being, as long as a person’s gains from high fertility exceed the losses within his or her individual perception, he or she will not prefer few children. Sometimes, even, people’s faith in large families is reinforced by their grim prospects due to over-exploitation of their resource base with, at the same time, the stifling poverty that compels them to exploit it so unsustainably. This leaves them in a downward spiral of ever tightening constraints (Myers 1992). When Malthus himself addressed the discrepancy between individual and societal interests, he essentially pointed to man’s physical drives as being potentially contradictory to the needs of society. Although he acknowledged that “every voluntary act is preceded by a decision of the mind” (Malthus 1976, p. 88) and even that people may be perfectly aware of the negative societal consequences of their actions, he discarded the notion of man as a rational agent capable of controlling and adapting fertility behaviour to personal needs. Clearly, in his view sexual drives and even morality ) in terms of unacceptability of practices of birth control within marriage) are deterministic factors, rather than considerations that enter a decision making process.

Although the causes, consequences and remedies of Malthus’ population problem have been rephrased in different terms, his outlook on expanding populations constantly permeates into thought on moral and developmental issues. The essence of the problem is the judgment of whether fast growing populations lay too much claim on scarce resources to be able to secure a future existence for all, even if it is recognised that technological innovations keep on pushing up the limits of population growth. The Mathusian perspective is well in line with Myrdal’s (1968) view on development in Third World countries, as being hampered by large and fast growing populations. It provided the consideration for the inception of massive population policies of countries such as China and India, which were concerned about restraints on food production, land availability, employment and the enormous financial burdens of health and educational services. More recently, faced with a unprecedented population growth in combination with stagnating economies, governments in Sub-Saharan Africa have similarly turned to consider, and in some cases adopt, new policies designed to reduce high fertility. In the 1970s the reports to the Club of Rome aroused world-wide public concern for pollution and the exhaustion of non-renewable sources of energy because of high consumption patterns and population growth (e.g. Meadows et al., 1972). More recently the implications of Malthusian principles have been addressed in the broader perspective of sustainable development with regard to global warming (Flavin 1989), water scarcity (Falkenmark 1990), soil erosion (Brown 1989), global deforestation (Myers 1990), et cetera.

The contribution of Malthusian thought ) also in its newer versions) to fertility theory is clearly
limited to the macro level. The explanation of population is phrased in terms of an equilibrium system of production and reproduction. Without the operation of preventive checks, equilibrium is forcefully maintained by surplus mortality that destroys the population generated above subsistence level. In reality the preventive checks comprise more strategies than the marriage valve Malthus postulated (or considered acceptable). They involve various mechanisms through which populations adjust fertility, nuptiality, migration and mortality to the environment and the level of technology (D. Coleman 1986, Livi-Bacci 1984b).
Formulating these homeostatic or auto-regulating principles at the population level, the theory fails to provide the links to the level of individual behaviour, where these feedback mechanisms must be anchored. It may be a correct observation that under impact of social forces individual preferences are phrased in terms that coincide with demographic homeo-stasis. But it takes a whole lot more to establish the causal mechanisms underlying the relationship, even if the influence on individual behaviour is not already exhaustively explained by more immediate interests of others (cf. Lesthaeghe 1980). This interpretation and the identification of conflicting interests in the social arena, is in line with the Merton’s modification of Parsonian functionalism (Merton 1968). In showing that a social construct may have positive functions for some actors and dysfunctions for others, Merton refocused attention on actors. And in showing that the construct’s continuation was contingent on actions of those actors for whom it had positive functions, he reintroduced a purposive actor and sought explanation for a social configuration in its proximate causes rather than in its consequences, thereby removing the homeostatic principle of functionalism (J.S. Coleman 1986, p. 1311).

In his attempt to detect the principle laws of population, Malthus had little eye for the role of individual behaviour. Where people come into the picture they are almost mechanically torn between their passion for the opposite sex, socially imposed control of fertility and starvation. There is no basis for understanding people’s strategies and considerations with respect to fertility or for an explanation of the large variety of reproductive patterns within similar environmental constraints. Also, there is little scope for elaboration of the social, economic, cultural and political context besides fertility checks and level of sustenance. As one of the earliest critics of Malthus already remarked (cf. Rothchild 1995), Malthusian reasoning fails to distinguish the power of a population to increase and the tendency in population to increase, and particularly so, it would seem, because it does not acknowledge the mechanisms of individual behaviour formation. Therefore, Malthusian theory cannot be considered a suitable conceptual basis for the understanding of fertility or the practical recommendations of population programmes. However, it remains a valuable tradition in the sense that it sketches a background considering the question about the possible limits to population growth and the role of externalities of high fertility.

3.3.2. Transition theory: a demographic love-hate relationship

The remarkable occurrence of fertility decline, in the past as well as in the present, has puzzled demographers and social scientists generally and has urged them to look for law-like principles underlying the fertility changes. The resulting theory of demographic transition has become the leading body of thought in social demography. In fact, as the theory has provided a framework for the scientific study of fertility, it might be considered as a demographic paradigm in the sense that other conceptualisations in demography deal with part of the total explanation of the generally observed trend from high to low fertility (Beaver 1975, Van de Kaa 1996, Kirk 1996). This predominant status that the theory has acquired probably results from it being one of the very few 'stylised facts' demographic has to offer with regard to fertility change. Moreover, it has some general appeal because of the global perspective it provides.

The apparent process of demographic transition proceeds in the course of modernisation and economic development from a situation characterised by high mortality and high fertility to one
where mortality and fertility are low, via a stage with declining death rates and declining birth rates lagging behind. This notion of demographic transition gained full momentum only after the seminal publications by Davis (1945) and, particularly, Notestein (1945), although the full essence of the contingency between modernisation and declining mortality and fertility, as well as the three-stage evolution had already been comprehensively formulated by Thompson in 1929. The major elements had also been addressed by Landry (1909, 1934) and in the ethnographic wealth of the work of Carr-Saunders (1922, 1964/1936).

The classic representation of the demographic transition, as for instance sketched by Notestein, claimed that mortality declined in the wake of the industrial revolution, which brought material changes in the sense of agricultural innovation, better communication, higher productivity and improved health conditions. Fertility was much less responsive to such modernisation and its decline depended to a large extent on the collapse following mortality decline of economic, ideational and normative systems that supported high fertility.

In the past decades, what started out as a mere description or explanation of historical trends of mortality and fertility in Europe has become increasingly elaborated and has incorporated additional considerations, like different conceptualisations of modernisation and the shift from socio-economic to cultural-ideational and psychological determinants of fertility decline. The principles of historical demographic transitions were thought to be applicable to any contemporary situation in the sense that every nation, region or population could be located on the evolutionary track of modernisation and decline of mortality and fertility. Other notions that transformed from empirical observation to theoretical assumption posit that a substantial mortality decline invariably precedes a major decline in fertility, that the mortality decline is inevitably followed by reduced fertility and that once a substantial fertility decline has been established, the process is irreversible and inescapable. In these respects, the notion of demographic transition can increasingly be considered as a theory with universal validity and if seen from sufficiently afar also with predictive power. Whereas even today there is no agreement about the theoretical status of the concept of demographic transition, it is worthwhile mentioning that Kirk, another demographer who contributed to its initial formulation, claims that neither Notestein nor Thompson initially thought of their ideas as a theory (Kirk 1996).

The notion of demographic transition met substantial criticism, even among its adherents. In 1973, for instance, at the onset of a massive project to underpin the transition theory, Coale identified the strength and weakness of the theory. Thirteen years later, in what can be considered the last monument to date in the tradition of the demographic transition theory, Chesnais (1986) had to phrase Coale’s remarks in almost identical terms.

“the power of the demographic transition concept (...) lies in the undeniable fact that with sufficient modernization fertility and mortality change in a predictable manner...”.

But the weakness of the concept, according to Coale, is

“... the difficulty of defining a precise threshold of modernization that will reliably identify a population in which fertility is ready to fall ...” (Coale 1973, p. 64).

Coale and his associates from Princeton University tried by means of a large-scale survey to identify the crucial variables that had determined the onset and pace of Europe’s fertility transition. Their attempt failed in the sense that their study could not find any socio-economic
indicator of modernisation that could unequivocally explain the occurrence of fertility decline in Europe (Watkins 1986). Socio-economic factors, which were emphasised by transition theory, appeared to be either spurious or inconsistent in the explanation of the timing of the decline or its rate. The simultaneous fertility decline in Hungary and England is a case in point, as in terms of socio-economic indicators, Hungary lagged far behind England, at that time economically the most advanced nation in the world. Also, the early transition which occurred in Bulgaria, in spite of its low level of development, has been interpreted as being in conflict with the canons of demographic transition theory (cf. Kirk 1996, p. 383). With regard to contemporary societies, China, Kerala State and Sri Lanka may also serve as illustrations, as fertility there is near or even below (Kerala) replacement level without meeting the assumed requirement of socio-economic development. Bangladesh, one of the least developed countries in the world, is another good example, given the significant fertility reduction observed there. Evaluating the contemporary record on the onset and pace of the fertility transition, Bongaarts and Watkins (1996) also found an enormous diversity in each of the socio-economic indicators applied, confirming the conclusions of the Princeton study of historical Europe.

A major result of the Princeton study, besides the failure to find prerequisite socio-economic conditions for the fertility transition, was the identification of cultural factors as main determinants of fertility decline (Watkins 1986, Knodel and Van de Walle 1979, Van de Walle and Knodel 1980, Lesthaeghe and Wilson 1986). Thus, Lesthaeghe’s study of fertility decline in Belgium showed a clear demarcation of fertility patterns and levels along language lines for communities which were otherwise socio-economically very similar (Lesthaeghe 1977). Analysis of the World Fertility Survey by Cleland and others (Cleland 1985, Cleland and Hobcraft 1985, Cleland and Wilson 1987) as well as other studies by Lesthaeghe and co-workers (e.g. Lesthaeghe 1983, Lesthaeghe and Meekers 1986, Lesthaeghe and Moors 1992, Lesthaeghe and Surkyn 1988a) found ‘culture’ to be the single major factor influencing the timing of fertility transition. Central to the work of Lesthaeghe on demographic change in Western Europe is the importance of ideational shifts that are not necessarily concurrent with economic modernisation. Similar ideas have been expressed in publications on other historical and contemporary situations (e.g. Alter 1990, Greenhalgh 1989, Handwerker 1986a, Inglehart 1977, 1990, Stamm and Tsui 1986). Work by Caldwell and Caldwell (e.g. Caldwell and Caldwell 1987) suggests that fertility levels in Sub-Saharan Africa will not approach replacement level for a long time, if at all, and that this will depend on cultural factors just as much as on socio-economic ones. Generalising from his wealth flows theory, Caldwell argues that fertility decline depends on a social revolution (basically, a change of family relationships) which is not necessarily accompanied by economic modernisation (Caldwell 1982, p. 153). Although many of these authors do not necessarily reject the interpretation of classical versions of demographic transition theory, they do find it important to emphasise that the forces underlying a demographic transition not only involve changes in material conditions and in the social division of labour and resources, but also involve important changes in the sociocultural meaning of children and reproductive behaviour (cf. Mason 1992, p. 2).

The sequence of mortality and fertility decline that the theory of demographic transition presupposed has also been called into question. In a historical perspective, France is the classic example of analysis contradicting the idea that mortality decline preceded fertility decline (E. van de Walle 1978). Evidence from the Princeton study suggested that France was not an
isolated case, and there is no statistical evidence for a general trend in the sequence of mortality and fertility decline (F. van de Walle 1986). Sometimes fertility decline was found to follow a fall in infant mortality, sometimes it preceded it, often they dropped simultaneously. Chesnais, however, argues that some of these findings are based on methodological inadequacies and in the second instance results appear to be in accordance with the theory (Chesnais 1986). Nevertheless, the exact causal relation between the decline in mortality and fertility remains difficult to establish (cf. Van de Kaa 1996, p. 409).

Although the theory of demographic transition suggests a historical perspective, the construct is largely devoid of time and change except for the intermediate stage of transition (cf. Greenhalgh 1995b). In the framework of transition theory, there is no history in either the pre or the post-transition stage: in terms of development, time stands still. According to Greenhalgh, many descriptions and analyses of fertility within the perspective of transition theory exist in historical vacuums and are not guided by the notion that the specific histories of the social environment can bear much relevance to their fertility patterns (Greenhalgh 1995b, p. 20; cf. McNicoll 1994). The suggested homogeneity and immobility of ‘traditional’ societies (historical or contemporary) is indisputably refuted by the empirical demographic record, which shows a large variety of fertility patterns and levels (Blake 1994). Neither could transition theory adequately cope with the significant (although temporary) posttransition, post-war reversal of fertility trends in a number of Western countries, which resulted in the ‘baby boom’ cohorts. To dispose of such phenomena as ‘temporary blips’ (Kirk 1996, p. 382), is totally unsatisfactory and unacceptable given the huge impact they can have on society. Also, to find solace in an equilibrium or homeostatic framework, as Kirk suggests, to take account of the problem of where the fertility decline will eventually end, probably reflects more normative hope than a realistic forecast. The observation that in most European countries fertility dropped below the level of mortality (where transition theory assumed it to end) and a supposed historical inflection point in European society, inspired the conceptualisation of a ‘second demographic transition’ (Lesthaeghe and Van de Kaa 1986, Lesthaeghe and Verleye 1992, Van de Kaa 1987). This does not, however, resolve the problem of conceiving society and demographic systems in terms of continuous development.

The sketch of the demographic transition against the background of modernisation and social development, and the notion of invariant stages, relates the theory to the broader paradigm of evolutionism. Much of the criticism on demographic transition theory resembles the arguments in the raging debates in anthropology on the validity of general evolutionary theories (cf. Sahlins and Service 1960). Nineteenth-century anthropological evolutionists like Morgan and Tylor advanced notions of unambiguous developmental stages which are characterised by successive types of social institutions, such as marriage, religion and political organisation (e.g. Morgan 1964, Tylor 1881). In their perspective, peoples in non-Western societies were ‘contemporary ancestors’, bound to evolve eventually into European-style modern man. The critical response to this cultural evolutionism, on the other hand, emphasised the multi-linearity of evolution and the historical uniqueness and functional performance of societies (e.g. Boas 1963, Radcliffe-Brown 1952, Wertheim 1972), a perspective which is easily recognisable in reactions to demographic transition theory. Greenhalgh, among others, raised similar contemp with regard to overdue generalisation, eurocentrism and supposed unilineality of development (Greenhalgh 1989, 1995b, cf. Handwerker 1986b). Although the concept of demographic transition (or its fertility transition subset), if seen from sufficiently afar, stands better against
the empirical record than comparable evolutionary thought in anthropology, closer scrutiny supports this criticism: there seem to be many roads to lower fertility, and neither the onset nor the pace of the decline cannot be predicted anywhere near satisfactorily. This confirms the truth of Greenhalgh’s statement “... that the closer we get to understanding specific fertility declines, the further we move from a general theory of fertility transition” (Greenhalgh 1990, p. 85), and it tempts the reformulation of the label ‘transition theory’ as a ‘bag of transition theories’ (cf. Alter 1990). Therefore, the practical content of transition theory ) either in terms of revealing the specific determinants of demographic change or in terms of providing tangible handles on population policies) is less than it initially promised to be. Szreter, in this respect, reflected that

“... the principal virtue and function of the idea of demographic transition has always been in providing a graphic metaphor that summarily describes - and predicts - a long-term overall emergent pattern of change. As such it has enormous justificatory, motivational, and communicative value for agencies and institutions wishing to effect change. But, ... a summary description of this metaphorical sort offers no necessary assistance or insight into the causal explanation of how such change occurred or occurs in any particular case”
(Szreter 1993, p. 692).

Another weakness demographic transition theory has in common with the grand tradition of evolutionism is the sometimes presumed distinction between traditional and modern people. In some cases the concept of the person populating pre-transitional societies (historical societies, contemporary developing countries) is cast in terms of passive receptors of culture and normative rules, and those inhabiting post-transitional societies (modern, Western countries) as active and independent decision makers (cf. Greenhalgh 1995b, p. 19). In line with this assumption, ‘modern’ persons are sometimes attributed with the capacity for rational thought and behaviour, while ‘traditional’ people are assumed to be guided by irrational beliefs. Such assumptions should be rejected on the basis of the fact that in Western societies, too, despite a high level of individual freedom, people are structurally embedded in their social and cultural environment (individual freedom in fact being an expression of it), or that in high-fertility societies reproductive behaviour may very well be deliberate and rational, given its function to the individual in terms of social approval, support, survival, sanctions and lack of alternative strategies (e.g. Blake 1994).

Over the years, the theory of demographic transition has incorporated a number of additional ideas to remedy some of its shortcomings. These efforts have been especially related to the undue emphasis on socio-economic development as the propellor of demographic change. The accommodation of culture in more recent versions of the theory is a case in point. In the wake of the new attention for ‘culture’, the concept of diffusion sailed into the theoretical edifice of transition theory. Both culture and diffusion have subsequently been developed as the core concepts of new branches of fertility theory (cf. Sections 3.3.6 and 3.3.7).

To many researchers, the main problem of demographic transition theory remains its very general level. In a grand perspective, spanning a period of perhaps two centuries, it provides an appealing conceptual background, capable of incorporating a large number of ideas that play a role in demographic change. If an explanation and understanding of the levels and trends in fertility in specific circumstances is sought, the value of the theory is very limited. Although many social demographers are in principle sympathetic to the quest for general principles
underlying demographic change, they draw attention to the position that different combinations of factors are likely to lie behind the fertility decline in different settings. What they need in order to explain and predict population development or design population policies, is specific knowledge of particular settings and the mechanisms of social change and structure-agency interaction at work there (Greenhalgh 1990, 1995b, McNicoll 1992, 1994, Szreter 1993, Teitelbaum 1976, Willekens 1990a, 1990b). No policy aiming at effective family planning and health programmes can rely on general formulations without a careful assessment of the local circumstances. Experience has taught us to be sceptical or at least cautious with regard to the applicability of effective population strategies in different settings across countries, across continents and even within countries (e.g. Hull 1986, Caldwell and Caldwell 1988, Warwick 1988). The required knowledge is not adequately provided in the transition framework; neither in terms of its representation of the relevant social and cultural configuration in which reproductive behaviour takes place, nor in terms of the evolution and historical antecedents of this context, nor in terms of its representation of how individual agents are influenced and construct their behaviour in this context. Although certain formulations within the mainstream of demographic transition theory try to get down to the individual level, the concept principally remains at the macrolevel and never incorporates the microfoundations of social theory.

3.3.3. Biological specifications of reproductive behaviour

While fertility is crucially embedded in the social and cultural environment and depends on many individual factors, it is basically a biological phenomenon that includes fecundity, conception, gestation, foetal mortality and birth. A notion often associated with the transition from high to low fertility is the idea that in the post-transition stage, fertility is under complete control of couples and individuals, while in the pre-transition stage it is to a large degree left to such biological principles, although constrained by socially constructed bounds. This notion was already conceived in the work of Landry, but the analysis of fertility in pre-transition populations has immensely improved by Henry’s (1953) development of the concept of ‘natural fertility’ and by the formulation of the models of intermediate deter-minants (Bongaarts 1978, Davis and Blake 1956).

Louis Henry defined the concept of natural fertility as fertility that existed in the absence of deliberated control through abortion or contraceptive practice, implying that reproductive behaviour does not depend on the number of children already born to a couple. In these natural fertility situations, reproduction is determined by biological principles, such as age at menarche, fecundability (the monthly probability of conception), the time required for gestation, intra-uterine mortality and postpartum amenorrhoea. In addition, fertility is determined by a number of social-behavioural factors, which are at least from the point of view of the couples concerned not intended to restrict childbearing. These factors might include marriage patterns (in particular as far as related to marital duration), spousal separation and (religious) rules for sexual abstinence in certain periods, and duration and intensity of breastfeeding, with its effects on the period of post-partum amenorrhoea. The importance of biological factors in relation to these social factors is somewhat subdued, since the observed levels of natural fertility differ widely between societies precisely because of the wide differentiation in these social mechanisms (Blake 1994). Moreover, a weakness of the natural fertility concept is that it is not always easy to establish whether behaviours are socially or
individually determined, and whether birth control considerations are involved or not. Thus, even where people may want to abstain from sexual intercourse on the basis of normative rules, the efficacy of this may depend on motives of child-health, birth spacing and, for that matter, limitation of offspring (cf. Caldwell, et al., 1982b, Kakar 1989, Knodel 1983).

The concept of natural fertility has evolved over time (Henry 1957, 1961, Leridon 1977, Leridon and Menken 1979), and found its culmination point in the model of proximate determinants as developed by Bongaarts (Bongaarts 1978, Bongaarts and Potter 1983). Earlier, Davis and Blake had provided a seminal contribution with the development of an analytical framework of intermediate determinants of fertility which affected either the exposure to intercourse or the exposure to conception or gestation and successful parturition. Divided over these three categories, they identified eleven behavioural and biological factors “...through which, and only through which, any social, economic and environmental variable can influence fertility” (Davis and Blake 1956, p. 214). Bongaarts further developed this into a simple but powerful framework by quantifying the effect of Davis and Blake’s intermediate variables and collapsing them into eight, and later seven, proximate determinants of fertility. This resulted in a simple but powerful model for analysing how fertility changes over time or differs from one group to another: any level of fertility in a population can always be traced to variations in one or more of the following determinants:

- the proportion of women of reproductive age who are married (as a measure of the proportion exposed to sexual intercourse);
- the use and effectiveness of contraception;
- induced abortion;
- post-partum infecundability (as primarily determined by the duration and intensity of breastfeeding);
- the frequency of intercourse (including the effect of temporary separation and abstinence practices);
- the onset of permanent sterility (particularly as related to menopause);
- spontaneous intra-uterine mortality.

Each of these factors contributes to a reduction of the approximately fifteen children a woman can have during her reproductive career. Any level of fertility in a population can always be traced to variations in one or more of these seven determinants. The empirical evidence showed that marriage, contraceptive practices, abortion and post-partum infecundability have by far the strongest effect on levels and differentials of fertility (Bongaarts 1993, Bongaarts and Potter 1983). The model of proximate determinants suggests, therefore, that the total fertility rate can be described as:

$$TFR = C(m) \times C(c) \times C(a) \times C(i) \times TF$$

where TFR is the total fertility rate, C(m) is the index of proportion married, C(c) is the index of non-contraception, C(a) is the index of induced abortion, C(i) is the index of lactational infecundity and TF is the potential total fertility.

The framework’s exceptional clarity and organisational power had an enormous impact on the research agenda of fertility studies particularly for developing countries, but also for historical
populations) and the World Fertility Survey and the Demographic and Health Survey provided the necessary data to apply the model in a comparative perspective. Apart from the identification of the proximate determinants, the significance of the model is situated in the structuring of attention and efforts in the search for the ultimate determinants of fertility and fertility change. Fertility itself is no longer the sole subject of research; in addition we need to look for the institutional and behavioural backgrounds of marriage, contraceptive use, breastfeeding, abstinence practices, et cetera. To cite Freedman, we are faced with “the challenge of specifying the determinants of the proximate determinants” (Freedman 1986, p. 30, cf. Hull 1983, 1987, Leridon 1982). Whereas any such attempt was completely absent in the work of Bongaarts, Davis and Blake in fact used their framework of intermediate variables as a starting point to determine and analyse the institutional factors affecting fertility. Their actual explanation of fertility rested on the comparative analysis of social organisation, which largely boiled down to an explanation in terms of family and kinship organisation. By their sociological approach, the model of Davis and Blake, more than Bongaarts’ later proximate determinants model, tries to establish the causal relations between levels of fertility and social changes as implied by modernisation theories like the demographic transition theory. Others, for example Lesthaeghe and collaborators (Lesthaeghe and Eelens 1989, Page and Lesthaeghe 1981), continued this tradition and tried to give some more body to the theoretical underpinning.

Although the popularisation of the proximate determinants model is mainly based to its application to developing countries, it is perhaps a mistake to presume that its value may be discarded completely for developed countries (Easterlin and Crimmins 1985). Although in Western countries fertility is considered to be under volitional control and childbirth to be a matter of demand rather than supply, it is worthwhile recognising that here, too, fertility not only depends on behavioural factors, but also on biological processes. The fertility outcome is merely a matter of shifted significance from biological to behavioural determinants or from some behavioural determinants (related to marriage and breastfeeding) to others (particularly contraceptive use and induced abortion). Moreover, Western countries are witnessing a growing concern with problems related to infecundity and infertility in relation to the generally observed rise in age at birth (e.g. Te Velde 1992). Until recently the main fertility problem was the control of unwanted childbearing and the attainment of a ‘perfect contraceptive population’ (Bumpass and Westoff 1970). Menken et al., however, reflected that

“With great effort, fertility has been ‘turned off’: people had come to believe that controlling fertility was the real problem and to expect that having children was easy”
(Menken et al., 1986, p. 1393).

Whereas Bongaarts’ model of proximate determinants, as well as the version of Davis and Blake, analyses fertility at the level of populations and societies, several researchers tried to translate it to the individual level. Hobcraft and Little (1984), for instance, calculate fecundity and fertility as the outcome of the fecundity-reducing effects associated with the particular set of states that describe women’s positions in their reproductive career (states related to pregnancy, absence from sexual relations, contraceptive use, post-pregnancy infecundity). Becker’s model of adolescent fertility (S. Becker 1993) specifies conditional probabilities of live birth, conception, and coitus on the basis of individual data. Hull (1983) explicitly incorporates the proximate determinants in a decision-making approach. The value of this integration is that fertility is not seen as the product of one single decision, but as the possible
combined effects of numerous decisions with regard to the proximate determinants such as marriage and divorce, contraceptive use, abortion, frequency and patterns of sexual intercourse, and breastfeeding practices. This reformulation represents a means to increase the relevance of the concept of individual choice for situations under conditions of natural fertility.

The Bongaarts model, even in its individual-level reformulation, gives no attention to the role of individuals and the behavioural processes that are involved, apart from the fact that it explicates the extent to which fertility is liable to behavioural influence or to which it is submitted to biological laws (Bongaarts 1993, see also e.g. Bongaarts 1984). A major cause of this is the prominence of physiological outcomes which relates more to the supply of than the particulary behavioural consideration of demand for children (Leridon 1977, Bulatao 1983). There is no reference at all to aspects of intentionality, needs, motivation, expectation, adaptation and the working of social and cultural institutions which determine demand for children and control of births. As the supply of children, or fertility, is largely, and perhaps increasingly, a function of demand, the Bongaarts model in itself is not a sufficient theory of fertility. The same theoretical inadequacy applies to the comparable frameworks in demographic research with regard to health and mortality (e.g. Mosley and Cheng 1984, Van Norren and Van Vianen 1986). Attempts to deal with this problem of demand and with the challenge to specify the determinants of the proximate determinants by providing an understanding of behaviour and the socio-economic and cultural context is the realm of behavioural sciences rather than biology. The version of Davis and Blake is better positioned in this respect, as it relates the biological and socio-biological variables to the larger social and cultural context. However, it too lacks an explicit reference to any behavioural assumptions about the human agent.

The observation that in developing countries, too, the proximate determinants with the strongest impact are precisely those that are under behavioural control, be it individually or socially expressed (Bongaarts 1993, p. 18), signifies the need for additional social theory to assess how this control is asserted and the dynamics which cause fertility change. However, the models elaborated by Bongaarts and Davis and Blake provide an excellent starting point for population and health policies, as they indicate very clearly the immediate antecedents of reproductive outcomes which may serve as points of impact in population programmes (cf. Freedman 1987, p. 65, Shorter and Surayek 1985).

3.3.4. Choice and consumer durables: micro-economic theories

The writings of Malthus left their mark in the field of classical and Marxist economics in the 19th and early 20th century, and later in the economic analysis of population and development in less advanced countries, particularly in view of their unprecedented rates of population growth (cf. United Nations 1973). However, these macro-economic approaches never became standard material in demographic theorising, unlike the micro-economic orientations that firmly entered the field in the 1960s.

Fertility theories starting from a micro-economic perspective assume that decisions with regard to childbearing are principally analogous to the more usual consumer choices as far as the
implications of scarcity are concerned. Harvey Leibenstein (1957) may be called the progenitor of the view that the number of children is the result of individual decision making within an economic context of income and prices. Among others, Nerlove (1974), Willis (1973), Schultz (1981) and, most prominently Becker (G.S. Becker 1960, 1965, 1976, 1981, Becker and Lewis 1973, Stigler and Becker 1977) developed the consumer choice theory into what became known as the new home economics of the Chicago school. This micro-economic approach not only involves the traditional variables of income and prices, but also the quality of children and budget constraints in terms of allocation of time and opportunity costs. Given these variables, households are assumed to produce a bundle of consumer commodities in accordance with the maximisation of household utility. The model links fertility decisions to other household decisions, including labour force participation and consumption. Children may be perceived in terms of costs, like actual expenses and foregone opportunities, and benefits as they can perform as inputs in household production functions which may, for instance, produce old age security, emotional rewards or an additional household income. The notion of child quality became a key factor in Becker’s work to account for the inverse relation between income and number of children as experienced in the fertility transition. This quality of children is assumed to be elastic with respect to income, while the quantity of children is not, implying that the desired number of children may fall as income increases because the average cost per child may increase even faster.

The economic approach to fertility has been challenged on several grounds. Part of the criticism can be traced back to the concepts of choice and decision-maker that underlie micro-economic theories: strongly individualistic, decontextualised, static, relying on a narrow, substantive notion of rationality and without a sufficient degree of (psychological) realism. Obviously, representatives of rival disciplines embark upon such general criticism, but it is also voiced by a number of (behavioural and institutional) economists themselves (e.g. H.A. Simon 1987, Lea et al. 1987, North 1994). Among the economists working in the field of demography, Leibenstein and Arthur share some of these concerns. Arthur, in a critical review of Becker’s Treatise of the Family, “call[s] for the use of rules, rights, agreements, hierarchies, organizational institutions in short, structure” (Arthur 1982, p. 395). These remarks touch upon the neglect by most economists of the social, cultural and political environment of decision making. Choices are primarily seen as exercises of isolated individuals and little attention is paid to consideration of how the content and process of choice is influenced by the social structure of the environment, cultural meaning-giving systems, networks or institutions (cf. Langlois 1986c, North 1994). Leibenstein (1977, 1981, 1982) articulates that the concept of choice as used in economic choice theory is only selectively applicable in the study of reproductive behaviour, and much of the fertility outcome must be seen as the result of routine and rule following procedures (see also Lee and Bulatao 1983, Hollerbach 1983). With regard to the static nature of the new home economics, it can be observed that by and large economic analysis in demography does not allow for changes in preferences over lifetime as the result of learning and personal experience, and that it assumes couples to have defined these preferences at the onset of marriage (G.B. Simmons 1985, Siegers 1990). In this perspective changes in behaviour over time are considered to be the result of variations in restrictions facing the decision-maker. However, a number of economists provide a more dynamic perspective by applying a life cycle approach to fertility or accepting the possibility of preference shifts (e.g. Moffit 1984, Namboodiri 1980, 1983, Rosenzweig and Wolpin 1980, Siegers 1987, Turchi 1991).
What most other behavioural sciences find hard to take is the employment of the goal concept in economic argumentation. Economists who represent the leading economic research line in demography do believe that people act on a set of goals, but they usually cast it in the vacuous concept of utility maximisation. They remain silent on the underlying preference structure which is assumed to be stable over time and identical for all people, and they infer people’s preferences from actually observed behaviour which is assumed to be strictly dependent on situational restrictions (Stigler and Becker 1977). Other disciplines which deal with the explanation of human behaviour refute situational determinism and claim that restrictions are only part of the story. According to them, behaviour depends importantly on individuals’ beliefs and on their construction of goals and meaning of the situation. Procreation generally occupies an essential place in people’s world view and the meaning they give to their existence. From this point of view it is clear that there is no reason to assume a uniform preference structure across individuals and societies (Hannan 1982, Lesthaeghe 1983).

A common ground for much of this critique is located in the assumption of substantive rationality in economics. This focuses the concern more on the outcomes of choice than on the decision process by which they are reached (Hogarth and Reder 1987, H.A. Simon 1978). No room is then left for the processes by which individual decision-makers shape their preference structure and give meaning to behaviours, reduce available information to a limited number of salient considerations, select and apply decision rules and heuristics, and cope with uncertainty, dependency and social pressure.

The notion of child quality that is crucial to the new home economics interpretation of fertility is not free from controversy, either in terms of conceptualisation (e.g. Robinson 1997) or with regard to the assumption that all children born in a family embody the same quality. The last assumption is refuted by the empirical findings that the value of children may differ by parity (Bulatao 1981, Bulatao and Fawcett 1981, Namboodiri 1983) and by sex (e.g. B.D. Miller 1981, Koenig and Foo 1995, Nag 1991, UNICEF 1991). Criticism of the new home economics approach to fertility also refers to the assumption of a single joint household utility function. For one thing, it assumes altruism (with which Becker 1981 tries to deal) and harmony on behalf of both partners, which does not seem very plausible as both power and the distribution of costs and benefits of children may differ substantially between them (Caldwell and Caldwell 1987, Fawcett 1983, Lee and Bulatao 1983, Siegers 1990, G.B. Simmons 1985). Economic decision making models are usually completely silent about the bargaining processes between parents that settle possibly conflicting interests with regard to progeny. In several societies, even the absolute authority on fertility decision making by the parents themselves may be seriously questioned (Khan and Singh 1987, Koenig and Foo 1992, Ryder 1983).

Furthermore, the definition of the household concept is notoriously difficult, not only with regard to relevant criteria, but also because of possible shifting and rotating membership of both parents and children. The Sub-Saharan African experience of the precedence of the larger family and lineage over the very weak conjugal ties between spouses (cf. Awusabo-Asare 1988, Caldwell 1982, Caldwell and Caldwell 1987) cast serious doubts on the relevance of the supposed household type in micro-economics. Likewise, the widespread phenomenon of child fostering, especially in West Africa (e.g. Bledsoe 1990, 1995, Page 1989), puts the standard economic view about direct and substitution costs of raising children in a different perspective.
Child fostering may have an impact, directly or indirectly, on fertility decisions, presumably because it reallocates the resources available for raising children within the society. As the number of children supported by parents at any specific point in time is not closely tied to biological parentage, different budget considerations will enter in the fertility decision making process than would be expected otherwise (Bledsoe 1990, Caldwell and Caldwell 1988, p. 24). Furthermore, child fostering may reduce opportunity costs and enhance female labour force participation (Isiugo-Abanihe 1985).

For these reasons, and because in many instances fertility is not a matter of demand but a matter of supply, the new home economics model is still relatively ill-suited for the analysis of fertility in developing countries (G.B. Simmons 1985, United Nations 1990; cf. Leibenstein 1981, 1982).

With regard to the neglect of supply mechanisms in the standard consumer choice theory and its new home economics version, a very important extension is provided by Richard Easterlin and collaborators (Easterlin 1975, 1978a, 1978b, Easterlin and Crimmins 1985, Easterlin et al., 1980). Easterlin’s approach complemented the strictly demand-oriented model of new home economics with notions concerning the production side of fertility as derived from the concept of natural fertility and the intermediate variables framework of Davis and Blake and that of Bongaarts. In this synthesising effort he brings together the scientific paradigms of economics and sociology; but this effort clearly should also be considered as an attempt to bridge the gap between fertility analysis in contemporary Western situations and that under non-Western or historical conditions. This *Easterlin synthesis* has gained wide acceptance in demographic research and provided the basis of the agenda of the U.S. National Academy of Sciences (Bulatao and Lee 1983). The model assumes that all determinants of fertility (public health, education, urbanisation, family planning programmes, et cetera) work through the categories of the demand for children (depending on household tastes for children and alternative goods, income, and costs and benefits of children), the supply of children (reflecting natural fertility determinants like exposure and frequency of intercourse, post-partum amenorrhoea, spontaneous intra-uterine mortality and sterility) and the costs of fertility regulation (lumping together attitudes towards and access to fertility control methods and supplies, as well as the time and money required to obtain the birth control methods). According to the model, motivation to limit fertility only occurs if the supply of children exceeds their demand and the greater the excess of supply over demand, the greater this motivation. But the actual restriction of fertility also depends on the (economic and psychological) costs associated with various birth control methods. A modification in the specification of the demand function compared with the Chicago approach is that Easterlin’s model incorporated variable and endogenous preferences, which allowed the explanation of difference in behaviour on the basis of opportunities, but also in terms of differences in ‘tastes’. Furthermore the last dependent variable in Easterlin’s model is not children, as much as children surviving to adulthood, thus making not only the supply of children endogenous to the explanatory framework, but child survival as well.

Easterlin contributed another important theoretical proposition to the economic perspective of fertility behaviour. This contribution (Easterlin 1978b, 1980) provided a dynamic element to the analysis of fertility and stands out as the sole fully developed cohort theory in demography. The *Easterlin hypothesis* concerns the adaptivity of fertility preferences (and subsequent fertility behaviour) to the realisation of a pre-conceived lifestyle. It asserts that an individual’s
desired lifestyle is moulded by experience during the formative period in adolescence at the parental home. The degree of affluence promised by (male) labour market prospects during the reproductive period determines the number of children that can be sustained while maintaining the standard of living that was experienced during the formative period. The labour-market or income-earning opportunities, in turn, are assumed to be negatively related to cohort size. This implies that the ‘tastes’ for children or reproductive goals are not given, as assumed in traditional economic theory, but formed during the experience of the income effects caused by the entry of differently sized cohorts on the labour market.

At the same time as Easterlin suggested his sociological contribution, Leibenstein proposed a similar approach, but cast more in psychological terms, using, for example, the concept of an ‘internalised standard’ (Leibenstein 1977, p. 188). Nevertheless, the result resembles Easterlin’s work as he also combines elements of socialisation and attitude formation into an economic framework, using the concept of formative years during adolescence.

Ní Bhrolcháin (1992) disputes the role of cohort effects in fertility. While she recognises the evidence of cohort mortality, which has a convincing foundation in epidemiological and medical research (e.g. Barker 1992, see also Caselli 1990), she is unable to find similar evidence for fertility. Similarly, Wright (1989) tested the Easterlin hypothesis for sixteen European countries but failed to find a statistically significant correlation between relative cohort size and fertility. From a review of empirical studies, Pampel and Peters (1995) conclude that the evidence for the Easterlin effect proves at best mixed and at worst completely wrong and that the degree of support varies across time periods, nations and level of measurement.

Apart from a number of technical difficulties involved in the measurement of the cohort effect, there are also some conceptual inadequacies. For instance, the theory focuses too much on men’s roles in the labour market) whereas new home economics emphasises the role of women) and there is some discussion about whether Easterlin’s index of relative cohort size is a good indicator of relative income (Wright 1989, p. 118). Furthermore, the theory’s conceptualisation of socialisation is rather plain: the influence of personal experience operates from a distant and rather fixed past, and neglects the influences of changing social environments apart from cohort size. Exclusive emphasis on the effects of the early socialisation on a person’s aspirations amounts to the neglect of the effect of peer group influences in new environments or of the experiences in adulthood in general (Freedman 1987, Namboodiri 1980). Moreover, there are other life-time specific experiences, such as education and labour force participation, which can have decisive impact on (later) considerations in decision making, for instance with regard to goal setting, dependency of others or the value of children. Lastly, Easterlin’s theory needs to specify better the mechanisms through which relative income influences motivation for fertility. Pampel and Peters (1995, p. 190) suggest that if a number of additional conditions are met, the Easterlin effect might still emerge.

Micro-economic approaches to fertility behaviour are, in principle, best defined in terms of the methodology applied to study behaviour (Siegers 1987, 1991). This methodology rests on the advancement that the basic problem of individuals is to allocate scarce resources so as best to satisfy their desires and, consequently, on the adoption of the concept of choice. Whereas in principle such a decision making perspective is an immensely valuable and universally applicable starting point to assess the microlevel foundations of reproductive behaviour, the economic elaboration of choice is not particularly suited as a general theory of individual behaviour, especially not if the primary aim is insight into the mechanisms of behaviour.
formation. The refrainment from any motivational content poses a fundamental barrier to a full understanding of fertility behaviour and fertility change. An adequate representation of choice, including a recognisable substance of utility as well as the mental processes involved in decision making, demands a broader concept of rationality than that underlying standard neo-classical economics. Apart from the disregard of the processes inherent in choice itself, existing micro-economic frameworks of fertility display insufficiently the life-time dynamics involved in decision making. The Easterlin hypothesis is a breakthrough in this respect, but it is only a first step. Psychological research has demonstrated that motivation for behaviour is adaptive to experiences in a broader life course perspective and depends on the decision-maker’s construction of the choice problem, which evolves with personal development. The need to incorporate such dynamic perspectives necessitates a modified definition of rationality which allows people’s ends to be at least partly a product of their own creativity (Hargreaves Heap 1992, Lesthaeghe and Moors 1992, Elster 1983b). Lastly, the economic approaches are incomplete in the sense that they discard the context in which decision-makers operate, at least as far as the context cannot be expressed in economic terms.

3.3.5. Choice and values of children: socio-psychological theories

Compared with the impact of economics, sociology, anthropology and biology, the contribution of psychology to demographic theory has been very limited (Burch 1981, McNicoll 1992). The fact that, nearly three decades later, Fawcett’s rather superficial Psychology and Population (Fawcett 1970) is still one of the main references on the association between psychology and demography is perhaps illustrative of the uneasy relationship. In Fawcett’s 1970 publication, he contemplated the remarkable almost complete absence of dialogue between demography and psychology up to then. Although the volume may be considered a turning point in mutual disciplinary interest, the impact of psychology remains surprisingly small. In 1980, Burch recognised a more substantive involvement of psychology in demographic behaviour, especially in the field of decision making. But at the same time he remarked that psychology’s contribution remained fairly circumscribed and neglected, for instance, more dynamic elements of learning and development (Burch 1980, p. 5). In 1992, McNicoll mentioned a similar lack of interest in psychological approaches (McNicoll 1992). However, the encounter between demography and psychology witnessed the application of two main theoretical approaches: the value of children approach and applications of psychological value-expectancy models.

The first line of thought can be traced back to a Maslowian perspective on motivation. Taking this as a starting point, Hoffman and Hoffman (1973) constructed a conceptual framework that depicted the way in which children could contribute to satisfying a number of material, social and intrinsic needs. According to this framework, childbearing motivation depends on the evaluation of these satisfactions and the economic and non-economic costs of children. The associated perceived value of children appears as an intermediate variable in the explanation of the relation between socio-economic, cultural and gender aspects and fertility behaviour. The framework was elaborated and operationalised in the ‘value of children project’ in the early and mid-seventies by James Fawcett and others (Fawcett 1972, 1983, Fawcett and Arnold 1973). Survey data were gathered in different countries, and subsequent analysis compared data for countries and regions within countries at different levels of socio-economic
development. In this way the model tried to underpin the propositions of the theory of fertility transition, confirming some of them, but remaining undecided on others (Fawcett 1983, Bulatao 1982). It did suggest an evolution during socio-economic development from economic and material considerations with regard to children, to more emotional rewards and psychological appreciation, which induced the introduction of the concept of the ‘transition in the value of children’. Whereas most applications of the model were carried out within the international comparative framework of the value of children project, several individual studies also relied on it (e.g. Niphuis-Nell 1981). The value of children approach produced a substantial body of literature especially in the early eighties, but has not been pursued much since then. Perhaps this is due to the fact that the research has provided relatively few generalisations about how background variables influence the perceptions of satisfactions and costs of children in order to affect fertility preferences and behaviour (Fawcett 1983). The value of children project did contribute, however, in the sense of providing a global inventory of fertility motivations, an understanding of the multi-faceted nature of children and a life cycle perspective on fertility (e.g. Bulatao 1981, Niphuis-Nell 1981).

Value-expectancy models like ‘expectancy x value’ and, notably, the Fishbein-Ajzen model of reasoned action (Fishbein and Ajzen 1975, Ajzen and Fishbein 1980) were introduced into demography, in the field of fertility, contraceptive use and female labour market participation (e.g. Bagozzi and Van Loo 1991, den Bandt 1982, Fishbein 1972, Jaccard and Davidson 1976, Moors et al., 1989, von Rosenstiel et al., 1982, Wijsen 1994). The Fishbein-Ajzen model states that the intention to perform certain behaviour is a reliable indicator of the performance of that behaviour. In turn, this intention can be assessed by measuring beliefs about consequences of the behaviour and the valuation of these consequences on the one hand, and perceptions of the opinions of others in combination with the importance attributed to these opinions on the other. An advantage of the model is that it takes into account to a certain extent the influence of the social environment by including a normative component in terms of the opinion of the important others. In an extension of the model, Bagozzi and Van Loo introduced a hierarchical goal structure in which direct aspirations and behaviour are considered as the intermediating arguments in the efforts to achieve more distinct goals. As opposed to the value of children approach, these attitudinal models do not a priori formulate a set of goals related to fertility behaviour. Nor do they pose universal goals for human behaviour like Maslow’s general needs. Although psycho-logical decision making theories share this content-free character with the micro-economic approaches, they empirically search for motivational aspects instead of relying on the vacuous concept of utility maximisation. Where micro-economics has been very reluctant to consider preferences directly and explicitly, this is exactly one of psychology’s main fields of interest.

To some extent, psychological approaches share the problems associated with microeconomic theories. These concern particularly the volitional character of individual behaviour formation and the less than adequate incorporation of the institutional backgrounds determining that behaviour. The theoretical framework underlying the value of children framework, and more explicitly the one underlying the psychological value-expectancy models, assume deliberate choice and purposeful action; these are perhaps not always the most appropriate assumptions given the supply mechanisms of natural fertility, the lack of effective knowledge, the possibility of overriding social pressure in favour of childbearing, and the possibly restricted availability of and access to the means to control it. Ajzen and Fishbein themselves, in fact, recommended
their model especially for situations where individuals have strong control over the factors associated with decision making, which is thus more applicable to developed than to less developed countries. In this respect the incorporation of the concept of self-efficacy (Ajzen 1991, Bagozzi and Van Loo 1991) may improve the explanatory power of psychological choice models.

Fawcett was aware of the possibility of overriding social pressure in favour of childbearing, ignorance of the reproductive process and unawareness or unavailability of means to prevent pregnancy. Nevertheless he stated that “for almost all people everywhere the decision to stop childbearing becomes salient, even though it may be very late in the reproductive cycle” (Fawcett 1972, p. 9). M.B. Smith adds:

“Even near the fatalistic pole [...] where the possibility of modern contraception does not exist in the range of choice, alternatives of delayed marriage, sexual abstinence, coitus interruptus, or abortion may have sufficient psychological reality to suggest the presence of ingredients of decision in childbearing. The involvement of decision would seem to be a matter of degree” (M.B. Smith 1973, p. 9).

Other studies on reproductive behaviour in developing countries support this notion. They reveal that besides socio-cultural constraints on fertility, traditional methods were commonly known to limit family size, and at the individual level various means often existed to intentionally avoid or reduce the risks of pregnancies and childbearing (e.g. Cleland 1985, Handwerker 1986b, B.D. Miller 1981). Knodel reports several studies that show that birth control in ‘natural fertility societies’ is intentionally practised, though not with the objective to reduce births, but explicitly motivated by health considerations of both mother and children (Knodel 1983). Studies by Bledsoe (1990, 1995) among the Mende of Sierra Leone, indicate that individuals do not act strictly within biological bounds and cultural norms, but constantly tinker with household structures in order to achieve desired demographic outcomes. In a historical perspective, the classic publications by Carr-Saunders (1922) and Himes (1970) and, more recently, McLaren’s A History of Contraception (1990) suggest that the idea of limiting progeny has rarely been absent from human existence. Historical novels (e.g. Chaucer’s Canterbury Tales offers several spicy clues) also indicate that there has possibly always been a desire to influence fertility, either to reduce or increase conceptions and births, to space offspring, or to determine the children’s sex. The existing literature on this subject refers to potions, rituals, coitus interruptus, devices, abstinence, abortion and infanticide as belonging to the range of practices to limit progeny.

True as these statements on the intentionality may be, they cannot eliminate an existing flavour of naiveté where the explanation of fertility behaviour is concerned. It has been rightfully recognised that the distinction between the availability of means and actual behaviour, let alone its demographic impact, has not always sufficiently been noticed (Caldwell et al., 1987a, p. 27, 30, McLaren 1990, p. 5). With regard to this demographic impact, Coale (1973, p. 63) considers the incorporation of fertility in the calculus of conscious choice as prerequisite for fertility transition. This implies a collective legitimacy connected to the deliberation with regard to childbearing (cf. Handwerker 1986a, Lesthaeghe and Wilson 1986, Mason 1992, Stamm and Tsui 1986). Such an interpretation is at the centre of Etzioni’s normative-affective decision making model, which states that certain considerations are so morally and/or emotionally ‘unthinkable’ or irrelevant that they are blocked from conscious deliberation; their consideration, not merely their adoption, is tabooed (Etzioni 1992, p. 93; cf. Bagozzi and Van Loo 1991, Mason 1992). Coale’s notion of fertility within the calculus of conscious choice
may also be interpreted in terms of Rotter’s concept of internal locus of control or Bandura’s self-efficacy (Rotter 1966, Bandura 1977a, 1982). Rotter coins the term ‘external control’ for the situation where an outcome is perceived as the consequence of an action of one’s own but not being entirely contingent. The outcome might typically be perceived as the result of luck, chance, fate, as under the control of powerful others or superhuman forces, or simply as unpredictable because of the great complexity of the forces surrounding him.

Other options to increase the relevance of decision making approaches to the situation in developing countries (although at the expense of quantification) relate to a broader definition of the concept of choice: either by extending decision making analysis to the proximate determinants of fertility (e.g. Bulatao 1984, Hull 1983) or by incorporating the process of choice. According to Fawcett, the notion of choice as a process entails at least three different, not necessarily mutually exclusive aspects (Fawcett 1991, p. 14): the construction of a choice situation and rules of decision making; the sequence of stages in the process of decision making; and ‘sequential decision making’. However, the demographic literature on these psychological concepts remains limited and very scattered.

A great many psychological contributions to understanding fertility remain untapped by the discipline of demography. They might very well add to a more encompassive choice concept that avoids the voluntaristic and purposeful orientation of the presently applied approaches.

3.3.6. Diffusion: technology and ideas

Over the years, the theory of demographic transition has incorporated a number of additional ideas to remedy some of its shortcomings. Many of these efforts were related to the failure to define socio-economic development as the crucial variable of demographic change. The incorporation of some concept of culture especially perceived as a principle involved in the spread of ideas seemed to provide a promising alternative. In its wake, the concept of diffusion entered the theoretical edifice of demography (cf. Cleland and Wilson 1987, Retherford and Palmore 1983, Watkins 1986, 1987), or better, was re-instituted as a major explanatory strand.

Diffusion can be understood as the process by which innovations spread from one locale, social group or individual to another (Retherford and Palmore 1983, p. 296). The spread of ideas, behaviours and techniques has often been found to follow the grooves laid down by socio-cultural forces, such as language, ethnicity, neighbourhood and workplace, or channels of communication and exchange. Thus, Lesthaeghe’s study of fertility decline in Belgium showed a clear demarcation of fertility patterns and levels along language borders for communities which were otherwise socio-economically very similar (Lesthaeghe 1977). Kirk attributed the early transition in countries such as Hungary and Bulgaria to their location along the Danube as a prime artery of communication and commerce (cf. Kirk 1996). Various others pointed to migration avenues, network channels and institutionalised lines of communication for the spread and explanation of family planning acceptance (e.g. Bongaarts and Watkins 1996, Freedman 1987, Cleland 1987, Watkins 1987, 1989). Entwisle et al., found evidence of the importance of conversational networks to directing and controlling the flow of information about contraceptive methods in rural communities in Thailand (Entwisle et al., 1996). They associated the variety of method acceptance between communities and the typical
predominance of one method within the communities with the structure of largely village-based social networks. The notion of diffusion also focuses attention on the different contextual levels (interpersonal, local, national, global) involved in the transmission of information (Bongaarts and Watkins 1996, Hammel 1990, Montgomery and Casterline 1996, Retherford and Palmore 1983).

The reception of diffusion into fertility theorising brings along its own conceptual and methodological problems. With respect to diffusion, Greenhalgh cautions against a too reductionistic approach, focusing almost entirely on communication about birth control, while neglecting the exchange of a broad scale of perceptions on other issues relevant for reproductive behaviour (Greenhalgh 1995b). To parts of the family planning movement the contribution of diffusion was even restricted to the spread of contraceptive technology (e.g. Ravenholt and Chao 1974). Like Greenhalgh, Pollak and Watkins (1993) argue that diffusion involves more than techniques and mere information. They refer to Van de Walle who states that in the early 19th century condoms were licit in extramarital liaisons, but not within marriage, and to Bledsoe (1991) who reaches a similar conclusion for several African countries. This pertains to the criticism that the diffusion approach is deficient in its omission of the context of contraceptive communication, especially with respect to the requirement of its social legitimation and the spread of values (cf. Lesthaeghe and Wilson 1986, Handwerker 1986b). Related to this criticism, many consider the diffusion concept merely a description without notable theoretical content (McNicoll 1992, Pollak and Watkins 1993), which sometimes entails just summary statistics that reflect the pattern of spatial and temporal spread of some phenomenon. Hammel’s (1990) contribution can be mentioned as an important step to provide more substance to the notion of diffusion, but within demography, of course, Rogers (1983, 1973) must also be referred to, alongside, the more recent work by Montgomery and Casterline (1996), who try to model the social structure of contraceptive diffusion. Still, a fundamental underpinning of the working of the diffusion mechanism - how information is conveyed in the social environment and how the messages are organised and interpreted, and ultimately lead to behaviour - is in the lap of other disciplines such as (cognitive) anthropology, sociology, and, importantly, social learning theory.

3.3.7. Culture, structure and social organisation

The field of fertility theory covers a number of interpretations and approaches that share a focus on the structural level of society: culture, institutions or social organisation. With their backgrounds largely in the more holistic disciplines of sociology and anthropology, a very heterogeneous compilation emerges. Far from claiming to be exhaustive, a list of such approaches to fertility might include system-functionalist ideas derived from Adam Smith’s ‘invisible hand’ hypothesis (Wrigly 1978) and other homeostatic interpretations (Howell 1979, 1986, Kreager 1982, 1986, Lesthaeghe 1980), ‘modes-of-production’ paradigms (Boserup 1970, 1990, Goody 1976), Lesthaeghe’s production-reproduction thesis (Lesthaeghe and Surkyn 1988b, Lesthaeghe 1989b), Cain’s institutional approach of risk and insurance (Cain 1981), Caldwell’s wealth flows theory (Caldwell 1976, 1982), family oriented analyses (Ariès 1962, Cain 1989, Freedman 1987, Davis and Blake 1956, Khan 1987, Ryder 1983), the notion of the second demographic transition (Lesthaeghe and Van de Kaa 1986, Lesthaeghe and Verleye 1992, Van de Kaa 1987), and the recently emerging institutional approaches in the line

Disappointed at failing to find the crucial determinants of fertility in socio-economic indicators, some demographers have turned to culture (Cleland and Wilson 1987). Research based on the results of the World Fertility Survey (e.g. Cleland 1985) and the Princeton study on the European transition experience (Anderson 1986, Knodel and Van de Walle 1979, Watkins 1986), signified the importance of cultural factors as the major independent determinants of fertility levels and the onset of fertility decline. These studies, however, did not elaborate on what was exactly meant by culture. Greenhalgh (1995b) and Hammel (1990), therefore, accuse demographers of a widespread incompetence in conceptualising culture meaningfully, a specification of Ryder’s general complaint that “demographers are much less comfortable with concepts than with data” (Ryder 1983, p. 16). Apart from the work of a small number of researchers, culture has gained hardly any depth; it is usually only grasped in terms of language, ethnicity or geographical region. The large scale surveys on which traditional demographic research is based cannot grasp the meaning of culture, and so to many demographers, the concept connotes a ‘messy bag’ (Lesthaeghe 1989a, p. 2) which may be assumed to contain all residual explanation. The problem of incorporating culture into theory, however, is not restricted to demographers alone: all social sciences consider culture a notoriously difficult concept to define, perhaps even more so than the concept of social structure (cf. Archer 1996).

Culture is usually claimed to stand for the shared and intergenerationally transmitted beliefs and evaluations about the world and people’s place in it. The role of culture in fertility change is presumed to be particularly located in this feature of transferring values and information within a culturally identifiable group (e.g. Lesthaeghe 1977). Culture provides the normative and interpretive or meaning-giving rules according to which people consider fertility and its proximate and ultimate determinants. The link between culture as an ideational or meanings system and social organisation lies in the common order they provide for the definitions of social relationships and evaluation of individual behaviour. Modes of production, intergenerational and gender relations, marriage systems, et cetera are reflected in culture. But on the other hand, by providing social structure with a meaning, culture also legitimises and, therefore, (re)produces society. This dualist manifestation has been acknowledged in the demographic literature by several exponents of a cultural approach to fertility theory (e.g. Greenhalgh 1989, Hammel 1990, Lesthaeghe and Surkyn 1988a). In the social, political and anthropological analysis of fertility, the family is the dominant institution: it is the locus of demand and supply of children, by and large it retains the function of socialisation base, and often it constitutes the prime avenue to achieve things that are important in life, such as economic assistance, security, social interaction and status, information and emotional and political support (Davis and Blake 1956, Dyson and Moore 1983, Freedman 1987, McNicoll 1994).

Several broad lines of thought on the rather elusive concepts of culture and social structure can be distinguished in demography. Most of them are not acknowledged as separate theories, so the discussion here is arranged around the work of the major proponents and publications. A first mode of thought with social structure as its point of departure, is the holistic representation of society as an integrated system of arrangements and mechanisms which are principally geared to the reproduction and maintenance of that system. It can be viewed as a continuation of the Malthusian programme, but based on modern research and insights. A
milestone publication in this respect is Coleman and Schofield’s *The State of Population Theory*. Kreager’s work (Kreager 1982, 1986) may be representative for this approach when he paints an anthropological vision of demographic regimes as Durkheimian organic solidarities. Population process components (fertility, nuptiality, migration and mortality) work in a coordinated fashion so as to adjust population size and distribution to the capacities of the environment (cf. D. Coleman 1986, Lesthaeghe 1980, Livi-Bacci 1984b). This mirrors the classic structural-functionalist anthropology of Radcliffe-Brown:

“The function of a particular social usage is the contribution it makes to the total social life as the functioning of the total social system. Such a view implies that a social system (the total social structure of a society together with the totality of social usages in which that structure appears and on which it depends for its continued existence) has a certain kind of unity, which we may speak of as a functional unity. We may define it as a condition in which all parts of the social system work together with a sufficient degree of harmony or internal consistency, i.e. without producing persistent conflicts which can neither be resolved nor regulated” (Radcliffe-Brown 1952, p. 181).

Such studies concentrate on the colourful anthropological uniqueness of societies, but sometimes tend to over-emphasise the cultural barriers to demographic change (Robinson 1992, cf. Lockwood 1995). By their nature they are not infrequently rather static and descriptive, and fail to provide the links of encountered feedback mechanisms to the motivation of individuals to act in line with the - presumed - long-run societal benefit. Unless a real autonomous consciousness is attributed to the population system, it is hard to grasp how individual and societal needs are synchronised other than in a long evolution of gradual adaptation (Demeny 1986, Livi-Bacci 1984b, Ní Bhrolcháin 1993). But, as Lesthaeghe rightly points out that there is no need to assume a latent aim of controlling population growth if other explanations, centering on direct goals, like survival of children or maintenance of power relationships, are available to account for it (Lesthaeghe 1980). On the macrolevel, however, such individual pursuits of goals (portantly shaped by the structure and content of the social environment) may well have the effect of maintaining a functional demographic balance in the long run (Blake 1994).

Explaining demographic patterns solely in terms of system needs easily ends in ad hoc or tautological theorising. The demonstration of the functional quality of certain collective behaviour for a population system cannot demonstrate its necessity to be there, at that time and in exactly that form; there may very well be other, functionally equivalent, behaviour patterns that could respond to the same motives (McNicoll 1992, cf. North 1994). It is easy to interpret an institutional arrangement as valuable if it has found its established place in some situation, but the danger of ex post rationalisation is acute: conceivably a different arrangement would have served the situation even better. This reflection led Demeny to his gloomy remark that “...the impression is overwhelming that history is a story of unrealised potentials that could have been within our grasp” (Demeny 1986, p. 483).

The only line of thought that can lay claim to the status of ‘demographic theory’, and as yet the only one that can conceptually rival the conventional transition theory (particularly in the setting of contemporary less developed countries), is Caldwell’s *wealth flows theory* (Caldwell 1976, 1982). Culture, here, is importantly represented by the meaning of kinship and family, traditionally a central issue in the anthropology tradition from which Caldwell originates. The theory states that the level of fertility is primarily imposed by the direction of the net wealth
flows between parents and children, which include all the present and anticipated benefits over a lifetime. The outcome of this economic rationale is either maximum or zero fertility, but this is adjusted by the impact of personal, social and physiological reasons. The commanding principle underlying the direction of intergenerational wealth flows is the social organisation of the society, and specifically family structures. Caldwell argues that in all traditional societies the net wealth flow has been from younger to older generations, which means that economic motives promote high fertility. This flow will only be reversed if the economic and emotional primacy is withdrawn from the grip of broader family ties and is focused on the conjugal family. The nucleated family is, therefore, a sine qua non for low fertility and the transition from high to low fertility is a product of social change with economic implications, rather than economic change alone. The primary force behind the transformation of the family is credited to universal education across a nation or cultural group. Mass education changes the values and costs of children within the family and introduces a Western family model into the society. Capitalising on the general failure to identify critical socio-economic variables for the onset of fertility decline, Caldwell argues that it is the process of Westernisation, rather than economic modernisation, which initiates the change toward low fertility (cf. Ryder 1983). Caldwell’s theory deals explicitly with the structural background of high fertility and fertility decline. Its theoretical stance is represented by H.L. Smith:

“[W]hen change comes, it comes not through the collective exercise of individual choice but through the collapse of a larger system that had heretofore constrained all choices of behavior open to individuals” (H.L. Smith 1989, p. 172).

Put to the test (e.g. Dow et al., 1994), Caldwell’s theory received less support than might have been expected on conceptual grounds. It is not clear to what extent this is due to the severe operationalisation and measurement problems (for instance the measurement of wealth flows) that are inherent in the theory’s formulation (cf. Schultz 1983).

A third line of thought, like Caldwell’s intergenerational perspective, involves the institution of the family, but with a different nuance. Here, family is primarily the outcome of large-scale historical socio-economic and cultural processes, rather than the exclusive focus of demographic change. This tradition is most prominently recognised in the work by Lesthaeghe. The gist of his work is best articulated by its attention to the analysis of the first two of Coale’s prerequisites for a fertility transition; first that the very deliberation about pros and cons of additional children to the family must be an acceptable form of behaviour, and second that perceived social and economic circumstances must make reduced fertility seem an advantage to individual couples (Coale 1973, p. 65). Both preconditions are clearly anchored in the context of ideational systems and social organisation, which Stamm and Tsui formulate as follows:

“The impact of family-planning technologies on reproductive parameters is a function of the systems of meaning which underlie the reproductive choices and preferences of the individuals comprising a society. Such systems of meaning define both what is and what is not subject to choice and the value of choice options” (Stamm and Tsui 1986, p. 159).

To arrive at reduced levels of fertility, there must be a favourable meaning-giving or ideational environment to direct the preferences and considerations that authorise the legitimacy of individual control over fertility as well as the desirability of smaller family sizes (cf. Lesthaeghe and Wilson 1986). Falling back on Maslow’s (1970) and Inglehart’s (1977) notion that, along
with development, intrinsic personal needs will become increasingly important, a universal emancipatory tendency of individualisation may be assumed to have its effects on fertility behaviour (Lesthaeghe 1983, Lesthaeghe and Surkyn 1988a). This may lead to a decline in fertility, but only if existing institutions that exert a pronatalist influence lose the legitimacy of their grip on individual decision making, and if socio-economic conditions are such that the balance of subjective cost-benefit considerations is tipped towards smaller families. Although the complex associations between socio-economic development and ideational change are explicitly discussed (e.g. Lesthaeghe 1989b, Lesthaeghe and Wilson 1986), Lesthaeghe stresses the importance of autonomous ideational shifts towards liberal and, especially, secular values. In this respect Lesthaeghe’s ideation cum social-organisation approach is a major modification of the classical notion of demographic transition.

This general scheme has been applied to the situation in Sub-Saharan Africa (Lesthaeghe 1989a, 1989b, Lesthaeghe and Eelens 1989, Lesthaeghe and Surkyn 1988b), to historical Western Europe (Lesthaeghe 1983, Lesthaeghe and Wilson 1986), and to recent demographic change in Western Europe (Lesthaeghe and Moors 1992, Lesthaeghe and Surkyn 1988a), cumulating in the concept of the second demographic transition (Lesthaeghe and Van de Kaa 1986, Van de Kaa 1987, Lesthaeghe and Verleye 1992). Each time, the picture is painted differently, highlighting the specific relevant elements of the historical and institutional background. During Europe’s fertility transition this included the nuclear family dominance, the evolution of a capitalistic mode of production, the waning of religious doctrines as guiding principles and general economic growth, fuelling individual aspirations (Lesthaeghe 1983, Lesthaeghe and Wilson 1986). The second demographic transition can be distinguished primarily on the basis of a marked acceleration of the trend towards self-fulfilment and individual autonomy, bringing about new types of demographic behaviour in the sense of new living arrangements and changed timing and prevalence of marriage and childbirth (Lesthaeghe and Verleye 1992, Van de Kaa 1987). With regard to Sub-Saharan Africa, the designation of social organising principles relies heavily on the intellectual legacy of Boserup (1970) and Goody (1976) with respect to the structuring impact of modes of production on patterns of nuptiality, gender relationships and progeny; but it also relies on classifications in terms of religious background (especially Islamisation and the survival of traditional religions), female education and contraceptive use. The emerging picture reveals the complexity of the effects of interactions between socio-economic development and social institutions on patterns of starting, spacing and stopping childbearing (Lesthaeghe and Eelens 1989).

A promising new line of interpretation is the institutional analysis of fertility. This approach, again, may be viewed as a reaction to the theory of demographic transition. Whereas the classic transition theory searched for general processes (including, at least in its original formulation by Notestein, the role of social institutions) and focused on macrolevel and socio-economic aspects, the new institutional approach seeks situational and path-dependent specificity, and is sensitive to cultural interpretations and the interaction between structure and agency. The research and analyses of Lesthaeghe and Caldwell clearly largely fall into this interpretive framework. Well-known is also Cain’s (1981, 1989) analysis of the value of children as a source of risk insurance in villages in India and Bangladesh, which suggests that the differences between the settings can be largely attributed to institutional elements like labour division between the sexes, patriarchy, legal status and social security systems. The leading demographers in the field, however, are Greenhalgh and McNicoll. While Greenhalgh starts out from a political-anthropological perspective and McNicoll particularly relies on a
sociological and institutional economics background, they are remarkably in unison in voicing the needs for and elaboration of institutional analysis. Both Greenhalgh and McNicoll largely reject the possibility of general schemes of fertility change. Compare, for instance, McNicoll’s statement that:

“[F]rom a distance, the process of fertility transition that accompanies social and economic development shows many similarities across major world regions [...]. Yet at closer range fertility transitions are idiosyncratic. Their course is influenced by the institutional endowments each society has inherited through its particular historical experience” (McNicoll 1994, p. 2)

with that of Greenhalgh:

“...to understand the causes and character of fertility decline, we need a society-specific institutional approach. [An approach] that focuses on the political, economic, and social institutions [...] within which demographic decision making and behavior occur” (Greenhalgh 1988, p. 630, see also Greenhalgh 1989, Tabah 1989, p. 20).

And again:

“... to understand the causes and character of fertility decline, we need a society-specific institutional approach. [An approach] that focuses on the political, economic, and social institutions [...] within which demographic decision making and behavior occur” (Greenhalgh 1988, p. 630, see also Greenhalgh 1989, Tabah 1989, p. 20).

Where Lesthaeghe tries to build the analysis of fertility patterns on broad theoretical perspectives of human development and incorporates as much historical and institutional specificity as is necessary to preclude a refutation of the argument, with Greenhalgh and McNicoll the starting point is more particularistic.


A seminal article that contributed much to the attention for the institutional background of fertility and on the micro-macro link of fertility explanation was conceived by McNicoll (1980). Relying on Simon’s concept of bounded rationality, he argued that the options for fertility behaviour that are salient to the individual consist of only a selection of all possible options, and that this salience depends on the structure of the information environment that is shaped by social institutions. In McNicoll’s perspective, social institutions may be interpreted as the socially constructed (and sanctioned) rules that provide solutions to recurrent problems of individual action and interaction (McNicoll 1985). This normative character of institutional
rules may be complemented with their representational or meaning-giving dimension, which fits better with Greenhalgh’s cultural interpretation. Both McNicoll (1994) and Greenhalgh (1995b) view institutions as social constructs which are constantly being made, remade and possibly dismissed in processes of negotiation and individual action. Although neither of them elaborate much on this issue, it may provide a tangible opening towards psychological and economic choice considerations, and thus a unique opportunity to narrow the gap between macro and micro approaches, structure and agency, and context and choice.

The identification of interpenetrating local, regional and national institutions reflects the multi-level nature of context. Greenhalgh (1990, 1995b) even goes on to the international arena, extending Watkins’s remark that in 1870, the relevant community to which behaviour pertained was largely local whereas in 1960 it was largely national (Watkins 1989). Thus, aims of the international community with regard to women’s rights and reproductive health as voiced at the 1994 Cairo Conference on Population and Development can be effectuated by supportive legislation at state level and women’s organisations at lower levels, but can also be impeded by adverse family and gender systems or local labour market opportunities. Overarching institutions like religion or national family planning programmes may be negotiated differently in a rural farming community than in the neighbouring fishing community, because of the differences in the local economies (cf. Niehof 1985). Due to the sustained conjuncture of various institutions in specific social settings, the meaning of the individual institutions may change in the course of time, which is why, for instance, Catholicism in Ireland has become different from that in Mexico or Sri Lanka (cf. Handwerker 1986a). An institutional approach finds the understanding of fertility at least partly in the historical evolution of the specific amalgam of institutions: it views them as evolving processes which not only depend on current circumstances, but also, and crucially, on their past history, and, which moreover, evolve at every point in time, rather than only during a transition phase (Greenhalgh 1995b, McNicoll 1994).

The various cultural and structural approaches conceive social change differently. Homeostatic approaches are relatively static interpretations, although they perceive feedback mechanisms that secure the reproduction of society (e.g. Kreager 1982, 1986). Sometimes structural approaches address the vehicles of social change, such as education (Caldwell 1976, 1982, Handwerker 1986a, Lesthaeghe et al., 1989), cohort socialisation (Lesthaeghe and Moors 1992, Lesthaeghe and Surkyn 1988a, Ryder 1965) or technological innovation (Boserup 1981). The institutional approaches of Greenhalgh and McNicoll explicitly address the historical evolution and path-dependency of the institutional setting of the society. Fewer are the structural approaches that explicitly pursue the causal mechanisms or the microfoundations of the processes through which social institutions are transformed (e.g. McNicoll 1994). Usually, proponents of this body of thought claim the overriding importance of contextual variables. Sometimes, however, they do not refute individual approaches like choice; some even explicitly acknowledge the importance of both lines of thought and see them as complementary or even compatible elements (e.g. Mason 1992, McNicoll 1980, 1985, Ryder 1983). Lesthaeghe explicitly acknowledges the contribution and validity of decision making approaches if they are properly set against the historical and cultural context. He assumes individualism as a universal force underlying the crumbling of institutions aiming at the control of individual (fertility) behaviour (e.g. Lesthaeghe 1983, Lesthaeghe and Moors 1992, Lesthaeghe and Surkyn 1988a). Greenhalgh takes a less pronounced position, but voices
the common view that political, economic, and social institutions delineate the domains in which goals and options, as well as the legitimacy of demographic decision making are formulated. McNicoll takes this argument much further but, contrary to Greenhalgh and others, represents a bottom-up rather than a top-down approach (although Greenhalgh seems to have a different interpretation in this respect). His translation of institutions into cognitive terms creates a tangible opening towards psychological and economic choice considerations, and thus provides a unique opportunity to narrow the gap between macro and micro approaches, structure and agency, and context and choice.

Most of the structural-cultural approaches may be understood as a reaction to the theory of demographic transition as a leading paradigm in demography. This reaction takes shape in various ways, from a reformulation of the central concepts of a transition (Caldwell), via a further specification of particular conditions under which transition is likely to occur (Lesthaeghe), to an outright rejection of a common force of fertility change (Greenhalgh), and further to the adoption of a situational analysis of the specific combination of relevant institutional forms (McNicoll). The theoretical profundity of the study of fertility declines more or less in the same order. Caldwell’s approach is a straightforward theory, McNicoll’s yields an analytical framework and, hopefully, a methodology or research agenda (McNicoll 1985, 1992).

3.4. Conclusion

3.4.1. Summary of findings

The theoretical orientations presented in this chapter provide distinctive angles to view one and the same object of study. The consequence is a range of different answers to principal questions and requirements with respect to theory building and methodology. In view of this study’s aim of a better understanding fertility, and ultimately a contribution to a better underpinning of population and health programmes, their direct relevance is very different. The realisation of these aims relies on a realistic and comprehensive interpretation of the subject matter and in this respect the various theoretical approaches do not provide a complete picture by themselves, but advance, each differently, propositions that contribute to understanding of fertility behaviour. To some degree, their differences are complementary, but on the other hand they also reflect different interests and assumptions, differences that might be unreducible unless human science in general succeeds in developing an encompassing meta-theory (cf. Coleman and Fararo 1992, p. xv). Does this mean that there is no scope for narrowing down what is tenable as theory on the subject of fertility or demography in general? In a reflective article, McNicoll (1992) argues that, in fact, there is. This concluding section provides a summary of the theoretical elements that can be included in a comprehensive framework of fertility behaviour. Chapter 2 identified the key elements of the structure and contents of such a framework: the acknowledgement of the micro foundations of demographic phenomena, the representation and interpretation of context and individual behaviour (macro and micro-levels), the role of process and time, and a realistic model of man. Taking these as the leading notions, it is possible to distinguish the contributions of different theoretical approaches to a comprehensive framework of fertility. The eventual picture serves as the basis to identify the
gaps and inadequacies to be resolved by additional theoretical insights and further theory development.

**Micro and macro**

Most theoretical lines of thought applied in the study of fertility emphasise either macro or micro perspectives. Malthusian approaches are the most articulate in the expression of their macrolevel interest. Their focus is on population development and its relations with food production or, more generally, environmental resources. There is less attention for the specification of the intermediate organisation and working of the social environment which exerts the more direct impact on individual behaviour. Even less attention is given to the mechanisms through which context and agents interact, and virtually none to a conceptualisation of individual behaviour apart from a long-range and almost mechanical response to environmental change. Whereas under some conditions the Malthusian macro perspective provides an appropriate background for the study of fertility, in many other situations it tends to represent a normative reference frame or an irrelevant one.

Demographic transition theory should also be classified alongside of macrolevel approaches, although the incorporation of a large number of additional theoretical notions blurs this picture. In the classic formulation, countries or regions were described in terms of macrolevel variables, primarily socio-economic ones. Individuals only came into the picture as far as they reacted to changing incentives and opportunities that accompanied the development in these societal variables. There was, however, no theoretical basis that addressed the micro level and which could underpin from an individual perspective the emergence of new forms of demographic behaviour. But also as a conceptual device to interpret the context of demographic behaviour, classical transition theory had severe shortcomings. The indicators applied to characterise the environment and (socio-economic) development are crude, revealing only if seen from sufficiently afar, and with little concern for contextual structure and the intricate interplay of contextual elements that generate the large variety in demographic patterns. Later elaborations of the transition approach (e.g. by incorporating culture and diffusion) reduced several of these problems, especially with regard to a more accurate interpretation of context. But even then the theory is better suited to localise countries or groups in a broad historical perspective than to explain fertility patterns in specific situations.

As far as one can generalise the different structural and cultural-oriented approaches in fertility studies, they seem to take an intermediate position in the micro-macro classification, although clearly the focus is more on the context than on individual behaviour. Usually, however, the representation of context is structured, rich in detail and meaningful to the individual agent. They allow a relatively good understanding of the impact of the social environment on individual behaviour by providing a framework for the interpretation of motivation, meaning and opportunities. The gap between context and agency is, however, still insufficiently bridged and the elaboration of a theory of individual behaviour usually takes a subordinate place. With regard to the representation and interpretation of context in the conceptual framework outlined in Chapter 2, this cluster of theoretical approaches offers valuable contributions. Caldwell and Lesthaeghe are particularly strong in fleshing out the elements that express the meaning of context to individual agents, particularly in the area of culture and ideation. Their interpretation of elements like education, religion, family and modes of production, and of societal processes like family nuclearisation, secularisation and individualisation bears the ingenuity that is
required to give substantive body to the environment in which individuals operate. On the other hand, the institutional approaches of Greenhalgh and McNicoll fit in well with the outline of the fertility framework, because of the structural way they represent the fabric of the context. They provide a flexible and accurate means to represent and interpret a social environment, not only in terms of the variety and interplay of institutional forms, but also in terms of substantiating their particular social, cultural, economic and political connotation. The original orientation of McNicoll (1980), which is bottom-up rather than top-down, and his (1994) interactionist interpretation of institutions as sets of rules, correspond in particular with the requirements of linking macro to micro and theorising about individual behaviour.

Micro-economic and psychological theories represent the other end of the micro-macro spectrum. Neither economic nor psychological approaches (as far as they appeared in demographic thought) are relevant for the representation of the role of social context. Their principal contribution lies in the theoretical perspectives on individual behaviour as foundations of demographic phenomena, and particularly in the elaboration of the concepts of choice and motivation: people must assign scarce resources to a variety of items; their decisions can be interpreted in the perspective of motivation; having children takes a position in this motivated choice perspective by representing a number of costs and benefits. Such propositions contribute a fundamental understanding of human fertility behaviour, although by no means do they provide a sufficient understanding. In effect, the economic approach merely assumes this kind of individual considerations and decision making on the basis of observed behavioural outcomes. The psychological approaches in demography actually substantiate motivation and choice considerations, but insufficiently recognise the complexity and limitations of the process of decision making. Both economic and psychological theories applied in demographic studies fail, moreover, to provide any profound conceptualisation of the evolvement of choice considerations, the role of the structure and substance of the social environment and the interaction between context and agency.

The socio-biological approaches take a distant position in their orientation to micro and macro levels of study. The version of Davis and Blake clearly frames the intermediate fertility variables in a sociological approach, emphasising the explanation of fertility from a macroperspective. In this respect, they actually belong to the selection of cultural-structural approaches. The Bongaarts model is virtually devoid of any social or behaviour-theoretical basis. Its aim is purely to explain fertility at population level, but the model’s input consists of aggregated individual data and an understanding of (microlevel) biological principles. Transformation of the population model to an individual-level model bring the microlevel more into the picture, without, however, gaining much in terms of theoretical conceptualisation of individual behaviour.

The crucial contribution of the intermediate determinants models is firstly the explication of the physiological principles underlying fertility behaviour, and secondly, by identifying the intermediate variables of fertility, the definition of the scope of elements to include in a decision making perspective (in the meaning of Hull 1983), and of the contextual elements that exert an influence on fertility (as in the version of Davis and Blake 1956).

**Process and time**

With regard to the incorporation of dynamic aspects in the interpretation of fertility, theories
applied in demography have far less to offer than with respect to conceptualisation of context or individual behaviour. Malthusian approaches explicitly address population dynamics, but more in the form of feedback or equilibrium mechanisms within a population system and not so much the development or change of the system itself. The theory of demographic transition although it describes a historical process of change largely remains a static account. It represents socio-economic conditions and levels of mortality and fertility in terms of their location in time, but not in terms of a true dynamic perspective that involves their transformation over an evolutionary path. Although the theory touches upon dynamic elements the concept of socio-economic development should be a candidate, and the stated irreversibility of fertility decline definitely implies a true dynamic quality they never elevate the perspective to a real dynamic approach. Moreover, as far as the theory does address change, it is only with respect to the intermediate stage of transition, leaving the pre and post-transition stages devoid of any notion of development.

Cultural and structural approaches are very heterogeneous with respect to the treatment of time and change. Many anthropological and cultural orientations tend to focus on the stability and internal coherence of societies and display a relative neglect of processes of change. Caldwell’s and Lesthaeghe’s approaches are, however, involved in the explication of social and cultural change. Some institutional perspectives explicitly address a dynamic perspective that takes the history of context and the path-dependency of institutions into account. Although this defines their theoretical stance as a real dynamic interpretation, the actual translation of the theoretical perspective into a dynamic representation of context and practical knowledge, is still more or less a pioneering effort. Bongaarts’ model of proximate determinants provides a static perspective on fertility. Nevertheless, the individual-level conceptualisation of women’s reproductive careers, on which the model is based, is phrased in terms of processes, which feature durations and stages that partially depend on previous conditions in the reproductive career. Marriage is a conditional factor for fertility behaviour, and the changes in the biological capacity for conception can also be interpreted in the perspective of life course development. The individual-level variants of the proximate determinants model (S. Becker 1993, Hobcraft and Little 1984), acknowledge the dynamic aspects of fertility behaviour more explicitly. The psychological and economic orientations in demography that focus on the level of individual behaviour do not expand their attention to the dimensions of time that correspond to analysis at the micro level. Neither the processes involved in decision making and motivation, nor the interpretation of fertility behaviour in a life course perspective entered the canons of economic and psychological lines of thought in demography. Economic approaches of decision making in demography largely rely on the traditional propensity to eschew any reflection about the behavioural processes involved in choice, except for the rationality assumptions underlying utility maximisation. Psychological choice models in principle provide a better footing for an interpretation of choice processes, but they generally limit themselves to attitude measurement and pay no heed whatsoever to processes of attention and perception, information processing, motivation or heuristics. There are studies, both economic and psychological, that incorporate the dimension of life time (choice in a life course perspective or sequential decision making), but these remain isolated cases. The prominent exception to this rule is Easterlin’s cohort theory, which locates individual fertility behaviour at the intersection of the historical time dimension of labour market development and the individual dimension of the life course. The aspects that perform in Easterlin’s time-containing hypothesis, however, cover only a fraction
of the aspects that should be considered in a dynamic perspective.

Model of man
The assumptions that defined a realistic concept of the person comprised the relevance of motivation, the involvement of mental agency, broadly defined rationality, biological functions, personal development and social embedment. The model of man (male or female) emerging from the elaboration in Chapter 2, is a motivated person, principally able ) within limits set by uncertainty and biological, environmental and cognitive constraints) to outline her life course by means of the capacity to interpret the world and her own cumulative experiences, and by means of reduction and choices taking up the challenge to deal with whatever resources are scarce and whatever objectives are in high demand. Furthermore, in important aspects she is dependent on others who, objectively speaking, live in an identical, changing and segmented, but not necessarily consistent environment that structures the information on which each behaviour is based.

To what extent do the people inhabiting fertility theories correspond with this conceptualisation? Orientations that focus on the macro level tend to be less elaborate in their assumptions about individuals and individual behaviour. In original Malthusian formulations, there is little concern for a thorough conceptualisation of the person, since the main thrust is on the level of population systems. Whatever understanding of human nature there is, relies on fairly simplistic ideas which prominently include the drive for sexual engagement and late 19th century morality. In modern versions of Malthusian approaches, the concept of the person shifted towards the individual who more or less passively follows the directives of an invisible hand which aims at population equilibrium. Demographic transition theory can be interpreted as involving individual persons, in the sense that it describes the changes in the socio-economic environment which supposedly represents the incentives and opportunities for fertility behaviour. The real human being, however, does not enter this world; although some elaborations of the theory try to involve the micro level, they seldom reach the bottom. Motivation is never elaborated at the level of individual understanding, and the representation of context and social embeddedness is uniformly interpreted in terms of very general socio-economic indicators and refers only minimally to the networks and segmented social environment that embodies the meaningful context of people’s reproductive behaviour. The concept of rationality has been addressed to explain fertility change, but only in the crude connotation that implies an absence of mental processes involved in fertility behaviour under pre-transitional or ‘natural’ conditions, and a complete reliance on such processes during transition and post-transition stages. This largely disregards the broad notion of rationality that is required for a full understanding of behaviour.

The biological approaches to reproductive behaviour developed in demography strongly emphasise the physiological aspects involved in fertility, which sometimes included the changes of the capacity to conceive during the life course. Whereas Bongaarts’ model of proximate determinants refrains from any non-biological conceptualisation of human beings, the variant of Davis and Blake is more extensive, particularly with respect to embedding individuals in the social context and its implications related to the life course. Nevertheless, Davis and Blake’s framework is a top-down approach which only marginally deals with the contributions by individuals in behaviour formation in the sense of processes of motivation, mental agency and rationality.
Given the pre-eminence of the individual in micro-economic and psychological explanations of fertility, assumptions with regard the nature of human behaviour are much more explicit. Although the two disciplines partly share the interest in individual choice, their underlying models of man are very different. In the economic approach, the involvement of individual decision making merely provides the instrument to explain macrolevel observations, whereas in psychological approaches) even if they are applied for similar purposes) the decisions and behaviours of individuals are themselves subject of study. Both disciplines rely on the assumption of people as motivated, reflective agents, but only psychological approaches elaborate the concept of motivation (particularly the value of children approach) and the empirical elements of fertility decision making. Economics, on the other hand, does not substantiate motivation beyond the concept of utility maximisation and does not document the actual considerations underlying people’s behaviour. Economics merely assumes a rational human agent (with rationality very strictly defined), whereas psychology actually tries to establish the rationality of behaviour. As far as the two disciplines have been applied in demography (at least, regarding their main stream applications), they both rely on a substantive type of rationality and do not involve the emergence and demarcation of specific considerations, nor the range of alternative rules and heuristics applied by people faced with choice problems. Neither discipline, moreover, substantiates the relation between the considerations underlying individual behaviour and the social context, although the Fishbein-Aizen-based approaches incorporate the social environment and normative rules through the opinions of important others. As far as personal development is a theme at all in the micro approaches of psychology and economics, it remains a by-product and does not appear as a principal explanatory perspective.

3.4.2. Prospects, problems, and promises

Given the state of the art in socio-theoretical demography on the one hand and the requirements of a comprehensive conceptual framework of reproductive behaviour aiming at a thorough understanding of fertility on the other, questions arise as to where the main gaps are located, which elements should be improved and what options are available in this respect. Applying the leading concepts of choice, context and time, this section gives a brief account of elements involved in answering these questions, elements which are elaborated in the subsequent three chapters.

On the whole, theory development in demography has focused more on macro levels than on the micro level, notwithstanding the strong reliance on individual data collection. The individual level interpretation of the intermediate variables models provides a strong biological basis of reproduction, but the behavioural conceptualisations are insufficient as a comprehensive theory of individual fertility behaviour. The micro-economic approach) prominently the new-home economics variant) contributes only to a limited extent to a true understanding of individual behaviour. In the economic perspective, choice is not a subject of investigation, but merely consists of a series of assumptions that permit elaborate quantification, which, given the empirical record, are rather unrealistic. Psychological approaches to fertility behaviour offer better starting points for articulating a realistic behavioural theory, with regard to both decision making and motivation. However, within demography this body of theory is fairly restricted, since psychological demography has largely
stuck with the value of children approach and the 1970s-based versions of choice models.

The restricted scope of these considerations must be supplemented with a number of conceptual issues to provide a more complete picture of behaviour formation. This chapter’s evaluation of demographic theories suggests that at least the following issues should be addressed:

- a better representation of how people actually perceive and experience situations of choice (including situations of non-attendance and complete ignorance); what information pieces do they pay attention to and how do these enter their considerations;
- the mechanisms that are involved in the acquisition and reproduction of these information pieces;
- the simplifying rules and heuristics involved in processing this information as part of a choice process;
- the way in which information (in terms of content, and acquisition, attention and processing) is related to the context in which people live;
- how the various considerations and processes change in time.

Psychological theory that is relevant to decision making and the working of the human mind covers a much broader field than the few approaches that have entered demography. Among the many theoretical contributions that could fill out the concept of choice into an encompassive theory of behaviour are assumptions with regard to goal structures (e.g. Lindenberg 1989, Maslow 1970, Rokeach 1973), principles of learning (Bandura 1986), developmental and life course approaches (Erikson 1980, 1984, Havighurst 1972, Levinson and Gooden, 1985), choice heuristics and framing of decisions (Earl 1986, Janis and Mann 1977, Tversky and Kahneman 1990, Vlek 1990), alternative versions of the concept of rationality (Hargreaves Heap 1992, March 1978, H.A. Simon 1978, 1979a), and recognition of the cognitive organisation of information (Bandura 1986, Hargreaves 1980, Piaget and Inhelder 1973, Rosenthal and Zimmerman 1978, Wyer and Gordon 1984). Many such psychological insights have become shared and incorporated by neighbouring social sciences. In many instances, institutional economics and cognitive branches of sociology and anthropology provide the micro foundations of the representation and working of macrolevel social phenomena.

With regard to the conceptualisation of context, developments in demography in relatively recent years offer a good scope to substantiate people’s social environment in a meaningful and dynamic way. Economic and psychological approaches in demography gravely neglect the contextual (and historical) backgrounds and the social mechanisms that impinge on individual considerations. But particularly with institutionally-rich approaches like those put forward by Lesthaeghe, Greenhalgh and McNicoll, demography has made prominent advances in this respect. These perspectives provide relevant input for the more encompassive theoretical framework that this study aims for. Among the constructive points of these approaches is their potential for a situation-specific representation of context and for the full incorporation of social, economic, but also cultural and political dimensions. They partially recognise that outside demography the notions of cultural systems and institutions have moved far beyond the deterministic, static and strictly autonomous sense of a Ding an sich (cf. Archer 1996, Hammel 1990, McNicoll 1994). They also provide the opportunity to draw out the structure of the
social environment and the nature of the interweaving linkages of contextual components. Moreover, the institutional perspective contributes to reducing the structure-agency problem by embedding choice and behaviour in a cognitively defined environment, a point which particularly features in the original (1980) formulation cast by McNicoll. Lastly, it has a quality which relates to the principles of social change, partially by relying on an interactionist’ interpretation. While recognising important mechanisms that sustain compliance to social and cultural conventions, this interpretation maintains that macrostructures are always created, re-created and changed in micro-action. This implies the notion of culture and institution as a process (Archer 1996, Burns and Flam 1987, D’Andrade 1984, Langlois 1986a, Münch 1987, North 1994).

The representation of context in the encompassive theoretical framework, as well as the conceptual link between context and choice, may well rely on such perspectives. The further elaboration will require the addition of several conceptual elements and a better theoretical anchoring. For instance, the application of the rule concept in institutional approaches usually puts too much emphasis on the normative function of rules and tends to neglect their representational function. Also, the transmission and reproduction of rules and institutions is still inadequately articulated. However, developments in social learning theory (e.g. Bandura 1986), institutional economics (Nelson and Winter 1982, North 1994) and cognitive sociology and anthropology (Berger and Luckmann 1966, Burns and Flam 1987, D’Andrade 1995, Giddens 1984) may guarantee a fruitful pursuit of this line of thought in demography. Lastly, the representation of process and time which adds a dynamic dimension to the concepts of choice and context has not yet entered mainstream theoretical thought in demography. Nevertheless, there is a considerable body of demographic analysis that relies on life course perspectives (e.g. Birg et al., 1991, Bulatao and Fawcett 1981, S. Coleman 1983, Courgeau and Lelièvre 1989, Manting 1994, Mulder 1993, Namboodiri 1983, Willekens 1991). The path-dependent orientation of newly emerging institutional approaches may contain the promise of a context-dependent historical time perspective. An encompassive theoretical framework of fertility should identify such relevant time dimensions for the analysis of fertility and provide the possibility for a more substantive interpretation of the mechanisms linking context, behaviour and development in a dynamic perspective.

The next three chapters will elaborate the main theoretical concepts required for the framework of fertility choice, context, process. This effort will be pursued in the light of the evaluation of fertility theories presented in this chapter, relying on theory development in neighbouring behavioural and social disciplines, and considering the implications of a demographic model of man and the requirements of social theory.
Chapter 4. Choice

4.1. Introduction

Chapter 2 identified choice, context and time as the leading concepts of the theoretical framework in this study. This chapter focuses on the conceptualisation of choice. It does not aim at a conception of decision making per se, but of choice as a general approach to understanding behaviour. The outcome of this chapter is envisioned in terms of an interpretive perspective of individual behaviour, rather than a formal theory of narrowly defined decision making. The elaboration of such a choice concept draws on four closely connected and partly overlapping considerations that relate to the defined model of man. One is the application of a broad notion of rationality. The second is the placement of choice in a broader cognitive perspective which deals with the role of information and cognition in human behaviour. The third is the situation of decision making in a social context of structured information. And the last pertains to an accommodation of the choice perspective to the specific area of fertility. The decision making approach that draws on these considerations incorporates the rationality concept as outlined in Section 2.4 as well as the concept of intermediate fertility determinants and the relevant choice elements that ensued from the evaluation of fertility theories in Chapter 3. The development of the approach will, however, strongly rely on conceptualisations evolved in other behavioural sciences. The elaboration of the choice concept in this chapter furthermore secures a close connection to the elaboration of context (Chapter 5) and life course development (Chapter 6) and, thereby, the prospect for integration in an encompassive model (Chapter 7).

In such a model, the concept of information provides the integrative strength. Therefore, this chapter starts out with a discussion on information as it is represented at the micro and macro level (Section 4.2). Information is not only conceptualised in the sense of given and explicit messages, but also as pertaining to implicit connotations, signals and emotions. It is also perceived as involving the active participation of agents in the interpretation and construction of the messages. The notion of cognitive schemes as mentally organised information and personal considerations as the subjective information elements entering individual decision making, provide the link between information, choice and behaviour.

Section 4.3 addresses the various aspects of decision making required for the development of choice as a general mechanism of behaviour formation. These aspects include the problem space as the subjective representation of a situation of choice (4.3.2), the concept of motivation (4.3.3), processes, rules and heuristics in decision making (4.3.4) and personal control (4.3.5). The last section of this chapter (4.4) recaptures the points that comprise the inputs for a further specification of the basic conceptual scheme as far as fertility decision making is concerned.
4.2. The role of information in choice and context

4.2.1. Information, meaning, and considerations

The theoretical basis, laid down in Chapter 2, suggested the concept of information as a general interpretive notion to integrate the various perspectives associated with choice, context and development. The use of such a meta-theoretical concept raises a number of questions. What does ‘information’ consist of, where are the sources of information, how should we understand the information that influences people’s perceptions and behaviour, which cognitive processes are involved in noticing, selecting, processing and organising information, how much consciousness is involved?

The elaboration of the concept of information is intended to provide a common ground for the interpretation of various elements and processes that compose the conceptual framework of this study. As such it not only supplies a degree of coherence within this framework, it is, at a higher level, also an avenue for integration of various behavioural sciences. Many disciplines and sub-disciplines rely on corresponding interpretations of information-structured environments and information-processing agents. Thus, similarities can be distinguished between approaches in sociology like Giddens’ structuration theory (Giddens 1984), the rule system approach of Burns and Flam (Burns and Flam 1987) or the sociology of knowledge (e.g. Berger and Luckmann 1966), in cognitive anthropology (Archer 1996, D’Andrade 1995, Eisenstadt 1989, Hammel 1990), in institutional and evolutionary economics (Nelson and Winter 1982, North 1994, O’Driscoll and Rizzo 1985), in various psychological theories like social learning theory (Bandura 1977b, 1986, Bower and Hilgard 1981, Rosenthal and Zimmerman 1978), Piaget’s developmental psychology or information processing theory (e.g. Newell and Simon 1972), and in different decision theories.

The common starting point of these approaches consists of the role ascribed to cognition and usually, in line with this, the assumption of an active agent who interacts with the environment, rather than one who is determined by it or operates in isolation from it. Whereas cognitive anthropological and sociological approaches assigned a central place to the informative content and structure of the environment by principle, more individualistic approaches also increasingly acknowledged this as an important theoretical device (Abell 1992, Boudon 1987, Friedman and Hechter 1991), which stimulated the development of institutional approaches and rational choice theory (e.g. Coleman and Fararo 1992, Elster 1986, Langlois 1986a, Levi and Cook 1990). The notion of information can be confined to the existence and communication of explicit knowledge, such as learning to read at school, conveying the introduction of a new contraceptive, the prices of houses on the house market or certain personal characteristics of potential partners on the marriage market. More interpretive applications of the concept of information show that the informative contents of the environment (the physical context, artifacts, cultural systems, action and interactions of others) contain much implicit information as well. This broader interpretation of information is often captured in the concept of meaning. Thus, one and the same object such as a wooden chair may have different meanings to a carpenter (the craftwork), an artist (the design), an interior designer (harmonisation in the environment), a user (the comfort) and a widow of someone who usually sat on it (the emotional value). Although the stimulation is the same and in principle contains the whole range of information, what differs is the information extracted from (or attributed to, as interactionists would say) the object, because of the different functions it represents to the observers. Similarly, one and the same behaviour or phenomenon, such as employment, marriage or childbearing, can have very different meanings. A clear example of information that is implicitly comprised in the context, is contained in Caldwell’s wealth flows theory. He attributes an important role to the education system in changing reproductive patterns. But instead of emphasising the formal contents of the curriculum in this respect (such as
more subtle and unintended informational contents. Based on European standards, educational systems implicitly connote and imprint Western models and family relations between spouses and between parents and children (Caldwell 1976).

Here, the notion of contextual information will apply to the more encompassive interpretation: it is not limited to the factual information as imparted through educational institutes, information campaigns, various media, or personal communication; nor does it only refer to the shared normative and prescriptive rules that people apply to set out a course of action; it refers to all the explicit and implicit models, meanings and messages that can be extracted from the environment in the process of interaction between context and agents (cf. Bongaarts and Watkins 1996, p. 657 ff.). This contextual information influences people’s behaviour as it becomes translated into the personal considerations on which they act. These considerations refer to the part of the contextual information that together with information from internal sources acquired meaning or has emerged as salient to a person in a specific situation and at a specific point in time. The elaboration of the concept of choice in this chapter will distinguish types of personal considerations which will represent the cognitive determinants of behaviour.

A shortcoming of most decision making theories is that they neglect the issue of how considerations are produced. This issue is a crucial aspect in Simon’s perspective on procedural rationality. Although he explicitly acknowledged the role of attentional and representational processes to bring certain aspects of reality into focus and ignore others (e.g. H.A. Simon 1987, cf. Nelson and Winter 1982, p. 67), he was less concerned with the sources of and the mechanism responsible for these confinements (cf. Rutherford 1988, p. 52). This chapter will situate a more encompassive choice concept within a larger cognitive framework that addresses the contextual sources of information and the mechanisms through which they are translated into personal considerations. Another weakness of most choice theories is their preservance of a static perspective, in the sense that they neglect the issue of how personal considerations change over time. This issue will be dealt with in Section 4.2.3 and in Chapter 6.
The concept of information outlined above and its translation into personal considerations, definitely includes emotion-laden aspects. Many branches of behavioural science feel uncomfortable with the concept of emotion, which surfaces, for example, in feelings of justice, ethics, anger, joy, excitement, shame, happiness, love, pain, anxiety, sadness and satisfaction. In the life domain related to fertility (including sexuality and the bearing and raising of children) emotions occupy a central role. If emotional background is considered to be an important determinant for behaviour (which is generally agreed upon) and one aims at understanding behaviour, a conceptual framework should be able to integrate emotional factors (e.g. Scheff 1992, Klosko et al., 1987). Nevertheless, many theoretical approaches tend to narrow down or completely ignore their role as causal agents. Cognitive traditions are no exception to this rule, although there are various attempts to address the issue of emotional factors in the study of behaviour. Kuhl (1986) and Rokeach (1973), for instance, incorporate such factors, but, based on the common assumption of incompatibility between emotion and reason, argue that cognitive and affective processes should be distinguished from each other. Etzioni (1992) proposes a model of decision making based on such a distinction. He contends that the majority of choices people make are completely or largely based on normative-affective considerations and that, because such choices entail a different style of decision making, existing models are unable to cope adequately with large areas of human behaviour (see also Nelson and Winter 1982, p. 67). With respect to the fertility decision making, also Van Luijn (1996) seems to underscore this perspective as she wants to distinguish ‘rational’ and ‘non-rational’ (emotional) processes influencing the process and style of choice. Simon, on the other hand, acknowledges the informative function of emotions and mentions them among the elements of procedural rationality, influencing as they do the focus of attention and the definition of the situation (H.A. Simon 1987, p. 26). Similarly, Niphuis-Nell includes emotional factors in individual rationality: since the impact of emotional considerations on people’s motivation for having children is comparable (but not equal) to, for example, material or social considerations, they do not require a principally different treatment in the conceptualisation of behaviour (Niphuis-Nell 1981, p. 193). Frank analytically equates the role of emotions and moral sentiments in human behaviour with the concept of tastes, placing sentiments and passion clearly within reason. Thus, a person motivated to avoid the emotion of guilt may be equivalently described as having a ‘taste’ for honest behaviour (Frank 1992, p. 179). Collins (1993b) is even more elaborate in his involvement of emotion by assuming the attachment of emotional energy to various courses of action to be the main heuristic to simplify decision making considerations.

Learning theory advances the integration of cognition, behaviour and emotion by emphasising the cognitive determinants of emotional reactions. Novaco’s (1979) model of emotional stress and anger identifies two cognitive processes that have a mutually influenced relationship to anger: one in the form of expectations) as subjective probabilities about events, and based on previous appraisals of related circumstances) that occur prior to the exposure to stressors; and a second in the form of appraisals) a function of the expectations one has regarding oneself and others) that accompany and/or follow the stressors. Becoming angry has feedback effects which make future expectations and appraisals a function of the experienced anger arousal. Such insights reappear in social learning theory as it asserts that many emotional predispositions are acquired by processing information related to direct experience or to observing others in situations where emotion-laden symbols provide the basis for affective learning (Bandura 1986, Bower and Hilgard 1981).

These various considerations acknowledge both the need to involve emotions in understanding behaviour and the possibility of phrasing them in terms of information. Even though emotions may relate to unconscious or subconscious processes, may derive from a different source than other considerations and may involve a different style of contemplation, a cognitive approach can well
incorporate emotions in a decision making framework: with regard to behavioural determination emotional considerations are similar to economic or social considerations, and with regard to conceptualisation equal to perception or thought (Scheff 1992, Kemper 1993, D’Andrade 1984, cf. Bandura 1986). Etzioni, for instance, rejects the standard interpretation of well-informed, calculated decision making, but he conserves the relevance of choice as a paramount mechanism of behaviour by incorporating normative-affective factors, which:

“shape to a significant extent decision making, to the extent it takes place, the information gathered, the way it is processed, the inferences that are drawn, the options that are being considered, and those that are finally chosen” (Etzioni 1992, p. 91).

This is not a refutation of choice, nor is it a refutation of the role rationality. It only mitigates a specific calculative choice and the role of a specific substantive rationality. In fact Etzioni’s suggestion is exactly what Simon searches for to substantiate the notion of procedural rationality, which refers to the (non-rational) processes that influence the focus of attention and generate the actor’s subjective representation of a decision (H.A. Simon 1987, p. 26). Therefore, emotions are considered to be an inherent element of decision making.

4.2.3. Cognitive schemes

The information that is personally available although not always directly and consciously accessible does not consist of an amorphous sea of unconnected bits of knowledge. Cognitive psychologists believe that information is internally organised into knowledge structures, variously labelled as schemes or schemata, mental maps, scripts or mental frameworks. Such cognitive schemes allow agents to interpret and construct ‘reality’, including themselves and their position in the environment. Such understanding constitutes the backbone of cognitive theories such as Piaget’s developmental psychology and learning theory, but it is also a starting point in various other cognitive orientations in behavioural disciplines, such as the sociology of knowledge (Berger and Luckmann 1966), institutional economics (North 1994, O’Driscoll and Rizzo 1985) and cognitive anthropology (D’Andrade 1995).

There are commonalities between Piagetian theory and social learning theory in their assertion that a person’s mental organisation can be considered as a stage of equilibrium in a process of adaptation or ‘equilibration’, which encompasses two complementary processes. The first is a process of assimilation. This process matches information from the physical, social and intrapersonal environment to the existing cognitive frame of reference that consists of various mental schemes. These schemes operate as filters which select, interpret and judge information with which the individual is confronted. The second process is an accommodation mechanism that adjusts, expands and differentiates the existing cognitive organisation in the face of new or discrepant information. An adjusted mental structure, in turn, prepares again for a better assimilation of information and increases a person’s ability to learn and recall new information about particular objects, events and behaviours (Piaget 1975, Piaget and Inhelder 1973, Wyer and Gordon 1984). The construction of cognitive schemes is thus a continuous, dynamic process of assimilation and accommodation that occurs over the whole span of life. In the social learning theory of Bandura (1977b, 1986) this storage and organisation of information in cognitive schemes is represented as retention processes. As one of the major constituent processes of learning and decision making, it will be incorporated in the broad conceptualisation of choice.

The fact that people have learned and structured information at their disposal allows them to infer the meaning of objects, events and situations, as well as to judge causal contingencies and their
own behavioural capacities and limitations. A crucial aspect that lends additional power to the thinking of human beings, is their well-developed capacity to abstract. People are able to generalise the information that they assess from particular events or experiences to rules that apply to different, new or imagined situations (Bandura 1986, Rosenthal and Zimmerman 1978, Wyer and Gordon 1984). In accordance with the interpretation of Rosenthal and Zimmerman (1978), such rules are understood as cognitive representations of a systematic relation between two or more aspects. Hierarchies of embedded rules can subsequently be understood as constituting a person’s different mental frames or schemes. Thus, mental schemes, as knowledge structures or frames of a higher order, coordinate behaviours and personal considerations such as perceptions, expectations, motivation and decision rules (Esser 1993, Prendergast 1993). Through the associative function of such cognitively constructed schemes, a single input in a specific situation (a stimulus, a symbol, a cue) is enough for a person to infer a whole set of meanings, orientations and behaviours, independently from the original information that led to the construction of these schemes. This allows people to create a coherent and functional view of the world and to infer causal and judgmental rules that are retained over time and generalised to new situations (Bandura 1986, Rosenthal and Zimmerman 1978, H.A. Simon 1979a). As such the schemes of symbolic conceptions serve as ‘cognitive maps’ (Abeles 1990) or ‘recipes’ (Berger and Luckmann 1966, Schutz 1976a) that give meaning and create expectations and standards against which performance is judged (Bandura 1986, Wyer and Gordon 1984).

The structurating of people’s perception on the basis of established cognitive frameworks is a major mechanism dealing with the problem of bounded rationality. The considerations that are activated within the boundaries and structures of one or more of these mental schemes make up a person’s salient decision frame, which is addressed in different nuances by the ‘definition of the situation’ (Esser 1993, Heise 1986, Schutz 1973a, 1973c, H.A. Simon 1957, 1978), ‘problem space’ (Newell and Simon 1972, Payne 1980), ‘framing’ (Lindenberg 1989, Tversky and Kahneman 1990) and ‘habitus’ (Bourdieu 1984). The bounded rationality of decisions and behaviour refers to a rationality relative to such a cognitively confined decision frame. Since these decision frames are rooted in specific cognitive schemes, which are only subsystems of a person’s total knowledge, bounded rationality allows for inconsistencies in perception, thought and behaviour (e.g. Earl 1986). Simon, for instance, asserts that blocks of a person’s time can be allocated to activities related to separate means-end chains without the requirement of overall allocation or coordination (H.A. Simon 1982, p. 136). Moreover, objectively identical choice situations can invoke subjectively different decision frames and preference reversals as a result of minor changes in the formulation of the situation (Tversky and Kahneman 1981). Rather than assuming that in choice processes all available knowledge is regarded, but differently weighted, we need a theory that relies on bounded and procedural rationality, and which focuses on processes of attention and the definition of the situation (Nelson and Winter 1982, H.A. Simon 1987).

Whereas most cognitive disciplines more or less agree on the value of the concept of mental schemes, they diverge with respect to the origins of the information that is organised in these cognitive frames. Some theories, for instance original learning theory and Piaget’s cognitive development theory, emphasise personal experience, whereas sociological, anthropological and institutional approaches tend to elaborate the social and cultural environment. Social learning theory, as developed by Bandura in particular, takes an intermediate position in this respect and holds promise for integration of various perspectives. Social learning theorists distinguish four important sources of information: personal experience, observational (or vicarious) experience, verbalisation by others and emotional arousal (Rosenthal and Zimmerman 1978, Bandura 1977b, 1986). This understanding explicitly distinguishes internal and external origins of knowledge and although more implicitly provides the conceptual setting for linking individual considerations and cognitive schemes to the structure and meaning of the wider context. Social learning theory,
therefore, offers an important contribution to the theoretical model developed in this study.

4.3. An elaboration of choice

4.3.1. Situating choice and the standard notion of decision making

The basic explanatory framework introduced in Section 2.3 cast the approach to individual behaviour in terms of choice theory. The application of the concept of choice in mainstream decision making models based on notions of substantive rationality (with the pinnacle in neoclassical economics) was, however, considered a too narrow a perspective. The major choice theories in psychology, sociology and economics have been developed as behavioural theories. But they are not necessarily theories for all behaviour. They represent theories for behaviour as far as this is confined within the limits of substantive rationality, consciousness and intentionality and as far as behaviour is frozen in a moment of time (cf. Bohman 1992, H.A. Simon 1978). The strength of these theories is located in their capacity to construct mathematical models with measurable parameters and the apparent opportunities for verification. Their weakness lies in the sometimes excessive simplification or neglect of behavioural determinants in order to fit them into model parameters, the disregard of the procedures involved in choice and behaviour, the virtual detachment of choice and context, and the inadequate concern for the dynamic aspects of decision making and behaviour.

The promise that choice theory holds for understanding not only people’s explicit decisions, but the full breadth of human behaviour, can only be redeemed if the concept of choice is extended beyond the narrow connotation in mainstream decision theories. Many aspects that are insufficiently represented by current decision making approaches can be incorporated if the overall perspective and the concepts involved are broadened. Such a more encompassive conceptualisation would rely on a broader notion of rationality as represented in Section 2.4; on a broader notion of information as elaborated in Section 4.2; on embedding individual aspects of decision making in the broader social environment as comprehended in Chapter 5; on situating choice and context in a perspective that is extended with the dimension of time (Chapter 6); and on integration in an overall cognitive approach. Since the resulting conceptualisation is more aloof and offers less points for direct substantiation, it should be regarded as a heuristic scheme rather than as a measurement device. In such an interpretive frame an explicit type of decision making serves only as a benchmark for the notion of choice (cf. Abell 1992, p. 196, Ranyard 1990, p. 296). Such decision making does underlie part of people’s behaviour, and in some life domains even an important part. In many cases, however, it is required to add the subtleties of bounded, procedural and expressive types of rationality, reduction of explicit information processing, forms of uncertainty and ignorance, routine and institutionalised decision making, and the selective cognitive processes and heuristics that shape the components and procedures of decision making. The basic concepts that are associated with choice (e.g. options and expectations) retain their explanatory value in such cases, although in some situations they become mere analytical points of reference. Most behaviour will be covered by the more elaborate interpretation of choice, but there will remain parts of behaviour in which there is no place for decision making aspects. Even then, the very failure of their applicability may provide a frame of reference that contributes to understanding people’s behaviours.

Although behavioural sciences comprise many different perspectives on decision making, there is some common base. This standard notion usually conceptualises three components of decision making (cf. Burch 1980, Esser 1993, Lindenberg 1989, March 1978, H.A. Simon 1957):
• a set of alternatives open to choice;
• an evaluation of consequences of the alternatives;
• a selection of a particular alternative according to some rule or criterion.

The differences between various theories are located in the assumptions about what exactly occurs in these aspects, in the additional features attributed to decision making and in the extent to which choice is embedded in a larger context and to which it is analysed as a dynamic process.

The distinction between the three general choice components is largely an analytical construct. In the actual process of choice the features are complexly intertwined. However, elaboration of each, while bearing in mind their interdependence, helps to substantially disclose the nature of choice as a theory of behaviour.

With respect to the alternatives open to decision making, the paramount questions should be: whose alternatives, what alternatives and why these alternatives? In order to find a frame of reference to understand individual behaviour, there is little value in defining the range of behavioural options and their consequences in terms of some objective reality (if there is any) or as perceived by an observer. A researcher must distinguish the task environment - the choice situation as defined by an objective researcher - from the subject’s problem space - the internal representation of the task environment used by a particular subject (Payne 1980, Einhorn 1980, Esser 1993, Newell and Simon 1972, Rutherford 1988). Section 4.3.2 elaborates on issues involved in this aspect of choice theory.

The second commonly identified choice component - the evaluation of consequences - touches directly upon the aspect of motivation in human behaviour. Choice approaches usually assume that the consequences agents anticipate are evaluated against the objectives that are salient to him or her. In most behavioural theories such objectives are elaborated differently and appear under the labels of goals, motives, needs, ends and end states. Economists, on the other hand, tend to collapse motivation into the one-dimensional concept of utility maximisation and refrain from inferences about preference formation, choices among goals and motivational inconsistencies. This provides no clues about the subjective framework of decision makers’ ends and allows no inferences about what, in the end, motivates people. If, however, one aims at understanding human behaviour by means of a choice perspective, motivation represents a crucial aspect which must be elaborated in terms of its contents, structure, formation and origin (Section 4.3.3).

The third choice component, referring to the subject of decision rules, can be embedded in a larger perspective on the style of decision making. This involves aspects such as choice heuristics, the level of consciousness, the variation in the degree of calculation employed and psychological costs contained in the process of choice and search for information. This perspective also induces a perspective of choice as a process of decision making. Rather than concerning the contents of choice, these aspects commonly consider ‘how people decide to decide’ (Plott 1991). Section 4.3.4 will elaborate on the considerations with respect to different styles of decision making.

One aspect which is not a standard element in choice theories is the element of control. In other conceptualisations of behaviour, however, variants of this notion appeared to be important determinants of behaviour. From a choice perspective, it might also reduce the unrealistic voluntaristic interpretation of decision making. Section 4.3.5 will address the theoretical backgrounds of this aspect and the efforts to introduce it into a decision making framework.

4.3.2. Setting the problem space
Salient information, schemes and bounded rationality

A subjective interpretation of rationality and choice requires the knowledge about the decision maker’s perception of the objective task environment. Choice approaches that do not directly explore the formation of this problem space cannot adequately judge people’s behaviour, since they are mute with respect to the bounded information with which people did make their choices. A recurrent theme in the work of Simon is the need to construct a procedural theory of decision making including the processes that generate the actor’s subjective and bounded representation of the decision problem, his or her frame: how do particular aspects of reality, rather than other aspects, come to the decision maker’s attention; how is a representation of the choice situation formed; how are reasoning processes applied to draw out the consequences of such representations (H.A. Simon 1987). In a substantive theory of rationality there is no place for processes of attention and representation. Confronted with the shortcomings of such approaches, critics from within the micro-economic tradition also increasingly argue for the incorporation of behavioural, and particularly cognitive, perspectives in order to replace the normative interpretation of choice with one that describes how people actually behave (e.g. Hahn 1991, Plott 1991, Stiglitz 1991).

A decision maker’s problem space can be perceived as the salient (and subjectively constructed) part of a task environment (see Figure 4.1). It consists of a limited set of behavioural alternatives (A), each associated with a limited number of consequences or outcomes (O). Each of these outcomes attains a meaning as it is measured against a set of values or goals (E) held by the individual. The problem space can differ from the task environment in the sense that a behavioural option and its associated outcomes and values are not perceived (e.g. A_1, O_{1,1}, E_{1,1}), or that from a particular alternative (A_2) one or more consequences and evaluations (O_{2,1} and E_{2,1}) remain out of consideration. It might even be the case that the agent incorrectly supposes that a certain option has certain outcomes with values attached to them (O_{3,4} and E_{3,4}) which are therefore part of a problem space upon which a person acts, but which are not included in the objectified task environment.
The leading issue of the notion of problem space is

“... to determine the processes, individual and social, whereby selected aspects of reality are noticed and postulated as the ‘givens’ for reasoning about action” (H.A. Simon 1987, p. 26).

Although Simon forcefully underscored the role of such processes, he did less to elaborate on their sources and the specific mechanisms involved (cf. Rutherford 1988). However, various behavioural disciplines (sociology, psychology, anthropology) did develop ideas to view choice-like procedures within a larger cognitive perspective. Often these ideas draw on the existence of mental schemes that structure the information held by an individual (see Section 4.2.3). Such cognitive schemes associate a selective number of information pieces in a specific way and provide the basis of people’s bounded considerations (cf. Esser 1993, p. 22). The research task then involves the identification of the considerations that are salient in specific task environments and the reasons why they became so.

The problem space may embody a genuine representation of a range of viable alternatives and well-defined outcomes. On the other hand, one must be aware that there may be situations where mental representations perceive only one option or even preclude the recognition of a choice situation. Etzioni, for instance, assumes that emotional influences often exclude most options by excluding from deliberation major sub-sets of facts, interpretations, and options that are in principle or as deemed by scientific observers) accessible by the actor (Etzioni 1992). This ‘tunnel vision’ evolves into a complete exclusion of alter-natives if such considerations are treated as
morally and/or emotionally ‘unthinkable’ or irrelevant. It may be the case, according to Etzioni, that excluded options are blocked from conscious deliberation: their consideration is tabooed (ibid., p. 93; Etzioni’s italics; cf. Bagozzi and Van Loo 1991). This situation is embodied in one of Coale’s prerequisites for fertility decline if the condition that “fertility must be within the calculus of conscious choice” is interpreted as implying a collective legitimacy connected to the deliberation about childbearing (Handwerker 1986a, Lesthaeghe and Wilson 1986, Mason 1992, Stamm and Tsui 1986). In other cases, the fact that an agent perceives no options may be due to complete ignorance, the obviously overwhelming negative consequences of alternatives, or the convincing presence of well-tried routines and institutionalised behaviour. Although these considerations seem to violate the essence of genuine choice, they are not necessarily in conflict with choice theory. Rather, they reflect various possible mechanisms that may be involved in setting the problem space. The association of overwhelmingly negative consequences does not mean the absence of an alternative, but the attribution of an unacceptable negative value to an alternative, which is at least conceptually in line with a decision making approach (cf. Blake 1994, p. 173). Hull’s phrasing with regard to fertility behaviour emphasises the conceptual relevance of this approach:

“The statement ‘I had no other choice’ is thus not a denial of decision making, but a confirmation that alternatives were unacceptable, or that the contradictions inherent in the decision problem could not be overcome. ‘Aberrant’ behaviours, such as abortion, suicide, homicide, abstinance, celibacy, and flight, are available alternatives in most societies; when such behaviours are rejected, decisions are being made” (Hull 1983, p. 389, cf. D’Andrade 1995, p. 233).

For other situations) unconsciousness, total ignorance or helplessness) the notion of ‘having no choice’ bears the theoretical meaning of a problem space of zero options. Its discovery by the researcher might be as illuminating for the understanding of behaviour as the explicit recognition of a genuine choice situation.

The subjective representation of a choice situation need not deviate from an ‘objective’ representation in the sense that it only lacks the identification of options. It may also lack the specification of certain consequences or assume incorrect consequences. This may lead to unintended, and sometimes unwanted, situations. The value of directly exploring this subjective representation of a choice situation is situated in the possibility of explaining and understanding such unintended by-products of action. Any theory that purports to cover individual behaviour has to devote attention to such unintentional outcomes (Coleman 1990, Sica 1988). A decision making approach offers the conceptual tools to do so.

Processes of attention and perception
Against the background of bounded information and mental schemes, a main intellectual effort on behalf of researchers is to describe and explain the ways in which various information-selection processes influence the focus of attention of decision makers (cf. Nelson and Winter 1982, H.A. Simon 1987). The relevant perspectives offer two lines of approach, which, apparently, have some common ground. As one of the major constituent processes of decision making these attentional processes will be incorporated in the broad conceptualisation of choice.

A basic idea frequently encountered in behavioural theory, is that an actor interprets a situation according to the interests prevailing at that moment. This assumes that people not only act with motivation, but also that they form a ‘definition of the situation’ that is salient with respect to their prevailing goals. Central to Gibson’s perception theory, for instance, is the idea that perception is always related to a task or a goal by increasing and channelling attention to relevant aspects of observed behaviour (e.g. Gibson and Rader 1979). Other cognitive psychological approaches
similarly assume that encountered information gains relevance and meaning in relation to a person’s goal (cf. Bagozzi and Van Loo 1991, Bandura 1986, H.A. Simon 1987). In the broader perspective of personal development, Maslow’s hierarchy of basic needs interprets a person’s life and considerations with reference to the specific goals that surface at the person’s various developmental stages.

Several sociologically oriented approaches also attribute such importance to the role of (salient) goals in focusing people’s attention. In Schutz’ phenomenological interpretation, an agent’s prevailing interest determines the elements which the individual singles out of the surrounding objective world and determines which elements of the person’s stock of knowledge are relevant to define the situation (cf. Esser 1993). Lindenberg’s rational choice perspective also relies on the situational salience of goals as a sociological aspect of the definition of the situation (Lindenberg 1989). Like Schutz, he assumes that an action situation is governed by one particular goal (or leitmotiv in Schutz’ terms. This particular goal possibly the outcome of choice itself (cf. Bagozzi and Van Loo, Bohman 1992, Sen 1979)) reduces the significance of other (conflicting) goals. But it also narrows and structures the behavioural options and amplifies certain consequences of the considered options (Lindenberg 1989, cf. Esser 1993).

A second line of approach addressing people’s focus of attention and the definition of the situation, reaches back to social learning principles (e.g. Bandura 1977b, 1986, Rosenthal and Zimmerman 1978). This approach asserts that people have the capability of symbolically representing learned aspects of life and the world in general. Bandura distinguishes four important sources of information: personal experience, observational experience, verbalisation by others or otherwise communicated instructions, and emotional arousal. This distinction highlights both the external or social background of information and the internal or personal background. The presumed capacity for observational learning is probably the most important single contribution of social learning theory to studies of human behaviour.

Social learning theorists claim that most behaviour is learned by information extracted from observing modelled examples (e.g. Bandura 1977b, 1986). This capacity to learn by observing others enables people to acquire knowledge and experience and subsequently to transform these into symbolic representations or cognitive schemes without having to form them gradually by tedious trial-and-error behaviour. Through observational or vicarious learning and abstract modelling, language, lifestyles and institutional practices of a specific culture are transmitted to new members of society in a very efficient way. It enables people to discover relevant behavioural rules and integrate them into more or less coherent rule systems, such as gender and generation systems or behaviour patterns in occupational situations. Through this kind of socialisation, and through people’s symbolising capability, agents positioned in new situations can usually extract the cues to select the rules and mental frameworks that apply to the situation at hand (Bandura 1986, Burns and Flam 1987, Einhorn 1980).

The mechanisms operating in the two attention-directing approaches relate to each other in an interactive way. While current motives or interest may influence people’s problem space at a certain moment, in turn, the goals that are considered may depend on the people’s definition of the situation. This definition of the situation is usually at least partly a socially acquired product, and social and cultural schemes may prominently provide people with the tasks, goals and standards that are relevant in certain situations (Abeles 1990, Lindenberg 1989).

At the conceptual level, therefore, social learning theory particularly through the notion of observational learning) establishes an important link between individual decision making and the social environment, as the types of models that prevail within a social milieu partly determine which qualities, among many alternatives, are selectively activated (Abeles 1990, Bandura 1986, Lawrence and Valsiner 1993).
4.3.3. Motivation

Motivation in human behaviour

A central concern to almost all theories of human behaviour is the question about the functions and reasons of performances. Why, after all is said and done, do people behave in certain ways? Behavioural theories of individual action usually capture the directive forces involved in terms of motivation. People are assumed to be motivated to act in a one way rather than another; certain behaviour is preferred because it somehow (better) meets the interests or objectives of the actor. Such objectives have been elaborated differently and emerge under the labels of goals, motives, drives, needs, ends, preferences, values, end states and utilities. They appear as unconscious inner drives and instincts as in Freudian theory, or as explicitly stated and strategically pursued goals as in a game of chess; they may refer to down-to earth needs for food and rest or to spiritual sublimation and well-polished aims of self-actualisation; they may require the assessment of social pressure and expectations or the inner reading of cognitive dissonance and morality.

Whereas most psychological and sociological theories of individual behaviour by assumption distinguish specific goals or actively seek motivational structures, economists tend to collapse motivation into the one-dimensional concept of utility maximisation and refrain from inferences about preference formation, choices among goals and motivational inconsistencies (cf. Earl 1986, Elster 1983b, Hargreaves Heap 1992, Jeffry 1974, Sen 1979). In this line of thought, preferences or goals are considered evident from the behavioural outcomes, given the constraints within which the actor is operating. But since no clues are provided about the subjective framework of decision-makers’ ends, there is no possibility to capture what in the end motivates people. If the aim of study is an understanding of human behaviour, motivation cannot remain indeterminate, but must be specified in terms of contents, structure, formation and origin (cf. Brennan 1990, Easterlin 1975, De Jong and Fawcett 1981, Elster 1983b Friedman et al., 1994, Leibenstein 1982).

Contents of motivation

Social and psychological studies have come up with an enormous number and variation of motives of individual behaviour. Some of these rest on purely empirical investigations, others fall back on theoretical models of human behaviour, such as Maslow’s theory of basic needs and psycho-analytical approaches in the line of Freud and Erikson. For conceptual purposes, it is illuminating to organise this vast array of motives into a manageable framework and to establish their possible relations.

One perspective on motivation relates to Piaget’s developmental psychology, which assumes that motivation for behaviour arises from a mental incongruence between (self)observation and beliefs held by the individual. This issue is picked up by other cognitive traditions, such as social learning theory (Bandura 1977b), cognitive dissonance theory (Festinger 1957), regret and disappointment theories (Bell 1982, 1985) and personal construct theory (Kelly 1955). Comparable conceptualisation is also applied in the field of housing and moving house (Tazelaar 1985, Voets 1994).

Another general-level perspective couches motivation in terms of maintaining and possibly improving the quality of life (cf. De Jong and Fawcett 1981). From Kahneman and Tversky’s Prospect theory, for instance, the avoidance of loss emerges as a principle directive of behaviour. Improvement in life may be seen as the other side of the same continuum in motivation. This dimension of improvement would not only refer to quantitative increase, but also to qualitative change in the sense of growth, development, exploration and unfolding. The economic concept of

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1 For a discussion about the differences between these concepts, see for instance Friedman et al., (1994) and Rokeach (1973).
utility maximisation can be viewed as a very specific form of motivation.

Both this mental congruence and improvement remain relatively ‘empty’ concepts of motivation. Their substantiation has been elaborated differently. Thus, with respect to migration behaviour, De Jong and Fawcett (1981) based on both empirical and theoretical studies identified seven conceptual categories that seemed to represent psychologically meaningful clusters: wealth, status, comfort, stimulation, autonomy, affiliation and morality. In the field of fertility, Hoffman and Hoffman (1973) proceeded in a similar fashion. They developed a framework of satisfactions and costs of children: expansion of the self; primary group ties and affiliation, stimulation, novelty, fun, creativity, accomplishment, competence; power over others and vicarious achievement possibilities. Their conceptual framework was elaborated and operationalised in the cross-national ‘value of children project’ in the mid-seventies by Fawcett and others (e.g. Bulatao 1982, Fawcett 1972, 1983) and for the Netherlands by Niphuis-Nell (1981) (see Section 3.3.5). Greenhalgh distinguished socio-economic security and mobility as the two general motives that changed the benefits of children during Sinic fertility transitions (Greenhalgh 1988). Friedman et al., (1994) even propose a single ultimate value in reproductive behaviour in the form of uncertainty reduction, and assume that all kinds of values of children can be projected on this single general dimension.

Elaboration of the contents of motivation for behaviour in general is spread throughout the social and psychological disciplines. Lindenberg, for instance, suggests two main motivational clusters (physical well-being and social approval) with a third, conceptually slightly different, candidate in the form of minimisation of loss (Lindenberg 1989). Rokeach does not collapse motivational dimensions in so few categories, but lists more loosely a number of general goals or ‘preferable end-states of existence’: power, wealth, fame, creativity, comfort, security, order, harmony, inner peace, salvation (Rokeach 1973). A more structured approach from a developmental perspective is Maslow’s theory of human motivation (Maslow 1970). Maslow identifies five basic needs (physiological, safety, belongingness and love, esteem and self-actualisation needs) and arranges them in hierarchal order with the underlying idea that the ones higher up in the hierarchy only become prominent, once the lower needs have been met to a sufficient degree. In effect, it is possible to locate the various single goals or clusters of goals distinguished by Rokeach (1973), De Jong and Fawcett (1981), and Hoffman and Hoffman (1973), in a Maslowian perspective. In a condensed form and pertaining to societal change rather than personal development, Maslow’s motivational layers can be encountered in Inglehart’s materialist and postmaterialist orientations (Inglehart 1977, 1990). Similar findings can be concluded from Bulatao’s study on the relation between demographic (fertility) transition and transition in the value of children (Bulatao 1982, cf. Moors 1992). Although Lindenberg himself rejects a hierarchical relation between his two basic goals, to a certain extent these could also be situated in the lower or higher segments respectively of Maslow’s motivational structure.

The hierarchical feature of Maslow’s theory has not remained without criticism. There are various examples of the Maslowian order being violated. Thus, the famous Chagnon account of Yanomamö life (Chagnon 1977) shows that physical health, and even mere survival, can structurally be subdued to reputation and prestige, as people regularly engage in activities that expose them to high chances of severe injury and death and the community as a whole to outright annihilation. Still, the basic idea of hierarchy is a useful notion for ordering and unifying values and disvalues in human behaviour (cf. Vendrik 1990). Moreover, Maslow’s developmental perspective is at least partly supported by Inglehart’s (1977, 1990) conclusions about a materialist/postmaterialist distinction, and by the observed change in the value of children (Bulatao 1982, Moors 1992). Both suggest that the affluent and educated typically regard lower-order needs as relatively unimportant, not so much because they are not valued but because they are taken for granted, which frees them to place greater emphasis on higher-order needs, for instance, on love,
competence, and self-actualisation (cf. Rokeach 1973, p. 327). Inglehart’s studies suggest a two-step hierarchy with safety and sustenance needs on the one hand and higher-order needs on the other hand, but find little evidence of any specific ordering within the latter group (Inglehart 1977, 1990).

Criticism of Maslow’s motivation theory also extends to the presumed universality of the distinguished needs. Many perceive in his representation a Western, if not American, if not American middle-class bias (cf. Rokeach 1973, p. 17). As Chagnon’s study shows, prevailing culture-specific ideational systems play a prominent role in the definition and ordering of goals (cf. Lesthaeghe and Moors 1992, Lesthaeghe and Surkyn 1988a). Moreover, developmental perspectives in psychology suggest that motivation also depends on the specific position in the life course. Erikson (1980) and Havighurst (1972), for instance, suggest a number of standard challenges which dominate people’s orientations in different stages of life. Other accounts of a degree of universal applicability are attributed to Lindenberg’s model of physical well-being and social approval; to a lesser extent to Greenhalgh’s goals of security and mobility; and, on purpose, to the motivational elements included in the comparative value of children studies. Motivation theorists acknowledge the shortcomings in this respect, with regard to one model more than to another, but they usually maintain that the conceptual bonus of the effort to identify more universal and more ultimate values consists of a reference point to interpret the diversity and unity of human behaviour in different settings (Greenhalgh 1989, Maslow 1970). Lindenberg (1989) is the most explicit in this respect as he suggests that the situational variability of more imminent goals is located in the specific institutional settings, which determine how the more ultimate and universal goals can be accomplished.

The criteria for including the different general goals or motives in conceptual frameworks do not correspond exactly. Lindenberg’s two basic goals are considered to enclose or represent all other goals; the motivation sets presented by De Jong and Fawcett, and Hoffman and Hoffman respectively assume clusters of all major goals relevant in the field of migration and fertility; Greenhalgh posits security and mobility as the overriding motivational areas for (Sinic) fertility; and Maslow’s categorisation of basic needs is based on their implication of progression in life. Still, there are other perspectives to identify motivation, although usually somewhat more abstract. A synthesis of these considerations on the substance of motivation remains a difficult task. Many, if not most, of the goals people directly aim at in daily life are loaded with a high level or situational specificity. A main assumption in this study, however, is that a relatively limited number of motives may be identified, with such a general validity and importance, that they can be described in the sense of universal and ultimate goals for behaviour. Almost by definition, these goals are somewhat abstract and concern multidimensional classes or clusters of motives rather than single, narrowly-circumscribed goals. Furthermore, such clusters cannot be completely mutually exclusive and complementary; interactions and interdependencies will probably be the rule rather than the exception.

In a behavioural perspective, goals must not be understood in a narrow materialistic sense, but should also involve aspects like emotional satisfaction, mental consonance and self-fulfilment. Such ‘pleasurable inner states’ enter importantly into the explanation of behaviour, although not necessarily as the conscious goal of behaviour (Elster 1983b, p. 10, cf. Rokeach 1973, p. 12).

drawing on existing conceptualisations of motivation concerning both general behavioural models and those developed in the field of fertility and on empirical findings with regard to reproductive behaviour, an array of ultimate goals could include the following clusters to provide an initial structure of motivation:

- physical well-being (including good health, the need for food, sexual desire);
- material well-being (pertaining to, e.g. affluence, wealth and comfort);
- safety (as related to security, stability, protection, structure, salvation);
• affiliation (belongingness, integration, affection, love, intimacy);
• social status (social approval, prestige, recognition);
• power (influence, control over others);
• self-esteem (desire for efficacy, competence, achievement, autonomy, morality, dignity);
• pleasurable inner states (joy, satisfaction, reduction of uncertainty and cognitive dissonance, freedom from fear);
• creativity (self-actualisation, growth, stimulation, novelty).

Motivation structure
Whereas ultimate goals may be conceived as being shared, the ways to attain such goals can be very different and depend crucially on the contextual and personal situation. Using an example of Lindenberg, in contemporary Dutch society both men and women can attain social status by pursuing a professional career. But while women can also obtain it through their relationship with a male partner, men can by and large not attain status via their partner (Lindenberg 1992, p. 291). Individual characteristics (such as age and gender), personal experiences and, importantly, the overarching institutional structure of society determine the nature of the different behavioural routes to achieve ultimate goals. Motivation, however, requires the internal representation of these instrumental relationships. Cognitive approaches assume that people’s mental schemes representing these causal relations reflect the institutional and personal backgrounds (e.g. D’Andrade 1995, Eisenstadt 1989). These causal schemes may represent complex chains of instrumentally related behaviours. In Lindenberg’s example, for Dutch women to obtain a desired degree of social status, they strive for a good professional career. This may require postponing or even refraining from childbearing, for which they may want to use the pill, which, in turn, may require the purchase of pills in a pharmacy or an initial visit to a doctor for a medical check-up (and again the actions required to get there, et cetera). All these behaviours (the visit to the doctor or drugstore, the purchase of pills, their use, postponement of childbearing) emerge one by one as the immediate goal to achieve to ‘produce’ in Lindenberg’s terminology the ultimate goal of social status. To the extent that such cognitive causal schemes conform socially acknowledged meanings and strategies, they represent social or cultural schemes (Abeles 1990, D’Andrade 1995, Denzau and North 1994, Eisenstadt 1989, Wyer and Gordon 1984) or ‘social production functions’ (Lindenberg 1989).
There is not necessarily a one-to-one correspondence between any one instrumental objective and any ultimate goal. Usually, the most general goals are bolstered by various instrumental behaviours; for instance, social status can be attained through a professional career (work), but also by attachment to a high-status partner (marriage) or by achievements in the field of sport or art (see Figure 4.2). On the other hand single instrumental behaviours may be multi-facetted, in the sense that they contribute to the attainment of several ultimate goals: a highly paid job increases a person’s status, but may also gratify her desire for creativity, material well-being, power and self-esteem. Similarly, the value of children studies demonstrated that in many settings childbearing is quite overdetermined; this overdeterminance can be reduced if specific (social, cultural, economic) developments provide alternatives for the multiple functions of children (Fawcett 1991). The higher level, instrumental goals which have the most weight in obtaining the set of ultimate goals (whether hierarchically organised or not), usually represent major life domains. This is often the case with fertility, but also family life in general, or a working career.
The multiple causal relations not only exist between the instrumental behaviours and the highest goals, but also between the various behaviours and goals at the lower levels. The highly paid job may, for instance, be obtained by extensive education and a limited number of strategically planned pregnancies (family planning). And even if education has an effect on ultimate goals via the higher level goal of having a job (work), it may also have a direct relation to some ultimate goal, for example to self-esteem. Similarly, marriage may directly satisfy the need for love and companionship (affiliation). Given all such perceived causal relations and their attributed
importance, human behaviour can be thought of as directed by an intricate motivation structure, which is a key to understanding people’s behaviour (D’Andrade 1995, p. 233).

In accordance with the notion of bounded rationality, at no time will an agent be aware of all the intricate chains of causality. Moreover, the most general goals sometimes only distantly influence behaviour and people often only attribute their actions to more immediate objectives. Often the causal relation between the final and instrumental goals is only vaguely or subconsciously perceived and on many occasions, people do not even have exactly circumscribed goals or remain undecided about what to strive for (cf. Bohman 1992, Elster 1983b, Hargreaves Heap 1992, Rokeach 1973, H.A. Simon 1978, 1979a). In these situations, it is unlikely that a person behaves in a manner that is substantively rational with regard to the comprehensive set of instrumental and final goals. At this point, the issues of procedural and expressive rationality are touched upon to account for people’s behaviour (see Sections 2.3.5 and 2.3.6). This concerns people’s considerations to value segments of their value system as an expression of making sense of the world and the self (Jeffry 1974, Hargreaves Heap 1992, Sen 1979).

Given this study’s focus on reproductive behaviour, people’s motivation structure can be rendered explicit beyond the formulation of universal or ultimate goals. Fertility behaviour, then, occupies a central position in the motivational structure. Children are conceptualised here not as goals in themselves, but as instrumental means to ‘produce’ directly or indirectly and more or less consciously ultimate values as suggested in the previous section. A further explicitation of the fertility motivation structure can be attained by integrating Bongaarts’ (1978) model of proximate determinants and Davis and Blake’s (1956) framework of fertility into a choice perspective on fertility (see Section 3.3.3). The proximate determinants at least the behavioural determinants
Figure 4.3. Intermediate fertility determinants in a choice perspective

Since not all proximate determinants will be explicit factors in fertility decision making, the model of intermediate determinants represents a task environment as regarded by an observer and not the problem space as viewed by the individual agent. This is aptly described by McNicoll and Davis who assert that:

...mediated through the person’s cognitive system. Social learning theorists assert that the motivational process linking environmental stimuli to behaviour, involves aspects of interpretation, representation and organisation of information. Equally, they maintain that many emotional predispositions are acquired by processing information related to personal experiences or to observing others in situations where emotion-laden symbols provide the basis for affective learning (Bandura 1986, Bower and Hilgard 1981, Novaco 1979). Once such associative information is acknowledged and symbolically stored in memory, people may, upon recognising certain cues in a situation, activate specific segments of their motivation structure that they have learned to be relevant. In this way they can define a choice situation as relevant for attaining social status or for satisfaction of creative desires; or they can judge whether moral or ethical principles apply) such as the value of loyalty, altruism and solidarity within family or friendship relations) or materialistic and opportunistic ones ) such as in purely bureaucratic or business relations.

The point cognitive psychologists want to make with regard to motivation, is that people do not...
simply react to stimulus events from their (internal or external) environment, nor are they automatically steered by implants from their individual history. Instead, capitalising on a model of man with the capacity for reflection, they assume that motivation is produced through processes that involve cognitive activity. They posit that the cognitive representation of outcomes of certain behaviour represents the principal mechanism involved in motivation (Bandura 1986, p. 91, Bower and Hilgard 1981, p. 467, Rosenthal and Zimmerman 1978, p. 246, Tenbruck 1989, p. 20). People interpret events and experiences and organise the information derived from them into beliefs about what leads to what. Future events cannot serve as determinants of behaviour, but people can convert future consequences into current motivators by representing foreseeable outcomes symbolically. The mechanism that cognised futures become temporary antecedents to actions, is the (implicit) backbone of most choice theories. It should be self-evident that outcome expectations are only motivating leading to the intention to perform certain behaviour if they represent a functional value to the actor (Bandura 1986, p. 68, cf. Ajzen and Fishbein, 1980).

Although the cognitive representation of outcomes of certain behaviour is assumed to be the principal mechanism involved in motivation, social learning theorists also distinguish a second important cognitively-based mechanism. This second major mechanism of motivation operates through the intervening influences of goal setting and self-regulated standards by which performance is evaluated. When individuals commit themselves to explicit goals, perceived negative discrepancies between what they do and what they seek to achieve create dissatisfactions that serve as motivational inducements for action (Bandura 1977b, Festinger 1957, Tazelaar 1985, cf. Rokeach 1973). Prospect theory assumes that some subjective position, such as a person’s status quo, functions as an anchor point to judge possible gains or losses implied by foreseeable outcomes of behaviour and thereby influences people’s motivation (Kahneman and Tversky 1979, Maule 1989). Such a status quo position tends to develop over the life course: if past performance has achieved a certain aspiration level, or has failed repeatedly to do so, people tend to raise or lower their standards accordingly (Bandura 1977b, 1986, 1991, Inglehart 1977, H.A. Simon 1957, 1978). This standard-setting mechanism is echoed in Easterlin’s fertility theory (Easterlin 1978b, 1980). Here, new generations are assumed to adjust their reproductive behaviour in such ways as to maintain a level of living that is at least equal to that which they experienced during their childhood at their parents’ home. The various aspiration-setting mechanisms sustain the relevance of Simon’s notions of satisficing in choice theory (H.A. Simon 1957, 1979a).

As judgmental reference points may be thought to arise from self-comparison and life experience, they can also be the result of social comparison. The cognitive process involved in such social comparison can be described as one in which people take actual or fictitious others as a reference point in order to interpret their own situation (Boudon 1986, Buunk 1992). The essence of most social comparison theories like relative deprivation theory and equity theory is that as the welfare of relevant others increases, the relative welfare of the individual observer falls (Messick 1985).

The two mechanisms of cognitive anticipation of outcomes and aspiration setting refer to the motivation processes that are among the major constituent processes of learning and a broad understanding of decision making.

Whereas social learning theory accepts the role of internal sources of motivation (such as emotional arousal or motivation related to personal experience), it focuses on the function of the social environment in this respect. As social beings, people observe the conduct of others and the occasions on which it is rewarded, ignored, or punished and there is ample support for the idea that the value and force of such vicarious motivators are important determinants of people’s motivation (Bandura 1986). Also the acquisition of evaluative standards (social, moral, ethical), is assumed to occur mostly by imitation of the standards modelled by family, peers, and prestigious figures in the media (Bandura 1991, Bower and Hilgard 1981).
The significance of this vicarious motivation can be apprehended if one acknowledges that other sources of learning will never have the capacity to transmit information about the incentives contained by the social environment in sufficient amount and nuance. It is difficult to imagine how individual experience or explicit communication alone can accomplish similar results (Bandura 1986, p. 19). However, these other sources of learning remain important in the understanding of motivation and behaviour. Although personal experience as a source of motivation has an idiosyncratic flavour, the commonality of significant experiences and in a broader scope, life courses in general can have structural impacts. Also direct communication personal communication, teaching, information campaigns can have structural effects on people’s motivation if it is shared in sufficient measure, even if motivation thus attained often is less firm and more easily challenged by incongruent incentives.

4.3.4. Styles of decision making

Departing from standard choice procedures

The studies on decision rules and heuristics have shown that the choice processes within people’s heads appear in much greater variety than standard choice theories assume. The internal rules and heuristics that are applied to select one of the available alternatives refer to how different elements of decisions are combined and weighted. Most value-expectancy (VE) theories assume a multiplicative-additive rule, whereby the attractiveness of a behavioural option is specified by the sum of the probabilities of the consequences associated with the option, weighed by the value or utility of that consequence. In micro economics, the subjective expected utility (SEU) theory additionally assumes a maximisation principle which asserts that all available alternatives are surveyed together in this way and that subsequently the one with the highest score is selected. In other approaches, such as the psychological theories of reasoned action and planned behaviour by Fishbein and Ajzen, the focus concerns the likelihood of the occurrence of one specific alternative. Implicitly here, too, maximisation is assumed in a situation of competing alternatives (cf. Bagozzi and Van Loo 1991).

The rule of maximisation of utility is, however, much challenged because of the highly demanding cognitive effort associated with it. Ranyard suggests that this type of decision rule represents the upper limit of human decisional competence (Ranyard 1990, p. 296). People are assumed to rely very frequently on a limited number of simpler heuristics in order to reduce the complex task of assessing probabilities and predicting values in the face of the computational limitations of the human mind, (Earl 1986, Tversky and Kahneman 1974), to limit the costs and psychological stress involved in decision making and extensive calculation (Earl 1986, Etzioni 1992, Janis and Mann 1977, Leibenstein 1980, Nelson and Winter 1982), or because of a simple lack of relevant knowledge and uncertainty (O’Driscoll and Rizzo 1985, Rutherford 1988, Newell and Simon 1972, Tyszka 1989). In this respect, Miller’s notion of ‘the magical number seven’ (G. Miller 1956) was applied practically in Fishbein and Ajzen’s behavioural theory to determine the maximum number of consequences considered in the model.

Given the costs and limitations involved in decision making, Miller and Starr argue that it is always questionable whether the optimum procedure in choice problems is always to search for the optimum value by means of maximisation (Miller and Starr 1967, p. 51). In various situations it might not be rational to waste time and effort in comprehensive maximisation, but better to rely on simpler forms of decision rules (Janis and Mann 1977, Leibenstein 1980, Prendergast 1993, Vlek 1990). In this perspective the selection of heuristic devices might be seen as an intrinsic consideration of the choice process. Payne et al., concluded that, in order to minimise cognitive effort and maintain a high level of accuracy, people can and do adapt their choice heuristics in response to changes in the structure of available alternatives and to the presence of time pressure.
(Payne et al., 1988). This would imply a cost-benefit approach which can easily be integrated in a rational choice approach by including the costs of executing the decision process. Leibenstein’s behavioural choice theory, for instance, interprets the level of calculation used in decision making as a variable (Leibenstein 1980). Esser’s two-stage model of rational choice similarly asserts that the application of rational calculation (in the sense of utility maximisation) is preceded by a decision whether or not to engage in extensive information processing or to follow well-tried habits or routines (Esser 1993). A general implication of such choice nuances, is the acknowledgement that decision making refers to a process rather than to a instantaneous cognitive product.

**Decision rules and heuristics**

The literature on choice processes suggests a variety of alternative decision rules. Basically these heuristics boil down to reducing the processed information during decision making, either by limiting the number of information bits or in terms of leaving out types of information. The ‘equal weight rule’, for example, examines all alternatives and the values of all consequences, but ignores information about the associated probability of each consequence (Payne et al., 1988). Elsewhere, Payne distinguishes four basic risk dimensions: the probability of winning, the amount to be won, the probability of losing and the amount to be lost and describes how in situations of decision making under risk, of these four dimensions, the perceived risk was determined primarily by the probability of losing (Payne 1980, Slovic 1967). Prospect theory by Kahneman and Tversky (Kahneman and Tversky 1979, Tversky and Kahneman 1981) presents a further refinement of these findings by differentiating the framing of decision in terms of gains or losses. It states that in the domain of gains people tend to be risk-aversive, and in the domain of losses they exhibit risk-seeking preferences.

Often the evaluation of behavioural alternatives operates along either the dimension of the **consequences** of behavioural options, considering the values of several options on a single consequence before information about a second consequence is processed) or along the dimension of **options themselves**, processing information about multiple consequences of one alternative before information about a second is processed. Tversky’s ‘elimination by aspects’ is a typical example of the first kind of simplifying heuristics. It starts with the consequence that is considered the most likely and then eliminates all alternatives that have a lower value for that particular consequence. This process can be repeated with a consequence of lower importance until only one alternative remains (Tversky 1972).
Representative for the second type, and embraced as the most prominent alternative to maximisation of expected values, is the rule of satisficing, as advanced by Simon in relation to his notion of bounded rationality (e.g. H.A. Simon 1957). This asserts that alternatives are not examined simultaneously but sequentially, and that one is chosen if its consequences equal or surpass a (dynamically defined) aspiration level. Others have taken the argument even further and suggest that people usually employ even simpler heuristics than encompassive multiplicative-additive procedures or employ them only after filtering a limited number of alternatives and consequences from the choice set. Various additional decision rules or variations and mixtures can be found in publications by, for instance, Earl (1986), Montgomery (1989), Payne et al., (1988) and Ranyard (1990). Although such simplifying heuristics often work reasonably well and can even be highly accurate in some choice situations, they can also lead to severe and systematic errors (Payne et al., 1988, Tversky and Kahneman 1974).

Although the relevance of choice heuristics is increasingly acknowledged (e.g. Earl 1986, Plott 1991), as yet no systematic knowledge about the selection of rules has been developed. This feeds the general complaint that all that has been generated by research in this field is a list of heuristics without any substantial theory of when any particular heuristic will be used (Rutherford 1988, p. 50, Earl 1986, p. 204, Einhorn 1980, p. 1). However, since the notion of choice heuristics has demonstrated its relevance, it should not be abandoned from descriptive choice theory (cf. Wallsten 1980, p. 220). Nelson and Winter, for instance, argue that processes of action that involve a considerable amount of deliberation should be distinguished from those that involve more or less mechanical following of a decision rule (Nelson and Winter 1982). More importantly though, they suggest that if one knew that a certain class of action was the result of individuals following a prescribed decision rule, this would seem to be an interesting fact in itself, regardless of the provenance of the rule. Such information might lead the researcher to study) and perhaps model) the decision rule being employed and investigate why it is what it is, involving some theory of decision rule creating and change.

In fact, research did come up with some suggestions of patterns of decision styles. Ranyard suggests that elaborate decision rules (such as applied in VE and SEU models) may be applied to important decisions which do not have a dominating or single satisfactory alternative; and that on the other hand, simpler rules can be applied for less important decision problems (Ranyard 1990, p. 296). Arguments based on a similar distinction between important and less important choices have been put forward by Earl (1986), Janis and Mann (1977) and Leibenstein (1980). Earl also suggests that the choice style will often take the form of routine decisions if an environment is stable but information is costly. On the other hand, in turbulent situations too) for instance if people become uncertain when presented with new or confusing information) decision-makers can fall back on routine behaviour to try to find familiar patterns (Earl 1986, p. 56-57).

In a more normative sense, Etzioni advanced the idea of ‘mixed scanning’, suggesting that organisations and governments should use extensive information search and elaborate or maximisation-like choice strategies for fundamental policy-making and in times of crisis, while they could rely on simpler forms of satisficing rules for minor decisions that are basically in line with the major policy direction (Etzioni 1967). Although initially Etzioni’s ideas concerned situations of public choice, he and others suggested that in the area of private choice too a similar distinction could (or should) be made between decision making about life events and minor considerations. Both Earl (1986) and Leibenstein (1982), on the other hand indicated that also with regard to important life decisions (such as the age at marriage or the number of children) people often rely on conventions and social rules and hardly use calculative choice processes, until challenged by new information that activates other decision mechanisms. While this may seem typical in developing countries, Earl also cites a study of Richards (1985) which concluded that a majority of Australian couples did not engage in deliberate decision making or even consider the alternative of remaining unmarried or childless (Earl 1986, p. 59).
Rutherford takes a different perspective as he states that the application of simplifying rules not only depends on individuals’ adaptation to task complexity and decision costs, but can also be the result of a simple lack of knowledge (Rutherford 1988, p. 51, cf. O’Driscoll and Rizzo 1985, p. 119). This, of course implies the important conclusion that people will be able to make better choices if they have better access to information. As a general observation, the style of decision making will depend on the socio-cultural environment, the stage in the life course, personal experience and the decision problem at hand: stopping the process of childbearing often involves more deliberation than starting and spacing; and marriage, breastfeeding and sexual abstinence is more likely to involve routine or institutional decision making than divorce, contraceptive use or abortion; (Bulatao 1984, Hull 1983).

Routine and institutionalised behaviour

Many behavioural scientists altogether reject the concept of choice as a major mechanism in the formation of behaviour. They argue that in most day-to-day circumstances behaviour rests on habits (rules related to personal experience and repetition) and routines (rules related to socially observed behavioural patterns). Even when placed in situations where cardinal issues are at stake with respect to the further life course (such as marriage and childbirth or the number of children) people often standardly follow the directives of social institutions and conventions. The application of such rule-following decision making may occur for a variety of reasons, but prominent among them are ignorance and uncertainty about outcomes of individual choice, social pressure and sanctions, and the (subjectively perceived) obviousness of the value of behaviour implied by such rules. In such cases, the entire aspect of deliberation is sometimes excluded from the process of behaviour formation. Schutz’ interpretive approach, for instance, emphasises the role of habits, routines and recipes. Central to his phenomenology is the acknowledgment that people are able to immediately recognise a situation at face value and know the rules that pertain to it without noticeable contemplation (Schutz 1973a, 1973b). It is the common-sense ‘obviousness’ of the situation that implicates certain behaviour to be performed without necessary extensive orientation and calculation. Because these behavioural rules work in recognised situations, and because they avoid apparently unnecessary additional search for information, they can be taken for granted and provide the basis for much daily behaviour (Schutz 1976c, cf. Hargreaves 1980).

Giddens’ structuration theory (Giddens 1984) reflects an analogous representation of the mechanisms that underlie day-to-day behaviour. Institutional approaches stress the intimate relation between the internally held standard rules for behaviour and the social institutions that reflect the historically evolved solutions to recurrent and fundamental problems which have faced people (and society at large)(cf. Burns and Flam 1987, Eisenstadt 1968, North 1994, Schotter 1986). The degree of consciousness involved in such routinisation and institutionalisation is a matter of discussion. Most theoretical perspectives addressed here, including Schutz’ phenomenology, agree, however, on the prominence of human beings as knowledgeable agents with respect to the rules and repertoires of day-to-day conduct.

At first glance phenomenological perspectives seem incompatible with theories based on decision making that usually rely on the assumption of explicit deliberation (e.g. Friedman and Hechter 1991, Prendergast 1993). Although many interpretive approaches are allegedly intellectually worlds apart from choice theory, there is sufficient reason to maintain that they can be combined in an integrated perspective. Etzioni (1992), for instance, offers a new decision making model where normative-affective considerations dominate the choice process. He reserves the term ‘decision making’, to deliberative choices, while applying the term ‘choice’ more broadly to all selections among options, however limited the scope of information process, deliberation and explicit considerations. His central statement is that

“... normative-affective factors shape to a significant extent decision making, to the extent
it takes place, the information gathered, the way it is processed, the inferences that are
drawn, the options that are being considered, and those that are finally chosen” (Etzioni 1992, p. 91).

Etzioni’s perspective is remarkably similar to Schutz’ as he states that most choices entail no
deliberation at all because the ‘right’ choice is ‘self-evident’. Often actors choose a course of
action without exploring alternatives, because it is the right way to go, because it feels right.
Nevertheless, Etzioni defines his approach explicitly in terms of choice (cf. Section 4.2.2). The
economists Nelson and Winter seem to agree with this social-psychological perspective. They
similarly stress that there is a fundamental difference between a situation in which a decision-
maker is uncertain about a future state and a situation in which the decision maker has not given
any thought to whether this particular outcome matters or not. They conclude that the problem of
whether expectancies are in included the decision-maker’s considerations at all, relies on an
adequate incorporation of bounded and procedural rationality, and calls for a theory of attention,
not a theory that assumes that everything is always attended to, but that some things are given

Leibenstein (1980, 1982) and Esser (1993) also elaborate the prospects of integrating routine and
non-calculative behaviour into a choice framework. Esser maintains that an interpretive analysis,
like that of Schutz’, need not reject rational choice theory. Both he and Leibenstein argue that if
the strict assumptions of rational choice theory are relaxed, there is no need to reject the
applicability of the concept of choice to most human behaviour. They suggest that before people
engage in actively identifying a choice situation and gathering and evaluating information, they
first pass through a stage in which they determine whether or not to follow a prevailing habit,
routine or standard rule. This implies the (conscious or subconscious) recognition of certain signs
that define the situation proper for routine behaviour (see also Piaget and Inhelder 1973, p. 3).
The steeply decreasing marginal utility of additional information in the presence of already proven
and apparently sufficient routines and recipes halts the process of conventional rational choice
(Esser 1993). Corbin, furthermore, asserts that although maintaining the status quo, following
routine behaviour or sticking to a made decision can be viewed as a behavioural option, its status
is different from other options: the associated level of uncertainty is usually lower and the
responsibility of following that course of action is felt as less than after decision making (Corbin
1980). Similar inherent costs of decision making can be found in the work of others (e.g. Collins
1993a, Janis and Mann 1977, Leibenstein 1977, 1981). These considerations would indicate that
only a sufficiently pressing need for alternative behaviour, combined with a sufficient awareness or
certainty about the presence of another frame of behaviour, would lead someone to deviate from
the original relevance structure and start a ‘rational’ process of inquiry. Leibenstein additionally
suggests that explicit calculation in the process of choice is a matter of degree rather than an
everything-or-nothing issue (Leibenstein 1980, 1982). The extension of standard notions of
rationality and decision making on which Leibenstein and Esser rely, importantly contributes to the
understanding ) within a framework of choice) of behaviour that is usually cast in terms of
ignorance and unthinking adherence to rules.

**Decision making as a process**

Most choice theories represent a static approach of decision making. Usually they (implicitly)
assume that the time involved in the process of decision making and the sequence in which aspects
of decision making occur have no significant influence on either the outcome or the understanding
of choice. Even less do they consider how choice and its characteristics and dynamics change over
time (in a lifetime or even historical perspective). According to Fawcett, the notion of choice as a
process entails at least three different, not necessarily mutually exclusive aspects (Fawcett 1991, p.
14). First there is the specific construction of choice and rules of decision making, recurring in
models of decision making and for instance leitmotifs in the work of Simon and Leibenstein. These issues concern how the choice situation in terms of options and consequences is conceived, and what kind of heuristics and decision styles are applied to evaluate information. These issues were discussed in the previous two sections.

A second aspect may refer to ‘sequential decision making’, that is, the successive decisions as elements of a career within a dynamic life course context. With respect to fertility, Bulatao (1981), for instance, found decisively different motivations for childbearing across parities, but he, and other authors, also suggested shifts in constraints and styles of decision making (e.g. Bulatao and Fawcett 1981, Fawcett 1983, Leibenstein 1981, Namboodiri 1983, M.B. Smith 1973). Chapter 6 will deal with this specific life course dimension of decision making. This section concerns the third aspect of decision making as a process; the sequence of stages in the process of decision making.

Choice as a product and a process of thought is intrinsically related to Simon’s notion of procedural rationality. Situated in a broader cognitive framework this pertains to the processes of attention and subjective representation of a decision situation, the search for information and the reasoning processes applied to draw out the consequences of behavioural alternatives and to simplify the choice problem (H.A. Simon 1987, p. 27). The acknowledgement of decision rules and heuristics, in fact, implies the existence of phases in the choice process. Thus, Kahneman and Tversky’s prospect theory poses two phases: an editing phase in which a decision frame is developed in terms of gains and losses relative to some reference point, and a phase in which alternative actions are evaluated on the basis of some rule or criterion. Sometimes, decision rules themselves are described in terms of processes. Montgomery’s dominance search model of decision making, for instance, assumes four phases in order to find a promising alternative (Montgomery 1989). A pre-editing phase roughly scans possibly relevant alternatives and consequences; the second phase determines an alternative that has a reasonable chance to be seen as dominant; in the dominance-testing phase the decision-maker tests whether the selected alternative is dominant over other relevant options; if in the third phase the selected alternative is not found to be dominant, a last phase of dominance-structuring is required to manipulate information about alternatives and consequences in such a way that a dominant option is obtained.

Several suggestions have been put forward to describe how people’s burgeoning desires concretise progressively and develop into action step by step (cf. De Jong and Fawcett 1981, Voets 1994). Others put more emphasis on the cognitive activities involved in the choice process rather than in the development of the contents. A seminal contribution in this respect is the work by Janis and Mann (1977), whose enlightening model describes how a process of choice is initiated and may proceed stage-like until a certain decision is implemented in behaviour (and is adhered to over time). The model distinguishes five sequential phases which they suggest to be broadly applicable as a starting point to a wide variety of choice situations:

- Appraising a challenge marks the beginning of the decision making process, when a person is sufficiently challenged by an event or new information;
- A stage of surveying alternatives indicates the start of a search process in which the person focuses attention on alternatives, either by scanning his memory or by seeking information from the environment;
- In the stage of weighing alternatives, the person proceeds to an evaluation of a number of promising alternatives in the effort to select the appropriate course of action;
- Subsequently the decision-maker deliberates about the commitment to implement the action, including considerations of self-esteem and social esteem if he were to forsake his decision;
- A last stage consists of adhering despite negative feedback, in which a decision is clung to and rationalised even in the face of adverse new information.
The duration of the whole staging process may range from a split second to significant portions of people’s lives. In some instances the choice situation is easily surveyable, relevant information is internally available and the preferable course of action is evident, which allows reduction of the decision making process to an insignificant instant. In other circumstances, people may need a very long time to inform themselves; alternatives may involve high degrees of uncertainty and decision makers may linger for extensive periods in the stage of evaluation. Rossi (1955, cited in Voets 1994, p. 8), for instance, observed that with respect to relocation behaviour people usually deliberated for approximately a year before they eventually moved. Van Luijn and Parent (1990) demonstrated that one-fifth of Dutch women of childbearing age spend an average three and a half years in uncertainty about whether or not they want children before they reach a conclusion. Another cause for a prolonged stay in the decision making process is the possible distance between the moments of reaching a decision and actually implementing it. External factors may delay an intended action for considerable time. A housing shortage or the state of the economy may postpone (or even cancel) a migration or labour force participation. For the case of having children, there is an average waiting time between exposure to the risk of pregnancy and pregnancy itself of about seven months. As one could argue that it is children that people choose to have rather than pregnancies, one could add another nine months for the duration of pregnancy as well. However, such durations for getting pregnant and pregnancy themselves may already be incorporated in the timing of the decision process itself.

Janis and Mann’s staging model comprises cognitive-behavioural insights about the role and changes of people’s mental schemes during the choice process. The specific challenge faced in the first stage can be thought of as being related to certain goals of the individual and makes the decision-maker more attentive to relevant domains in his information sources - internal or external. During the stage of deliberating about commitment, the person engages in a process of more or less internalising his choice. Not only the consequences of the chosen alternative function as motives for the action, but also aspects intrinsic to the decision itself (the avoidance of internal cognitive and social dissonance from revocation of the decision) become motivators for the behaviour. During the post-decisional stage this contributes to the modified mental framework with which a person attends and interprets new information and rationalises a taken course of action (cf. Etzioni 1992, Montgomery 1989). Van Luijn’s study of ambivalence in fertility decision making extensively uses Janis and Mann’s dynamic choice model. She also hints at the role of changing mental schemes when she concludes that most women who were ambivalent about the desire for children eventually reached a solution by shifting the attention to different elements included in their problem space and by changing the meaning of such elements (Van Luijn 1996, p. 179).

Janis and Mann present the five stages as a schematic description of the choice process that a ‘vigilant’ decision maker employs in reaching a decision. Many other representations of the choice process (e.g. Corbin 1980) as well as most decision rules can be situated in this general staging model. Janis and Mann do not intend to imply that choices can normally be exactly phrased in these terms. They assume that stages can be greatly attenuated, perfunctory and sometimes almost entirely omitted; that the specific stages cannot always be sharply differentiated; and that the process frequently involves feedback loops and stage reversions. Nevertheless, Janis and Mann postulate that the conceptualisation of the sequence provides a useful framework for analysing choice and understanding behaviour. Consequently, it can also contribute to attempts to effectively influence the processes leading to behaviour, for instance aversive behaviour in the field of health (cf. Janis and Mann 1977, p. 181, De Jong and Fawcett 1981, p. 44). Moreover, the staging model of choice comprises a normative component in the sense that in order to arrive at stable and competent decisions, successful progression through the various stages is considered a requirement. Although the notion of multiple stages in the process of decision making is
commonly accepted, its conceptualisation remains suggestive and its application in choice theory as well as focused research for the exploration and definition of distinct stages is scant.

4.3.5. The concept of control in human behaviour

Locus of control and self-efficacy

The common characteristics of the standard notion of choice ) as elaborated in the above sections on decision making styles, motivation and problem space) are differently interpreted and further refined in the various disciplinary traditions involved with choice and behavioural theory. A different and more recent contribution to choice theory is the incorporation of the concept of control. Psychologists argue that this mechanism has a significant effect on people’s decisions and operates at least partly independently of the motivation for a certain decision. An important consequence of the incorporation of control into a choice perspective is that it can alleviate the voluntaristic feature implied by a decision making approach to behaviour.

A much expressed criticism of choice theory is that it relies on a model of man represented as a free agent, following the desires of the moment. The explicit or implicit centrality of the motivation in the concept of choice highlights what a person wants to do, rather than what he or she can do, decides to do and, eventually does. Restrictions to behaviour usually appear in choice theories as external factors which have no bearing on the process of decision making, but only on the behavioural outcomes. Such factors often severely narrow choice approaches’ applicability for understanding and explaining behaviour. Ajzen and Fishbein themselves recommended their model ) one of the most widely applied in behavioural science) especially for situations where individuals have strong control over the factors associated with the decision. In this line, Simmons concluded from an international comparison of migration intentions that Fishbein and Ajzen’s theory of reasoned action was only appropriate in a limited set of cases (A.B. Simmons 1986, p. 138). This limitation was the main argument for Ajzen’s further extension of the Fishbein-Ajzen model of behaviour (Ajzen 1991).

Parallel to and independently of the development of various decision making theories, several psychologists embarked on the role of perceived control in human behaviour. Rotter is often cited as one of the first main theorists in this field. He suggested the distinction between internal versus external locus of control as an important determinant in the choice for certain behaviour and subsequent performance (Rotter 1966). The quintessence of this idea is that the motivating effect of an outcome ) ‘reinforcement’ in Rotter’s terms) following some behaviour by an agent depends on the extent to which the person perceives a causal relationship between his own behaviour and the reward. Rotter coins the term ‘external control’ for the situation where an outcome is perceived as the consequence of an action of one’s own but not entirely contingent. Then the outcome is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. If the person perceives that an event is entirely contingent upon his own behaviour, Rotter describes the situation as characterised by ‘internal control’ (Rotter 1966, p. 1). Depending on the perception of the nature (in terms of skill or chance) of the relationship between the outcome and the preceding behaviour, people engage differently in such behaviour and display different coping capacity in uncertain choice situations. In demography, the notion of internal-external locus of control has been applied in the study of migration (Hanson and Simmons 1986).

More recently, Bandura and others developed the notion of self-efficacy which bears some conceptual similarity, but is not identical to Rotter’s behavioural control. Just as Rotter argued with regard to behavioural control, Bandura claims that self-efficacy operates as a cognitive mechanism that directly mediates motivation and performance. He underscores the importance of
“Among the mechanisms of personal agency, none is more central or pervasive than people’s beliefs about their capabilities to exercise control over their level of functioning and over events that affect their lives. People’s beliefs in their efficacy influence the choices they make, their aspirations, how much effort they mobilize in a given endeavor, how long they persevere in the face of difficulties and setbacks, whether their thought patterns are self-hindering or self-aiding, the amount of stress they experience in coping with taxing environmental demands, and their vulnerability to depression” (Bandura 1991, p. 257).

Empirical studies (e.g. R.A. Levinson 1986, Vaughan 1993, cf. Ajzen 1991, Bandura 1977a, 1982) have shown that people shun or fail activities that they believe exceed their coping capabilities, but confidently undertake and perform those they think they can manage. If self-efficacy is lacking, people tend to behave ineffectively, even if they know what to do. Perceived self-efficacy (adopted by Ajzen under the name ‘perceived control’) is concerned with judgements of how well one can successfully execute a behaviour required to produce certain outcomes. In this sense it is distinct from Rotter’s concept of control which is more defined in terms of a person’s estimate that a given behaviour will lead to certain outcomes (Bandura 1977a, p. 193, cf. Heckhausen 1986). Conceptually one might think of the difference in the sense of situating the impact of efficacy in the process towards performing behaviour, while the locus of control mediates the relation between such behaviour and its
eventual consequences. Although the judgements are conceptually distinct, and perhaps even unrelated, it has been difficult to operationalise them distinctly (Rodin 1990, p. 3).

With regard to the sources of self-efficacy, Bandura mentions efficacy expectations based on personal mastery experiences; those acquired by vicarious experience; expectations based on verbal persuasion; and those generated by emotional arousal. He emphasises, however, the vicarious learning and particularly the authentic experimental base which often provides the most firm basis of efficacy beliefs (Bandura 1982). The importance of vicarious learning is also supported by Abeles (1990), who states that senses of control are comprised in cultural schemes that are shared and transmitted between members of a group or society. Other studies show the dynamic feature of efficacy and control expectations, which can be perceived as result of learning processes. They suggest that over historical time as well as over the individual life course, these behavioural mechanisms reveal variations in stability and change (Gurin and Brim 1984, Lachman 1985, Rodin 1990). Lastly, efficacy expectations vary on several dimensions: they may be limited to simple situations or include very complex ones (magnitude); they can apply to very specific behavioural domains or to life in general (generality); and they may persevere to a greater or lesser extent in coping efforts (strength).

Control as determinant in fertility and decision making

In the past decade, the role of self-efficacy and locus of control have been acknowledged by a (small) number of choice theorists. They perceived such concepts (and particularly the efficacy variant) to be essential extensions of existing decision models. Bagozzi and Van Loo’s ‘purposeful behaviour theory’, for instance, fully adopts Bandura’s self-efficacy notion and incorporates self-efficacy beliefs regarding the success or failure of having performed a particular behaviour (Bagozzi and Van Loo 1991).

Ajzen proposed his ‘theory of planned behaviour’ as an extension of the ‘theory of reasoned action’ developed together with Fishbein (Fishbein and Ajzen 1975, Ajzen and Fishbein 1980) explicitly because of the original model’s limitations in dealing with behaviours over which people have incomplete volitional control (Ajzen 1991, p. 181). Here, again, Bandura’s view on self-efficacy is the starting point to cover this theoretically unaddressed aspect of behaviour. Whereas the standard value-expectancy models are assumed to capture the motivational factors by addressing perceived causal links between a behavioural option and its consequences, it is clear that the intention to perform such behaviour can find expression only if the behaviour is under volitional control. In other words, a motivation to execute some behaviour can only be met if the person can decide at will to perform or not perform the behaviour.

Most behaviours depend at least to some degree on such non-motivational factors as availability of opportunities and resources, like time, money, skills, knowledge or the appropriate interpretative framework, and cooperation of others (Ajzen 1991, pp. 181-182). It should be evident that fertility behaviour depends to an important extent on such non-motivational factors, given the central role of physiological processes in reproduction that are normally largely outside the scope of volitional control. Moreover, in situations where people do not have adequate requisite resources at their disposal to influence reproduction (e.g. in terms of availability and access to contraceptives, power and sexual control, knowledge), reproductive performance will depend both on motivation and ability or behavioural control. In a broader cognitive perspective, the availability of appropriate interpretative (causal) frameworks related to people’s locus of control could also be reckoned as part of a person’s ability to adequately perform some behaviour, since this determines whether information received by a person can be coherently and effectively integrated in mental representation, or whether it is more likely to represent confusing noise and lead to uncertainty (Antonovsky 1980).

The importance of actual behavioural control is self-evident: “one cannot marry an Eskimo if there are none around” (Blau 1987, p. 79). Such behavioural control not only depends on an individual’s
personal resources, but also on the objective opportunities provided by the environment. However, as Ajzen asserts, of greater interest than actual control, is the subjective perception of behavioural control (Ajzen 1991, p. 183). In fact, this cognitive mechanism is an internalised representation of restrictions and opportunities that are usually conceptualised as external to the process of decision making. Incorporation of perceived control in a choice perspective thus allows a better integration of many, if not most, restrictions and opportunities with which a person is faced. Of course, perceived and actual control are not always identical: if people have little information about certain behaviour or external restrictions have changed, their perception of control may be unrealistic and add little to the explanation of behaviour. However, to the extent that perceived control is an accurate measure of actual control, it can be substituted and can augment the power of a choice model; to the extent that perceived control is smaller than actual control, it can still contribute to the explanation of why people fail to fully exploit their behavioural potential and to choose the optimal alternative given a choice set; only when people overestimate their abilities, do explanation and understanding have to rely on factors restricting the effectuation of decisions, rather than those influencing the decision process.

The notions of efficacy and control play an important role in the psychological literature on behaviour under uncertainty and risk. Studies by Vlek and Stallen, for instance, suggest that the acceptability of risk depends on, among other factors, the voluntariness of exposure to risk and the personal controllability of consequences (Vlek and Stallen 1980, see also e.g. Wandersman and Hallman 1993). Such considerations about perceived control and risk exposure are immediately relevant to studies of health-related behaviour. In a study on workers’ response to pesticide exposure, Vaughan found that those who believed that they had significant control over the health effects of the exposure were more than five times as likely to engage in self-protective behaviour as those who perceived that they had no control over the consequences of this environmental risk. Neither the level of a worker’s education nor the reported amount of information received about pesticides affected this relationship. Control beliefs were more predictive of self-protective behaviour than perceptions of the effectiveness of methods, fear of pesticide risk, or beliefs about the amount of exposure (Vaughan 1993). The policy implications of this research suggest that efforts to reduce personal risk from pesticides may call for strategies that not only increase the dissemination of risk information, but also specifically target the people who believe that they have little influence over whether they experience pesticide-related (reproduction-related) illnesses (ibid., cf. Worth 1989). Notions of internal control and efficacy have also been applied to demographic behaviour. Levinson, for instance, used the concept of self-efficacy to explain teenage girls’ contraceptive behaviour (R.A. Levinson 1986). Worth, more implicitly, touched upon the control concept in relation to women’s power in sexual decision making in communities with high AIDS prevalence (Worth 1989). Bogue (1983) ranked control and efficacy among the major psychic mechanisms of behaviour formation in the sphere of fertility and family planning in developing countries. He cites several studies which associate the perceived control concept to the probability and effectiveness of contraceptive use, to the continuum between personal responsibility and fatalism, and to behavioural change (ibid., p. 170). In this line, Van de Walle describes several case studies from a survey in Mali in which motivation for certain family size or child spacing appeared to be irrelevant. The interviewed women perceived their reproductive career not as directly contiguous on their own performance, but as determined by the unfathomable and ungovernable ‘will of God’ (E. Van de Walle 1992, cf. Jeffery et al., 1988b, p. 177). The finding that information about the availability of contraceptive methods alone is unlikely to lead to attempts to stop childbearing which still puzzles many involved in family planning programmes (Pollack and Watkins 1993, p. 473)) appears in a very different light if interpreted in a choice perspective which encompasses efficacy and control mechanisms. As Vaughan’s (1993) study suggests, dissemination of
information about options and consequences alone does not necessarily lead to programmes that allow people to adjust their behaviour effectively. Van Luijn’s (1996) study on fertility decision making among Dutch women with an ambivalent desire for children indicates that the relevance of the concept of behavioural control is not limited to people under ‘Third world’ or ‘deprived’ conditions. Her first suggestion towards deepening the conceptualisation of fertility decision making is the application of Bandura’s self-efficacy concept to attend the coping mechanisms of choice under uncertainty (Van Luijn 1996, p. 183).

The inclusion of the consideration of perceived control in a choice perspective serves the twofold purpose of adding the important source of non-motivational explanation and understanding of behaviour, and of absorbing much of the reservation attached to the application of decision making to behaviour under circumstances of dependency, ignorance and uncertainty. With regard to fertility behaviour, especially under the circumstances of limited opportunities and resources prevailing in developing countries, the concept of control is a vital addition if a choice approach purports to give a realistic account of behaviour formation.
4.4. Abstracting choice

The concept of choice serves as a medium to address encompassively the mechanisms of behaviour formation. In order to fulfil this function, the notion of choice is elaborated beyond the conceptualisation prevailing in standard decision making theories. Three major (interrelated) theoretical strategies have been followed in this respect. One is the situation of choice and its different components in a broader cognitive interpretative frame, as introduced in Section 4.2. The second concerns the elaboration of the choice concept as relying on a broad conceptualisation of rationality, which was addressed in Chapter 2. The third pertains to the link between decision making and the social environment. Furthermore, the elaboration included elements to adjust the general choice perspective to fertility decision making.

The elaboration of the decision making approach to behaviour added the element of (perceived) control to the common choice components of options and consequences, evaluation and decision rules. The interpretation and extension of these components can be headed under the terms of problem space (Section 4.3.2), motivation structure (Section 4.3.3), style of decision making (Section 4.3.4) and perceived control (Section 4.3.5). These four elements are considered to represent the crucial considerations that operate during a person’s process of decision making (Figure 4.4). Given the causal (but not necessarily perceived) directive of the set of intermediate fertility determinants, these determinants can be conceived as a substantiation of instrumental behaviour for reproductive outcomes. Therefore, personal considerations can be conceptualised as pertaining to these proximate determinants in addition to fertility behaviour itself.

The acknowledgement that individual behaviour itself is the outcome of underlying processes, pushes understanding back to a lower level of analysis. Therefore, Figure 4.4 distinguishes the individual level concerning behavioural outcomes and the intra-individual level concerning the cognitive and biological processes and aspects involved in reproductive behaviour.

The elaboration of the four types of personal considerations related also to the identification of the mechanisms involved in their emergence. In this respect the elaborations relied importantly on learning theoretical elements. With regard to the sources of information, connections are established with people’s personal background through learning from personal experience and emotional arousal. The impact of the social environment is conceptualised in terms of verbalisation by others and particularly observational or vicarious learning. With regard to the constituent processes of learning and decision making, mechanisms of retention, attention and motivation were identified and elaborated in Sections 4.2.3 (Cognitive schemes), 4.3.2 (Processes of attention and perception) and 4.3.3 (Sources and mechanisms of motivation). The major key to understanding individual choice is situated in the task of disclosing these personal considerations about motivation, options, control and decision styles, and their underlying mechanisms. Among the implications for research following from the conceptualisation of choice presented here, is one excellently phrased by Simon:
“All these investigations call for empirical inquiry at the microlevel - detailed studies of decision makers engaged in the task of choice. They are not questions that are easily answered by even the most sophisticated [...] analysis of aggregate data. To understand the processes [...] calls for observing these processes directly while they are going on [...] and/or interrogating the decision maker about beliefs, expectations, and methods of calculation and reasoning” (H.A. Simon 1987, p. 27).
Chapter 5.  Context

5.1.  Introduction

Probably all social and behavioural scientists would agree about the decisive role of the social context in almost any field of human behaviour. Despite this general agreement, the interpretation of context and the application of the concept displays an uncomfortable diversity. Individual-oriented and quantitative disciplines, such as micro-economics, demography and many psychological branches, seem to be particularly ill at ease with the more elusive working of contextual entities. If they are addressed at all, they enter traditional analysis in the form of the standard battery of indicators such as urbanisation and literacy levels, region, ethnicity and religion, but usually without a specification of their exact meaning in the concrete situation or of the nature of the mechanisms involved in their impact on demographic behaviour (cf. Freedman 1987, Greenhalgh 1995b, Hammel 1990). Efforts to grasp the role of context, however, require a more imaginative situational analysis with more concern for socio-cultural specificity and interaction of different facets of the social fabric. Furthermore, a representation of the macrolevel background should bear meaning to the microlevel. Conceptually, because of integrative purposes with the individual level within the larger explanatory framework, and substantially, because context must involve recognisable qualities to individual agents in order to influence their considerations (cf. Mason 1989, p. 6, Weiguo 1992, p. 61). The issue of linkage between macro and micro level refers to the creation of theoretical concepts that possess the opportunity for translation or conversion of variables at the system level into variables characterising the individual level (Gerstein 1987, p. 86, Alexander 1987, p. 290). The concept of social institution offers these various requirements; it provides the opportunity to specify the richness of social environments, their historical emergence and their relevance for individual behaviour.

The following sections will phrase the social context in terms that fit into an integrated explanatory framework for fertility. In this respect the interpretation falls back again on the meta-theoretical concept of information. A context perceived as an environment of structured information allows the conceptual and causal relation between context on the one hand and individual choice and cognition on the other. This connection between structure and agency has been defined above as one of the crucial analytical elements in the basic conceptual framework, besides the theoretical perspectives on context and individual behaviour (Section 2.3.2). An institutional approach provides a promising interpretation of ‘context as information’ and has shown to be able to incorporate cognitive and learning-theoretical links to choice and individual behaviour.

Section 5.2 introduces the concept of institutions. It is divided into a section that assesses the relevance of the concept for the representation of the social context (5.2.1) and a section that further interprets social institutions as complexes of rules (5.2.2). Section 5.3 addresses the emergence, the reproduction and the dynamics of institutions. Section 5.4 unfolds the different aspects of institutional structuring of the social environment. The relation between choice and context is the subject of the summarising Section 5.5. The last section (5.6) addresses a number of theoretical and methodological implications of the perspectives on choice and
context as elaborated in the present and the previous chapter.

5.2. Context, institutions and rules

5.2.1. Context in an institutional perspective

In various social disciplines, institutional approaches (begin to) occupy a prominent position and their analogous development displays the features of the emergence of a new paradigm in the social sciences. In sociology the concept of institutions has for a long time been considered as being of central importance; Durkheim even defined sociology as “the science of institutions, their genesis and their functioning” (Durkheim and Lukes 1982). In microeconomics, institutional approaches present a serious challenge to the standard neo-classical tradition (Langlois 1986a, Nelson and Winter 1982, North 1994, O’Driscoll and Rizzo 1985). Demography has had some tradition with regard to institutional perspectives, but increasingly contains a new institutional pocket within its disciplinary scope that is importantly fuelled by anthropological demographers. Although the demographic subfield is rather heterogeneous, institutional approaches seem to be gaining a firmer foothold, importantly through advocates such as Greenhalgh (1988, 1990, 1995a) and McNicoll (1980, 1994).

The concept of institutions used in this study is designed to analyse the structure and meaning of the entire social environment of individual actors. The attribution of the institution concept is not reserved only for such contextual entities as universities, organisations and firms, which are generally also in common language perceived as institutions. Such entities constitute microcosms in which individual choice and behaviour is structured in a particular way, often within a well-defined space (cf. McNicoll 1980, H.A. Simon 1957). Although such entities and restrictive variants, such as prisons and homes for the elderly qualify as institutions, this study’s conceptualisation is more encompassive. It also refers to more abstract social constructs such as democracy, religion, policy and gender systems or bodies of knowledge (science, ethnophysiological knowledge systems). The institutions that fabricate the social context are interpreted in terms of coherent sets of rules referring to, for instance, the aim of such institutions and of the activities employed within the institutional frame, to the rights and duties of the various participants and their relations vis-à-vis one another, or to the shared knowledge and the interpretation of information. Thus, an institutional perspective of Roman Catholicism would highlight the rules with regard to existential matters and considerations of right and wrong, with regard to people’s conduct towards each other and towards God, or with regard to the investment of power and authority in the hands of the clergy. Religion in general can be interpreted as an institution that situates man in a larger cosmology and conveys a moral frame of reference. But more down-to-earth institutions like business enterprises and prisons can also be analysed on the basis of a rule approach, although they will often acquire meaning if embedded in and relying on more general rule systems, like labour law, labour unions, property rights, penal law and enforcement authority (cf. D’Andrade 1984, Burns and Flam 1987). The illuminating application of the concepts of institutions and social rules in various disciplines illustrates the relevance of the institutional approach for the analysis of widely diverging elements of the social context: nations, markets, kinship systems, civic law, traffic regulations, transport systems, castes, health and education systems, conversational
networks, local interest groups, family planning policies, et cetera. Many of the tangible characteristics of people’s environment (schools, contraceptive supply, health facilities, a community’s average level of education, railways and bus connections) can more or less directly be associated with such social institutions if they are perceived as the consequences of institutional rules.

A general characteristic of social institutions is that they may be seen as referring to the socially constructed solutions to recurrent problems of individual action and interaction (cf. Eisenstadt 1968). The function that institutions represent to individual agents is that they serve as behavioural guides: they define specific situations and behavioural outcomes, they reduce uncertainty and the knowledge and cognitive skills required for successful action, and they avoid continual renegotiation, conflicts and unnecessary transaction costs (Ben-Porath 1982, Burns and Flam 1987, Langlois 1986a, North 1994). At the macro level institutions contribute to social organisation and the maintenance and reproduction of social systems.

In the perspective of the repeated application of agreed solutions to recurrent social problems, institutions represent the constituents and the very essence of social structure (Langlois 1986a, Schotter 1981). The regularity or repetition of behaviour in recurrent situations is a crucial characteristic. Collins, for instance, interprets social structure as

“people’s repeated behaviour in particular places, using particular physical objects, and communicating by using many of the same symbolic expressions repeatedly with certain other people” (Collins 1981, p. 994-995).

Collins emphasises the repetition of concrete actions as the determining factor of social structure, and not the set of meanings people carry in their heads. Of course, he is right in assuming that structures and institutions cease to exist without the appropriate physical acts and, as D’Andrade states, the adherence to and implementation of rules is an essential feature of social institutions (D’Andrade 1984, p. 91). But repetitive behaviour will not occur without people’s shared recognition of specific situations, their common interpretation of participants’ rights and duties and their shared meanings of objects, symbols, behaviours and events in these situations (D’Andrade 1984, Denzau and North 1994, Langlois 1986c, cf. Handwerker, 1986a). In this perspective social institutions refer not only to recurrent behaviours, but importantly also to the underlying structures of social knowledge: the rules or sets of rules that are mirrored in people’s cognitive frameworks and, consequently, in their behaviour (D’Andrade 1995, Denzau and North 1994, Mason 1989 cf. Giddens 1984). The acknowledgement of the role of actual implementation induced Bandura to extend the interactionist structure-agency relationship to a ‘triadic reciprocity’ in which environment, cognition and behaviour operate interactively as determinants of each other (Bandura 1986, p. 23; cf. Abeles 1990, p. 91). This cognitive-institutional perspective provides the opportunities to identify the mechanisms involved in the dialectic relation between context and behaviour, and to assess the rich and versatile character of the factors conditioning people’s social environment.

Rather than limiting the connotation of social institutions to the common normative interpretation, this perspective is customised to address other ramifications as well, such as the equally important contribution to making sense of the world and oneself. In the line of interpretive sociological (e.g. Alexander 1987, Burns and Flam 1987, Giddens 1984) and cognitive anthropological (e.g. Archer 1996, D’Andrade 1995) traditions, this study recognises and emphasises institutionalised meaning-giving, besides the behaviour-guiding interpretation.
of social institutions. Although the analysis of the social environment emphasises the rule perspective, in addition to the mere knowledge and internalisation of rules, the adherence to and implementation of these rules is considered an essential feature as well (cf. D’Andrade 1984, Lockwood 1995).

5.2.2. Institutions and rules: meaning-giving and behaviour-guiding

In a cognitive perspective, the social environment of institutions can be interpreted in terms of shared rules. Social institutions constitute sets of relatively coherent rules that construct reality and provide behavioural guidance. These rules are applied to interpret and define situations, events, participants and their roles, relations and behaviours in recurrent social encounters:

“[T]he rule systems governing transactions among agents in a defined sphere specify to a greater or lesser extent who participates (and who is excluded), who does what, when, where and how, and in relation to whom” (Burns and Flam 1987, p. 8).

In a cognitive-institutional interpretation of the social environment, the rule concept conceives of the mechanism how context becomes a meaningful background to the individual decision-maker. The conceptualisation of rules is a key element in fields of microsociology like that of Berger and Luckmann (1967), Blumer (1969), Giddens (1984), Goffman and Garfinkel, and in particular in the ‘rule system theory’ of Burns and Flam (1987). More recent perspectives in anthropology acknowledge the ‘agency’ of participants in social structure and culture and are based on comparable cognitive grounds (e.g. Archer 1996, D’Andrade 1984, cf. Hammel 1990). Institutional economics also emphasises the structures of social knowledge that embed individual human behaviour (e.g. Arrow 1994, Nelson and Winter 1982, North 1994, O’Driscoll and Rizzo 1985). Despite some divergent attention, remarkable similarities can be observed in these various theoretical approaches to the role of the social context. There is a common ground in the recognition that knowledge of and adherence to rules are differentially distributed across status positions and thus reflect and create social structure. As such, rules, and the related concept of institutions, are significant contributions to bridging the agent-structure gap in social theory (Abeles 1990, Burns and Flam 1987). The role of cognition in the construction, organisation and application of rules clearly relates to even rests on) cognitive and learning psychology and is of crucial importance to a theory of behaviour in terms of decision making.

The information social rules convey can be different in nature. Accordingly, several authors distinguish types and aspects of rules. Hargreaves, for instance, classifies four different kinds of rules: probabilistic, implemental, normative and interpretive rules (Hargreaves 1980, p. 218). Others distinguish similar and additional types or functions of information and rules (e.g. Burns and Flam 1987, D’Andrade 1984, Giddens 1984). Most scholars involved in rule theory would acknowledge that such distinctions between rules are analytical features. Functions and classifications of rules may not be mutually exclusive, and situations may be overdetermined in the sense that more than one rule or rule function are operative and can in various degrees back up each other (Burns and Flam 1987, D’Andrade 1984, Hargreaves 1980). Probabilistic or ‘private’) rules seem best to correspond to habitual behaviour: rules produced by the regularity of person-bound actions. Often ad hoc behaviour that is repeated over and
again will become institutionalised among people if the reciprocal expectancies become recognised and valued (Hargreaves 1980, p. 219, Burns and Flam 1987, p. 12). In themselves such rules are too idiosyncratic to contribute to the explanation of social patterns of behaviour unless they also acquire a normative connotation. Usually such personal systems remain private systems of rules and do not fulfil the contextual functions of social institutions.

Implemental or technical rules refer to the technical or procedural routines that must be applied to perform effectively. For instance, to win a boat race, a crew requires the essential skills and competence to adhere to an identical style and rhythm. In order to maintain an adequate production of breastmilk, mothers need to acquire the appropriate techniques and patterns of breastfeeding. Huffman explains the relatively high insufficiency of milk production among Western mothers, by arguing that in Western societies, with their emphasis on privacy, women lack the opportunities to acquire sufficient information and skill from models in their environment (Huffman 1984).

Normative rules symbolise the gist of classical sociology as they represent behaviour that is influenced by the reinforcement of external forces. Also in many institutional perspectives they embody the typical meaning of the rule concept. Hargreaves’ normative rules are identified by others in terms of ‘directive’, ‘prescriptive’ or ‘regulative’ rules (Burns and Flam 1987, D’Andrade 1984, Giddens 1984). By and large they correspond to notions like social norms, conventions, codes of conduct. These kinds of rules can be loosely and barely consciously specified (as, for instance with many moral rules), or associated with formal institutions and explicitly defined (such as for public law and traffic regulations). They tend to provide prescriptive guidance for behaviour in combination with a variety of possible sanctions. External reinforcements range from coercive power of the state, institutions or groups, to the sanctioning power of public opinion and the social coercion and persuasion of involved others. Rules that are internalised to the person equally represent an ‘ought to’ quality and reflect personal standards on moral issues like fairness, justice and good and bad. As these internalised moral codes are established while acting in a social environment, they tend to bear the features of that context and are often supported by corresponding external sanctions. Apart from these social repercussions, sanctions are in this case, however, also provided by the feeling of discomfort if behaviour does not match personal ethics (D’Andrade 1984, p. 98, Frank 1992).

The last type of rule Hargreaves mentions is the interpretive rule, elsewhere referred to as ‘descriptive’, ‘representational’ or ‘constitutive’ rules. These involve the subjective information about definitions and classifications of actions, participants and situations as well as information about the relations between actors, objects and events and the conditions under which these are valid. Such rules specify “who participates (and who is excluded), who does what, when, where and how, and in relation to whom” (Burns and Flam 1987, p. 13) and assert that “X counts as Y in the context C” (D’Andrade 1984, p. 91; cf. Handwerker 1986a, p. 11). For instance, interpretive rules in an economic system could

“consist[s] in the shared understanding that there are people called employers and people called workers; that employers pay workers and direct them within a particular ... sphere of activities” (Langlois 1986b, p. 17).

Similarly, virtually every aspect of marriage and fertility is associated with rules of this kind. The position of a married woman could be defined as belonging to her own family or to her family-in-law, according to the ruling marriage and kinship system. Gender rules and other socio-cultural rules could differently emphasise her identity as the mother of her children, a
partner in marriage or a participant on the labour market. Other interpretive rules may provide the basis to viewing children as ‘acts of God’ and spiritual approval (Caldwell and Caldwell 1987) or primarily as consequences of individual will and responsibility. Although the objects created by these interpretive rules are mere abstractions, these abstractions can be visualised by symbols, such as wedding rings, particular clothing, prescribed haircuts, paper money, et cetera. The crucial role of these interpretive rules and accompanying tokens is the context-bound construction and understanding of the world, the meaning of particular situations and one’s own place in it. Consequently, such rules express the value and functional meaning of events, assets and behaviours, and are therefore closely associated with agents’ goal structures. The strong representation of such interpretive rules in cultural institutions, emphasises the prominent role of culture for individual decision making (cf. Abeles 1990, Hull 1983, Lindenberg 1989).

From the point of view of social theory, normative and interpretive rules are the most consequential in describing and explaining patterns of behaviour in different social contexts. In order to emphasise these two particular types of rules and their implications for individual behaviour, they will be explicitly addressed respectively as behaviour-guiding and meaning-giving rules. Social institutions are largely made up of these types of rules, in a more or less coherently organised way and often accompanied by rule-enforcing mechanisms. These rules (and correspondingly institutions) consist of social knowledge: information that is inter-subjectively shared within groups, collectivities and societies, and which is socially acquired by successive participants in a process of cumulative learning (Arrow 1994, Berger and Luckmann 1967, Burns and Flam 1987, North 1994, Sowell 1980, Schotter 1981). These coherent rule sets, which pertain to macrolevel entities, are reflected through social learning processes in the internal cognitive schemes of individuals, who apply them to understand and construct reality and set a course for behaviour. In principle it is possible to analyse institutions as isolated social constructs and address cognitive schemes distinctively through introspection. However, in the practical situation of decision making, the cognition of multiple (possibly conflicting) rules, additional influences of personal experience and the impact of bounded rationality may produce considerations and behaviours that structurally deviate from these directive constructs.

In fertility studies, the work of the Caldwells contains noteworthy elaborations of cultural institutions, such as religion, patriarchy, the family and marriage systems. On the basis of qualitative research methods, they decompose the cultural information context into the expectations about and the meanings and values of fertility-relevant events, statuses and relations, such as childbirth, marriage, menarche, husband-wife relations, intergenerational relations, et cetera (e.g. Caldwell and Caldwell 1987, Caldwell et. al. 1983). The complex of these behaviour-guiding and meaning-giving rules provide the interpretive background of perceptions, motivation structures, styles of decision making and perceived control with regard to fertility-related behaviour. Work of a slightly different nature, but just as captivating, is presented by Greenhalgh (e.g. Greenhalgh 1988, 1995a) and Lesthaeghe (e.g. Lesthaeghe 1983, 1989d, Lesthaeghe and Wilson 1986).

5.3. Individual agency and the life of institutions
In a cognitive perspective, a central role is assigned to the relation between the agency of individual actors and the life or evolution of institutions. The social context is not interpreted as a static and law-like force, but as a dynamic social construct, whose impact on behaviour (although profoundly conditioning) is still, at least in principle, negotiable. Context and agents relate to each other interactively since individuals, as social agents, are not only the ones who implement institutional rules, they are also perceived as the carriers, the formulators and the transformers of rules and rule systems (e.g. Archer 1996, Burns and Flam 1987, D’Andrade 1995, Giddens 1984). In such an interactional perspective, a description of the institutional environment and the processes underlying its emergence, reproduction, transformation and impact on individual behaviour is cast in terms of acquiring the knowledge of social rules, rule making, rule interpretation and rule implementation (cf. Arrow 1994, Berger and Luckmann 1966, Burns and Flam 1987, North 1994). This, in turn, establishes a close conceptual link to the cognitive schemes and social learning that constitute the personal considerations in the process of decision making.
5.3.1. Emergence of social institutions

The reason for the emergence of social institutions is situated in the encounter of recurrent problems in social life over historical time. If people repeatedly try to find solutions to problems of interpretation and expectation, dependencies and coordination, social exchange, and the distribution of rights and responsibilities, there is a tendency to develop rules and institutional complexes of rules to secure once negotiated solutions in a more permanent form. Thus, the access to and control over resources, the socialisation of children, household and income-earning tasks, defence, relations with the spiritual world, control over sexuality and inheritance, are typical problems of all societies whose solutions have become institutionalised in the course of history. Some of the rules have become formalised, for instance in official legislation, while others remained less formal and explicit.

The idea that institutions and particularly normative or behaviour-guiding rules represent solutions to certain social problems, does not necessarily imply that they are also socially the most efficient or even fair solutions (Langlois 1986b, p. 21, McNicoll 1992, p. 18, North 1994, p. 360). Not least, because it is more than likely that those who wield the most power during the inception and development of institutional forms are the ones who are best able to represent their interests in negotiating the solutions and, consequently, the rules and institutions (Langlois 1986b, p. 16). Moreover, since institutions are inherently anchored in the past and dependent on their evolution through time, their relevance under current circumstances is not always indisputable. The perspective of social institutions as evolutionary constructs emphasises that if one seeks a logic of institutional forms, attention should be focused on the historical circumstances in which they emerged and on their subsequent path-dependent development (Burns and Flam 1987, Langlois 1986b, McNicoll 1994, North 1994, Nelson and Winter 1982). Although such an evolutionary institutional perspective is by definition a dynamic interpretation, prevailing rules do not necessarily reflect solutions to the most recently felt problems; nor will they always reflect new categories of participants in the field. Combinations of existing control mechanisms, vested interests, engaged routinisation and possible disruptive effects of institutional change tend to create a lag between prevailing institutional rules and the new circumstances, influences and perspectives emerging from social change (Burns and Flam 1987, p. 28).

5.3.2. Maintenance of social institutions

The acknowledgement that single rules and institutionally integrated rule complexes are continuously subjected to antagonistic influences of challenging and conserving forces signifies the dynamic character of the institutional environment. Knowledge of social rules whether explicitly and publicly expressed or not) is a requirement for the adherence and implementation of these rules. However, neither this knowledge of rules by itself, nor even the social agreement that some rules exist, is a sufficient condition. In this respect, the outspoken reliance on social norms in structural-functional explanations of human behaviour is a central point for criticism. The concept of social norm in such approaches is usually advanced as a deus ex machina for theoretical problems of understanding, but it is often merely a description of the normal state of affairs tautologically masquerading as explanation (Collins 1993a, p. 64, Lockwood 1995, p. 4, cf. Filipp and Olbrich 1986, p. 362). The point is that structural-functional approaches tend to fail to distinguish between norms and actual behaviour. And this
distinction is vital given the ethnographic record of varying degrees of hypocrisy and individual deviance from normative rules. In addition to the existence of norms about what is normal and proper, the questions remain what produces these expectations, why are they often not obeyed, what breaks them down and how do they influence behaviour? These questions relate to the interaction between social structure and agency and can only be answered by adopting a micro-approach (cf. Lockwood 1995).

If social rules are acknowledged, their implementation requires, in addition, a functional value to the agents which be either inherent in rule adherence itself or produced by external sanctions (Bandura 1986, p. 68, Burns and Flam 1987, p. 21, 65, D’Andrade 1984, p. 97, Schotter 1981, p. 11). Rules comprise an inherent functional value if there are intrinsic incentives to the process of implementation or to its outcome. In general, compliance with social rules provides its own rewards either directly or indirectly. Indirectly, because observed adherence by others may have some suggestive power and because internalisation of rules renders positive associations with their adherence. Furthermore, rule compliance may enable people to coordinate and interact more effectively with one another, and may reduce uncertainty in social situations and avoid the psychological costs of developing alternative strategies and interpretations (Burns and Flam 1987, p. 65). Direct rewards may be provided if the implementation of rules return certain pay-offs that are deliberately sought after, or, conversely, if implementation avoids loss. If the intrinsic value of social rules is insufficient to guarantee an adequate level of adherence, and if other participants or the collectivity at large depend on rule compliance, various regulative mechanisms of social control may be applied to enforce appropriate behaviour (and even appropriate thought and interpretation). Such mechanisms range from mild persuasion and the effects of public opinion to private social coercion and organisational sanctions, and ultimately to coercive state power or divine sanctioning (cf. Burns and Flam 1987, p. 20).

The different mechanisms that induce rule-following behaviour either imposed by external authorities or by the intrinsic value of the rules and self-policing contribute to adherence and institutionally ‘correct’ implementation by eligible actors. In turn, the repetition of these individual behaviours contributes to the maintenance and reproduction of social institutions by posing observable models for behaviour.

5.3.3. Institutional change

In opposition to the conserving forces, other mechanisms operate in the continuous process of institutional change. Deliberate and strategic reform of social rules is usually only granted to individuals and groups with considerable power, authority or prestige (such as the military, priests, landowners, presidents, people like Khomeiny or Ghandhi). To most others, institutions and rules tend to be more external and ‘objective’. Nevertheless, and notwithstanding the different control mechanisms, empirical studies are full of deviant behaviour and violations of social rules. This underscores the notion that rules should not be interpreted as absolute behavioural constraints and definitions, but as social constructs that arise from the interaction between people and from their individual cognitive activity. The degree of freedom to deviate from prevailing rules depends partly on the combination of available options and the perceived severity and probability of social sanctioning (cf. Mason 1989, p. 4). Even in situations of very stringent control people may find escapes and dare to take the risks of disobedience, such as
the case of women in North India, who may secretly use a visit to their natal village to arrange for an abortion or contraception behind the back of their husbands and in-laws (Jeffry et al., 1988a).

Often, however, the room to manoeuvre available to individuals is the effect of more subtle mechanisms which may be seen as closely related to the interpretation of institutions as cognitive entities and to the assumption of human’s capacity for meaningful reflection. In some instances, people are aware of the normative rules which should be adhered to in certain situations, but they are unable to determine whether the circumstances that confronted them in fact constitute such a particular situation (Burns and Flam 1987, p. 42 ff.). A similar problem arises when people may know that a certain event (or fact, asset or behaviour) is valued in a certain way (meaning-giving), but they may be uncertain about whether an event is really the event to be valued in that way (cf. D’Andrade 1984, p. 96). For example, in general people value murder negatively, but they may be unsure whether to classify the act of euthanasia or induced abortion as murder. In other instances again, a variety of alternative rules may bear relevance to a particular situation. Unless these rules and institutions are completely integrated, agents may be able to use the appearing discrepancies to select those rules which most comply with their individual interests (Burns and Flam 1987, p. ix, Hammel 1990, p. 463, Lockwood 1995, p. 9). In fact, a certain degree of inconsistency between rules existing in societies is standard rather than exceptional. Thus, heterogenous and Western societies are characterised by the presence of many alternative and competing rule regimes and by the option to adhere to rules from different institutional backgrounds in different life domains (cf. Lesthaeghe 1992, Ryder 1983; see also Bongaarts and Watkins 1996, p. 661). Lastly, people may simply have enough power or sufficient independence to negotiate or ignore existing rules and act in accordance with their own private interest.

The notion that individuals are knowledgeable agents who actively use, interpret and implement social rules highlights a major mechanism which transforms, or even dissolves, existing institutions and creates new social problems as well as the need for new institutionalised solutions (cf. Burns and Flam 1987, Greenhalgh 1995b, Mason 1989). This kind of social change is not always planned and deliberate, but the effect of aggregate individual cognitive and behavioural activity, with sometimes intended and sometimes unintended consequences. These, in turn, transform the material and institutional conditions of their behaviour. Such feedback mechanisms and related changes in bases of institutional control, provide successive cohorts and generations (cf. Lesthaeghe 1992, Mannheim 1952, Ryder 1965), and even people during their life course with different perspectives on their social environment. As the institutionally-rich studies of, for instance, Caldwell, Greenhalgh and Lesthaeghe show, an analysis of social institutions and their meaning-giving and behaviour-guiding rules proves a fertile ground for the explanation and understanding of demographic change. Lesthaeghe’s central thesis regarding secularisation and individualisation in West-European cultural and demographic change, is in fact exemplary for a historical transformation and substitution of meaning-giving rule complexes. It suggests that, whereas previously religious doctrines provided the cosmology which people seem to need to render their world intelligible, in modern Western societies the individual has moved to the centre of this cosmology. Although perhaps initially fierce contests were required to wrestle personal responsibility and control from the institutional context, in many aspects of life (including the domain of fertility) individual freedom of choice has become an institutionalised rule (cf. Hargreaves Heap 1992, p. 23, Hayes 1994, p. 6).
5.4. Institutional structure

Institutional approaches recognise the intricate fabric of society and social organisation, and the specific environmental influences for different groups and in different circumstances. Their strength for redrawing the relevant social context for categories of people in particular historical conditions, is based on this acknowledgement of the structure of and the differentiation within the institutional environment. More in particular, an institutional approach can disentangle the compound influence of context on individual behaviour by interpreting the social environment as a multi-level structure and institutions as entities with several dimensions and varying relevance for different life domains. Lastly, institutions can be distinguished on the basis of their formalisation and the extent to which their design is intended.

5.4.1. The institutional environment as a multi-levelled structure

The perception of the social environment as an assemblage of institutions heaps together a large number of social constructs which not only diverge in their substance, but also in their encompassiveness. Some institutions (for example local economies, interest groups, networks) are relevant only to very specific groups, while others (the cash economy, science, the international political system) have a global impact. The effect of institutional backgrounds on individual decision making will depend, among other things, on the ‘distance’ between the individual agent and the relevant institution, a perspective which implies a multi-level analysis of context. Conceptually, institutions may be seen to be operative at micro, meso and macrocontextual levels or, more concretely, at the local (community), regional, national and international level (Greenhalgh 1990, 1995b, cf. Watkins 1989). In such a hierarchical structure, higher-level institutions have an impact on individual decision making, but they tend to do so through the successive filters of lower-level institutions.

Thus, overarching institutions like religion or a national family planning programme may be differently negotiated in a rural farming community and the neighbouring fishing community, because of the differences in the local economies (cf. Niehof 1985). Aims of the international community with regard to women’s rights (as, for instance, formulated in the ICPD Programme of Action) can be effectuated by supportive legislation at state level and women’s organisations at lower levels, but may also be impeded by adverse family and gender systems or local labour market opportunities. On the other hand, the role of lower-level institutions tends also to be modified by more encompassive or competing institutions. As Retherford and Palmore state, it is helpful in the case of birth control diffusion but equally in other considerations relevant to reproductive decision making to conceptualise information flows hierarchically: for instance at the level of local interpersonal networks, at the level of family planning and related services within a country, and at the level of international agencies or private organisations operating at the international level (Retherford and Palmore 1983, p. 296). Similarly, Bongaarts and Watkins (1996) suggest the need for indicators and methodologies to comprehend the content of social interaction and of the local, national and global channels through which it flows.
Due to the sustained conjuncture of various institutions in specific social settings, the meaning of individual institutions may change in the course of time, which is why, for instance Catholicism in contemporary Ireland has become different from that in Mexico or Sri Lanka (cf. Handwerker 1986a, p. 11). This, in turn, emphasises the path-dependency of social institutions and the requirement of incorporating a time perspective in contextual analysis (Greenhalgh 1995b, Langlois 1986b, McNicoll 1994, Nelson and Winter 1982, North 1994). On these points, an institutional approach to fertility and fertility change provides a more accurate account than transition theory, which is conceptually the major alternative context-incorporating edifice in demography. Such an institutional approach is much more responsive to the richness and differences of environmental influences on reproductive behaviour in specific situations and it allows a relevant perspective on the interaction between the multiple contextual levels that embed individual choice. Furthermore, it is far better equipped to understand the specific timing of change in levels and patterns of fertility; not merely in the unilinear downward fashion proposed by transition theory, but also with regard to reversals and fertility increase. Also, an institutional approach finds the understanding of fertility at least partly in the historical evolution of the specific amalgam of institutions and views this social context as an evolving process at every point in time, rather than only during a transition phase (Greenhalgh 1995b, McNicoll 1994).

5.4.2. Institutions and communities: some common ground

To some extent, local communities exhibit institutional characteristics. A long-established social interaction and group consciousness among the community members may generate common goals and reciprocal relations: villages can function as defence units or constitute cooperative agricultural production systems. Slum dwellers sometimes manage to form pressure groups to represent their interests in local urban politics. Although villages, neighbourhoods and slums are not usually considered as institutions, studies on institutional backgrounds of fertility regularly pay attention to communities in the sense of social entities representing common goals and shared knowledge, norms and values. For example, both Potter’s contribution to the U.S. National Academy of Science volume on determinants of fertility (Potter 1983) and the 1983 World Fertility Survey seminar on collection and analysis of community data (Casterline 1985a) explicitly classify institutions and communities as having a similar standing. Both pertain to social organisation and to the local context of individual behaviour. Caldwell et al., even explicitly employ the term institution for urban society in contrast to the village community (Caldwell et al., 1982b). This involves, for instance, the difference in rules about interaction with, dependency on and social control by members in the direct environment as well as the information about the variety of behaviours and lifestyles that are encountered in different settings.

Community effects relate to the commonalities of exposure to a local environment that are shared by members of territorially defined groupings (McNicoll 1985). Bilsborrow (1985) distinguishes two types of community aspects: contextual and global. Contextual aspects refer to the collective characteristics and behaviours of the community members, such as level of education, mean age at marriage, percentage of women in paid labour, average number of children, et cetera. Global community aspects do not have a measurable counterpart at the individual level, but include amenities like health clinics, schools, electricity, paved roads, et cetera. There is, however, a clear connection with the institutional organisation as, at least
partly, community aspects echo social institutions. For example, schools and clinics are the materialisation in space and time of, respectively, the larger educational and health systems. Moreover, the members of communities are the bearers and implementers of the knowledge that is embodied in, for instance, the family complex and religion or that is discharged by family planning programmes. Thus, the actual patterns of behaviour of community members can be interpreted in terms of effects of the number of locally relevant social institutions. In this respect, Lesthaeghe rightly points out that community variables should be understood as representing more than just the utilities and amenities that are included in the WFS community module. They should also address issues of local organisation, their historical roots, and older and contemporary functions of village organisations and urban neighbourhood networks (Lesthaeghe 1989c, p. 483).

The various groups and individuals in this local environment are potentially significant role models or sources of information. Thus, an educated woman in a non-educated environment may behave differently than a woman with the same level of education in a highly educated environment (Jain and Nag 1985, F. van de Walle 1985, cf. Lesthaeghe et al., 1989, pp. 164-165). In this respect, the degrees of isolation and homogeneity of local communities can be notable factors in the explanation of fertility behaviour (Casterline 1985b, Retherford and Palmore 1983). The mechanisms of behavioural modelling and transfer of information in communities are explicated in two conceptual approaches that are relevant for the study of fertility. One pertains to the acknowledgement of social networks as a social medium of knowledge about contraception and as an underpinning for the relative lack of theoretical fundamen for the notion of diffusion (e.g. Barker and Rich 1992, Beckman 1983, Caldwell et al., 1987a, Entwisle et al., 1996, Freedman 1987, Hammel 1990, Khan 1987, Limanonda 1993, Niehof 1992, Rogers 1973). The other pertains to a more profound theoretical anchoring by social learning theory which attributes a central place to the observation of models and the verbalisation of messages in the explanation of behaviour formation (Rosenthal and Zimmerman 1978, Bandura 1977b, 1986, cf. Montgomery and Casterline 1996).

5.4.3. Dimensions of institutional forms

Institutions can be classified in terms of the specific spheres they represent. The institution of the market clearly covers economic fields; the family as an institution relates to social aspects of life. In the literature, usually four broad types of institutions are distinguished: social, economic, cultural and political. Social institutions may be seen as particularly referring to relations between (categories of) people, their dependencies and mutual expectations; economic institutions may be associated with exchange of goods and services and with the distribution of wealth; cultural institutions can be related to the ideas and meanings by which individuals order material and social experience and assign value to their elements; and political institutions pertain to relations of power and the access to resources. Although institutions may have particular relevance to a single domain, in general they incorporate several. In real life social, economic, cultural and political aspects are inherently bound up within institutional forms. Patriarchy, for instance, concerns the social relations between men and women and the normative expectations of gender-specific behaviour; but more specifically, it also involves political rules about the distribution of power within families and it represents a complex of cultural meanings and values as related to, among other things,
marriage or being a wife or husband, a son or daughter. Similarly, the role of religion, being a major meaning-giving cultural system, cannot be appreciated if its social and political implications are not fully acknowledged. Therefore, a dogmatic classification of institutions under one single heading does injustice to the possible scope of their impact on behaviour. It reproduces, in Greenhalgh’s terms, the ‘functionalist myth’ that societal or contextual entities can be neatly categorised into social, economic, cultural and political divisions (Greenhalgh 1995b, p. 9).

A more realistic description of institutions would consist of a conceptualisation that involves different dimensions, related to social, economic, cultural and political life spheres. In this perspective, the term social institution is used in an inclusive sense: in this particular combination ‘social’ does not refer to its narrow meaning as differentiated from cultural, economic and political but to the notion that institutions are socially constructed in the continuous process of reciprocal representation of routinised actions by categories of actors (Berger and Luckmann 1967, p. 72). The emphasis put on the interlocking social, cultural, economic and political dimensions of institutions has the consequence that the interpretation of context does not systematically distinguish between the parallel concepts of social structure and culture (cf. Archer 1996, D’Andrade 1984).

5.4.4. Institutional impact on life domains

The relevance of institutional entities is not uniformly distributed over people’s lives. It may vary over the life course, and it certainly does across spheres of activity or life domains (cf. Burns and Flam 1987, p. 15). The Indian caste system is a prominent example of an institutional complex that has saturated a large number of life domains. Although over time it managed to incorporate many incoming influences, the penetration of Indian society by new and powerful institutions, such as the international market, capitalist entrepreneurship and democracy, tend to weaken the rules associated with the caste system in certain areas of life. Whereas caste rules remain important in certain life domains (for instance, marriage) they have lost much significance in the field of work at least in the modern sectors of the economy. Here, rules focusing on acquired skills and achievement have become viable alternatives to those regarding ascribed status. Similarly, Belgian survey material indicates the coexistence of alternative rules in the population of Turkish women in Belgium with regard to such domains as marriage, family formation, contraceptive use, gender relations, women’s labour market participation and children’s attitudes (Lesthaeghe 1992). Lesthaeghe’s analysis suggests that the shift towards Western rules is not a synchronised evolution, but occurs at a different pace in the various life domains.

The point made here, is that social institutions are not equally important in all life domains and, moreover, that their relevance may change in historical time and over the life course. Therefore, in social research the specific subject under study will importantly determine which institutions require further analysis, but analysis should also include additional institutions that indirectly, via other life domains, influence the behaviour under study. Although this selection is largely, and almost by definition, a matter of ad-hoc consideration, McNicoll states that with regard to reproductive behaviour, any such listing would have to include the family (because of their control over the establishment of new households, the gender roles they perpetuate and their old-age security functions), local community structures (as the locus for social networks and sanctions on fertility behaviour), public administrative arrangements (which is
comprehended to include legislation and official family planning and health programmes), the stratification system and the mobility paths it accommodates and the labour market (McNicoll 1994, p. 11; see also Davis and Blake 1956). There is also a strong argument for the incorporation of the education system given the generally observed impact of education on fertility and the gender system. Although the gender system is closely associated with family arrangements, it deserves a separate status because reproduction is, as Greenhalgh asserts, a ‘deeply gendered process’, socially, economically, culturally, politically and physiologically and because gender is of vast relevance to almost all other life aspects as well (Greenhalgh 1995b, p. 14, 24). Lastly and generally, the literature on diffusion of innovations suggests to pay distinct attention to institutions and networks from the local to the global level since these comprise the channels of communication and social interaction through which information is transmitted across countries, regions, communities and people (Bongaarts and Watkins 1996, Entwisle et al., 1996, Hammel 1990, Montgomery and Casterline 1996, Retherford and Palmore 1983).
5.4.5. Formal and informal institutions and social engineering

Apart from the interpretation of institutions in terms of their scope, substance and relevant life domains, there is an additional perspective concerned with a particular aspect of their shape that may highlight institutions’ role and working in social life. It may be important to distinguish between formal institutions (such as public health systems, school systems, family planning programmes, legislation, media, pressure groups) and informal institutions (such as family, marriage and gender systems, religion, communities). Formal institutions can be distinguished in the sense that, more than non-formal institutions, they have been intentionally designed and not organically emerged. They involve explicit goals, procedures and means (including efforts to influence individual behaviour), which are recognised as such by the participants. Non-formal institutions are usually more abstract and stem more from unplanned and unintended regularities of behaviour in the course of time (cf. Langlois 1986b, p. 19). Such institutions correspond with the more classical interpretation of social institutions, such as that by Hayek, who asserts that they “emerge by human action, not by human design” (Hayek 1973).

A distinction between formal and informal institutions is also more or less reflected in Schotter’s (1986) interpretation, and other classifications, like those differentiating ‘organic’ and ‘pragmatic’ institutions (Menger 1963) or ‘internal’ and ‘external’ institutions (Lachmann 1971) seem to rest on the same dimensions. In the particular field of fertility, a distinction similar to that between formal and informal institutional entities is made by McNicoll (1994). In the same vein Simmons et al., differentiate family planning programmes from the larger social structure and argue that they might be treated differently as they are deliberately constructed public efforts to affect fertility (R. Simmons et al., 1983, p. 458). What unifies these two types of institutions is that they can both be understood and analysed in terms of rules. Such formalised or informal rules and their enforcement principles make up the informational content and structure of the social environment (Burns and Flam 1987, D’Andrade 1984, Langlois 1986b, Nelson and Winter 1982).

Even if a characterisation of institutions in terms of a formal-informal distinction is possible, over time informal institutions can be observed to obtain a formal status, or institutions to possess both formal and informal characteristics. The organisation of the Roman Catholic church is an obvious example of a formal institution built up around an informal religious-cultural body of ideas which gives meaning to various aspects of life. Conversely, formal institutions may have unintended but very important secondary consequences (Davis and Blake 1956, p. 198). In this respect, it must be emphasised that informational content of formal institutions consists not only of the factual instructions as delivered by, for instance, schools, health clinics, family planning programmes or media, but also of information transferred by more subtle messages that are converted into meanings and possibly internalised as behavioural rules. Caldwell (1976), for instance, points in this respect at educational systems based on European standards: apart from the formal educational curriculum, they implicitly connote and imprint typically Western family relations between spouses and between parents and children. According to his wealth flows theory, this has a major impact on the demand for children. In a similar vein, the messages conveyed by Information, Education and Communication (IEC) activities in family planning programmes, may involve much more than the contents of the formal IEC design. Bruce (1990), for instance, distinguishes practical from affective aspects in client-staff communication and mentions in this respect the role of gender discrepancies. These kinds of appraisals indicate the need to acknowledge comprehensive content of social
interactions and the need to apply the appropriate methodology that could supply a better understanding of the nature of social interaction in particular local contexts (Bongaarts and Watkins 1996, p. 675). The representation of a formal institution can never be phrased only in terms of organisational and logistic aspects such as budgets, targets, staffing patterns or output measures. In addition, it must also assess the role of such institutions more broadly by what they actually mean for people, regardless of what they are intended to mean. In this respect, new evaluative frameworks to assess the quality of care of family planning programmes and their interactions with actual or potential clients cover some of these meanings. They address such issues as gender relations, the style of messages disseminated to the people, and the cultural distance between allopathic and ethnophysiological understanding of health and reproduction (cf. Bruce 1990, Hull 1986, MacCormack, 1988, R. Simmons et al., 1983, R. Simmons et al., 1986, Limanonda 1993, Warwick, 1988).

The practical relevance of the formal-informal distinction is that formal institutions offer relatively good opportunities for designing rules and social engineering or, more generally, targeting relevant information. They can actively be employed as tools in the efforts to generate behavioural change, whereas informal institutions are less susceptible to the directives of change agents. As institutions are principally understood as information sources, aspects of information transfer are essential elements of institutional analysis. The informational content, intended or not, is one such aspect. Communication models, such as the general scheme developed by McGuire (1985), and the model of family planning communication strategies by Rogers (1973) point at other aspects, like information sources, channels of communication, information receivers, effects of information transfer and feedback information. Such models are particularly relevant for the analysis and the design of formal institutions.

5.5. Choice in context

The notion of context occupies a major place in the theoretical approach of this study. The context of macrolevel characteristics is viewed as the major conditioning background of the presence and change of social phenomena, an understanding which is shared by many branches of social science. As explicated in Chapter 2, the causal influence is not direct but incorporates the lower level processes of individual behaviour. A gainful combination of macro and micro levels, however, cannot rely on isolated interpretations but requires an integrated conceptualisation. It implies that the analysis of context must be cast in terms appropriate to situating individual behaviour. A cognitive-institutional approach provides ample opportunities in this respect as it allows an interpretation of context and choice on the same dimension of information. Moreover, these interpretations of choice and context demonstrate an intimate relation with social learning concepts, which state the cognitive mechanisms by which the context influences and structures individual choice. This integrative quality allows the formulation of a multi-level framework which does not merely acknowledge choice and context, but choice in context.

The contextual information, consisting of meaning-giving and behaviour-guiding rules, is organised in a structure of social institutions. As a result of a history of interweaving, mutual reinforcement, challenge, and change, these institutions form a complex constellation that is unique in time and place. Their informational contents may incorporate social, cultural,
political and economic dimensions, their scope may range from the local community to the international arena, and they may bear relevance to life in general or only to certain limited life domains.

The cognitive-institutional perspective is based on the interactionist notion that this environment is not a given, but a social construct (cf. Berger and Luckmann 1967, Bourdieu and Nice 1977, Giddens 1984). People are influenced by an institutionally structured environment, but at the same time they are the producers and carriers of social institutions. In this perspective, the idea of human beings as passive followers of cultural rules and social norms is replaced by one of active agents who (within the limits of their own capacities and the often powerful constraints of the social environment) construct, manipulate and rationalise their social reality. As indicated by social learning theory, people’s observation of others and verbalisation by others are the principal sources of learning about social behaviour. This also indicates that institutions consist not only of internal representations, but that they are firmly anchored in the repeated, structured behaviours. Given these information sources, people extract, interpret and select social rules and order them in relation to one another and in combination with the rules that are based on personal experience. Subsequently, people implement certain rules or deviate from them, thereby reproducing or transforming the social context. These rule interpretations and implementations often involve external sanctioning, but also the effects of ambiguity and conflict between alternative rules, personality aspects and available resources and constraints.

Modern social learning theory in the line of Bandura (1986) provides a theoretical and empirical underpinning of the cognitive mechanisms which link the individual mental schemes with the social context in which people are embedded. As such, social learning theory is a major source for the theoretical content that the concept of ‘diffusion’ seeks (McNicoll 1992, p. 406, cf. Kreager 1993). It advances vicarious learning (learning based on observing models) as the major source of information with respect to social behaviour, motivation and self-efficacy. It identifies in addition verbal and written communication as a main additional source of learning. In the processes of observation and communication with others, people extract general rules about behavioural conduct and meaning and integrate these with existing cognitive schemes. These acquired rules tend to provide guidance and permit a substantive reduction of decision making costs in terms of time, information search, calculative effort and uncertainty, unless challenged by new information or impaired by the ambiguity of conflicting rules. Through the application of such routine or institutionalised decision making and ensuing behaviour, the institutional structure is usually supported and reproduced.

Both sources of learning (observation and verbalisation) are directly associated with the social and institutional structure of society: people encounter and attend to behavioural models that are present in their social environment and they depend on verbal or written communication with others who are available by direct contact or through communication media. The availability and ‘supply’ of such models and informants is determined by the composition and characteristics of the surrounding environment. The heterogeneity of the social environment in such terms as lifestyles, living arrangements or reproductive patterns, depends on the variety and interaction of social institutions that have evolved in the specific context. The possibility to communicate with others and to observe the variety of models, however, may be curtailed by a number of (institutionalised) factors such as language differences, gender segregation, purdah, mutual prejudices and restrictive conventions with regard to exchange between social groups. This emphasises the role of social networks through which all kind of information including
contraceptive and health-related experiences) is spread among particular segments of the population (e.g. Bongaarts and Watkins 1996, Entwisle et al., 1996, Montgomery and Casterline 1996, Retherford and Palmore 1983, Watkins 1989). The role of such social interaction channels or, conversely, the social exclusion from information and participation in networks has been emphasised in the recent study by Bongaarts and Watkins in which they attempted to apprehend the mechanisms underlying the onset and pace of contemporary fertility transitions:

“We conclude, then, that social interaction is a critical process that should have a central role in any comprehensive and realistic theory of fertility.” (Bongaarts and Watkins 1996, p. 665).

The authors build their case to an important extent on the publication by Montgomery and Casterline, who put forward social learning as a central principle in the study of fertility (Montgomery and Casterline 1996). The present study can be perceived as a further theoretical underpinning of this position.

5.6. Implications for theory and research

The central aim of this study to develop a conceptual framework for understanding fertility behaviour has important implications for the type of data to be analysed and for the methodology for collecting these data. By and large the conceptualisation of choice and context in this study makes a case for the incorporation of interpretive and qualitative research. It argues that the quantitative orientation of demography should be brought into balance with interpretive efforts, at least if the discipline is to make substantial progress in terms of underpinning, for instance, health-related policies and programmes, or formulating scenarios for demographic forecasts.

The common procedure in demography to deal with context, casts environmental factors in such a way that they abstract a context in universal and well-quantifiable dimensions, but without sufficient a priori conceptualisation and understanding of these dimensions, and without sufficient interpretive feedback about whether and how these dimensions actually provide insight into the causal background of reproduction. The institutional interpretation advocated here anchors in an in situ analysis of the context as a configuration of social institutions, their local structure and interweaving, their historical evolution, and their substantiation in terms of meaning-giving and behaviour-guiding rules. Although it is difficult to incorporate such an approach in the disciplines’ standard mathematical orientation, and it represents a conceptual approach rather than a full-fledged theory about social context, it certainly leaves theory in better shape (cf. Greenhalgh 1990, 1995b, North 1994).

The conceptualisation of choice and context endorsed in this study requires a different research methodology, and perhaps a different ingenuity on behalf of the researcher. It depends on the situational analysis of the institutional setting and on the understanding and representation of the mechanisms and substances of individual choices in relation to this setting. The analysis of the institutional environment entails the articulation of the relevant social institutions and the meaning-giving and behaviour-guiding rules they represent, together with the associated enforcement mechanisms. It must also involve an assessment of the scope of their impact.
according to principles of adherence and inclusion of those who are classified as participants, as well as an evaluation of the interaction and filtering effects that occur because of the specific amalgam of institutions.

The required information in this respect cannot be sufficiently collected in the form of the socio-economic macro indicators and large-scale sample survey results which are associated with the standard methodology in demographic research. Boerma, for instance, concluded that much of the information collected in demographic surveys is not very useful to understand the underlying determinants of demographic and health outcomes (Boerma 1996, p. 274). The relevant information, in this respect, depends to an important extent on a range of more narrative, holistic and in-depth methods: the exploration of local archives and historical accounts, the use of key informants, introspective interviews with individuals and among focus groups, (participant) observation and measurement of indicators of institutional and decision making aspects selected on the basis theoretical and situational considerations. Through a combination of such methods, a picture can be drawn about the content and ‘working’ of institutional rules, and their relation to individual decision making.

Such qualitative research methods and data cannot replace the quantitative approach of standard demographic enquiry. They complement and substantiate it, but they are indispensable for policy design and understanding fertility patterns and fertility change (cf. Boerma 1996, Greenhalgh 1990, 1995b, McNicoll 1994): if quantitative data provide the skeleton of information, qualitative data add the flesh and blood.
Chapter 6. Time and change

6.1. Introduction

Many fields of science identify structure and process as interdependent aspects of their subject matter. Process approaches are even dominant in some disciplines, as in thermodynamics and, with respect to the development of individual organisms, or that on an evolutionary scale, in biology. Social and behavioural sciences increasingly recognise that understanding the subjects of study is at least partly situated in the specific histories borne by the phenomena under review. Whether these phenomena are social systems and institutions or individual choice and behaviour, the disciplines concerned show more and more interest in the processes from which they evolved. Although the meaning of ‘process’ in various disciplines and subdisciplines is quite different, and is differently associated with concepts like change, development, evolution or history, it has one consideration in common: the element of time. Whereas time figures prominently in the study of population and population change, the general understanding is a rather mechanical one; usually unattached to the social and behavioural processes underlying population change.

A main purpose of this study, and the principal aim of this chapter, is to replace the static understanding of fertility with a dynamic approach by adding an element of time. The addition of time is not achieved by inserting another basic conceptual component to the theoretical framework, but rather, by extending the framework with another dimension. In such a dynamic perspective, the principal elements of context and choice are allowed to evolve in time. To some extent a dynamic representation of choice and context is already apparent in the interpretation of these concepts in the previous chapter. At the contextual level, the reciprocal influence of person and environment contains one source of social change. At the micro level, the notions of procedural rationality and stages of decision making define choice as a process. Through learning, choice and behaviour are also linked to processes evolving at higher levels, like cumulating experiences in a specific life domain, the life course as a whole, or changes occurring in the broader social context.

This chapter deals with the theoretical viewpoints on such time-related backgrounds. The notion of time itself is addressed in the following part of this chapter, since its conceptual complexity inhibits a simple understanding of its role in social and behavioural science. Section 6.2.1 specifies a dynamic interpretation of time with the essence of development. Subsequent sections elaborate on different dimensions of time (Section 6.2.2) and the meaning of age (Section 6.2.3), and consider the interrelatedness of different time dimensions (Section 6.2.4). Section 6.3 elaborates the life course approach which provides an appropriate conceptual framework for the introduction of dynamics in the study of individual behaviour. Rather than a theory in itself, it is an organising framework which orders stability and changes in facets of human behaviour and which allows reproductive behaviour to be situated within the entire area of human life. A more substantive interpretation of life course coherence is the subject of Section 6.4. Here, several development theories are briefly reviewed in order to deduce an appropriate understanding of the mechanisms of behavioural change during the life course. In particular, social learning perspectives are stressed, since these enable personal considerations and choice to be embedded in the context of both the individual life course and the broader (institutional) environment.
The concluding Section 6.5 summarises the main ideas and provides the connection to the subsequent chapter that provides the synthesis of the various concepts identified in this study.

6.2. Time and change in human sciences

6.2.1. Static and dynamic approaches

Static and dynamic approaches adopt a fundamentally different understanding of their subject matter. Static views focus on structures and outcomes and describe their subject matter in terms of time-frozen states of being. Dynamic views emphasise that structures and outcomes evolve from processes that extend over time and describe a subject in terms of processes of becoming.

Both static and dynamic approaches may apply notions of time, but in a different meaning. The connotation of the term ‘time’ refers to the meaning of ‘location in time’ but can also contain the sense of ‘subject to change’. Static views apply time in the first connotation, usually indicated by ‘physical’, ‘objective’ or ‘Newtonian’ time. Time is only a parameter, organising events in neutral terms of ‘earlier than’, ‘simultaneously with’ or ‘later than’ another, but unaffected by the transformation that it monitors (De Gans 1993, Prigogine 1980).

Descriptions relying on such a static approach adhere to the implicated assumption that history doesn’t matter and that past and future play the same role. Dynamic or ‘process’ approaches, on the other hand, rely on the second connotation of time. In this sense, there is a strong contiguity between the concept of time and those of development and evolution. In this ‘real’ or ‘subjective’ conception, time can be apprehended as a measure of change: a flow of events which “... would not be a flow in time; rather, it is or constitutes time” (O’Driscoll and Rizzo 1985, p. 60, their emphasis, cf. Bourdieu and Nice 1977). The aspect that basically distinguishes this notion of time from physical time is the understanding of irreversibility or path-dependency of the processes described. The functional space of conditions and constraints for further development is not invariant as in a static view, but changes over time. This implies that events crucially depend on earlier stages in the process. O’Driscoll and Rizzo, two institutional economists, translate the general message of path-dependency into a behavioural perspective:

“‘The individual’s experience of today’s events itself makes tomorrow’s perceptions of events different than it otherwise should be. As an individual adds to the stock of his experience, his perspective changes and so both the present and the future are affected by the past flow of events’” (O’Driscoll and Rizzo 1985, p. 3).

Static and dynamic approaches are not equally applicable to all subjects of scientific inquiry. Prigogine’s (1980) study of time in the physical sciences illustrates the use of notions of time in different fields of interest. A static notion of time is incorporated into theoretical structures such as classical or quantum mechanics. Time, here, is associated with motion, but this concerns “... a motion unrelated to time or, more strangely, a motion which proceeds in an intemporal time ) a notion as paradoxical as that of a change without a change” (Prigogine 1980, p. xii). Thermodynamics, on the other hand, applies a dynamic conception, as time is related to irreversible processes and ‘progressive’ phenomena. Similarly, evolution theory in biology, as well as analyses of the development of individual organisms, understand ‘being’
from the time-oriented processes of ‘becoming’.

Given the subject matter of social and behavioural sciences, a static notion of time is insufficient (De Gans 1993, O’Driscoll and Rizzo 1985; see also Kellerman 1989). Social institutions have a history, people have a past and a memory, and they behave on the basis of anticipations of future states. This history, past and future develop continuously and provide different conditions for every new event. Institutional functions and arrangements, or individual behaviours often cannot be fully understood by relating them to present conditions only. They also depend on their developmental processes of becoming, which involves the present, the past and a future.

There is increasing recognition of such dynamic approaches in the human sciences. In many fields new theoretical concepts and orientations have emerged which comprise a process perspective and add an element of time to the analysis of social and behavioural phenomena: Nelson and Winter’s (1982) ‘evolutionary theory’ of economic change, the related idea of ‘economics as a process’ in Langlois’s (1986a) institutional economics, ‘path-dependency’ in social institutions and macrosocial structures (e.g. Arthur et al., 1996), Giddens’ (1984) notion of ‘structuration’ that tries to bridge the gap between structure and process in sociology, ‘modes of temporalisation’ that account for the context-shaping actions of agents in an anthropological interpretation of time (Munn 1992), ‘sequential decision making’ in the study of fertility behaviour (Namboobiri 1983, Bulatao and Fawcett 1981, Hollerbach 1983), ‘procedural rationality’ in choice theory (H.A. Simon 1979a), or Levinson’s ‘evolving life structure’ in developmental psychology (e.g. Levinson and Gooden 1985). Moreover, life course development has emerged as a new multidisciplinary orientation in the human sciences. Without doubt, the roots of such perspectives lie further back in scientific history, but the increased attention for dynamic approaches can be read as a paradigm shift in the social sciences. Although in demography trends towards dynamic approaches are visible (Crimmins 1993), Willekens observes that as yet the theoretical standards of demography show no signs of such a paradigm shift (Willekens 1990b). He concludes that a process approach is a major requirement for improvement of both demographic forecasting (Willekens 1990a, 1992) and population policies (Willekens 1990b). The quintessence of his reading is shared by others outside demography. North, for instance, is critical of mainstream neoclassical theory for being static, unable to acquire understanding of the change of economies, and therefore unable to prescribe policies for economic development (North 1994, p. 359). In Sugarman’s (1986) behaviour intervention strategies, the process approach is encountered at the individual level in the sense of life-span development. Effective intervention is possible because interventions can directly aim at the ontogenese of processes or on processes while they are under way, thereby influencing further development in a preferred direction.

The point made here is that scientific insight into social or behavioural phenomena and practical applications of this understanding improve if conceptual frameworks are transformed into dynamic frameworks. In a dynamic perspective, the conceptual elements are supposed to move in time. However, a true dynamic interpretation implies not merely the addition of time, but the addition of a dynamic notion of time. In such a dynamic perspective, changes or sequences of events are interpreted as developmental processes, in which outcomes are consequences of earlier conditions and in which these conditions change with time.

6.2.2. Dimensions of time
The processes of interest in social and behavioural sciences are diverse and cannot be measured on one single time scale. The relevant dimensions of time depend on the subject levels involved in the various theoretical concepts and frameworks in the human sciences. Grand historical processes like modernisation or secularisation may require a different measure of time than institutional change. Definitely, their rates of change diverge from the time scales applicable to the individual life course, to various physiological processes, or the development of knowledge and motivation through learning processes. The involved dimensions of time may be apprehended as simultaneously running clocks, but of a different magnitude. They vary in their units of measurement reckoned in intervals between specific time-ordered markers, and in their meaning of what kind of time or change is supposed to be measured. A comprehensive understanding of behaviour distinguishes processes at several conceptual levels that operate in different dimensions of time.

**Historical time**

The most encompassing notion of time is historical time. It is encountered in the particular configuration of a socio-cultural, economic and physical context as instantaneous exposures of historical development. This historical dimension of time is recognised in many social disciplines. Thus, in human geography, time as an essential constituent of context can be encountered in the concept of time-space (Hägerstrand 1975, Kellerman 1989), a concept which also appears, for instance, in the sociology of Giddens (Giddens 1984). Behavioural differentiation in comparative analysis of regions usually cannot be explained by geo-graphical disparity alone, but must involve the interaction of specific social and sometimes physical transformations in historical time. Comparing regions, then, is in fact comparing histories. Recent trends in anthropology also emphasise the dynamic nature of culture and society. They criticise the mainstream anthropological conception which sacrifices the capacity for change and historical evolution of societies and cultures to the search for their intrinsic coherence in the recorded appearance. The static perspective leads to what Geschiere refers to as ‘modern myths’: the image of local societies as timeless and unchangeable, pigeon-holed and isolated from the course of history (Geschiere 1989, see also Archer 1996, Galjart 1993). Greenhalgh contends that this is exactly the problem of the conceptualisation of culture in demographic research (Greenhalgh 1995b).

The social change that transforms the historical setting over time results from incremental and relatively continuous developments, like population change, emancipation, urbanisation, technological progress and environmental deterioration, or from more abrupt and accidental events like enactment of new legislation, wars, economic crises or natural disasters. The location of people in this historical time perspective and the condition of shared socialisation induced Mannheim’s concepts of Zeitgeist and generation (Mannheim 1952) and the role of cohorts in the study of social change (H.A. Becker 1992, Ryder 1965). Changes in demographic behaviour are similarly part of broader societal processes of modernisation and development. Lesthaeghe and Surkyn (1988a), for instance, relate fertility change in the West to the historical specific position of successive cohorts in the general processes of secularisation and individualisation. Demographic transition theories in general rely on such historical time perspectives (Thompson 1929, Notestein 1945, Lesthaeghe and Van de Kaa 1986).

**Institutional time**

If historical time is understood as the development of the encompassing social context in
space, ‘institutional time’ refers to the evolution of the various institutions that make up this social context. The historical and institutional dimensions of time are of course very close, but whereas the concurrent changes in different institutional realms produce the encompassing trends observed in historical perspective, single institutions (labour markets, caste systems, religions or family systems) develop at their own rates of change. Each single institution has its own separate history and different accelerations and decelerations of change. The strength of adopting an institutional dimension of time is that it perceives behavioural patterns as the effect, in situ, of a unique conjuncture of institutions in their own specific stage of development.

The interpretation that the meaning and existence of social institutions derive from their specific evolvement over time alongside each other, indicates the interdependence in their development. Developments in one institutional realm may provide a changing interpretative framework and consequently, possibly with considerable time lags, produce changes in another. A classic example of the dependence between ideational and economic institutions is Weber’s thesis on Protestantism and capitalism (Weber 1976). Historical materialist interpretations similarly emphasise such links, but situate the sources of change primarily in the economic structure of society (e.g. Taylor 1979).

The role of institutional change has also been recognised in population studies. Demographic transition theories traditionally emphasise the emergence of modern socio-economic institutions (education and health systems, an industrial economy, the urban society) but additionally evolution in cultural and ideational realms have been recognised as an autonomous sources of demographic change (e.g. Lesthaeghe 1983, Lesthaeghe and Surkyn 1988a, Lesthaeghe and Wilson 1986, Cleland and Wilson 1987). However, the extent to which the evolution of institutions is the subject of demographic analysis is limited, although there are notable exceptions, particularly in the historical and anthropological work of, for instance Greenhalgh (1988, 1990, 1995a), McNicoll (1980, 1994), the Caldwells and Reddy (1982b, 1983, 1985), Lesthaeghe and Surkyn (1988a) and Schneider and Schneider (1984).

Social time

Time is also manifest at a lower conceptual level. People’s lives may be perceived of as consisting of different stages which are represented by distinct rules for relations with other people, responsibilities, duties, and behaviour (H.A. Becker 1989, Elchardus 1984, Hagestad and Neugarten 1985, Kohli 1978). In this perspective, dispositions or behaviour are ascribed to more or less defined periods of life according to some generally agreed standard. The periods or stages are separated by reference points, like events and initiations, which are objectified measures of change in the sense that they are socially constructed realities (Berger and Luckmann 1966, Fry and Keith 1982). Neugarten and Datan (1973) refer to the underlying time dimension of age systems as ‘social time’.

This is a time perspective on human life that is particularly highlighted in sociological and anthropological orientations and has clear affinity to concepts like age norms and the life cycle (as opposed to the life course) (Elchardus 1984, p. 253). The implicit rules related to social age may vary in their degree of formalisation and in the presence of sanctions; they may be abstract or practical, and compliance or non-compliance may be explicit or more

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1 This concept of social time is different from the notion of social time as opposed to ‘private time’, e.g. the time at work or school time at home.
subconscious and internalised. The social structure of human life from birth to death is encountered in expectations about age-related events, about their sequential patterning and about the duration of processes or relationships (Elchardus 1984, Zerubavel 1981). Age-related norms and age-specific behaviour as such do not represent a dynamic time perspective (cf. Bourdieu and Nice 1977); they only do if they recognise that behaviour and expectations are a function of a socially recognised (but sometimes implicit) perception of stages in the process of individual maturation and experiences (Elchardus 1984, p. 254, cf. Sugarman 1986, p. 12).

**Individual time**

The time scale that pertains to the individual life course may be referred to as individual or personal time. Here the theoretical stance on the perception of time clearly refers to an orientation encountered in psychiatry and developmental psychology. It represents a truly dynamic time concept, since life phases, events or dispositions in the present are perceived as instantaneous positions in a life trajectory, in which later outcomes are consequences of earlier conditions, events and experiences in the life course (Mayer and Tuma 1990). Experience, mental and physical capabilities, motivation, status and knowledge are typically aspects that are considered to change during transitions from one stage to another.

Personal development represents a source of understanding that is endogenous to the individual. Stages in life are determined by ‘developmental readiness’ (Erikson 1980) for specific tasks and challenges during the life course and evolve as the consequence of various processes. Havighurst (1972) arranges these processes in three areas: biological processes that determine physical maturation; socialisation processes through which a person learns the expectations of the social environment; and the uniquely emerging personality with its particular desires, aspirations and values (cf. Sugarman 1986, p. 39). Both Erikson and Havighurst acknowledge the prominent role of the social context. But its impact on individual development crucially depends on the intermediate internal reflection on the world, which can be a source of inconsistency between individual and social time.

The biological processes set some broad limits to the stages in the individual life course through the effects of the commencement, maturation, and decline of physical functions. Although achievements of medical and health-related interventions encroach upon the autonomy of biological development, by maintaining, extending and restoring bodily functions, changes in physical abilities remain an important aspect in the timing of stages in the life course (Elchardus 1984, Fry and Keith 1982). Since fertility, morbidity and mortality are closely related to such processes, the underlying biological time dimension is an important aspect in the study of demographic phenomena. With regard to reproductive behaviour for instance, menarche and, to a lesser degree, menopause are major time markers that demarcate a woman’s reproductive span.

**Process time**

While in the general life course, development can be interpreted in terms of the unfolding of the biological, social and psychological aspects, numerous component processes contribute to the exact shape and contents of the life course. Life events that are the milestones or transition points in human lives are themselves outcomes of processes with starting points, durations and changes. Childbirth, for example, is the outcome of conception and pregnancy. Marriage or employment can be the result of search processes. As elaborated in Section 4.3, life events can be viewed as the outcomes of processes of thought and may involve various stages of decision.
making. Each of these elementary processes is associated with a specific dimension of time.

6.2.3. Interrelatedness of dimensions of time

The various dimensions of time may be perceived as clocks that run simultaneously, although on different scales. Sometimes the progression of one dimension is contingent on or related to another. Thus, institutional arrangements like household systems or legislation can be adapted in the wake of changes in other institutional domains, such as a society’s economic organisation. Such institutional development can be deliberate and planned and with clear milestones marking the location of change (as with legislation) or less intentional and articulated, as in many other social domains. Since institutional arrangements tend to have built-in constraints against transformations, the coherence between development of different institutions can display considerable time lags and may become evident only in the larger historical perspective.

Social, individual and biological dimensions of time that pertain to behaviour of individuals frequently run synchronously and appear to be highly intertwined (Hareven 1994). Although the various theoretical and analytical perspectives usually emphasise one time scale more than another, their interrelatedness is often acknowledged (e.g. Baltes and Nesselroade 1983, Elchardus, 1984, Elder 1985b, Neugarten and Datan 1973, Filipp and Olbrich 1986, Mayer and Tuma 1990, Sherrod and Brim 1986). Because of the undeniable nature and importance of changes during biological development (like birth and death, fecundity, changing motor skills and muscle power) the biological process is often regarded as a kind of baseline development. Many psychological and socio-cultural processes impinge on this biological unfolding and contribute to the patterned sequences of behaviour (cf. Elchardus 1984, Fry and Keith 1982). Many life domains and various stages in the life cycle illustrate this dependency. Retirement or decreasing contribution to local and family economies has much to do with the process of slowing down because of aging. Piaget explicitly connects children’s cognitive development to levels of physical readiness for the encounter with new aspects in the physical and social environment. Psychological readiness for sexual behaviour is assumed to be closely connected with hormonal balances that depend on biological maturation (Udry 1988, Udry et al., 1986). In many societies marriage patterns are closely connected with the onset of fecundity, indicating the dependence of a social time scale on biological development (Chowdhury et al., 1977, Udry and Cliquet 1982, Sandler et al., 1984). The confinement of fertility to a reproductive life stage has important consequences for the time-related structure of people’s life courses and to the emergent population structures and developments.

In general, biological factors place some very broad limits on the timing of individual behaviour and development, but the acknowledgement of the importance of a biological clock in human lives does not impose a strict biological determinism: the exact timing and connotation are largely matters of social and personal achievement (cf. Sugarman 1986). In this respect, the Bongaarts model of proximate determinants of fertility has taught us that although a given physiology over the life span of human beings defines the upper boundaries of reproduction, the importance of biological factors in the explanation of fertility is strongly reduced because...
of the impact of other, behavioural, factors. Most of these behavioural factors (marriage, contraceptive use and induced abortion) are clearly related to socio-cultural and individual perspectives on personal development.

These different determining factors have been encountered in the concept of the person as advanced in the Chapter 2. Besides biological factors, it prominently assumed the social embedment and the inherent interpretative capacity of human beings. In the individual perspective of time as well as in the social time perspective (as the collective product of individual interpretations) biological developments are assigned a position and a value in the course of life. Thus, while the socially constructed meaning of childhood usually incorporates the state of physical development, it also depends on the interpretation of personal maturation, which may differ considerably among communities, societies and historical times (e.g. Ariès 1962, UNICEF 1991). For instance, nowadays in many countries normal criminal law is only applied to children who are considered to have reached the (socially agreed) age of discretion. Considerations with regard to minimum age for marriage also reflect such social constructs and can be encountered in official legislation or in a culturally shared understanding of proper relations between partners and within families. Although the biological capacity for bearing children, as indicated by menarche, can be involved in such considerations, often (and increasingly) other qualifications define the acceptable lower age limits of marriage: a person’s capacity to support or maintain which enables him or her to take care of others in a family relationship; a presumed level of maturity and responsibility; or requirements of educational attainment. The study of Caldwell et al., in south India elevates the perspective to the level of historical time by relating changes in marriage patterns to changing concepts of childhood and maturity:

[previously,] “families tended to prefer very young daughters-in-law who were not old enough to have become wilful. Now, many are apprehensive of their sons marrying girls who have not attained menarche, or who have only just done so, on the grounds that they are too immature to fill adequately such roles as wife, mother, or even daughter-in-law”

(Caldwell et al., 1982a, p. 698).

Although the social time scale implied by the meaning of minimum marriage age can differ from one society to another, even within a society it can be challenged by alternative interpretations of personal readiness for marriage. For instance, in some areas in India the marriage law enacted in 1979 that raised the minimum age for marriage for girls to eighteen, is still frequently circumvented by the custom of child marriage. This may be interpreted as a conflict between alternative institutional time scales.

In the developmental perspective of Havighurst (1972), the individual time dimension explicitly retains a connection to biological time and implicitly to the social interpretation of time in the life course. In fact, few developmental theorists, with the notable exception of Erikson and Havighurst, have paid attention to the social environment’s changing expectations of the person during life course progression, as embodied in the notion of social time. Since individuals’ experiences and interpretations importantly anchor in the structure of the social environment, which itself is also subject to change, individual development over the life course may to some extent be the effect of the person’s drift on the currents of institutional and historical change. Here, the life course of an individual is the span of intersection between different dimensions of time, personal time, social time and institutional time (cf. Harris 1987).
6.2.4. A note on age

In behavioural studies, and particularly in demography, age is an important variable. It refers to a time scale that is appropriate for the analysis of the distribution of specific behaviours and events over life. Age is universally applied as a major standard to judge the timing of behaviour and to classify situations and life events in some temporal order. As such it is a key dimension in the organisation of individual life courses and consequently in the organisation of the structure of society. Together with gender it is, in fact, the only universal point of reference to ascribe status. The recognition of age as a structuring principle of society is a longstanding common notion among anthropological and sociological researchers studying age systems and status transitions in various societies (e.g. Eisenstadt 1956, Van Gennep 1960, Gluckman 1962, Lowie 1949, Merker 1910, M.W. Riley et al., 1972). In developmental psychology and life course studies, the concept of age is generally the main criterion for anchoring the changes over the lives of individuals.

It must be clear, however, that chronological age is not a determinant of individual behaviour. It is not the intrinsic meaning of age itself (as the time passed since birth) that brings certain specific life course patterns. Age is not an explanation of behaviour or a cause of change; it is in fact nothing more than the passage of time and a marker of stages in a sequence (as such only a shorthand term for the underlying formative processes (Bandura 1986, p. 81, Sugarman 1986, p. 51). Age and age-related behaviour and change remain, to quote Prigogine’s interpretation, static interpretations of time unless such underlying developmental processes are referred to. The context represented by individuals’ histories is required to assess the functional timing of events, and the sequence and duration of states over their lives (e.g. Bourdieu and Nice 1977, Elchardus 1984, Hagestad and Neugarten 1985, Hareven 1982, Neugarten and Datan 1973, Zerubavel 1981).

Often specific events and occurrences or the duration in a position provide the relevant points of reference for life development, but not chronological age as such (Filipp and Olbrich 1986, Mayer and Tuma 1990). These events are related to a large variety of elementary processes (among which biological processes) that shape the structure of life stages. Thus, in most societies, fertility and parenthood occur after the transition into marriage; in some socio-cultural locations the timing of marriage depends on the occurrence of menarche (Chowdhury et al., 1977, Udry and Cliquet 1982, Sandler et al., 1984), in other on the termination of the educational career (Blossfeld and Huinink 1991); conversely, the termination of the educational career can also depend on the entry into marriage (Jain and Nag 1985). The preparedness for new life stages can also build up by gradual changes. The mere elapse of time, the continuous exposure to new information and cumulative experiences change the perspective from which the world is seen (O’Driscoll and Rizzo 1985, p. 62).

It is not always occurrences or built-up experiences that prompt subsequent behaviour. People’s interpretative capacity involves the ability to anticipate events and status positions, which may just as easily provoke action. Here, conditions for behaviour are located in the future and the relevant measure is the ‘time left’ rather than duration in a position (Kohli 1978, p. 26). Cyntrybaum and Crites (1989), who apply a dynamic perspective to career development, mention the principle that under circumstances time may be viewed in terms of an outstanding period rather than time from inception. With regard to the fertility career, the study by Suchindran and Koo (1992) supports the suggestion that one of the reproductive goals of twentieth-century American women has been to avoid having children when they are
‘too old’. The variety of tactics to produce this result included all kinds of combinations of age at first birth, child-spacing and parity progression ratios of lower and higher birth orders. Ware (1979) found that in the United States and Australia women want to stop childbearing well before the onset of infecundity (see also Rindfuss and Bumpass 1978).

In all these perspectives the coherence of life over time does not derive from the static chronological concept of age, but from a path-dependent representation of ageing. Behaviour is interpreted as a function, not of age, but of experience (past or anticipated), which demarcates people’s capacities, options and motivations at certain stages of their life.

6.2.5. Time in a microlevel perspective

The different dimensions of time that appear to be relevant call for a dynamic framework with a multi-time perspective. This is, in fact, a logical consequence of the theoretical requirements as advanced in Chapter 2. The assertion that both choice and context are key elements in demographic theory, combined with the assessed need for a dynamic perspective prompts a framework in which elements at micro and macro levels are allowed to change over time (Section 2.4.2). The required conceptual framework could be described as a multi-level and multi-time framework (Filipp and Olbrich 1986, Mayer and Tuma 1990, Runyan 1982). Since this study takes a microlevel approach as its principal point of departure, the individual dimension of time, which positions persons’ decisions in their life courses, occupies a central position. Its incorporation into the conceptual framework allows a dynamic perception of choices and behaviour, that is, as outcomes of a developmental process. The time dimension pertaining to the contextual level (in the conceptual framework referring to institutional change) is of additional relevance and has been dealt with in Chapter 5. The past effects of contextual evolution are assumed to largely operate through the impact on the individual life course at the intersection of individual and institutional histories. Fact Given the framework’s micro perspective and the degree of contextual change already represented by the interpretation of the agent-context interaction (Chapter 5), the subsequent parts of this chapter will concentrate on time and change at the individual level.

6.3. The life course as a design for behavioural structure

6.3.1. Introduction

Demographic behaviour and underlying individual choice can gain in explanatory power if their role is perceived against the background of the changing conditions over the life time. A life course approach provides an appropriate interpretation of such a dynamic perspective on individual behaviour. Its main strength is the organisation of relevant events and considerations in a time and development framework, thereby facilitating attempts to understand the coherence of behavioural aspects (cf. Abeles 1987). It should be noted, however, that life course analysis cannot take the place of behavioural theory, as by itself it does not provide any substantive assumptions with regard to individual behaviour formation, causal interpretation or the mechanisms that relate processes and events to one another. Instead, the notion of the life course is perceived as an organising principle in the study of
Although the extensive attention for the life course in various social disciplines is a relatively recent phenomenon, it has already found its place in the academic establishment. The acquisition of this prominent place does not conceal the fact that the application of life course principles is not without internal dispute, conceptualised differently in disciplines concerned with time-related human behaviour. However, the life course has been widely acknowledged as a concept with an integrative capacity and it repeatedly succeeds in bringing together scientists in a multidisciplinary encounter on some relevant subject (e.g. Abeles 1987, Binstock and Shanas 1990, Hareven and Adams 1982, M.W. Riley et al., 1982, Rodin et al., 1990). The life course approach acknowledges the limitations of conventional individual survey data, which usually reflect a person’s current position on measured items without full consideration of the possibility that this might represent only one stage in a process of development. It has stimulated recent changes in research design towards biographies and longitudinal, follow-up or panel studies that try to capture the dynamic perspective of behaviour. Diverse as the disciplinary approaches might be, most converge around the interpretation that life displays a pattern of stages in some logical ordering. Levinson and associates capture this idea of a timed structure of individual lives with the formulation that “[T]he life cycle is an organic whole and each period contains all the others” (Levinson et al., 1978, p. 321; see also Hareven 1982, Ryder 1965). Life course analysis provides an excellent tool to discover these patterns of change, but one of its limitations is that it has to rely on other theoretical perspectives to interpret the mechanisms underlying these changes and patterns. It is mainly here that discipline-specific understandings of the life course concept diverge. With respect to demographic research, very few studies using a life course approach explore in depth such principles that provide the logic for ordering. A subsequent section (Section 6.4) conceives of a number of such behavioural mechanisms.

The potential of a life course approach is augmented if it differentiates life into relevant component processes or careers. The advancement along various career lines and their mutual influence (interdependency) is an important study field for the understanding of individual behaviour and individual development over the life course (cf. Heise 1990). Willekens (1991) refers to a principle that organises these careers in time and mentions several principles that have been suggested, like a biological clock, normative perception or cognitive development. This illustrates that the life course approach, and equally the concept of careers, can be related to the social and psychological as well as the biological notions of time and development to fill out the picture of human life (Arthur et al., 1989, Sherrrod and Brim 1986, Sørensen et al., 1986, Filipp and Olbrich 1986). The dynamic perspective on individual behaviour elaborated here involves the diachronic or longitudinal meaning of the life course (Section 6.3.2), as well as its synchronic or cross-sectional connotation (Section 6.3.3). Following these elaborations of the life course perspective, Section 6.3.4 continues by addressing the organising potential of this approach to human behaviour. Section 6.3.5 concludes with an application of the life course perspective to the specifically demographic area of fertility and family planning.
6.3.2. Diachronic aspects of the life course

Life as a dynamic process

Apart from conceptualisation at a very high level of generality, it has been difficult to identify universally valid criteria for identifying phases in the life course. Representatives of structural perspectives in developmental psychology, such as Erikson, Bühler, Havighurst and Levinson, attempted to identify stages of development according to different criteria (see Section 6.4.2), but each version lacks a transcultural and transhistorical generality with regard to the transition into, and duration and substance of the specified stages. Particularly in Western societies, the social prescription of life patterns is less and less of a help for explaining and predicting behaviour associated with stages of individual development. Individual autonomy and available information about and access to different lifestyles tends to repress normative prescriptions of life patterns. The process of individualisation involves the principle that capabilities ascribed to a person and expectations about his or her behaviour depend less on the ascribed social status and more on individually acquired skills and personality traits, which allows more freedom for directing one’s life. The resulting increased differentiation and reversibility of trajectories in different spheres of life relax the supposed invariant sequence of phases through which individuals pass during the life course (Elchardus 1984, Featherman 1986; see also Lesthaeghe and Verleye 1992). For instance, Ní Bhrolcháin (1986a and 1986b) finds various strategies with regard to timing and sequencing of work and fertility that are employed by women in order to achieve an optimal investment. And Rindfuss concludes that life course transitions that deviate from the expected or preferred sequences in the fields of work, schooling and the family (like marital dissolution and extra-marital births) are the rule, rather than the exception for young people in the United States (Rindfuss 1991, Rindfuss et al., 1987). Nevertheless, the general conceptual notion of stages and development, as articulated in psychology, has had an important impact on behavioural theory and especially on the development of the life course approach. It puts forward the idea of behaviour as a process which, moreover, is not represented by a monotonous flow, but by a succession of phases that contain the implication of a propensity for certain behaviour. The idea that individual behaviour is a function of a position in the life course remains valid despite the fact that at the aggregate level it might be difficult to discover regularities. A greater variability of life patterns rather suggests that certain life course positions allow a greater range of alternative behaviours, that certain behaviour can be a function of a greater number of life course positions, and that an individual judgment of development is more important than a social interpretation.

Apart from attempts to identify the grand underlying stages of personal development, attention can also be pointed at specific life events, such as divorce, menarche, childbirth, graduation or retirement, which may invoke major adjustments of one’s frame of reference. Life events are likely to reformulate a person’s salient set of information about restrictions, options, responsibilities, tasks, efficacy and motivation for further behaviour, in short, a person’s reorientation on the world. Therefore, they signify possible new life phases or turning points that bear important consequences for subsequent decision making (Hollerbach 1983, Levinson et al., 1978, Willekens 1991, Sherrod and Brim 1986, Sugarman 1986). Such new phases may be attained after a transition period in which a person reasserts his or her position in life. These periods contribute to the plasticity of human lives, as they allow old beliefs to be abandoned and new ones to be accepted. Goode’s study on marital dissolution, for instance, describes the period before actual separation by mentioning disenchantment, consideration of
divorce and adjustments within the framework of marriage (Goode 1956). M.W. Riley et al., (1972) refer in this respect to the function of desocialisation and resocialisation (see also Kohli 1978) which is a typically sociological perspective. The function anthropologists ascribe to rites of passage is that of communicating to the self and others that at a recognisable point in time a person is stripped of earlier statuses and is moved into statuses of the next phase, which imply different rights, duties and responsibilities (Fry and Keith 1982, Hagestad and Neugarten 1985, Norbeck 1974, Trice and Morand 1989). Adolescence is a period of transition, where individuals try to synthesise childhood identities, pressing social expectations and challenging physiological changes in what Erikson (1980) calls the quest for identity. This transition period is particularly eminent because it is widely held that at the completion of this period basic life orientations have sunk in.

The perspective of life as an evolving process establishes a causal relation over time as personal experiences and living conditions in the earlier phases of life exert their influence on behaviour at later ages and on the perception of the future. This strong assumption is weakened by the recognition that experiences later in life may lead to a reinterpretation of earlier events (Runyan 1982; see also Rosenmayr 1982, Willekens 1991), or that novel behaviour-change processes with little continuity or connection to earlier developments may emerge at many points in the life span (Baltes and Nesselroade 1983, Featherman 1986, Manting 1994).

**Stability versus plasticity**

The discussion touched on here refers to the interpretation of the impact of imprints in childhood and adolescence versus those of positions later in life; cohort versus period effects; or stability versus plasticity of human life. Many studies on human behaviour can be found that support one of the basic theses and counter the other, or just allow the other as a moderate modifier.

Some perspectives within psychology (particularly psycho-analysis) and sociology accentuate the importance of early life experiences and subsequent stabilisation. This socialisation thesis postulates that impressions and experiences in a person’s pre-adult life tend to consolidate in a relatively stable world view. Mannheim states that

“even if the rest of one’s life consisted in one long process of negation and destruction of [this] natural world view acquired in youth, the determining influence of these early impressions would still be predominant” (Mannheim 1952, p. 298).

In this perspective, social change is importantly produced by replacement of cohorts that are socialised under the same general conditions. Ryder (1965) and Inglehart (1977, 1990) are major proponents of this view. In demography, the Easterlin hypothesis is based on this sociological notion of cohort and attitude formation, as it relates the material aspirations of young adults to the period of adolescent development (Easterlin 1978b). Lesthaeghe and associates (Lesthaeghe and Meekers 1986, Lesthaeghe and Moors 1992, Lesthaeghe and Surkyn 1988a) provide empirical support for the socialisation hypothesis with regard to attitudes towards religiousness and individualism. H.A. Becker (1989) and Alwin (1992) also share the basic idea, but they differ on the assumed stability in adulthood. H.A. Becker considers socialisation after the formative period in early life to be possible in situations where a person is confronted with a different social context and has to develop new behaviour. Alwin’s data on aspects of political ideation support the idea of attitude stability in later phases
of life. However, he warns against a generalisation of the stability hypothesis to

other social attitude variables on the basis of these results only. The various socialisation

studies differ, moreover, with regard to the length of the formative period. Some situate the

end of the formative period around age twenty, while others extend it well into adulthood, as

only after age 35 does a stabilisation effect occur.

Others have challenged the socialisation-stabilisation thesis. Van Rijsselt (1992), for instance,

finds no confirmation for the stability hypothesis as he did not find that value orientations tend
to stabilise with age. Sherrod and Brim concluded from a volume on multidisciplinary

perspectives on the life course that development of individual orientations is not limited to

particular periods of life, and that plasticity is present throughout the life course (Sherrod and
Brim 1986; see also Abeles 1987, Bandura 1982, Baltes and Goulet 1970, De Jong-Gierveld
and Beekink 1989, Kohli 1978). With respect to demographic behaviour, Ní Bhrolcháin
disputes the role of cohort effects (Ní Bhrolcháin 1992). Although she recognises the evidence
of cohort mortality, which finds convincing foundation in epidemiological and medical research
(e.g. Barker 1992, see also Caselli 1990), she is unable to find similar evidence for cohort
effects on fertility. Wright tested the Easterlin hypothesis for sixteen European countries but
failed to find a statistically significant correlation between relative cohort size and fertility
(Wright 1989). Both Ní Bhrolcháin and Wright fail, however, to acknowledge appropriately
the full range of possible mechanisms through which cohort effects may be manifested. Neither
do they recognise sufficiently to what extent other variables might differentiate the
consequences. Elder, for instance, links the economic circumstances during the depression in
the thirties to behaviour and lifestyles in adulthood (Elder 1974, Elder and Liker 1982, see also
Harris 1987). The effect on women who experienced the impact of the crisis is not uniformly
distributed; it tends to be related to socio-economic strata, as it depended on the intensity of
the experience (in terms of value lost); but it is also related to how these women were
emotionally, socially and intellectually equipped to cope with such a situation of hardship.
Miller reports the importance of experience during childhood and adolescence, like personal
relationships, transmission of values, or role identification, in determining the motivation for
childbearing (W.B. Miller 1992). But he also finds that the development of childbearing
motivation is shaped by adult experiences in a number of behaviour domains, and by some
relatively stable personality traits.

The conclusion of the argument on the distribution of the time-related sources of socio-
psychological determinants of fertility behaviour must be that the jury is still out. A sound
judgement may be that attitudes towards fertility during the childbearing period are partly
stable value orientations and partly more fleeting attitudes (Lindenberg 1992, p. 287). This
signifies that at least the younger ages seem to be very important for the development of
attitudes, a fact which may leave its trace in adult behaviour. The orientations towards, for
instance, religiousness and individualism, but also risk-seeking versus risk-aversive orientations
or family versus working orientations, may be regarded as general dispositions of individuals
and as such constitute important factors in the decision making process with respect to fertility
behaviour. From the outset of life, and more particularly after the formative years and around
the onset of the reproductive career, people have a number of such relatively stable personality
characteristics. Such basic preferences and other enduring personal idiosyncrasies (including
biological qualities related to fecundity) form the initial endowments of an individual agent.
However, the outcome of this choice process depends on more factors than just these very
general dispositions. The factors that compose the specificity of the actual choice frame include
current restrictions and information, self-efficacy and

recently acquired sources of motivation, and anticipations of the future. A life course approach
provides a suitable framework to locate these various factors in a developmental perspective,
and to organise their longitudinal interrelatedness in life.

6.3.3. Synchronic aspects of the life course: interdependency

Rather than viewing the life course as a monolithic flow, a synchronic perspective considers life
as an interaction of developments in different fields of behaviour. This viewpoint highlights the
complex of processes that constitute the human life course and defines it in terms of the
sequence of interactions between different domains or careers (Filipp and Olbrich 1986, p.
352). The synchronic unfolding of the life course into domains (such as marriage, fertility,
education, health and employment) concerns the development of various individual attributes:
marital status, parity, educational level, health and employment status. The chain of events and
experiences that changes the value of such attributes makes up careers; for example, marital,
fertility, educational, health and employment careers (e.g. Bulatao and Fawcett 1981, Elder
processes related to these constituent careers are characterised by a distinctive time scale and a
specific onset, advancement and termination. What needs to be explained is their occurrence
and their interdependency in a life course perspective.

The notion and interdependency of careers have been worked out conceptually by Heise
(1990) and Willekens (1988, 1991). At each point in time a person is characterised by a
particular combination of attributes. A life stage can be distinguished if a certain combination
of attribute values lasts for a period of time and is demarcated from adjacent periods in terms
of different behavioural options or developmental readiness. What the most relevant careers
are to characterise a person at a certain moment depends on the subject of study, but also on
the meaning of the component processes in the specific context. In the case of fertility studies,
parity is a primary attribute, but the childbearing stage is co-identified by the value of attributes
in other careers. Thus, in a perspective of social time, a certain position in the educational
career is sometimes considered conditional for childbearing; in many societies fertility is
strongly associated with the marital career, whereas in others marital status is only of
secondary importance.

The interdependence of careers is often manifest through the allocation of scarce resources
(Elder 1985b, Willekens 1991) or through social and cognitive interpretation (Elchardus 1984,
Levinson et al., 1978). Willekens (1991) distinguishes three different dependency types: event,
status and resource dependence. For instance, the reproductive career can be called event
dependent on menarche and sterilisation, as the ability to have a child is influenced positively
and negatively respectively by these events. Status dependence denotes a situation where the
probability of advancement in one career depends on the value an attribute has attained in
another. Thus the fertility career and the health career can be said to be status dependent on
the marital career as, generally, the chance of having a child is higher and that of dying is
(apparently) lower within marriage (Hu and Goldman 1990, see also Joung et al., 1993). Two

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careers are resource dependent if they share the same resources. For example, as marriage and moving house may involve large financial investments, they might be postponed in order to save enough money or they might be planned sequentially to spread expenditure. Equally, working, reproductive, educational and sports careers lay similar claims on time and energy resources and therefore need careful planning or additional facilitators. Career dependency usually refers to careers of a single person, but can also relate to careers of different individuals. Hagestad and Neugarten (1985) assert that such interpersonal career dependencies, or, to use their term, co-biographies, usually occur within the family. Common examples of such dual careers are moving house because of a partner’s new job; or children who move when their parents do. In large parts of Africa and Asia, the fertility career of mothers is expected to be concluded when their daughters start theirs (Caldwell and Caldwell 1981, Nag 1983, Niehof 1985, Srinivasan 1989, Ware 1979). Or, the proper period for sexual abstinence after childbirth is sometimes equated with certain stages in the development of that child, for instance when the child starts crawling, sits up, starts walking or cuts its teeth (Caldwell and Caldwell 1981, Davis and Blake 1956, Schoenmaeckers et al., 1981).

6.3.4. Life domains and the structure of the life course

An important issue in the life course orientation is how various composite processes are organised and establish coherence across life domains and over life time. In accordance with Willekens (1991), it is assumed that careers are organised hierarchically. The directing forces of this organisation and the determination of onset, advancement and termination of the underlying processes, are partly within the scope of personal faculty and partly outside it, in the realm of social convention or biological ruling. Some careers (fertility, education, migration, marriage careers), at least in some settings and in some stages of life, are characterised by relatively large individual control. Other careers (e.g. the health career), or the same careers in different settings (e.g. marriage under conditions of arranged marriage practices) or in different life stages (e.g. education during school age, fertility after menopause) involve fewer opportunities for individual regulation. Usually, only one or two domains receive the largest share of one’s time and energy, or have priority in the sense that they significantly influence the choices and events in other domains of life. Transitional periods in the life course enable people to reformulate their orientation towards self and life and can result in the creation of a new hierarchy of personal careers or spheres of life (Hareven 1994, Levinson and Gooden 1985, Levinson et al., 1978, Oppenheimer 1974, Willekens 1991). In adult life, family and occupation are most likely to be the central domains. At younger ages the dominant position is usually occupied by the educational career, although in many settings income-generating activities and household tasks are the primary domains. From a study on the timing and effects of life events, McLanahan and Sorensen (1986) concluded that the meaning of particular events varies over life time. For instance, the loss of a job has one cluster of meanings and implications if it occurs during the pressure of family building, but quite another if it occurs before parenthood (Elder 1985b). Similarly, whereas in some cultural settings pre-marital use of contraceptives (Caldwell and Caldwell 1987), or even mere knowledge about contraception before marriage (Basu 1984) is associated with promiscuity and immorality, after marriage it may be considered in terms of reproductive health, responsible parenthood or family welfare.

The specific needs, options and constraints for career advancement in specific settings and the
socio-cultural interpretation of careers and their interdependence, requires that the study of life course organisation to incorporate the contextual meaning of life domains. The meaning of life domains, and thereby their hierarchical structuring, can importantly be assessed by the significance of the goals they serve for the individual within a specific social context. Careers can be considered as sequences of acts that are instrumental to effectuate these goals. From a Maslowian perspective, the life domains expected to contribute most to the realisation of goals or, at least, to the ones that are most salient to the individual given his or her level of aspiration, will have hierarchical dominance over other life domains. As such, a possible priority of a working career over a fertility career can follow from the economic necessity to secure an income, from the need to attain social status or from the pursuit of self-fulfilment. In non-Western societies, and especially in agrarian settings, the family is typically the central overruling social institution, as it by provides the individual’s prime avenue to land, work, income, status and security (Cleland and Wilson 1987, Davis and Blake 1956, Freedman 1987, Ryder 1983). Therefore, the family constitutes the dominant life domain and careers that initiate or maintain the family (such as the marital and reproductive careers) are the principal careers that structure individual life courses. In Western societies, individuals are members of many relatively independent groups, participate in more differentiated institutions and have many alternatives for personal commitment (Blake 1994, Freedman 1987, Ryder 1983, Mayer and Tuma 1990). Here, the family is no longer the all-encompassing social unit, and the life course tends to evolve relatively more around the social organisation of work rather than the family, although important gender differences can be observed (Kohli 1986, Hagestad and Neugarten 1985, see also e.g. Plath 1983). Nevertheless, the family, primarily the relationships with partners and children, remains a very important life domain and developments in this area are instrumental to the fulfilment of basic goals like affection, belongingness and emotional wellbeing.

6.3.5. A staging approach to fertility and family planning

Demographic studies that adopt a life course perspective commonly record the occurrence of life events, like job shifts, residential moves, change in marital status, births, et cetera. To a much lesser extent they also directly inquire into the specific meaning of these events, or into the reasons and mechanisms that underlie their timing and occurrence. These studies still lack the substantive frame of reference in their attempt to come to a full understanding of patterns and regularities. This concurs with the regular complaints that the available data and the analytical tools of the demographic discipline is not matched by its capacity for substantive interpretation (Freedman 1987, Livi-Bacci 1984a, McNicoll 1992, Schofield and Coleman 1986, Willekens 1992). To perceive the temporal causal relationships, the study of behaviour from a life course perspective should contain more substantive depth than can be obtained from just recording the timing of observed behaviour. Courgeau and Lelièvre (1989), for instance, conclude that their biographical representation of the interaction effects between the timing of life events requires a general foundation of theoretical and causal considerations. The issue here is what Sørensen et al., define as the underlying theme of their volume on multidisciplinary perspectives of human development and the life course: the when, where, and why of change and stability across the life span and the interrelationships across domains and
levels of analysis (Sørensen et al., 1986, p. xvi). Which particular domains are the most significant and which are of secondary importance, remains a problem of substantive interpretation and theoretical conceptualisation, and this cannot be assessed by descriptive statistics alone (e.g. Baltes and Nesselroade 1983, Elchardus 1982, Rindfuss 1991). The meaning of behaviour and various relevant careers and the temporal ordering of the life course depend on the specific cultural and socio-economic context, as well as on more individual characteristics and experiences.

An example of a general life course framework for the study of reproductive behaviour and family planning is provided by Forrest (1988). She defines a woman’s reproductive career in terms of onset, continuation and termination, thereby distinguishing five different stages. Each of these stages can be characterised by specific knowledge, childbearing motivation, contraceptive needs, autonomy, style of decision making, et cetera. A number of ESCAP studies adopted a slightly different staging organisation (e.g. Khan 1987). The five stages suggested by Forrest are:

1. **Menarche to first sexual intercourse.** This stage is characterised by the onset of the ability to bear children. In general, adolescents in this stage require an adequate understanding of the physiological aspects of the reproductive process and the risks of pregnancy. In many cultural settings, there may be opposition to educating young adolescents in this respect. The attainment of fecundity can denote a new status which may even imply the limitation of girls’ exposure to the outside world by withdrawing them from school or work in the fields, in order to guard their chastity or virginity (e.g. George 1994, Jeffery et al., 1988b, Khan and Singh 1987). In some circumstances, menarche may also denote girls’ readiness for marriage or the sign to commence the search for a marriage partner.

2. **Start of sexual relations to marriage.** The general concern in this period is to avoid pregnancies while preserving the reproductive capacity. If premarital sex is socially disapproved of or very infrequent, potential users of contraceptives will often want to avoid extensive preparation and external control in the form of visiting a clinic or doctor (Mosher and Bachrach 1987). Therefore, the greatest demand is for easily accessible, reversible, effective and safe means of preventing births. The knowledge and accessibility of these means is sometimes very limited, and even the possession of knowledge about family planning methods or reproductive matters in general before marriage is considered inappropriate (Basu 1984, Hutter 1994, Mathai 1989, World Bank 1991). Such circumstances are sometimes associated with relatively heavy reliance on abortion (cf. Ajayi et al., 1991, Barker and Rich 1992).

3. **Marriage to first birth.** In many developing countries motivation for immediate childbearing after marriage is high, due to the desire of acquiring status and security, besides establishing emotional bonds. Sometimes it is not the first birth, as much as the birth of the first son that terminates this stage (cf. Mahadevan and Jayasree 1989). The decision making power of young women with respect to pregnancy and contraceptive use can be very limited before they have proven their reproductive capacity (e.g. Koenig and Foo 1992, Khan and Singh 1987). Social pressure and individual motivation with respect to childbearing are in such cases often closely intertwined, resulting in minimal needs for contraceptives in this stage. If there is a motivation to prevent births, it is usually only in order to postpone the start of
childbearing because of temporary interests in other life domains, like the educational and professional career or considerations with regard to living arrangements (housing career). The boundaries of this stage may become blurred if more women tend to have children outside marriage or stable relationships, and more tend to remain childless.

4. **First birth to desired family size.** The ideal number of children that characterises desired family size need not be sharply defined. E. Van de Walle (1992), for instance, argues that ideal family size is a typically Western concept, which requires deliberate and conscious fertility decision making, an internal locus of control and a certain preoccupation with numbers. Cleland (1987), however, points out that there is abundant experience from the World Fertility Survey, and even more from the value of children studies, that even in non-contracepting societies, parents have no difficulty in discussing the advantages and disadvantages of large or small families (see also Khan and Singh 1987). He extends his argument to the idea that neither is it problematic for people to express a numerical preference, although he explicitly mentions Sub-Saharan Africa as an exception in this respect. People’s opinion about complete family size may also be adjusted in due course because of unintended or unforeseen events like marital disruption, child loss or undesirable fertility outcomes in terms of sex composition (Bledsoe 1995, Namboodiri 1983, Bongaarts 1984). Nevertheless, there is often a point in the life course where further childbearing becomes undesirable. The birth of the first child and further progressions in the marriage and fertility careers) and generally in the life course and family cycle) often provide women with a greater influence in reproductive decisions (e.g. Hollerbach 1983, Khan 1987, Koenig and Foo 1992). Moreover, knowledge about family planning methods and partner communication about additional children and contraception also usually improve in this stage (cf. Khan and Singh 1987). With regard to fertility regulation, motivation is likely to be higher during this fourth stage because of child-spacing considerations, and therefore women want to rely on reversible contraceptive methods to organise their reproductive career. The timing of successive pregnancies can) among other things) be related to developments in the working career (e.g. Ní Bhrolcháin 1986a and 1986b) or to considerations about health of mothers or children (Isaacs and Fincancioglu 1989, Winikoff 1988).

5. **Family completion to menopause.** In this last stage, partners are increasingly inclined to accept sterilisation, as a final method, as well as abortion to avoid births, alongside reversible preventive methods.

This staging perspective is a valuable contribution to programmes aiming at family-building behaviour that are responsive to the desires of couples and individuals. As a basic strategy of reproductive health and family planning programmes is to provide specific target groups with the information and the means to regulate their reproductive career, a life course approach can help to identify the target groups at which differentiated programme efforts should be directed (cf. Khan 1987). The exact content of the information and the most appropriate channels through which to communicate it, as well as the supply of specific family planning methods, depend on the individual readiness to accommodate to them. This in turn can be associated with the stage of individual development. In many situations, for example, family planning services and information campaigns have neglected unmarried girls and women who were in need of reliable and safe contraception (ESCAP 1993). The Indian family planning programme was for a long time preoccupied with sterilisation, which did not suit those who were in the stage of wanting prevention without terminating their reproductive capacity (Soni 1983,
A life course perspective is also relevant if it is recognised that during their lives people are confronted with different others who exert important influence on their considerations with regard to childbearing and fertility control. In the first instance, for example, parents will occupy a prominent place. Later husbands or, in certain types of family systems, parents-in-law, especially mothers-in-law of young married women, may take over this central role (ESCAP 1987b, Koenig and Foo 1992). But it is also conceivable that, for instance, women themselves experience transitions in position: from being a mother-to-be, liable to influence of others, to a mother with an important information-providing role towards her own children (through both deliberate transmission of information and as a model), and eventually to a mother-in-law, which brings her in the situation of determining the decision making environment of her daughter-in-law. This recognition can help to define secondary target groups who can be provided with relevant information about the specific needs of those in the reproductive years (Isaacs and Fincancioğlu 1989).

6.4. Personal development

6.4.1. Introduction

The life course is interpreted as a developmental process that contains various stages, each with its specific outlook on life, digested past experiences and promises for the future. A person’s position in the life course reflects a set of distinct abilities, relations with other people, motivations, responsibilities, duties, constraints and knowledge of the world. These emerge in various behavioural patterns or trajectories that can be identified over people’s lives in different contexts (Elder 1985a, Heise 1990, Mayer and Tuma 1990, Runyan 1982). A true developmental understanding situates behaviour and events in dynamic time, perceiving them as the function of earlier conditions in life. Reference to the role of age-related behavioural norms is insufficient in this respect. Although this locates behaviour in the life span (and as such it can be enlightening), it is a descriptive assessment rather than an explanation that relies on an understanding of behavioural evolvement over time (Bourdieu and Nice 1977, Collins 1993a, Sugarman 1986, p. 14). In a dynamic orientation, behaviour and its meaning change over the life course in accordance with developments in different careers. The task here is to conceptualise the mechanisms by which individuals receive information from personal and contextual sources, organise and process this information, give meaning to behaviour and gear different life domains and life phases to one another in the ongoing process of change and stability.

The field of developmental psychology addresses this search for a more substantive interpretation of life course development. A number of orientations in this field have come up with different conceptualisations of developmental mechanisms, each based on its own view of mankind, and with distinct methodology and testability and, also, different applicability in the area of demographic behaviour. Most developmental theories focus on the advancement
through childhood and adolescence. More recently, there is a growing recognition for the relevance of a developmental approach to behaviour in later stages of life, including the complex interactions among biological, psychological and social processes of aging (Abeles 1987). Today, adult development has a firm place in developmental psychology just as it has in sociology (see e.g. Hareven and Adams 1982). Cytrybaum and Crites (1989), for instance, attempted to demonstrate the utility of adult development theory (especially the work of Levinson) for understanding the process of working career adjustment. In gerontology and geriatrics, old age too has come to be interpreted in terms of separate phases of life with different developmental potentials (e.g. Lehr 1980). The relevance of different approaches in developmental psychology partly depend on their position on the internal-external determination continuum (cf. Hjelle and Ziegler 1981). Several traditions in developmental psychology take inner mechanisms as the primary factors that command the unfolding of personal development. In these perspectives, development occurs through the activity of the actor and the environment merely inhibits or facilitates but does not cause development. In other perspectives, the role of social forces or other exogenous factors is emphasised as the main cause of development. Lastly, there are approaches which can be classified as ‘interactionist’ traditions, where development emerges from the interplay between internal and external determinants.

In the following sections (Sections 6.4.2 and 6.4.3), several major perspectives in developmental psychology are reviewed. The evaluations especially centre around the consideration of to what extent they can contribute to the theoretical approach adopted in this study. Of special relevance here is the applicability of the insight to development in adult life, the recognition of both personal and contextual influences, and the affinity with the cognitive approach and starting points of this study. The concluding section (6.4.4) provides a comparative evaluation and abstracts some notions that can serve as a behavioural underpinning of the dynamics of fertility behaviour.

6.4.2. Structuralistic development approaches: stages

Psychological studies on children yielded a rather general acceptance that universally during childhood and adolescence, lives are governed by common developmental principles. Freud’s control of emotions and inner drives and Piaget’s cognitively based interaction of biological maturation with the physical world are typical examples of mechanisms that generate a universal qualitative progression in personal development. Both cast development in terms of structurally different stages that contain a readiness or propensity for certain new behaviour, social relationships, skills or perception. Such structuralist approaches emphasise the qualitative difference between developmental stages and furthermore postulate a universal sequence of developmental periods, usually with an invariant order and each with particular relevance to the growth of the mature personality. In psycho-analysis this refers to the resolution of the emotional conflicts underlying one’s identity. In cognitive development theory it is the realisation of a state of equilibrium between assessment and organisation of information.

*Psychoanalysis: in the wake of Freud and Erikson*
The polar characteristics of these eight dimensions are: basic trust versus basic mistrust, autonomy versus shame and doubt, initiative versus guilt, industry versus inferiority, identity versus identity diffusion, intimacy versus isolation, generativity versus self-absorption, integrity versus despair.

Freud and, later, Erikson are important exponents of a structural perspective on development from a psycho-analytical point of view. They understand development as proceeding by predetermined critical steps, each characterised by qualitatively different emotional considerations. For the propellant of change both (although Erikson less than Freud) rely importantly on the process of physical maturation as it brings along new possibilities and new problems that have to be harmonised within the social context.

Freud concentrates especially on the motivating role of psychosexual drives which are aroused at every new stage. Such desires become frustrated as their expression is constrained by the social environment. Subsequently these expressions are at stake in the inner and largely unconscious or subconscious battle between the psychic structures (Id, Ego and Superego) that mediate between drives and behaviour. An individual’s personality is basically the outcome of these conflicts, which Freud claims to be more or less decided after about the first five years of life. Although, in his opinion, later stages contribute to further differentiation and superficial behaviour changes take place throughout life, the underlying character structure remains largely unaltered (cf. Hjelle and Ziegler 1981). Behaviour in adulthood is basically the result of the struggle between the identity created during early childhood and the expectations and opportunities of society.

Erikson takes a more optimistic view: he considers the conflicts looming at every new stage as a challenge to the individual to look for his or her identity. Throughout life, a person is faced with a number of basic questions or crises about understanding and acceptance of the self in society. But Erikson suggests that in each stage in the life cycle, one of these questions is of overriding importance. These questions refer to the identification of the appropriate personal orientation on eight attitudinal dimensions characterised by two opposing qualities (Erikson 1980). The development into a healthy personality entails the resolution of the tasks at a proper rate and in a proper sequence, since the readiness for the challenges encountered in different phases of life requires that the basic questions pertaining to the previous ones have been resolved (Erikson 1980, 1984). Depending on the manner in which persons resolve these crises, their personality development will proceed in one direction or another.

More than Freud, Erikson emphasises the influence of the social environment on the duration and outcomes of the stages of development. In Erikson’s view, development is a function of personal and contextual factors. The changing individual is embedded in a personal network that embodies different expectations at each new stage. The theory’s social orientation is further demonstrated by the assertion that in a historical perspective, the repeated struggles to resolve the questions of life become institutionalised, and that, in turn, these social institutions influence the tasks and resolutions of people during their life (Erikson 1980). Within the boundaries defined by physical maturation, the variety and change of these contextual factors ranging from family elements, peer groups, partner relationships, to schools, labour organisation, religion, law and science differentiate the shapes of the life stages in various settings (Erikson 1979, 1980). Erikson fails, however, to define the processes by which the relevant social environment and the conflict that is most evident in a certain period yield

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2 The polar characteristics of these eight dimensions are: basic trust versus basic mistrust, autonomy versus shame and doubt, initiative versus guilt, industry versus inferiority, identity versus identity diffusion, intimacy versus isolation, generativity versus self-absorption, integrity versus despair.
recognisable behavioural patterns. Erikson also contends the Freudian view that personality patterns are already firmly set in the first few years of life. His perspective of development is one of a life-long process of ‘unfolding’ and differentiation (cf. P.H. Miller 1983, Hjelle and Ziegler 1981, Sugarman 1986). Notably stimulated by the later works of Erikson, developmental psychology in general has expanded its scope beyond the period of childhood and adolescence.

Havighurst (e.g. Havighurst 1972) presented a notion of structural development which corresponds to Erikson’s in several aspects. As with Erikson, the establishment of the person is not compressed into early childhood, but occurs throughout life. Similar to Erikson’s notion of basic questions characterising stages of life, is Havighurst’s concept of developmental tasks, whose achievement is similarly required for a happy and successful person with the prospect of fruitful further development. Havighurst’s developmental tasks, however, are more mundane and concrete than Erikson’s rather abstract psychosocial challenges. This has perhaps greater descriptive value, but reduces the interpretative value of the approach (Sugarman 1986, p. 95). A useful contribution to developmental psychology by Havighurst, is the representation of three principal sources of the tasks that people encounter over the life course. He distinguishes the biological processes that determine physical maturation, socialisation processes through which a person learns the expectations of the social environment, and the emerging personal desires, aspirations and values (Havighurst 1972).

Clearly inspired by Erikson’s and especially Havighurst’s life-cycle approaches, Levinson and colleagues distinguish several phases when they relate occupational and family considerations to personal development in adulthood (see also Cyntrynbaum and Crites 1989). They consider a person’s tasks, activities and relationships to be re-evaluated time and again, and to be differently interpreted and shaped as life experiences, responsibilities, needs and expectations change during the lifetime. Adult life is understood to be composed of recurrent periods of transition in which the way is cleared for a reformulation of self and the world in a subsequent stable period of developmental tasks and understanding life (Levinson et al., 1978, Levinson and Gooden 1985). Levinson and his co-workers, as well as Havighurst, do not restrict the potential grounds (such as cognition, biology and personality) for the creation of a new life stage, but concede to the overall content or meaning of information that is addressed by the individual (cf. Smedslund 1977).

Cognitive development: Piaget
Piaget’s developmental theory also focuses on internal structural changes and equally portrays development in terms of an succession of distinct stages (e.g. Piaget and Inhelder 1969). Piaget claims that these stages are universal and, furthermore, that their sequence is functional and invariant. But instead of drives and emotions, Piaget put forward the role of cognitive adaptation in development.
According to his theory of cognitive development, children think and act on the basis of a coherent mental organisation. Piaget uses the concept of schemata to represent the cognitive organisation at a certain moment. These schemata refer to the symbolic representations that organise knowledge about the world and behaviour into structured and coherent systems and that reflect particular ways of interaction with the environment (Piaget 1975). This Piagetian notion of schemata can be encountered in cognitive orientations in various behavioural disciplines, such as the sociology of knowledge (Berger and Luckmann 1966), institutional
economics (North 1994, O’Driscoll and Rizzo 1985), social learning theory (Bandura 1977b, 1986, Bower and Hilgard 1981), and cognitive anthropology (D’Andrade 1995). The mental organisation can be considered as a stage of equilibrium in a process of adaptation or ‘equilibration’ (Piaget 1975) which encompasses two complementary processes. The first is a process of assimilation through which information from the physical and social environment is matched to one’s existing cognitive frame of reference. The second is an accommodation process that adjusts this cognitive organisation in the face of new or discrepant information. An adjusted mental structure, in turn, prepares for a better assimilation of information. The processes of adaptation can be perceived as efforts to reduce inconsistencies between the internal organisation of knowledge about the world and information from the surrounding world (cf. Bandura 1991).

Although the processes of adaptation operate continuously and change itself is supposed to be incremental, cognitive development theory also distinguishes stages of development. According to Piaget (1975), the potential to understand the world develops through a series of discrete states of equilibrium of the processes of assimilation and accommodation. The distinction between developmental stages is based on the conception of a qualitative change in the underlying mental structure and is consequently more related to how rather than what people think. If adaptation processes can be perceived as efforts to reduce mental inconsistencies, the progression over developmental stages represents the improved cognitive equipment or competence to remove such incongruities. Whereas this qualitative change evolves from the cumulating experience with the environment, it also crucially depends on physical maturation.

The stages of development identified by Piaget span the period of childhood and adolescence. In his view, development has gained its full potential at the point of adulthood. Although he acknowledges that the capacity for formal reasoning (characterising the last developmental stage) matures well into adulthood, he claims that by then, cognitive structures have become fully integrated and coherent systems. Schemata will continue to develop as new information becomes available, but only in terms of content, not in terms of a qualitative reworking. In this respect, the continuous exposure to the outer world takes a central position in theory of Piaget. However, attention for the function of the social context in this respect remains scant, since the theory is particularly based on evaluations of experiences with phenomena from the physical environment and the understanding and application of such principles as object permanence, causality and conservation. Although Piaget recognises the importance of the social-cultural and educational environment (Tudge and Winterhoff 1993), it has not received corresponding attention. Neither has the social aspect of development in terms of interpersonal relationships received as much attention as physical and logico-mathematical development. Even if other cognitive scientists in the Piagetian tradition have developed the social aspects of development, the issue of how learned and organised knowledge is translated into actual social performance remains underrepresented (P.H. Miller 1983, p. 98). Lastly, and partly related, Piaget’s theory virtually neglects motivational aspects of development.

6.4.3. Social learning theory

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3 Piaget distinguishes four main stages (the sensimotor, pre-operational, concrete operation and formal operations stages) and a number of sub-stages.
Modern social learning theory, as elaborated by Rosenthal and Zimmerman (1978) and, especially Bandura (1977b, 1986), particularly elaborates on the connection between the social environment and personally held information and on the mechanisms which link this knowledge and actual performance. Representing a cognitive approach, learning theory has definite links with Piaget’s theory of development. Both emphasise information, cognition and the development of conceptual structures or schemata. But where Piaget (and for that matter Erikson and Havighurst) focuses on structural change and assumes a certain inherent direction in life, social learning theorists focus on processes of change and largely refrain from assertions about the content or goal of individual development. Development is considered to be a continuous and accumulating process without a clear end state. Like Piagetian theory, social learning theory emphasises knowledge and cognition, but it tends to include more prominently moral and emotional considerations (e.g. Bandura 1986, p. 185, Bower and Hilgard 1981, p. 467). Thus, cognition is understood in the broad sense of subjective and associative processes of interpretation and representation of the world, and not in the narrow sense of objective intellectual activity.

Bandura and other scientists within the social learning tradition start out from the idea that cognitive processes play a prominent role in acquiring behavioural patterns and in the formation of behaviour. The nature of persons as cognitive agents is defined in social learning theory in terms of a number of basic capabilities (Bandura 1986, p. 18 ff.). One is the symbolising and generalising capability which bears some close relationships to Piaget’s intellectual inheritance. Another is the vicarious capability that permits people to learn by observation rather than necessarily through personal experience. A third is the capability to anticipate likely consequences of actions by representing foreseeable outcomes symbolically. With respect to the symbolising and generalising capability, Bandura goes along with Piaget in understanding that on the basis of information, people mentally construct schemes and restructure them to accommodate new information (Bandura 1986, p. 89). Through the construction of these schemes, they try to create a coherent and functional view of the world which allows them to infer judgemental rules that are retained over time and generalised to new situations (Rosenthal and Zimmerman 1978). In this respect, social learning theory agrees with Piaget that the pursuit of a balance or equilibrium between information and existing cognitive schemata is an auto-motivator of learning and a basis for behavioural change (Bandura 1977b, p. 38, 1986, p. 89). These symbolic conceptions serve as ‘cognitive maps’ (Abeles 1990) or ‘recipes’ (Berger and Luckmann 1966, Schutz 1976a) that guide future action, give meaning and create expectations and standards by which performance is judged (Bandura 1986, p. 18, Wyer and Gordon 1984, p. 74). The capacity to use analogy and to generalise from the particular to the general (characterising Piaget’s stage of formal reasoning) is part of the restructuring process. It is this capacity that is the source not only of creative thinking, but also of the ideologies and belief systems that underlie the choices humans make (cf. D’Andrade 1995, North 1994).

A second basic point in Bandura’s concept of the person is its capability to learn by observation (the vicarious capability). Social learning theorists distinguish four important sources of information: personal experience, observational experience, verbalisation by others or otherwise communicated instructions, and emotional arousal (Rosenthal and Zimmerman 1978, Bandura 1977b, 1986). Whereas Piaget concentrates cognitive development and understanding of the world mainly in personal experience, social learning theory claims that most human behaviour is learned by information extracted from observing modelled examples.
The capability to learn by observing others enables people to acquire knowledge and experience, and to transform these into symbolic representations without having to form them gradually by tedious trial-and-error. According to Bandura, this is a major addition to earlier learning theories and Piaget’s cognitive developmental theory which cannot easily account for the prompt conversion to complex behaviour patterns (Bandura 1986, p. 90, 211). Another major merit of this contribution is that it situates individual behaviour explicitly and clearly in social and cultural contexts. Through the observation of various models and generalisation, the working of different institutional rules is trans-mitted to new members of society. Verbalisation provides an additional link to the social environment, not only through communication within personal networks, but also through the mass media. On the other hand, the other two sources of learning (arousal and personal experience) reflect the individual-level background of the cumulative experiences encountered over the life course.

Bandura’s third basic capability (the ability to represent foreseeable outcomes symbolically) has an important motivational implication. Although social learning theory acknowledges the role of physiological motivation, it claims that most human behaviour is regulated by forethought as a motivator or a temporary antecedent to performance. A second source of motivation distinguished in social learning theory operates through goal setting and self-regulated standards. These motivation mechanisms have been elaborated in relation to the concept of choice in Chapter 4 (Section 4.3.3).

The explicit incorporation of motivation is one of the main advantages of Bandura’s social learning theory over the cognitive development theory of Piaget. This solves to an important extent the issue of how learned and organised knowledge is translated into actual social performance (Bandura 1986, p. 81 ff.). Since not all information that is learned is transformed into actual behaviour, social learning theory breaks down the concept of learning into four constituent processes: attentional, retention, motivation and production processes (see Chapter 4). While Piaget does address attention and retention, he virtually ignores the motivational mechanisms and the actual implementation of intentions. A favourable course of each of these processes is required to bridge the gap between potentially available information, personally held knowledge and actual performance. In another line of research, Bandura developed the concept of self-efficacy as a cognitive mechanism that conditions actual behaviour (Bandura 1977a, 1982, 1991; see Section 4.3.5). As with motivation, self-efficacy is a dynamic feature in behaviour formation and is similarly acquired by learning through verbalisation, arousal, modelling and, particularly, personal experience. Lachman’s results from analysis of the Michigan Panel Study of Income Dynamics, for instance, suggest changes over the life course in the sense that personal efficacy declines in early middle age, levels off in the forties and fifties, and increases in later life (Lachman 1985, cf. Rodin 1990).

6.4.4. Evaluating developmental theories

Developmental psychology offers various theoretical perspectives on changes in the life course. Although several theories seem to involve complementary insights, a true integrated framework on personal development has not yet emerged (cf. P.H. Miller 1983). In order to substantiate the organisational device of the life course and this study’s conceptual framework with the mechanisms underlying the dynamics of behaviour, notions from different theoretical
traditions can be addressed.

Whereas developmental theories diverge in their views about the causes of development and the sources of change, about what develops and which periods of life are concerned, most of them have one aspect in common: the biological basis of development. But even here, the function ascribed to biological maturation is different. In many perspectives it is associated with reproduction, either via the tasks set in some stage of life (e.g. those of Erikson, Havighurst and Levinson), via the implication of sexuality (Freud) or via some (emotional-) cognitive interpretation of fertility behaviour (social learning theory). Piaget and to a lesser extent social learning theory) on the other hand, emphasises the biological conditions for development of cognitive capacities.

One aspect where Freud’s psycho-analytical, and Piaget’s cognitive development theory are found wanting is the incorporation of a view on development in adult life (Filipp and Olbrich 1986, Runyan 1982). Both consider what they understand as development (character formation and growth of cognitive capacity, respectively) to be concluded before adulthood. This severely limits the relevance of these developmental theories for the understanding of reproduction, since behavioural changes related to fertility are importantly located in the span of adulthood. The comprehension that the quality of cognition and how people think remain stable in this period, does not contribute much to the understanding of progression and turns in the life course and of changes in what people think. Nor is Freud very illuminating with his notion that whatever changes occur after childhood rely on an otherwise stable underlying character structure (cf. Hjelle and Ziegler 1981). Erikson on the other hand, even though he represents the same psycho-analytical tradition as Freud, emphasises the challenges facing people at different stages and interprets development as a process of ‘becoming’ throughout their whole lives. A similar distinction can be made between Piaget’s developmental theory and social learning theory. Both occupy the realm of cognitive psychology, but learning theory engages much more in explanation of the dynamics in adult life.

Another weak point in Freud’s approach, at least from the perspective of social rather than psychiatric theory, is the absence of an explication of the role of the social environment. Freud’s psycho-analysis requires too much introspection and is too idiosyncratic to allow any reliable structural inference on people’s behaviour in social life (e.g. Lindenberg 1990b, cf. P.H. Miller 1983). Furthermore, his concern is more with unconscious drives and instincts, rather than with the individual’s reflection on his or her position in society. In their treatment of social context too, there are certain parallels between Piaget and Freud. Piaget explicitly lists social experience as one of the factors underlying cognitive development, but he gives much more attention to experience with physical objects. The internal stimuliators to which psycho-analytic and cognitive developmental theories refer cannot adequately account for the variety of behavioural patterns and shifts in behaviour under differing situational circumstances (Bandura 1986, p. 2). The contents and structure of contextual information, in the sense of rules and expectations, are required to identify the external sources and to interpret the directions of change. To a certain degree this is incorporated in Erikson’s theory and, more concretely, in the approaches of Havighurst and Levinson. Social learning theory adds to this the mechanisms of verbalisation and particularly observational learning, through which the social context influences individual behaviour. The concept of observational learning together with the constituent processes of attention, retention, production and motivation) is probably
the most important single contribution of social learning theory to studies of individual
behaviour and development.

Motivation is a critical part of social learning theory, but it is virtually ignored by Piagetian
theory. Although Piaget’s pursuit of balance, or equilibrium, can be considered an auto-
motivator of cognitive change, additional motivational considerations are required to produce
actual performance. In Bandura’s cognitive perspective, these considerations are con-
sequences of processes of goal setting through comparison (with others and with one’s own
past level of performance) and, importantly, of processes of anticipation of consequences.
These anticipations refer to the cause-and-effect structures in people’s cognitive schemes,
which, in a Piagetian way, are outcomes of the mutual adjustment of existing knowledge
frameworks and new information derived from observing others or own experience.
These cognitive schemes not only involve motivation structures, but equally self-efficacy
considerations and may also be perceived to concern styles of decision making. The
interpretation of such schemes as processes of adaptation provides the dynamic perspective for
these different aspects. Therefore, the acknowledgement of schemes, which social learning
theory has in common with cognitive development theory and most other cognitive approaches
in behavioural science, can be considered to be the major mechanism of personal development.
6.5. Towards a dynamic conceptual framework

At the outset of this chapter, different aspects and dimensions of time were addressed which were considered relevant for the introduction of a dynamic perspective in the conceptual framework of fertility. The focus was directed at development at the individual level, which was understood to involve social, individual and biological aspects of time and development. Subsequently the life course approach was identified as an appropriate interpretative and organisational principle for behaviour over time. Lastly, the attention turned towards a number of developmental theories in order to search for the underlying processes and mechanisms of life course development. The central consideration in this respect pertained to the question of which theoretical perspectives could substantiate individual development in correspondence with the starting points of the conceptual framework. In this respect, social learning theory seems to hold the best potential to account for the dynamics of behaviour. Several other perspectives, notably in the line of thought of Erikson, Havighurst and Levinson, contribute additional valuable notions on personal development.

The cognitive approach of Bandura and other social learning theorists concurs very well with the central position attributed to information and cognition in the conceptual framework (and has indeed been a principal guidance in this respect). The major strengths of social learning theory are that it links individual behaviour and development to the social context, and that it bridges the gap between developmental and decision making theories. Many choice theorists regard the interpretation of the origins and change of individual beliefs, expectations, preferences, goals, causal frameworks and the definition of the situation as one of the fundamental challenges confronting choice theory (e.g. Ajzen 1991, Ajzen and Fishbein 1980, Brennan 1990, Elster 1983a, Esser 1993, Friedman and Hechter 1991, Schutz 1973b, H.A. Simon 1987). Modern learning theory locates them in physiological processes, the evolutionary social environment and in the individual experiences. Thereby, it identifies cognitive appraisal and the various processes involved as the main organising principle of behaviour across life domains and over the life course.

The cognitive interpretation of the life course is regarded as the dynamic individual-level background of behaviour and choice. It extracts the meaning of the experiences that are synchronically and diachronically organised in different life careers, including the baseline of biological development. This ongoing appraisal of personal history is a major determinant in the construction of mental schemes underlying people’s decision making. The schemes are, therefore, not static givens, but constructs that develop over time with life course progression. Although the individual life course is a personal source of information, it remains firmly socially embedded, not only because the interpretation of people’s histories depends on socially constructed rules of meaning, but, importantly, also because life course organisation reflects the impact of the particular social context that prevailed during its progression. In this respect, the individual history as represented in people’s mental representation bears the imprint of two basic time dimensions: institutional time and individual time. Figure 6.1 reflects these time-related influences of institutional rules and the dynamic organisation of the individual life course. Personal considerations that underly decision making are time-dependent in the sense that they relate to people’s evolving (and partly cumulating) mental schemes and to the impact of the context as represented of experienced rules of present social institutions. These mental schemes are represented in Figure 6.1 as being dependent on the synchronic and diachronic
structure of the life course, which implies that the organisation and contents of people’s information is constructed on the basis of the current life course position, but also on earlier mental constructions as derived from previous life course developments (as well as on relatively stable personal endowments). Furthermore, this complex of life course structure and development of mental schemes is influenced over time by the changing (path-dependent) force and contents of the institutional environment.

Figure 6.1. Dynamic backgrounds of choice

[Diagram showing the relationship between social backgrounds, individual backgrounds, life course organisation, choice considerations, and personal endowments.]
Chapter 7. An interdisciplinary perspective on fertility

7.1. Introduction

The aim of this chapter is to synthesise the conceptual perspectives addressed in the previous chapters into a theoretical framework for fertility. The organisation of this framework, or model, capitalises on the notion of theory as a means to understanding the emergence of fertility patterns, as a framework to locate and interpret relevant aspects for analysis, as a guideline to develop research designs and methodologies, and as an instrument to formulate policies and programmes in the field of fertility and reproductive health. Theory development proceeds here, by and large, in a deductive way.

To a substantial extent this framework draws on existing currents of thought in demography or extends recent trends and new developments in the field. Whereas these theoretical approaches consist of partial representations of the explanation of a demographic reality, the conceptual edifice proposed here integrates them in a more comprehensive framework. Another significant part of this framework draws on theoretical contributions from neighbouring disciplines, which support or extend the notions that have appeared in demography. Like the ideas developed by Coleman (1990) in his *Foundations of social theory* (see Chapter 2), the synthesis in this chapter wants to contribute to the foundations of demographic theory.

In accordance with the principle of methodological individualism and following the basic layout of the proposition system as proposed by Coleman, the theoretical framework is multi-level in nature. The basic distinction between context and individual is maintained, but is further elaborated and extended, particularly by identifying a level referring to intra-individual processes and structures. The notion of information is applied as a meta-theoretical concept to provide an integrative strength to the conceptual frame. This is expressed in the choice of a cognitive approach underlying the interpretation of the principal notions of choice, context and development. The acknowledgement and elaboration of the concept of time adds a dynamic perspective to various theoretical elements in the multi-level framework.

The first part of the following section (Section 7.2.1) gives an introduction to the framework. It presents the lay-out of the model, the main conceptual elements and their relations and integration, thereby in particular falling back on the theoretical starting points formulated in Chapter 2. The remaining part (Section 7.2.2) is devoted to a summary of the conceptual elements, which particularly refer to the elaboration of the concepts of choice (Chapter 4), context (Chapter 5) and time (Chapter 6). The concluding section (Section 7.3) provides a final evaluation of the framework in terms of its positioning as a theoretical approach in demography, its strengths, weaknesses and promises.

7.2. An integrated framework for fertility

7.2.1. The conceptual framework: levels, concepts and change

The aim of this chapter is to highlight the concepts required for demographic theory building and to present them in an integrated way. Figure 7.1 provides a comprehensive illustration of
the considerations addressed in the previous chapters.

**Multi-level approach**

Despite traditional emphases on either macro or micro elements, a situation that tends to produce a great divide between major social and behavioural disciplines as well as between major theoretical approaches within demography, the requirement of taking a multi-level approach to understand social phenomena is acknowledged by many social scientists, among them many demographers (e.g. Mason 1989, Freedman 1987, Bilsborrow 1985, Wunsch 1995). The theoretical framework presented in Figure 7.1 is an exponent of this view. The representation of the macro and micro levels follows Coleman’s general argument of methodological individualism, which asserts that in order to understand a social phenomenon we need to address the underlying causal mechanisms involved in producing this phenomenon (Coleman 1990). Whereas demographic outcomes such as fertility as well as major determinants are situated at the *social level*, the processes that link outcomes and determinants are located at the *individual level*. These considerations focus the theoretical concern (the ‘theoretical primacy’ in Lindenberg’s terms) to the behaviours of individuals and involve the need to formulate a theory of the individual behaviours that produce patterns and level of fertility. Taking the concept of choice as a starting point, Chapter 4 elaborated such a theoretical perspective. The acknowledgement that individual behaviour itself is the outcome of underlying processes, pushes analysis back to another, lower level, which is represented in Figure 7.1 as an *intra-individual level*. The elements that pertain to this analytical level include internal processes of thought, attention, representation, motivation and emotion (Chapter 4) which shape the personal considerations of individual decision making. Besides these cognitive processes, this intra-individual level also includes physiological processes involved in fertility and fecundity.

Although the theoretical approach advocated here is a micro-approach, this characterisation does not refute the overriding importance of the structure and substance of the social environment at the macro level. It merely prescribes that the theoretical approach to assess the impact of the context of individual behaviour must be in line with the representation of individual behaviour and the way in which context and behaviour are interactively related to each other. The interpretation of context as a configuration of social institutions meets this requirement. The institutional approach also allows a further differentiation of the context into a multi-levelled structure, ranging from global spheres to the local community level.
Figure 7.1. An integrated model of fertility
The intra-individual, individual, and social level are the major layers to characterise the multi-level nature of the theoretical approach. The conceptual model, however, identifies a fourth overarching level. The understanding of the behaviour of individuals and their dependence on the social environment relies on the model of man as formulated in Chapter 2, and these assumptions make up a crucial background of the theoretical approach. Rather than including the fundamental assumptions implicitly, they are manifestly incorporated in the conceptual model by adding a universal level, which is considered invariant in time and space. This addition is an explication of the ideas of Hollis (1977), Runyan (1982) and Sugarman (1986), which imply the need to specify the backgrounds of individual behaviour at the personal, structural and universal level (cf. Section 2.3.1).

**Concepts and relations**

The subject of primary interest to demographers is demographic outcomes, and in the present study particularly levels and patterns of fertility. The measurement and representation of fertility is relatively straightforward and the relation between fertility outcomes at the macro level and the reproductive behaviours at the individual level can be assessed through simple aggregation of vital events. Depending on further specific interests, the demographic outcome might be related to other social outcomes, such as reproductive health, population growth, future labour market developments or the status of women. Apart from the identification of the transformation mechanism that relates individual behaviours to social outcomes, Coleman’s *Foundations of social theory* (Coleman 1990; see Section 2.3.2) defined three major theoretical tasks to provide a comprehensive explanation of social phenomena:

1. a theoretical approach to assess the context of individual behaviour;
2. the mechanisms by which the context influences and structures individual action;
3. a theory of individual behaviour.

Although social science has no general theory that adequately encompasses all these concerns, and a seamless integration of complementary approaches seems to be out of reach, the approach presented in Figure 7.1 provides an attempt to bring together a number of theoretical considerations that may comprise the foundations of demographic theory. The elaboration of these theoretical notions is formulated in an integrated way, in which the concept of information functions as a common interpretative principle for the theoretical components (Section 4.2.1). Such an approach enhances the compatibility of the different concepts at the macro, individual and intra-individual level, as well as their relationships and the generative mechanisms.

Coleman’s aspects of context and individual behaviour have been developed in terms of social institutions and decision making respectively. The interpretation of institutions as a structure of rules allows the translation of contextual elements into individually-held mental schemes, which provide the basis of the personal considerations that can be considered as an anchor point in the process of decision making. The mechanism involved in this transformation (Coleman’s third theoretical problem) is defined in terms of social learning processes. Whereas many theories of individual behaviour include the influence of contextual elements (however context is defined), very few actually specify the mechanisms through which this occurs. The interpretation of life course development also relies on learning principles and provides the time-related individual backgrounds of the personal...
considerations and the process of individual choice. In fact, given the broad conceptualisation of decision making in this study, there is a considerable overlap between choice and learning.

Although reproductive outcomes in terms of number and timing of births may be an immediate concern in individual decision making, the model in Figure 7.1 allows for the situations where this is not the case or where fertility is an unintended consequence of other behaviour. Following Hull (1983) and Bulatao (1984), the decision making perspective does not take reproductive behaviour as the sole focus, but also includes as the subject of choice a number of *intermediating determinants* as defined by Bongaarts (1978) and Davis and Blake (1956).

**Time perspectives**

A time perspective has been built in in the theoretical framework by including different dimensions of time, especially referring to elementary, individual and institutional-historical dimensions of time (see Section 6.2.2), which largely correspond to the intra-individual, the individual and the social level of analysis.

The element of time is incorporated in the framework in several, partly overlapping, ways. First, by considering expectations about future states of the world (as related to historical and institutional change) and about future life course development (as related to individual change) which includes expectations about reproductive choice outcomes (in terms of reproductive behaviour or higher-level outcomes). These expectations translate anticipated futures into present-day considerations. Figure 7.1 represents these influences of the future as inputs in the personal considerations.

Secondly, time is reflected by recognising knowledge and choice as processes rather than states or events. People’s mental schemes and salient considerations are susceptible to continuous change owing to new information input, varying levels of attention to specific pieces of information and shifting perceptions because of differing combinations of information elements from various sources. The concept of choice that corresponds to this perspective relies on procedural and expressive types of rationality rather than on the standard substantive rationality (cf. Section 2.4). The interpretation of choice applied in this study relies on ideas of different choice theorists, such as Simon (e.g. H.A. Simon 1978, 1987), Etzioni (1992), Janis and Mann (1977), Esser (1993), Leibenstein (1980) and Hargreaves Heap (1992). They contribute to the argument that the particular nature of information selection and information processing determines people’s considerations, not only about behavioural options and decision styles, but also about goals and perceived future consequences of behaviours.

Thirdly, a dynamic perspective is added to the theoretical model by introducing life course development as an evolving source of information at the personal level. Personal considerations related to reproductive behaviour or its proximate determinants depend on the cumulating experiences of people’s lives in time, which shape and reshape the cognitive schemes held by individual agents, including valuations, cause-and effect relations, decision styles and perceptions of personal control (cf. Chapter 4 and 6).

Lastly, the time dimension relevant to the social level refers to institutional change and in a broader perspective to historical change. Depending on the balance between conservative and challenging forces, social institutions transform in an evolutionary way owing to the interactive processes of learning, and of acknowledgement of and adherence to institutional rules (cf. Section 5.3). Institutional change is provided for in Figure 7.1 by representing the
relevant institutional structure at different points in historical time (past, present and future). Despite a substantial degree of interdependency in the development of different institutions, within the transformation process of the contextual structure each single institution may develop along its own specific evolutionary path, at a different speed and in a different direction.

7.2.2. The components of the conceptual framework

The interpretation of the different components of the conceptual model in Figure 7.1 refers to the discussions in the previous chapters, in particular Chapters 2, and 4 to 6. Successively, these include the model of man for demography, the social context, the principles of learning, the individual backgrounds of personal endowments and life course development, the concept of choice, reproductive behaviour and its intermediate determinants, and social and individual outcomes of decision making. The aim of this section is to summarise the treatments of these concepts within the framework of Figure 7.1.

Demographic model of man

Like any social theory, demographic theory relies on specific assumptions with regard to the people who cause, through their behaviours, the emergence and change of demographic phenomena. Since the focus of this study is on understanding and conceptualisation, rather than on quantification and formalisation, it has more freedom and indeed the need to be guided by realistic assumptions about human beings (Section 2.2). The development and use of demographic theory is enhanced by an explicit reference to such a realistic model of man for demography.

The issue of the model of man does not enter the conceptual scheme as a proper variable that can take any specific value or shape. Instead, it constitutes a set of basic premises that are relevant for understanding human behaviour in general and fertility behaviour in particular. They represent propositions with respect to human capabilities, constraints and characteristics that are assumed to be independent of contextual conditions or personal specificities. The premises of a demographic model of man, coined as BMMRSDM in Section 2.2, relate to the underlying biological dimension of demographic behaviour, the role of mental agency in human behaviour, the importance of motivation and rationality in decision making, the social embedment of individuals, and the time-dependency involved in personal development.
**Biological relevance**
Reproductive behaviour comprises an important biological component. The prominence of this characteristic is a major rationale for distinguishing a *homo demographicus* from the models of man identified in other social and behavioural sciences. The timing of pregnancies, the pace of childbearing and the number of children depend partly on physiological processes that are not, or not entirely, influenced by intended action. Under normal conditions fecundity, the duration of a full-term pregnancy and the maximum reproductive span are not subject to social or individual control. The intermediate determinants tradition of Bongaarts and Davis and Blake recognise this role of biological components alongside that of social or behavioural components. They furthermore perceive marriage as an indicator of the probability to engage in biological process of fertility and acknowledge that behavioural actions that influence fertility outcomes (e.g. breastfeeding, use of contraceptives, abortion) do so through their impact on physiological processes (Section 3.3.3, cf. Section 4.3.3).

To formulate a generally applicable conceptual framework of fertility behaviour, the intermediate fertility determinants must be included. Especially in situations where people lack extensive knowledge, means, motivation or control to determine their reproductive behaviour, the full range of proximate determinants is indispensable to explain individual fertility outcomes. The introduction of proximate determinants denotes a further intermediate component to the basic conceptual framework.

**Mental agency**
The faculty of the human mind (the ability to form mental representations) is a crucial principle in behaviour formation. Behaviour involves consciously or subconsciously cognitive processes of attention, perception, interpretation and storage of information in mental schemes. This relates to the capacity of abstraction of knowledge from examples of categories of things, actions and situations, and the application of these generalisations to new circumstances (Section 4.2.3). Such generalisations on the basis of mental schemes include the capacity to anticipate through expectations of cause-and-effect relations, as well as the capacity to assign values to actions and the consequences associated with them. While the cognitive faculty of human beings is crucial, it is nevertheless limited. Research on information-processing has demonstrated that the capacity to address an amount of information is restricted (e.g. G. Miller 1956, H.A. Simon 1957, 1978, 1979a). Depending on the problem they are confronted with, people apply different procedures and heuristics to select and organise salient information as part of the behaviour-formation processes.

**Motivation**
Human behaviour is assumed to involve motivational aspects in the sense that behaviours represent subjectively functional values to the individual in terms of maintaining and possibly improving the quality of life (cf. De Jong and Fawcett 1981, p. 49). This is not the same as saying that every behavioural outcome has been planned or is positively valued. Fertility-related outcomes might be willingly or unwillingly accepted by-products of certain behaviour, or the unintended and un conceived consequences of acts pursued on the basis of decision making processes with inaccurate or incomplete information.

The contents of motivation in specific situations is largely a matter of socio-cultural and individual specificity. It is assumed, however, that any individual behaviour can be projected on a limited number of final goals with universal validity: physical well-being, material well-being, safety, affiliation, social status, self-esteem, pleasurable inner states and creativity (cf.
Section 4.3.3). Fertility behaviour and its proximate determinants is assumed to derive its meaning in relationship to one or more of these ultimate goals.

**Rationality**
Rationality is a major concept in the comprehension of individual behaviour. The notion of rationality attributed to the model of man suggested here entails a broad conceptualisation. It encompasses much more than the selective notion of optimal use of means to achieve well-defined goals, which underlies most decision making approaches to human behaviour. The extension of the concept of rationality alludes to Weber’s subjective rationality (Weber 1949, 1968, Section 2.4.2). The further elaboration of this notion importantly relying on the work of Simon) includes the psychological idea of salient information with regard to agents’ means (bounded rationality, see Section 2.4.4) and the role of the involved procedures of attending and processing subjectively relevant information (procedural rationality, Section 2.4.5). Additionally, expressive rationality refers to the role of agents’ self-reflection in determining the goals and preferences that enter into the behaviour-formation process (see Section 2.4.6). The acknowledgement of the relevance of these notions of rationality has major implications for the elaboration of choice as the theoretical principle to address and understand individual behaviour.

**Social embedment**
Whereas the model of man outlined in this study emphasises the role of (intra-)individual processes of behaviour formation, it does not imply that individual agents are completely detached and unconstrained elements acting alongside one another. It decisively locates them within a social environment. To fulfil their basic physical, material, social, emotional needs, people crucially depend on other people. This dependency may arise in the direct relationship to identifiable other people) parents, partners, friends) or within the contexts of more impersonal social institutions, such as firms, gender systems or labour markets. Moreover, individual agents depend on their social context in terms of the transfer of social knowledge. This relates to both the amount of information available and the socio-cultural interpretation of behaviours, events, facts or situations that people learn during their lives while performing and seeing others perform in particular social contexts.

**Development**
At the start of people’s lives there is a wide array of directions for their life courses to unfold. Partly, their life course development seems restricted or preset by the confines and pressures contained in the social environment. To a different extent, the evolvement depends on particular events, circumstances and the history of the life course (e.g. Mayer and Tuma 1990). Whereas the first perspective may account for the explanation of an age-related life structure, it fails the dynamic understanding of the life course contained in the second perspective. This last viewpoint interprets a person as involved in a continuous process of ‘becoming’, a process in which the individual is dynamically and functionally related to his or her cumulative history (cf. Section 6.3.2). The same perspective can be applied to the fertility career: the onset, pace and termination of the fertility career can be interpreted as the time-dependent results of cumulating individual experiences and events.

The aspects distinguished in this model of man are not observable variables that enter into the conceptual scheme as the other components. They, do, however, represent the
fundamental assumptions required to interpret the various components appearing in the
model at the individual level. In particular they underlie the elaboration of the different
processes distinguished in the theoretical approach: life course development, learning, choice
and biological processes.

Social context: institutional organisation
The exposition of social context relies importantly on different institutional and interactionist
approaches in sociology, anthropology, economics and psychology. The backbone of the
notion of context in the conceptual framework is formed by the comprehension of social
institutions as information-containing bodies, made-up of more or less coherent sets of rules
that influence behaviour in different ways. The conceptual strength of this cognitive-
institutional approach lies in its ability to provide an interpretative framework for the
structure and contents of a social environment, to provide part of its understanding in the
historical evolution of the institutional configuration and to provide the links between
structure and agency.
Many social demographic studies indicate the crucial relation between levels and patterns of
fertility and social, cultural, economic and political backgrounds situated at a macro-
analytical level. The considered macrolevel entities are phrased in such terms as the status of
women, culture, social structure, family planning services, labour markets, religion,
education, family systems, et cetera. While these constituents of the macro context may have
an undeniable influence on fertility, the relation is an indirect one and can only be specified
by incorporating the level of the individual behaviours that produce the fertility outcomes at
the social level. Therefore, the theoretical challenge to establish the role of context in the
explanation of fertility lies in an appropriate interpretation of the influence of contextual
elements on individual reproductive behaviour. This implies that the social environment must
be expressed in terms that bear relevance to the individual agents (cf. Alexander 1987,

The representation of context as a universe of information meets this demand. To the
individual agent, the environment provides a broad range of information which is either
explicitly acknowledged without necessarily being agreed upon) or implicitly acquired and
internalised. Although to a certain extent physical or material environmental constraints have
an autonomous impact on behaviour, it is largely the meaning attached to contextual
characteristics that sets agents on some course of action. This subjective information
pertains to behavioural options, resources and restrictions, to personal control, dependency,
power and sanctions, and to the meaning of a phenomenon or behaviour, including events,
statuses and behaviours related to fertility. Thus, having children (or not), being married (or
not) and using contraceptives has specific connotations which crucially depend on the social
environment. In deciding upon marriage, fertility or contraceptive use, people are guided by
information about available and acceptable options, about the role and influence of others in
such choices and personal control, or about the consequences of following certain
behavioural routes.
This information is social information in the sense that it is shared among social groups and
transmitted between its members, either by direct communication or by sharing experiences
and observing them with others. The ‘social construction of reality’ (Berger and Luckmann
1966), is a main source of the structure of the social environment and of the structure of
knowledge on which people’s behaviour depends. The interpretation of context as a
structured information environment can be adequately represented by an approach that relies on cognitive-institutional orientations in economics, sociology and anthropology (e.g. Denzau and North 1994, Langlois 1986a, Burns and Flam 1987, D’Andrade 1984). In this line, the theoretical framework of Figure 7.1 casts social institutions in terms of information-containing bodies. They consist of more or less coherent sets of rules which provide individuals not only with guidance for behaviour in recurrent situations, but also with meanings to interpret the world and their own position in it (see Sections 5.2).

The different institutional forms existing in a society create a social fabric by the effect of their filtering, interweaving, mutual reinforcement and conflict. These processes differentiate people, status positions and events according to a multitude of rules and the nature of the institutions involved. With regard to the explanation of fertility, a listing of relevant institutions would in general have to include the family, the local community, the local dimension of public administration, the stratification system and the labour market (McNicoll 1994, Section 5.4.4). As elaborated in Section 5.4, the structuring impact of social institutions can be related to:

- the various contextual levels that are involved in the operation of institutions, ranging from the community to the global perspective;
- the social, cultural, political and economic dimensions of institutions, which analytically organise the substance of institutional rules;
- the specific life domains to which institutional rules apply;
- the distinction between formal and informal institutions.

It is possible to analytically distinguish social institutions at the supra-individual level, but they are usually also experienced by individuals themselves as forces that are to a greater or lesser degree beyond their own authority. The mutual strengthening and coherence of institutions and rules, the mere acknowledgement of and the repeated compliance with rules by many people, the sanctions and consequences involved in adherence to or deviance from rules, and the perceived practical value of their implementation turn institutions into social entities that people may experience as ‘realities’ or ‘givens’. It would be unrealistic, however, to consider social institutions solely as impregnable social constructs. Notwithstanding the many situations, especially among vulnerable groups, where the information provided in social institutions is accompanied by compelling pressures, the concept of institutions comprises a connotation of plasticity and transformation. Individual people often have to find ways out of the problems posed by institutional rules that represent inconsistencies between alternative realities and social expectations, or that leave room for substantial uncertainty. Moreover, people can strategically exploit apparent inconsistencies between rules in order to gain individual benefit. Lastly, institutional rules seem less adamant if it is acknowledged that, as specified in social learning theory, the transformation of rules into action requires the satisfaction of a number of constituent processes, such as attention to relevant information, abstraction into generalised rules which can be evoked at appropriate situations, motivation to comply with rules and actual implementation (Sections 5.2.1, 5.3.2, 5.3.3). If one of these processes is absent or insufficiently inducing ) for example if personal interests run counter to rule compliance) alternative interpretations of the surrounding world come to the fore and institutionalised behaviour might be halted unless severe sanctions are applied.

This conceptualisation of social institutions rests on the interactionist idea that individual
agents are not only rule followers, but also the producers, carriers, and transformers of rules and social institutions (e.g. Burns and Flam 1987, D’Andrade 1995, Giddens 1984, Hammel 1990). This assumes a close affinity between the contextually defined contents of rules and their institutional organisation on the one hand, and the contents and organisation of knowledge into cognitive schemes in individual agents on the other. The mechanisms producing this close (but imperfect) relation between social institutions and mental schemes are considered by advancing the perspective of social learning theory.

The notion that from the individual perspective the institutional context may be differently perceived addresses the dynamic perspective underlying the conceptual model of this study. If many people are placed in a position where they read their social environment differently and turn to deviant behaviour, social institutions and rules will in the longer run be transformed or supplanted by alternative ones. The evolutionary perspective adopted in this study (Chapter 6) interprets institutions and social context not as static entities, but as evolving processes each with its own rate of development. An institutional time dimension relates to the rate of change of single institutions within a larger social setting, and the modifying conjuncture of the combined institutions generates the historical time dimension that is related to the change of the social context at large (Section 6.2.2). This dynamic perspective is introduced in Figure 7.1 by incorporating a time scale $T$ and representing the present ($t$) institutional setting and the institutional constitutions in the past and the future. The introduction of time is not only a crucial element for the representation of the actual institutional configuration, but also crucial to the explanation of reproductive patterns and the understanding of the individual behaviours that underlie these social outcomes.

Learning: linking mechanisms

The concept of learning as developed in Bandura’s tradition of social learning theory provides a crucial theoretical attribute in the behavioural model of fertility. The central argument is that the learning concept is an appropriate interpretation of the mechanisms through which individuals’ mental schemes are adapted over time. This interpretation provides the theoretical background for a number of issues considered in this study: the elaboration of personal development (Section 6.4), the processes involved in the translation of institutions and rules into individual cognitive schemes (Section 5.5), and the subsequent processes involved in the emergence and change of personal considerations in decision making (Section 4.2.3).

The adaptation of the internal organisation of knowledge in the face of new information and ongoing experience is considered to be a perspective that substantiates life course development. By elaborating this perspective, social learning theory appears as a developmental theory that orders the life course of people in terms of their time-related view and understanding of the world and their own position and possibilities (Section 6.4.3). Social learning theorists distinguish four sources for acquisition of new information and learning: observational learning, verbalisation by others, personal experience and arousal (Bandura 1977b, 1986, Rosenthal and Zimmerman 1978). On the basis of the information gained from these sources, people can inductively develop rules for behaviour and situational assessment which can be applied in future choice situations to designate the range of acceptable behavioural alternatives, predict likely outcomes or assess their abilities to perform adequately.
• **Observational** (or **vicarious**) learning refers to the observation of models (especially people with whom one can easily identify) and the evaluation of their behaviour, its consequences in the particular situation and the abilities of the models involved to perform adequately.

• **Learning through verbalisation** (or through written or visual communication) acknowledges that people are susceptible to the explicit messages conveyed by people in the social context (parents, peers, religious leaders, teachers, healthworkers, politicians) or via communication channels like radio, television, cinema, newspapers, school curricula, artist groups, et cetera.

• **Personal experience** refers to a person’s reflection on his or her personal history of performance and behaviour and related consequences.

• **Emotional arousal** is another source of learning that has an informative and motivating function. Feelings of contentment, fear, love, shame, et cetera, that are experienced with particular events, behaviours or situations can develop into emotional associations with broader classes of events, behaviours or situations.

Empirical studies indicate that personal experience and observational learning are in general the strongest mechanisms of learning. Social learning theory further elaborates the concept of learning into the constituent processes of attention, retention and motivation. Through **attentional processes** people regulate the exploration and perception of new information: they determine what is selectively observed in the abundance of input and what information is extracted from behavioural models, messages from others and personal feelings and experiences. **Retention processes** convert this information into generalised rules and symbolic conceptions for storage thereby adapting prevailing cognitive schemes (Bandura 1986, p. 51 ff., see Section 4.2.3). It is through these processes of selection and translation against the background of existing knowledge structures that apparently objective information attains a subjective interpretation. **Motivation processes** determine whether or not learned and acquired competences will be put to use and whether people will persist in certain behaviour. These motivation processes can be expressed in terms of cognitive anticipation of outcomes of behaviour and setting of aspiration standards (Section 4.3.3).

The representation of the different information sources and corresponding learning processes is in accordance with the conceptualisation of the human as a product of social embedment and individual development. The *learning* component in Figure 7.1 covers the processes involved in the extraction of information from the social context by referring to observational learning and learning through verbalisation. Through reflection on personal experience agents’ mental organisation is related to their history of life course development. The specification of observational experience and verbalisation, together with the processes of attention and retention, are particularly relevant concepts to identify the mechanisms that link the social context and individual behaviour. They establish a conceptual bridge between the macro and micro level by relating individual agents to the structure of social institutions through their positioning among models and messengers who are the carriers and producers of institutional rules (Section 5.5).

**Individual backgrounds: stability and change**

Besides the assumptions outlined in the model of man underlying the conceptual framework, and the influence of the social context, behaviour is shaped by a background that is inherent in individuals themselves. This individual background distinguishes two separate aspects that
fuel the processes of behaviour formation: *personal endowments* and *life course development*. Considering the relative stability of personal endowments and their emergence early in life, they are interpreted as a determinant of life course development.

**Personal endowments**

From the outset of life, and more particularly after the formative years and around the onset of the reproductive career, people hold a number of personality characteristics. These personality characteristics refer to relatively stable orientations such as risk seeking versus risk aversive orientations or family versus working orientations. Such basic preferences and other enduring personal idiosyncrasies (including biological qualities related to fecundity) form the initial endowments of an individual agent.

In the study of behaviour these endowments are particularly relevant if explanation is sought for the behaviour of specific individuals. From a social and demographic point of view they only gain importance if individuals acquire more power vis-à-vis the external and structural forces of society. The great variety of life courses in many Western societies (for instance expressed in terms of relationships and family-building careers) reflects a situation of relatively individual autonomy and room for the impact of personality characteristics.
However, as of yet psychological studies on the relationship between fertility and personality traits have not come up with straightforward support of this idea. The impact of personality traits in societies characterised by strong social control, such as many developing countries remains even more circumstantial and speculative (cf. Bogue 1983).

**Life course development**

Life course development refers to the development of different careers in people’s lives and the concurrent development of the structure and contents of their mental representations. These two developments are mutually dependent. People’s mental schemes include the changing perceptions about the desired, appropriate and possible progression in specific careers (such as the marriage and fertility career) and they provide the cognitive input in the decision processes that induce subsequent behaviour in the relevant life domains. On the other hand, developments in different careers may provide new information or activate specific considerations, for instance with regard to behavioural options, goals and personal control.

The major value of the incorporation of a life course approach consists in the introduction of the dynamic perspective along the individual time dimension. This views fertility behaviour and fertility decision making as a function of specific phases in the continuous course of personal development. These phases are patterned by the combination of positions in different careers at certain moments in life and the translation of their meaning into people’s cognitive frameworks. In this respect it is considered relevant to conceptually distinguish the life course as an organisational framework on the one hand, and the underlying developmental mechanism that situates choice and behaviour in this dynamic perspective on the other (see also Figure 6.1).

- **Life course organisation.** A life course approach offers an appropriate framework to situate events and behaviours over life time and across life domains. The **synchronic** organisation of the life course (Section 6.3.3) arranges life into different parallel careers and considers their interdependent relations (cf. Elder 1985b, Heise 1990, Willekens 1991). Careers tend to be hierarchically arranged in the sense that some receive a larger share of time and energy than others, or in the sense that some significantly influence the development of other careers. During recurrent transitional periods in the life course these career hierarchies can be redrawn. Such periods are characterised by the closing of an era in life, a thorough reassertion of relations and meanings, and the emergence of new challenges. In the study of fertility the reproductive career is the focus of attention, but dominant influences are usually exerted by careers related to work and the family, importantly including the marital career. In addition, educational and health careers may play prominent roles as well. Lastly, the representation of career dependency may require the influence of careers of specific others to be taken into consideration, in particular those of close relatives (Hagestad and Neugarten, 1985).

The **diachronic** interpretation of life course organisation (Section 6.3.2) views careers as conditioning processes in which events and behaviours are sequentially ordered. This perspective suggests a causal relation over time as personal experiences and conditions earlier in life exert an influence on behaviour at later ages. Different phases within careers are characterised by the temporal propensity for and the coherence of specific events and behaviours. New phases emerge especially after transition periods in which persons reassert their position in life and may reformulate the hierarchy of careers and the
important issues of the life course stage (cf. Hagestad and Neugarten 1985, Havighurst 1972, M.W. Riley et al., 1972, Trice and Morand 1989, Willekens 1991). The integration of synchronic and diachronic perspectives views the unfolding of the life course as the result of the interaction of developments in different careers. With regard to a life course interpretation of contraceptive and reproductive behaviour, Forrest’s five-stage framework provides a relevant starting point (Forrest 1988, Section 6.3.5).

- **Personal development.** The interpretation of the mechanisms involved in personal development relies in particular on the cognitive orientations of Piagetian theory and social learning theory. It asserts that the structuration of life in terms of the interdependency of careers and their temporal integration is not so much inherent in the events and behaviours that characterise the life course, but in the meanings attached to these behaviours and events by individual agents. These interpretations are contingent on the cognitive schemes that represent these agents’ internal organisation of knowledge. These mental frameworks, in turn, can be considered as stages in the dynamic process of adapting existing cognitive schemes to new information and the assimilation of this information into the existing mental frames (Bandura 1991, cf. Section 6.4.2). The occurrence of specific life events, such as marriage, menarche, childbirth, retirement or divorce, may invoke major adjustments of frames of reference: they are likely to reformulate a person’s salient set of information about restrictions, options, personal control, responsibilities and motivation for behaviour. The cognitive adaptation that occurs through such personal experience is one major source of learning and development. Another major source is social learning, through which people acquire information about shared life course related rules for behaviour and meaning. Social learning theory explicitly distinguishes these individual and social grounds of personal development. So do the staging theories of Erikson and Havighurst, which furthermore mention the processes of physical maturation as a (person-related) source of development (Sections 6.4.2, 6.4.3).

**Choice as a concept of behaviour formation**

**Situating choice**

The conceptual basis for a theory of individual behaviour in this study is provided by a theory of choice. The rationale to adopt a choice approach is situated in its potential to contribute the components for understanding individual behaviour formation. This potential is located in a broad conceptualisation of choice, which relies on a realistic model of man. It incorporates a number of behavioural considerations that go beyond the standard interpretation of decision making in psychology, economics and sociology: it is better embedded in the decision making context, it is more heuristic and it focuses on choice processes, rather than on outcomes of choice. The approach retains the basic elements of choice (such as options and expectations) but it adds subtleties of bounded, procedural and expressive rationality, ignorance and reduced perception, limited information processing, routine and institutionalised decision making, and other heuristic processes that widen the concept of choice into a process of general significance to behaviour formation, instead of being confined to explicit decision making behaviour in the narrow sense. In this respect, the concept of choice underlying the model of fertility tackles the three major, and partly overlapping, conceptual problems of mainstream decision theory: the detachment of decision makers from the larger social context, the static representation of decision making, and the
unrealistic, normative assumptions attached to the concept of choice.
In Figure 7.1 the choice concept is condensed into a set of personal considerations, which are summarised in this section. These considerations pertain to the concepts of problem space, motivation, personal control and styles of decision making. The interpretation of these considerations, and thereby the abatement of the conceptual problems of decision theory, relies to a great extent on their conceptualisation in relation to the other components of the model.

With regard to situating choice in the theoretical framework, the model of man provides the basic assumptions about people as decision making agents. It renders the portrait of a person whose considerations in decision making are grounded in a selective and subjective organisation of information. It also poses that personal considerations and their underlying cognitive schemes are not objective givens, but time and situation dependent constructs of subjective learning processes. These learning processes substantiate the mechanisms involved in the relations between the social context, individual backgrounds and personal considerations as outlined in Figure 7.1. They explain how meaning-giving and behaviour-guiding rules prevailing in the institutional environment are abstracted and incorporated in the mental schemes of decision makers. They also explain how considerations change in a lifetime perspective due to the incorporation of information from the continuous flow of past experiences.

The dynamic character of choice considerations is not only related to this individual time dimension, but indirectly also to historical and institutional time, at least to the extent that it parallels the time span covered by the individual life course (cf. Section 6.2.2). Via individual life course progression and concurrent development of cognitive representation, present considerations reflect the institutional rules that prevailed in the social context at earlier points in life. The historical-institutional and individual time dimensions stretch out into the future as well, dynamically relating personal considerations to changing future situations. The mechanism involved here primarily concerns the agents’ capability of forethought or anticipation: people are able to formulate expectations about future worlds, and about outcomes of decision making processes and future life course development, including marriage, becoming pregnant, having children, and their associated consequences. Such anticipations function as a kind of cognitive feedback mechanism and are represented in Figure 7.1 by (thin) arrows.

In the conceptual model, the principal subject of choice and the personal considerations is reproductive behaviour (starting, spacing and stopping childbearing, and the number and sex composition of children). But the model also acknowledges the direct antecedents of fertility (such as contraceptive use, sexual intercourse and breastfeeding) as possible targets of decision making. This causal complex of reproductive behaviour and intermediate variables provides, therefore, an objectified frame of reference for the interpretation of fertility decision making (cf. Hull 1983, see Section 4.3.3).

**Problem space**
The lives of individuals can be perceived as a continuous journey through a sequence of situations that offer a number of alternative courses of action. At the same time, individuals are engaged in efforts to achieve certain goals which they try to attain by taking appropriate actions. The combination of the complete set of behavioural options and goals define an agent’s ‘task environment’. The choice situation as perceived by the individual agent does not, however, consist of this encompassive task environment. It consists of a subjectively
constructed and salient part of the task environment: the agent’s problem space (Payne 1980, Newell and Simon 1972, Rutherford 1988, see Section 4.3.2, Figure 4.1). This notion of problem space suggests that options and goals are not objective ‘givens’, but time and situation dependent constructs which are only selectively attended in decision making. Its introduction as the subjective basis for considerations about behaviour alters the conceptual focus; partly away from the determination of means and ends proper, and more towards the individual and social processes whereby selected aspects of reality are noticed and enter personal considerations as salient aspects (H.A. Simon 1987, p. 26).

By incorporating the notion of problem space, the concept of choice becomes a relevant principle to interpret the large majority of behaviours. It covers the situation where people decide upon a course of action on the basis of complete, valid and explicit information about options and goals. But it also covers situations that are characterised by complete ignorance of behavioural options, or where they are selectively or incorrectly represented, or where behaviours are only minimally related to the set of pursued goals. There are many situations where people do not have exactly circumscribed goals, where behavioural alternatives are completely blocked from conscious deliberation and where, instead, people rely on routines or standard rules for behaviour and seemingly their only motivation is the ‘normalcy’ of such standards. By perceiving the problem space as a narrow and subjective representation of the task environment, these kinds of situations and ensuing behaviours can easily be interpreted from a choice perspective. In such situations the concept of choice may be robbed of its authentic meaning, but it still renders a valid and valuable analytical approach.

Motivation
Motivation for behaviour is an explicit element in the definition of the problem space, since it is directly related to options and goals. However, it deserves separate attention within the set of personal considerations because of its central position in understanding behaviour, not only in view of the model of man outlined in this study, but in almost all theories of human behaviour. In the attempt to identify the crucial aspects of motivation in the process of behaviour formation, its elaboration in Section 4.3.3 distinguished contents, structure, and sources and mechanisms of motivation.
• **Content of motivation.** The substantiation of the empty concept of motivation is largely a matter of situational specificity. Nevertheless, it is assumed that at a very general level people strive for maintenance (or avoidance of loss) and improvement of the quality of life. Without sacrificing too much general validity, this notion is further specified in terms of a limited number of goals: physical well-being, material well-being, safety, affiliation, social status, power, self-esteem, pleasurable inner states and creativity. A Maslowian hierarchy might underlie this array of more or less universal and ultimate goals, which gives an additional interpretive perspective. The empirical record, however, supports by and large only the distinction between material and immaterial motivation.

• **Motivation structure.** The achievement of one of the ultimate goals usually requires the performance of certain behaviour or the occurrence of certain events. These behaviours and events represent, in turn, goals that are instrumentally positioned in relation to the final goals: they ‘produce’ the ultimate goals (Lindenberg 1989). In this way motivation structures evolve, sometimes including multiple levels of instrumental goals and behaviours. These cause-and-effect structures may become intricate, since specific instrumental behaviours can contribute to several higher positioned goals, and one specific goal can be achieved by pursuing several lower instrumental goals (see Figure 4.2).

With regard to fertility behaviour, motivation structures can be further substantiated by considering the extent to which intermediate fertility determinants are part of these structures. This assessment is particularly relevant with regard to the instrumental position of these determinants relative to reproductive behaviour. In turn, fertility can directly or indirectly be related to the set of ultimate goals (see Figure 4.3). Paraphrasing McNicoll (1992, p. 409), understanding of reproductive behaviour not only depends on the assessment of what an agent perceives of the objective causal relation between intermediate determinants and fertility, but also on what the agent does not perceive.

• **Sources and mechanisms of motivation.** The notion of motivation structures relies on the idea that people can symbolically foresee the outcomes of behaviours because of the associative rules that are stored and organised in memory. These outcome expectations are motivating leading to the intention to perform certain behaviour) to the extent they represent a functional value to the actor (Bandura 1986, p. 68). While this cognitive process of anticipation is recognised in social learning theory as the major motivation process, it also forms the backbone of decision theory. An additional mechanism of motivation is located in the principle of defining certain aspiration levels on the basis of personal experience or social comparison.

A main challenge for research in the field of fertility is to assess the motivation structure and to discover those parts that are salient when people are in positions where they embark on courses of action with respect to fertility and intermediate fertility determinants. A major theoretical starting point to comprehend the contents and origins of these outcome expectations is provided by the four mechanisms (observational learning, learning through verbalisation, personal experience and emotional arousal) distinguished in social learning theory. These learning processes stress that motivation is dependent on the experiences and history of the lives of individuals. And they stress that to a large degree motivation is a social product, which is closely related to the social structure and the larger systems of meaning through the exchange of messages and the observation of people behaving according to rules of meaning and normative guidance (or opposing them).
Perceived personal control

Behaviour depends not on awareness and motivation alone, but also on non-motivational factors such as opportunities and personal resources and abilities. The notion of perceived control concerns a behavioural mechanism that incorporates such non-motivational factors in the concept of choice. Perceived control can be associated with two mechanisms which are conceptually different, but empirically difficult to distinguish. One relates to Rotter’s (1966) concept of locus of control. This posits that people evaluate the weight of their personal influence (internal control) in a cause-consequence relationship against the weight of other forces or chance (external control). The more an outcome is perceived as contingent on one’s own behaviour, the greater its motivating effect to pursue the outcome through that behaviour.

The second interpretation of perceived control derives from the work of Bandura (1977a, 1982, 1991) and is elaborated in the concept of self-efficacy. This asserts that people judge their capability to adequately perform the instrumental behaviour that causes certain desirable outcome. Research in the field shows that efficacy beliefs are often strongly related to what people choose, how much perseverance is attached in order to succeed and how much stress is experienced during the implementation of choice.

The notion of personal control and particularly its efficacy-related interpretation is an essential extension of the concept of choice. Especially in situations where behaviour is not, or only partly, under volitional control, it can be an important behavioural mechanism that operates independently of motivation processes. In many circumstances, the decision making outcome in terms of what people actually do does not depend in first instance on how much they want to do something, but on the (perception of the) possibility to perform in a specific way. In this sense, the concept of perceived control can more adequately incorporate the constraints for behaviour into a decision making model (Ajzen 1991). Thereby it alleviates the voluntaristic emphasis that inheres in standard choice theories and the concept of man as a decision maker.

The perspective of (perceived) control over behaviour is particularly relevant with respect to fertility behaviour (cf. Bogue 1983, Levinson 1986, Van Luijn 1996). Due to the physiological and probabilistic nature of the processes involved in fertility, volitional control over reproduction is far from complete. Having a child and its timing can be determined only to a limited extent, although the prevention of births is, in principle, under complete control. There are, however, situations where even the prevention of childbearing is to a substantial degree out of the range of personal control; for instance, situations characterised by widespread ignorance about the actual physiology of fertility or by misconceptions about the involved locus of control, or where people do not have a secured supply of reliable methods to prevent conception at their disposal, or where they do not have the power to determine sexual intercourse in accordance with the aim to prevent conception.

Given the direct causal relation between fertility and the intermediate fertility determinants, the explanation of reproductive behaviour in terms of perceived control should not only focus on the control over fertility, but should also encompass the interpretation of control over these instrumental behaviours. As theorists in the field of efficacy beliefs indicate (Ajzen 1991, Bandura 1991), perceived control can be very different for the various behaviours covered by the complex of fertility and its proximate determinants. The conceptualisation of efficacy perceptions and their emergence and origin is the subject of Bandura’s work over the past two decades. His interpretation is largely integrated in his
social learning orientation, as he asserts that efficacy expectations are shaped by the learning processes of model observation, personal experience, verbalisation and emotional arousal.

**Style of decision making**

Styles of decision making constitute the fourth aspect of personal considerations distinguished in the model. This aspect of personal considerations consists of a rather heterogeneous collection of processes and procedures related to decision making, including decision rules, institutionalised behaviour and the interpretation of choice as a staging process (Section 4.3.4). What they have in common is that they emphasise aspects of choice that deal with how information is attended and processed, rather than which information is involved.

For various reasons and causes, people apply simplifying choice procedures to determine a course of action, which may be inconsistent with assumptions underlying standard rational choice theories and other value-expectancy models. This limitation of effort involved in decision making may be related to ignorance, unawareness, uncertainty, information-processing capacity, costs inherent in the process of decision making itself or the obvious value of existing behavioural patterns. The avoidance of elaborate and explicit calculation is usually a sub-conscious process, although it might also be the outcome of explicit calculation itself (cf. Esser 1993). But even if people engage in explicit decision making, they can apply a range of alternative decision rules and evaluation criteria. Although many decision theorists acknowledge the crucial importance of such heuristics for the outcome of decision processes, problems related to conceptualisation and operationalisation have thus far impeded the development of a coherent theoretical basis within choice theory. Only very few propositions have been worked out in theoretical terms to a sufficient degree and have also passed the empirical test. Among these, Simon’s ‘satisficing’ principle poses an interesting and widely accepted alternative to the cognitively burdening rule of maximisation. Apart from considerations about these calculative evaluation rules in decision making, a major source for understanding of choice is situated in the insight into people’s organisation and selective activation of information. In many situations related to both minor decisions and major life decisions) people engage only minimally in the evaluation of behavioural alternatives. A certain course of action may be (cognitively) presented and selected without further inquiry into alternative options.

The causes and reasons that play a role in cutting short the choice process at this early stage are largely similar to those mentioned for the simplification of decision rules: the efforts (expressed in terms of time or mental stress) associated with the search for alternatives, their evaluation and the need to select one, forbearing the others; ignorance about alternatives; very negative consequences or high uncertainty associated with deviance from standard behaviour; the (perceived) inherent positive value of existing behavioural patterns; or the dominance of one option in the cognitive representation and, complementarily, the suppressed awareness of others. The acknowledgement of habitual and routine or institutionalised behaviour provides an important conceptual perspective on the interpretation of such truncated decision processes. Habitual behaviour may be perceived as being related to behavioural rules that are abstracted from repeated personal experience, while institutionalised behaviour is associated with rules that are abstracted from social repetition and transmitted by other members of society.

The representation of choice as a staging process provides an additional contribution to the understanding of behaviour formation. An appealing staging model is suggested by Janis and
Mann (1977), who distinguish five sequential phases in decision making. This framework provides a useful background for situating and interpreting various choice aspects, such as decision rules, routine and institutionalised decision making, attention processes and the effects of perceived control.

Reproductive behaviour and its intermediate determinants
The representation of reproductive behaviour and the intermediate determinants of fertility relies on the analytical framework of intermediate fertility variables of Davis and Blake (1956), and on Bongaarts’ model of proximate determinants (Bongaarts 1978, Bongaarts and Potter 1983) (Section 3.3.3). However, the conceptualisation of this complex of fertility in Figure 7.1 is different from the original formulations in the sense that the model is translated to the individual level.

A second theoretical background of the representation of reproductive behaviour and its intermediate determinants is provided by its situation in a decision framework. In this respect, the intermediate determinants play a dual role, which is recognised in the work of, for instance, Bulatao (1984) and Hull (1983). Whereas fertility behaviour might be the principal subject of decision making, people cannot directly determine the desired reproductive outcome. They can only influence fertility by managing one or more of the intermediating determinants, which implies decision making with respect to these instrumental behaviours. On the other hand, decision making with respect to the intermediate determinants may occur independently of a (correct) recognition of their causal relation to reproductive outcomes (see Section 4.3.3).

In accordance with the models of Bongaarts and Davis and Blake, the intermediate determinants distinguish a number of factors that are either purely biological by nature (permanent sterility and intra-uterine mortality) or biological and behavioural. These partly behavioural factors (marriage, contraceptive use, abortion, sexual intercourse and breastfeeding) are represented separately in Figure 7.1, since they provide the anchor points for decision making considerations, either related or unrelated to fertility outcomes. All the mechanisms involved in the relationship between any of the intermediate determinants and the outcomes in terms of reproductive behaviour, refer to biological processes, such as conception, foetal growth, amennorhea and intra-uterine mortality. The specification of reproductive outcomes not only addresses the number of children, but importantly also aspects related to the timing of fertility: starting, spacing and stopping of childbearing. Lastly, the sex composition of offspring may be an aspect that requires explanation in terms of the model.

Outcomes: social and individual
The remaining two boxes of Figure 7.1 consider consequences of individual fertility behaviour, but are very different in nature and magnitude. The individual outcomes refer to the elaboration of the concept of motivation in decision making considerations. The distinguished aspects substantiate a set of goals with a more or less universal validity, and which can be perceived as the ultimate motivation for behaviour. As such they feed back into the considerations in fertility decision making if reproductive behaviour is considered to contribute to the achievement of these goals. This part of the conceptual framework is particularly relevant if the main thrust of an application of the model concerns the design of programmes and intervention strategies directed at individual people.
The social outcomes comprise the aspects for which the fertility model can provide a theoretical basis for explanation, understanding and possibly policy development. These aspects concern first and foremost the levels and patterns of fertility in certain situations. By and large, such levels and patterns are considered to concur with an aggregation of individual fertility behaviours. These social-level outcomes may loop back into individual fertility decisions through the expectations about the future constitution of the social context. The explanation of fertility levels and patterns may further contribute to the explanation of other social phenomena, such as reproductive health, population growth or the status of women.

7.3. The conceptual framework in broader perspective

The aim of this last section is to evaluate the conceptual framework proposed in this study. This evaluation falls back on the suggested requirements for social theory (Chapter 2, and in particular Section 2.4) and on the discussion about the state of the art in theoretical demography (Chapter 3, and in particular Section 3.4). The leading questions are which theoretical gaps does this framework fill, and what are its main strengths and weaknesses? The principal aim of this study was to contribute to the theoretical fundament of the discipline of demography. Theoretical conceptualisation in demography is relatively weak, at least relative to its statistical and mathematical accomplishments. Moreover, theories and models prevailing in current demography remain isolated conceptions, each tending to cover only part of the demographic landscape. The result is that the discipline lacks a coherent conceptual guidance to interpret and understand its subject matter, even if this is confined to the domain of fertility. This capacity to understand is particularly required in attempts to formulate programmes for reproductive health and family planning.

The theoretical challenge that this situation implies is taken up with the development of the fertility framework in this book. The surplus value of this framework is largely derived from its coherence and encompassiveness and its incorporation of different time dimensions. But also the elaboration of a number of elements themselves provides new contributions to the conceptual basis of demography; either by introducing aspects from neighbouring disciplines which have up to now remained largely unattended or by differently interpreting existing aspects within the perspective provided by the model.

An encompassive interpretation of fertility is accomplished in two ways. First, by bringing together a wide range of social and behavioural theories and insights, derived from both within and outside demography. Second, by presenting a multi-level approach through the incorporation of the social context, individual behaviour and intra-individual processes underlying behaviour, and, in addition, through the acknowledgement of the social context itself as a multi-level structure. The basic rationale for the adoption of a multi-level approach is that only a realistic interpretation of individual behaviour and its constituent intra-individual processes can answer the questions of how and why structural forces and elements at the macro level determine observed patterns and levels of fertility.

The coherence of the various conceptual elements identified in the model presents a second strong point of the conceptual framework. This coherence is acquired by specifying and substantiating the connecting causal mechanisms, and by the consequent use of a cognitive interpretation of the elements and processes. This ensures a better translation between
different concepts and an easier positioning vis-à-vis one another. An important contribution in this respect is the reliance on social learning theory. In combination with a cognitive-institutional interpretation of the social context, it provides an acceptable solution to the structure-agency dilemma. Furthermore it offers a valuable extension of a theory of choice and is an appropriate starting point for the interpretation of life course development and for a dynamic interpretation of fertility behaviour.

In several aspects the model expresses recent developments in areas of social demography, or contributes to the alleviation of conceptual lacunae. The theoretical model, and its underlying model of man, give some body to McNicoll’s suggestion that “there is considerable scope for narrowing what is tenable as theory on the subject of demographic change” (McNicoll 1992, p. 404). The elaboration of the choice concept and the introduction of learning principles concern notions that counter his complaint that behavioural demography “has let itself become increasingly distant from the frontiers of psychology and from the cognitive sciences in general” (ibid., p. 405). The decision theories that currently prevail in studies of fertility contribute only to a limited extent to the conceptualisation of choice. Major contributions are derived from other sources, particularly originating in areas of psychology that are by and large ignored by demographers: mental framing of decisions, motivation, personal control and choice procedures. These extensions fill out the concept of choice into an encompassive theory of behaviour and tackle the three major problems associated with decision theory: the detachment of decision makers from the larger social context, the static representation of decision making, and the unrealistic rationality assumptions. This con-ceptualisation also allows the integration of choice and an individual-level version of the fertility model by Bongaarts and Davis and Blake.

With respect to the representation and influence of the social environment including its cultural, economic and political connotations the model’s conceptualisation relies on modern cognitive-institutional orientations in sociology (Burns and Flam 1987, Cicourel 1973, Giddens 1984), anthropology (Archer 1996, D’Andrade 1984) and evolutionary economics (Denzau and North 1994, Nelson and Winter 1982, North 1994). This conceptualisation concurs with and partly extends the recent developments in the field of institutional demography, in particular the work by Greenhalgh and McNicoll. The approach is responsive to the richness and differences of environmental influences on reproductive behaviour in specific situations, and it is well equipped to understand the specific timing of change in levels and patterns of fertility, not merely in the unilinear downward fashion proposed by transition theory, but also with regard to reversals and fertility increase. An important feature of institutional approaches is that they attribute part of the understanding of fertility to the historical evolution of the specific amalgam of institutions, and that they view this social context as an evolving process at every point in time, rather than only during a transition phase (cf. Greenhalgh 1994, McNicoll 1994).

The interpretation of institutions as information containing rules reflects an interactionist perspective, which allows an expedient connection between behaviour of individuals and institutions as social constructs. A special role in this respect is attributed to social learning mechanisms, which may also account for some of the needed theoretical content of diffusion of behaviour and considerations (Bongaarts and Watkins 1996, McNicoll 1992, Pollak and Watkins 1993). Where most institutional approaches limit the representation and influence of social institutions to normative rules, the incorporation of meaning-giving rules also emphasises the role of perception and understanding of the world and the self, which are to a
large degree culture-based mechanisms.
Lastly, demographic behaviour is put in a dynamic perspective by the incorporation of a life

course perspective, which draws on various orientations in sociology, anthropology and, in

particular, psychology. In this regard, it provides a theoretical underpinning of three

explorative articles from the early 1980s about sequential fertility decision making

) Namboodiri 1980, Bulatao and Fawcett 1981 and, again, Namboodiri 1983) which

emphasise the position of fertility behaviour within a lifetime context of individual

development and changing patterns of social relationships and obligations.

Whereas the conceptual framework’s encompassiveness can be considered a main strength,

at the same time it represents a main weakness. At no time will a single study cover all

dimensions of the model. Furthermore, despite its comprehensiveness and coherence, there

are no grounds to assume that the model represents the grand unifying theory of fertility or a

seamless integration of ideas. With regard to the methodological perspective, the framework

includes several flaws. Despite years of research in the field, there is, for instance, still no

systematic knowledge about the selection of decision rules. All that has been generated is a

list of heuristics without any substantial theory of when any particular heuristic will be used.
Other theoretical constructs, such as perceived control, have been put to the empirical test, but often only in laboratory conditions. Particular problems can also be expected for the attempts to discover the actual problem spaces and motivation structures on the basis of which people make decisions about fertility. Observation and questioning while choice processes are going on may be appropriate remedies, but such methodologies do not overcome problems of interpretation and rationalisation. Although the interpretative and heuristic nature of the framework will thwart the attempts to translate all elements and processes into measurable entities, the model does fulfil the aim it was developed for in the first place: a contribution to the theoretical fundament of demography by offering a structured guidance and several integrated conceptual tools for the interpretation and understanding of fertility.
Chapter 8. Application of the model: the case of India

8.1. Conceptual and contextual orientation

8.1.1. Organisation of theoretical concepts

This chapter applies the conceptual framework of fertility to a concrete situation, namely that in India. The main purpose is to illustrate the model and to demonstrate the underlying interpretative approach to fertility behaviour. To achieve this, the case study relies on the interpretation of existing material about fertility. In the model application, family planning and reproductive health will be the specific areas of interest.

There are two particular considerations to select India and these specific policy areas. First, past evaluations have concluded that the Indian family planning and health programme can be significantly improved in terms of effectiveness (e.g. UNFPA 1991b) and the Indian government undertakes considerable effort to do so (Ministry of Health and Family Welfare 1992, World Bank 1995). The development of a behavioural perspective, such as offered by this conceptual framework, is expected to contribute further improvements. Second, the focus on India fits into the scope of the research programme on reproductive health of the Population Research Centre, Groningen and the Netherlands Interdisciplinary Demographic Institute, which offers the possibility of follow-up research.

For a number of reasons the application of the model in this chapter will be restricted to a considerable extent. The number of dimensions covered by the model is too large to allow extensive elaboration within the scope of this book. Additionally, several dimensions have not, or only to a limited extent, been explored in the field of Indian fertility or have only been conceptualised in ways that do not fit the framework’s approach. Furthermore, the Indian situation is so diverse and so complex that a comprehensive examination would go beyond the scope of this study, or indeed any study. Lastly, social and demographic change has been very rapid the last few years as, for instance, indicated by the 1992-93 National Family Health Survey (NFHS).

For these reasons, any suggestion of a fully representative, up-to-date or conclusive picture must be avoided. Rather, the purpose of this exercise is to demonstrate the value of the integrated approach and analytical tools offered by the conceptual framework for the understanding of fertility.

The components of the conceptual framework as presented in Figure 7.1 of the previous chapter structures the discussion of fertility behaviour in India. The case study will concentrate on a limited number of these components: the interpretation of the embedding social context of reproductive considerations, their evolvement against the background of life course development and with specific reference to the intermediate fertility determinants.
Figure 8.1 highlights the elements considered in the subsequent sections of the case study. The second part of this introductory section (Section 8.1.2) briefly describes India as the research setting and dwells on its social and cultural diversity. In addition, it identifies the position of the conceptual approach adopted here among other current studies of fertility in India. The different conceptual components that constitute the explanatory complex of the approach are addressed in Sections 8.2 to 8.4 and are summarised in Section 8.5. The concluding Section 8.6 assesses the Indian Family Welfare Programme in this study’s behavioural perspective by recapturing it in terms of the conceptual components. The section further proceeds to explain how such analysis could serve to as an orientation to identify relevant areas for intervention.

8.1.2. India as a research setting

Population development is recognised as one of the most important social issues confronting the state of India (cf. Gandhi 1989). Notwithstanding the centrality of the issue, it is hardly possible to discuss unequivocally the various components of population development for India as a whole. As a country of ‘unity in diversity’ it is characterised by segmentation by region, by religious tradition and by position in the social hierarchy (Dyson and Moore 1983, Cohn 1971, Mandelbaum 1970) and encompasses a whole range of socioeconomic and socio-cultural phenomena.

Figure 8.1. Case study model components

This religious, ethnic, linguistic and economic diversity of Indian society is one of the most
important causes of the successes and failures of successive programmes in the history of national population policy (Pai Panandiker and Umashankar 1994). Various studies addressing India’s macro diversity point out the differences between the northern and southern states of the country (Basu 1992, Boserup 1970, Cohn 1971, Dyson and Moore 1983, Malhotra et al., 1995, Mandelbaum 1970, B.D. Miller 1981). But even within this dichotomy there are great differences between the individual states with respect to socio-demographic indicators; usually with Kerala at one end of the spectrum and the great northern states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh (the BIMARU) at the other. The highest recorded rates of, for instance, infant mortality, couple protection and total fertility are typically a multiple of the lowest. According to the 1992-93 National Family Health Survey (NFHS), the total fertility rate ranges from 4.8 in Uttar Pradesh to below replacement level in Kerala (2.0) and Goa (1.9) (IIPS 1995). The sex ratio reveals a significant variation as well, although it is generally low, with an average of 929 women per 1000 men. For large parts of northern India, especially districts in the states of Haryana, Madhya Pradesh and Rajasthan sex ratios of below 900 are encountered. In 44 districts, largely forming a contiguous belt in central Uttar Pradesh and northwestern Madhya Pradesh, even below 850. On the other hand a number of mainly southern states such as Tamil Nadu and Andhra Pradesh contrast more favourably, with Kerala (1040) the only state with a sex ratio of over 1000 (Registrar General & Census Commissioner 1991). One of the most disconcerting results of the 1991 India Census is that there has been a relapse in the sex ratio of India’s population, after a tentative rise in the preceding decade (Bose 1991). Compared with the census results, the NFHS (IIPS 1995) revealed a consistently higher sex ratio, but with an overall measure of 944 it remains very low.

Explanations for the adverse sex ratios include sex-specific mortality at later ages, in particular maternal mortality, and excessive female mortality at younger ages because of existing preferences for boys and discrimination against girls in terms of food, health care, attention and love (Boserup 1970, B.D. Miller 1981, UNICEF 1991, World Bank 1991). Basu (1992) emphasises that higher mortality among girls is not necessarily caused by discrimination against girls, but may (unintendedly) result from a desire to protect them from inauspicious influences of the outside world. The observed association between indicators of health, fertility, education and status of women, seem to attribute a crucial role to female education in this causal complex (cf. Castro Martín 1995, Jejeebhoy 1995, Mason 1984).

The abundant literature analysing such socioeconomic and socio-demographic variables for India offers good comparative results which point to considerable differences between regions, but also between socioeconomic and cultural population categories. On the other hand there is also a great amount of ethnographic and anthropological material which probes deeper than the usual standardised demographic surveys. Although these micro perspectives offer more insight into how people perceive their environment and into the various mechanisms underlying observed demographic patterns, they often represent unique situations at a very local level, and often lack a strong theoretical fundament (especially one related to individual behaviour formation) and a structural research design which centres on demographic behaviour as a dependent variable (cf. Basu 1992, p. vii, McNicoll 1988). An excellent example of the possibility of combining quantitative and qualitative research techniques from a demographic point of view, is offered by the study on demographic change in Karnataka by Caldwell, Reddy and Caldwell (Caldwell et al., 1982a 1982b, 1985, 1988). Comparable work, however, remains scant and, in general, there is little attention to situating fertility behaviour in the perspective of
underlying processes of learning, rationality, personal control, decision making and life course development.

8.2. Institutional backgrounds of fertility

8.2.1. Introduction

Figure 8.2 highlights the social context as the specific subject of this section and indicates its relation to the other components of the framework. It is an unprofitable task to attempt a complete enumeration of the social institutions that bear relations to fertility. Following McNicoll (1994), however, such a listing would have to include the family, the local community, the local dimension of public administration, the stratification system and the
labour market (Section 5.4.3). Public administration is represented by legislation, family planning and health programmes and the education system. Religion has been distinguished McNicoll (1994), however, such a listing would have to include the family, the local community, the local dimension of public administration, the stratification system and the separately, as in the Indian setting it represents a ruling factor, especially as a meaning-giving and stratification system. The roles of a number of other, less central institutions ) like mass media, political parties or local organisations) are covered in the subsequent sections as well. Since institutions are not neatly classifiable, their enumeration under separate headings is not meant to imply a clear segmentation in empirical or cognitive terms, but only an analytical distinction. The rules implied by these institutions lend structure and content to the individuals’ personal considerations regarding pregnancies and children by their mental or tangible presence. Their precise influence, however, depends on the interaction between the institutions themselves, their specific local-defined interpretation and their evolvement in time (cf. Malhotra et al., 1995). The approach underlying the conceptual framework underscores the importance of the interpretation of institutions from an individual point of view. Although the following institutional analysis must frequently rely on a more macro interpretation, its intention remains to serve as a background for the individual assessment of information rules that create people’s mental frameworks.

From a policy point of view it is important to distinguish formal and informal institutions. The practical relevance of the distinction is that formal institutions, such as the family planning programme, legislation and education, offer relatively good opportunities for social engineering in the sense of designing and dispersing behavioural rules. They can be actively employed as tools in the efforts to generate behavioural change, whereas informal institutions are less susceptible to the directives of change agents. The distinction between formal and informal institutions is reflected in the division of Sections 8.2.2 and 8.2.3.

8.2.2. Non-formal institutions

Religion

Religion, and in particular Hinduism, is a very penetrating influence in Indian society, filtering through to almost every aspect of life. In daily life it serves as a main source of information about how to understand the social environment and individual lives and how to act in ways that harmonise with human or divine destination. As a coherent body of knowledge, its significance lies in the designation, explanation and definition of events, interactions, behaviours, objects and symbols, as well as in the prescribed rules, norms or guidelines for behaviour.

Through the centuries Hinduist notions have formed a fundamental basis for the social organisation of society and have been able to encapsulate new religious streams and place new social groups in the strict hierarchy of this organisation (Cohn 1971). The age-long influence of Hindu traditions and the absorbing character of the Hindu community make it extremely difficult to separate the significance of Hinduism from that of other social institutions, such as marriage and family systems, gender systems and body and health-related traditional belief systems. This strong interweave is enhanced by the facts that Hinduism is not based on one single source of either revealed or man-made truth, and that there is not much of a formal structure or religious hierarchy which can guard orthodoxy. There is no authority, vested in one person or a group of persons, which can provide answers to all theological or ethical
questions concerning the whole Hindu community. This means that throughout the course of history there has been room for a continual interaction between the ideas of the Great Tradition, articulated by specialists from the teaching Brahmin castes, and those of the Little Tradition, which have their roots in the specific socio-cultural background of the local population (Cohn 1971, p.63, Caldwell and Caldwell 1988, p.21). These considerations reflect that the understanding of religion as an institutional influence comprehends its development in historical time, its general and local-level representations and a broad array of affected life domains.

The Hindu inspired concept of dharma reflects that one’s actions should follow a pattern, and that it is one’s duty to follow the right action within the system of (religious) values. Social behaviour thus often gains a religious meaning, making life contingent upon divine or other supernatural forces. Dharma also provides the social environment with criteria for ethic and moral assessment of behaviour and a justification for possible sanctions. Adherence to rules for correct action and to rituals marking life events such as marriage, pregnancy, birth and death, creates the conditions to propitiate powers beyond the profane world, thus ensuring the prosperous course of subsequent events (Mandelbaum 1970, Kakar 1979). Despite the secularising impact of social change, the life domains of the family and health can still be characterised in terms of such ritual rules.

Several religious-institutional rules of meaning and prescription apply directly to fertility behaviour and its intermediate determinants, others more indirectly. A direct consideration is, for instance, the belief among Hindus that semen is a great source of strength for men and that coitus therefore causes loss of strength (dhat). Such ideas may be based on Hindu scriptures and philosophy, which emphasise moderation in sex because a man can supposedly gain not only physical but also moral strength by conserving his semen (Bang and Bang 1994, Kakar 1989, Mandelbaum 1970, Nag, 1995, Caldwell et al., 1982b). Decisions with regard to weaning are not always secular ones, but involve also religious and moral aspects (Caldwell and Caldwell 1985). Marriage dates are usually decided on the basis of astrological guidelines or ideas about auspicious days that rely on similar, but simpler views of grand, impersonal mechanisms which affect people’s lives (Caldwell et al., 1983, Mandelbaum 1970).

Religion also has a more indirect influence on fertility behaviour, through gender systems and the status of women, for example. Hinduism is a source of the different rules that apply for men and women: behavioural rules and functions (such as the execution of rituals at death) are gender dependent; men visit different temples and worship different gods than women, husbands are depicted as the providers and wives as caretakers, submission to the husband by the wife is glorified by Hindu religion: a wife should adhere to the scriptural ideal of being a Pativrata, one who follows her husband’s will and authority in all respects (Mandelbaum 1970, p. 39, ESCAP 1987b, p. 62, Karve, 1965 p. 30). The existence of such rules and the corresponding behaviour reinforces the strong sex segregation in Indian society and influences the personal considerations underlying decisions about having children or contraceptive use. In addition to its direct effect the religious system thus also supports other institutions which have a negative influence on the status of women and may even give them a religiously justifiable basis (Cain 1989, p. 186). The complex of these institutional rules results in low female status and autonomy, which is an important determinant of fertility (Basu 1992, Cain 1989, Dyson and Moore 1983, ESCAP 1987b).

Although the Muslim community is an integral part of the Hindu civilisation in India and its
culture is generally speaking very close to that of the Hindu population, there are some aspects in which Islam diverges from Hinduism as a religious institution. While Hindus in principle adopt a secular approach to family planning, Muslim attitudes are partly determined by rules from the Koran. Caldwell and associates pointed out that in their research area in rural south India, the local Muslim establishment believed that both abortion and sterilisation are forbidden by Islam. Their morality is divinely revealed, is immutable, and cannot be influenced by governments or bureaucracies. As Indian family planning programmes in the past have concentrated mainly on sterilisation, Muslim resistance to this programme is stronger and may have led to higher fertility among the Muslim population (Caldwell and Caldwell 1988, Caldwell et al., 1982b). Similarly in Indonesia, where Muslims and Hindus also live side by side, Warwick found that there are fewer problems in promoting IUD’s in Hindu areas than in Islamic areas. Part of this difference may be explained by Islamic religious prohibition of insertions by male doctors and other medical staff (Warwick 1988). Whereas Hindu traditions possibly emphasise moderation in sexual activity, Islam holds that ‘pleasures of the flesh’ are a God-given virtue and hence places less emphasis on moderation (Nag 1983, p. 188, Yadava and Rai 1989, p. 61).

Many ideas with regard to health and physiological mechanisms reside in Ayurveda, which is a medical body of knowledge that is closely linked to Hindu beliefs. As a kind of sub-institution, Ayurveda represents a system of rules that provide understanding of the body, disease processes, and guiding principles for maintaining health and for healing and curing physical and mental disorders (Kakar 1990). Ayurveda and other lay concepts of health and reproductive physiology, including extra-human or divine causation, are local medical knowledge systems that provide people with interpretative frameworks which influence their health-related behaviour, such as the use or non-use of contraceptives and health services, or food intake during and following pregnancy (Caldwell et al., 1982b, Hutter 1994, Jeffery et al., 1988b, MacCormack 1988, Warwick 1988). Information derived from these knowledge systems may therefore conflict with understanding that is produced by modern health and family planning institutions.

In part religious rules are based on the principle of purity and pollution, one of the core concepts in Hinduism. Many aspects directly related to the proximate determinants (marriage, sexual intercourse and abstinence, menstruation) are interpreted in terms of purity and pollution (meaning-giving rules). In the community, violation of normative rules pertaining to purity, particularly those organising the relations between groups, can ultimately be sanctioned by forms of excommunication: access to homes is denied, people refuse to share food, access to local employment is denied, services are withheld, contact is avoided and people are expelled from the family, jati or village. Transgressions of certain rules are regarded as serious offenses and sanctioned accordingly as they are sometimes conceived to affect the well-being of larger circles of the community (Caldwell et al., 1982a, Mandelbaum 1970, Norbeck 1974, Vlassoff 1982, see also Blanchet 1987).

Family and kinship system in India
For most people by far in the Indian subcontinent, kin relationships still constitute the prime avenue to the things they consider important in life: economic assistance, security, social interaction and status, information and emotional and political support (Dyson and Moore 1983, ESCAP 1987b, Freedman 1987). Due to the hierarchical caste relationships, a person’s
identity and opportunities in life are determined precisely by membership of the kin group he or she is born into. The main transitions during the life course are family celebrations, and the grand occasions in a person's life are mainly those that occur in the context of the family. The family is, by and large, the locus of reproductive decision making as well as the major channel for information embedded in the social environment.

In general and particularly in the north, the Indian marriage and family system can be described as patrilocal and patriarchal. Family systems and, in close relation, marriage, kinship, inheritance and residence systems bear important rules about proper behaviour (normative) and about such concepts as gender, power in the household, chastity or having children (meaning-giving). Boserup's economic development thesis (Boserup 1970, 1990) provides an interesting interpretation of such backgrounds. Her interpretation of the effects of plough cultivation in India emphasises the domestic role of women and the practice of veiling and (partial) seclusion (purdah) practised to ensure the fidelity of wives and the chastity of daughters. Despite the fact that seclusion curtails a woman's status in terms of power, it can also constitute a gain in terms of the prestige component of social status (Mason 1984).

If women are secluded, wives and daughters cannot contribute much to household income and represent an economic burden. Therefore, dowries tend to be high and preference for sons is strong. As women are often mainly valued as mothers and not also as workers (a meaning-giving rule, cf. Khan and Singh 1987), their status is low and the motivation to bear children, especially sons, tends to be high. Moreover, in India sons represent a primary access to security in old age and insurance against any calamities in a high-risk environment like rural India (Cain 1981). The earlier a woman begins childbearing, the more likely she is to have a son old enough to support her should she be widowed or divorced; this is especially relevant in India because large age differences between spouses imply a high risk of early widowhood. Besides the fact that daughters represent an economic burden to a household, the family, and in particular fathers and brothers, are also responsible for their chastity. Many families still feel uneasy about having an unmarried, menstruating woman under their roof (Caldwell et al., 1982b, Caldwell et al., 1985, George 1994, Jeffery et al., 1988a, Khan and Singh 1987). Schoolgirls are often withdrawn from education at menarche, unmarried girls are withdrawn from the fields and the need to find a suitable partner becomes acute. These considerations maintain the functional meaning of early female marriage, which, in turn, leads to young ages at first birth and, again, high school drop out rates among girls. An additional effect of early age at marriage is that the young brides-to-be and just-married girls have developed less will power to resist pressures for arranged marriage or childbearing than older women would have done. Indeed, the possibility to mould a young bride's personality is sometimes mentioned as part of the motivation in India for early female marriage (Cohn 1971, p. 119, Caldwell et al., 1983, p. 345, Karve 1965, p. 73). Jejeebhoy (1991) concluded from a study on the relationship between women's status and fertility in Tamil Nadu, that the considerable age difference between spouses is one aspect of female autonomy that consistently determines intervening fertility variables like duration of marriage, family size desire, knowledge of and spousal communication about fertility control (cf. Koenig and Foo 1992).

Family organisation in India tends to be characterised by highly autocratic morality and a pronounced age hierarchy, which defines who should pay respect to whom: fathers are dominant over their sons, men over women, older women ally with men in dominant positions, elder brothers dominate over younger, elder brothers’ wives over younger brothers’ wives (Boserup 1990, Caldwell et al., 1982b, Dyson and Moore 1983, ESCAP 1987b, Koenig and Foo 1992, Malhotra et al., 1995, Mandelbaum 1970). The young wife, thus, finds herself at the
bottom of this hierarchical system. This subordinate position in the early stages of her fertility career is often strengthened by marriage and residence rules involving patrilocality and village and kin exogamy which constrain or erode personal links between a married woman and her natal kin (e.g. Jeffery et al., 1988b, Koenig and Foo 1992, Lockwood 1995, Malhotra et al., 1995). Her position in the household is thus very vulnerable and very dependent, economically and socially as well as emotionally. While this relatively powerless position of wives extends to many areas of decision making, it is perhaps most pronounced in decisions related to fertility, sexuality and contraceptive use (Koenig and Foo 1992, cf. Khan and Singh 1987).

This description, of course, tends to overgeneralise the situation in India. It might be pointed out that tribal farming systems in India often concern shifting agriculture rather than plough cultivation, which may imply different behaviour-guiding and meaning-giving rules: a higher value of female labour, bride wealth in stead of dowry, and more autonomy for women (e.g. Boserup 1970). In Kerala and in some castes in southern India matrilocal family systems dominate, ensuring a better power base for married women as they remain in the circle of their natal kin (Cohn 1971). Karve’s classic study on kinship organisation illuminates the variation in meanings of family and kinship between regions and castes by means of a detailed account of nomenclature to define relationships between various household members (Karve 1965). It often symbolises the degree of freedom or constraint, closeness or obedience and functional value vested in personal relations such as those between husband and wife or daughter-in-law and mother-in-law, thus reflecting the rules inherent in family and kinship systems.

For the present purpose, such nuances are of less importance. It is sufficient to demonstrate how in principle complexes of rules related to family and kinship guide people in plotting a behavioural course and provide them with the definition of relevant concepts to interpret the world and the agent’s position. In India, such rules define that women have a chastity to protect, that gender is a legitimate criterium to enforce behaviour in a husband-wife relation or that having children is a means of securing an old-age insurance and a position in the family (meaning-giving rules); and that women should not expose themselves to the outside world, that the proper residence of a married girl is with her husband’s family, that delaying a first child after marriage is unacceptable or that daughters-in-law should obey their mothers-in-law (behaviour-guiding rules).

Employment and labour market structure
Female labour market participation is intricately connected to fertility behaviour. In this respect, the incompatibility of working and fertility or family careers is acknowledged (e.g. G.S. Becker 1981, Boserup 1990, Nag 1983), but the presumed relation often runs through women’s autonomy and its impact on childbearing-related decisions (Mason 1987, Safilios-Rothchild 1980). However, the direction of cause-and-effect links are complex and often remain obscure (Lloyd 1991, United Nations 1987, World Bank 1991). For the purpose and scope of this case study, a few observations about the connotation of women’s work in relation to the labour market as a social institution will be sufficient.

For many households in India, women’s labour market participation touches upon the dilemma between the protection of women against the exposure to outside world and the economic necessity of their contribution to family income. The effect of female employment is usually understood to include an increased autonomy in household decision making (including fertility decision making) through better control over economic resources. Thus, working increases women’s status in terms of autonomy, and probably prestige within the family, but decreases it

The extent to which women consider employment not only depends on the household situation, but also on the institutional structure of labour market opportunities and the nature of the village economy. The information that men receive substantially higher wages than women (Cain 1981, Epstein 1973), feeds the consideration to release men from work on the family farm for paid employment by confining the women to unpaid domestic labour (Desai and Jain 1994, Epstein 1962). The differentiation of wage level along gender lines is information that defines the economic value of women against that of men and guides decisions taken with respect to the distribution of labour in the family with implicit effects on female autonomy.

Local communities
Local settlements, such as villages, neighbourhoods and slums, are not usually considered as institutions although they may exhibit institutional characteristics (cf. Section 5.4.2). In Indian villages the panchayat system (originally a lineage or jati-based local council) and the jajmani system (the structural economic and ritualised exchange relations between families of food-producing jatis and families of jatis engaged in services and manufacturing activities) have in common with the community as an institution that they intentionally exploit the territorially bounded setting (Cohn 1971, Epstein 1973, Mandelbaum 1970). Whereas these community-level institutions do not represent specific meanings and norms about fertility-related behaviour itself, they may hold sanctioning powers that can be activated in the case of deviance from commonly shared rules about such behaviour.

In India, identification with the village (still accounting for nearly three-quarters of the total population (Premi 1991)) is important. Here, as in almost every developing country, local networks are emphasised by field researchers as a main source of information (e.g. Barker and Rich 1992, Beckman 1983, Caldwell et al., 1987b, Khan 1987, Limanonda 1993, Niehof 1992). Khan, for instance, found that to encourage a couple to practise family planning, two categories of local people were particularly important: friends and neighbours (often family), especially the wife’s peers, and siblings (Khan 1987). In line with this, Sathar found that these informal networks of local origin provide an important means of communication as they link illiterate and rural populations, who often do not have direct access to mass media and are unable to read posters or leaflets (Sathar 1993). For a very large proportion of Indian women, neighbours, relatives and friends are the most common channels of information about family planning services (see also Bashar 1993, Beckman 1983, Limanonda 1993, Mathai 1989). More formalised versions of networks exist in the form of women’s groups and other voluntary groups (Mandals).

The network approach suggests that the degrees of isolation and homogeneity of local communities are important factors in the diversification of role models and information sources in general (Entwisle et al., 1996, Casterline 1985b, Retherford and Palmore 1983). Nag (1989), for instance, regards the accessible location of Kerala on the southwest coast of India as one of the factors that facilitated the spread of new knowledge and ideas and contributed to the rapid decline in the number of children women have.

8.2.3. Formal institutions
Family planning and health programme

The aim to include the family planning and health programme as a social institution in the analysis of fertility behaviour, is to assess the information that it intends to convey and dispenses through actual performance, as well as the less explicit or unintended information that it feeds into people’s perception. The conclusion is that there is a significant discrepancy between people’s notion of the available services how they could benefit from them on the one hand, and the ideals, comprehension and documentation of the functioning of the institutional sector on the other. Nevertheless, the Indian family planning programme has been a major determinant of people’s considerations with respect to the availability of options to determine family size and the motivation for childbearing and pregnancy control. As such it provides an important substantiation of the institutional context of fertility in India as represented in Figure 8.2. The following discussion gives a brief overview of the efforts of India’s family planning and health programme since it was launched in 1951, in order to understand its present performance. During this discussion the focus will shift towards the perspective of the (potential) users of family planning and health services.

India has a long history of family planning and through the years, approaches have been changing. Faced with the consequences of a rapidly growing population, the government of India mobilised fieldworkers and mass media in order to create awareness and promote family planning. Although it must be recognised that since its inception, the family planning programme was also based on considerations of health and welfare of the family (Alok 1990), throughout its history the programme bore the typical characteristics of a target-oriented approach, aiming at reduction of population growth rather than at responsiveness to the daily needs of the people to whom the programme was directed.

A cafetaria approach has always been the official policy in India. However, during every period of the programme only one particular method was emphasised. During the 1950s and later during the 1977-1979 Janata government) the programme much encouraged natural methods of family planning (rhythm, abstinence, withdrawal). With the introduction of the IUD, this method became the focus of the programme for a short period in the mid-1960s and especially in the 1970s, the programme was almost exclusively directed at sterilisation, first vasectomy then tubal sterilisation. A general observation is, however, that from the start, the main thrust of the family planning programme has been the provision of sterilisation, and that it is hard to change the direction toward spacing methods (Soni 1983, Srinivasan 1992). There appears to be an interlocking effect, since over-reliance on sterilisation leaves fewer resources for temporary methods and the lack of temporary methods leads to further use of sterilisation (Rajaretanam and Deshpande 1994, UNFPA 1991b). More recently, the Indian government made serious progress in redirecting policy aims toward the promoting reversible methods (Government of India 1992, Ministry of Health and Family Welfare 1992). Despite this recognition at policy level of the importance of reversible methods for spacing births, the implementation of the programme is still very much focused on sterilisation (World Bank 1995).

Whereas this predominant focus was not in accordance with the needs of those who wanted to postpone or space childbearing, or had to rely on alternative contraception for other reasons, the implementation of the programme also showed a repeated neglect of responsiblity to the people concerned. The strategy to promote the IUD in 1965-1966 collapsed due to indiscriminate insertions and poor follow up: inadequate pre-insertion checks, medical complications and grossly exaggerated rumours about complications resulted in high
discontinuation rates. The programme was rushed through without sufficient preparation to cope with the known side effects. These turned out to be far more widespread than anticipated among the population of malnourished, anaemic women who were not forewarned about possible consequences of IUD use (P.S. Bhatia 1989, Soni 1983). Under the rules of Emergency (1975-1977) the national government formulated drastic strategies to promote sterilisation of men, which were rigorously and often excessively implemented at the state level. Again, this impetus collapsed following widespread reports of coercion, the sterilisation of ineligible men, post-operative complications and even deaths (Bhende and Kanitkar 1992, Soni 1983). The threat of disciplinary action, non-payment of salaries and even suspension helped to ensure that targets for recruitment of sterilisation candidates were met. Several benefits and sometimes even salaries of government employees were made conditional upon sterilisation after three children. Access to all kinds of basic services and goods were made available only upon production of a sterilisation certificate. In many cases men were forcibly taken away and sterilised and many deaths attributed to sterilisation were reported. In 1976-1977 alone more than eight million people (many unmarried, over-age or with fewer than two children) were sterilised (Soni 1983). Although after Emergency all forms of coercion were ruled out and the programme’s title was changed into ‘family welfare’ to make it more acceptable, the programme was still widely viewed with suspicion and fear (e.g. R. Simmons et al., 1986). Indeed it was not until 1980 that the programme recovered from the backlash effect of Emergency.

Whereas the ruthless campaigns during Emergency evoked extremely negative feelings among the population especially in the northern states of Uttar Pradesh, Rajasthan, Haryana, Bihar and Madhya Pradesh) one of the positive results maybe the existence of extensive awareness of the option of family planning (Caldwell et al., 1982b). Public knowledge and open discussion are now widespread and the large majority of the people even have favourable attitudes towards the idea of family planning (ESCAP 1987a, UNFPA 1991b, Vlassoff 1990b). The scope of people’s awareness, however, remained very restricted. In 1992-93 the knowledge about sterilisation involved no less than 98 per cent of the married women, but among rural women awareness of temporary methods, like IUD (53 per cent), the pill (59 per cent), condoms (50 per cent) and abortion was much less (IIPS 1995, cf. P.S. Bhatia 1989, also Khan and Rao 1989, Mathai 1989, Stevens and Stevens 1992, UNICEF 1991). Since the late 1980s, the Indian family planning programme has placed more emphasis on the reversible methods, but the long-standing focus on sterilisation produced a situation where people still associate family planning with just terminating childbearing and much less with the meaning of postponing and timing births (Khan and Rao 1989, Rajaretam and Deshpande 1994, UNFPA 1991b). A study on rural adolescent girls, however, showed that fewer than 10 per cent of those who were married knew anything at all about birth control. In general, few girls were informed by their parents on reproductive matters such as birth control, menstruation or childbearing (cf. George 1994, Mathai 1989, World Bank 1991). Recent data and estimates show that still around 70 per cent of all contraceptive users in India rely on sterilisation (Jejeebhoy and RamaRao 1992, Mauldin 1993, Ross 1992).

While general awareness of reversible methods is relatively low, survey results show that specific knowledge about temporary contraception) like availability of methods, correct method use and understanding, advantages and disadvantages of methods, contra-indications of each contraceptive, side effects and complications, reliability of sustained advice, support and supply) is even much lower, both among the population and the staff of family planning programmes (Jamshedji and Kokate 1990, Khan and Patel 1993, Khan and Rao 1989,
Results of the 1992-93 NFHS indicated that over 60 per cent of the reasons for non-use of contraception among women who could be using family planning are related to misperceptions, misinformation and poor understanding of methods (World Bank 1995, p. 84).

One study points at the role of health worker’s own attitudes and knowledge: most of them were not convinced about most of the messages which they were expected to convey to the community and they shared the same inadequate knowledge and poor motivation as the public they served (Mathai 1989, p. 266; his emphasis).

Besides the issue of awareness of family planning and health services or the lack of it a great number of other informational aspects are associated with the institution of the family planning programme. People’s perceptions refer to costs and problematic accessibility of services, repeated absence of staff, the unavailability of female personnel, a lack of proper attention, concern and sympathy or the perceived hazards of being exposed to evil forces when leaving the house for delivery or medical checkups in the period around childbirth (Caldwell et al., 1982b, Hutter 1994, Khan et al., 1989, Kanitkar and Sinha 1989, Rajaretnam and Deshpande 1994).

Many of these considerations refer to the quality dimension of interpersonal relations between clients and staff; not only the accuracy and the formal content of counselling what information is offered and how but also the affective dimension and client perception of both the personal interaction and its contents. This involves service workers’ attitudes and orientations in the client-staff encounter, such as openness, understanding, reliability and respect (Bruce 1990, R. Simmons et al., 1986). And it concerns the responsiveness to the clients’ needs and comprehension of fertility, health and family planning that refers to underlying considerations, such as the value of children and child mortality, the morality about gender aspects in worker-client interaction or about interference in the processes of childbearing, circulating rumours about side effects of contraceptive methods and the indigenous understanding of physiology and fertility. Warwick (1988) and Caldwell et al., (1987b), for example, refer to the appropriateness of modern contraceptives in terms of heating and cooling effects an ethnophysiological distinction also observed in India (cf. Shedlin and Hollerbach 1981). These and other studies illustrate the potential conflict between modern, allopathic concepts and understanding derived from traditional knowledge systems on body and health, which can lead to a perception of risks of side effects and rejection of certain intervention strategies.

Reports from the early 1980s revealed that worker-client relations in India were poor and even that family planning workers were hated or ridiculed (cf. R. Simmons et al., 1986). But more recent studies (cf. UNFPA 1991b) also demonstrate that villagers feel they are treated as targets rather than as human beings, that they feel uncomfortable in clinics and among field staff (especially in the case of male workers and female clients), that they are lectured and bullied without empathy for their own needs, that the messages carried by extension workers are not understood or that their activities stir fears about personal welfare. It is in the interpersonal relationships that the weakness of the top-down target-oriented approach of the Indian family planning and health programme is most clearly articulated.

Enhancing the quality of services and responsiveness to clients’ needs are, therefore, important issues in the effort to formulate a more effective programme. The apparent gap in perception between those who design and implement family planning and health programmes and those who use or want to use birth control methods emphasises the need for investigation and incorporation of the clients’ perspectives in the design of a new programme or the redirection of the existing one (cf. Zeidenstein 1980).
Education

The factor that is most consistently found to influence fertility and women’s status in developing countries, is female education. With respect to the causal mechanisms, several practical issues are involved, such as the costs to parents for educating children or the incompatibility of the educational and the fertility (and the implied marital) careers. But the educational system as a socialising institution is also important in creating a world view, including perceptions on family, fertility and health, cause-and-effect patterns and locus of control, as well as in creating different goals, awareness and improved information processing skills (e.g. Cochrane 1979, Basu 1992, Handwerker 1986a, Jejeebhoy 1991, Mason 1984, Sears 1987, United Nations 1987).

Most of the literature concerning female education focuses on quantitative aspects: literacy rates, the proportion of girls attending school and the duration of the educational career. It is tacitly assumed that school attendance helps to change fertility behaviour and improve women’s status whatever the ideational content of the curriculum. This underestimates educational content as an important causal link between education and fertility which operates through changes in attitudes, self-perception and the evaluation of human capital. If the curriculum includes conservative elements, such as taboos on sexuality or female inferiority, the influence of school attendance on the considerations with regard to fertility behaviour of those passing through the system is not what might be hoped for (cf. Boserup 1990, p. 57, United Nation 1987, p. 214 ff.). For instance, traditions of temple education or Koranic schooling would not necessarily lead to required attitudes with regard to fertility or women’s status (cf. Lesthaeghe and Eelens 1989). The specific content of the messages disseminated through educational channels, as well as other school system features (didactics, teacher quality, facilities, etc.) can make a lot of difference if the impact of education on fertility is considered, or on the development in human capital in general (Baker 1988, UNICEF 1991).

Evidence from studies in India on the relationship between education and fertility tends to support in various degrees the commonly hypothesised causal mechanisms (e.g. Caldwell et al., 1985, Castro Martín 1995, Jain and Nag 1985, Jejeebhoy 1991, United Nations 1993). The value of children seems to change with educational status and higher educated parents are inclined to desire fewer children and to invest more in their offspring. Knowledge of family planning methods increases with education, as well as the capacity to reconcile fertility intentions with actual outcomes. The relationship between education and age at marriage is particularly strong although the causal connection between the two is not always straightforward.

Although both the Indian government and parents seem to be convinced that educating children contributes to the development of skills for life, the present school system does not fulfil its whole potential in this respect. At least from a health and family planning perspective, there is room for significant improvement in terms of conveying relevant information to those who attend school. UNICEF’s (1991) Situational Analysis, for instance, assesses that in order to attain a higher level of ‘human development’ in the population, including improvement of literacy and education levels, the quality and quantity of teachers and facilities need to be enhanced. But also the content of the curriculum should be more geared towards socially relevant learning, whereas now primary level schooling is mainly a preparatory stage for higher education. The curriculum is considered to reflect obsolete stereotypes of division of labour...
between the sexes, so that conscious interventions for change are needed to promote the value of equality of boys and girls and to create conditions in which both are able to derive the full benefit from education. Similarly, a major evaluation of the formal population education programme revealed that textbooks perpetuate sex-stereotypes by depicting traditional gender-based divisions of work in the family (UNFPA 1991b, World Bank 1991). Lastly, the element of preparation for entering the world of work is considered feeble, and there is little guidance for life in the family, and for responsible parenthood in particular (UNICEF 1991, p. 174). With respect to content of schooling, it can therefore be concluded that at present, the Indian education system does not hold the kind of curriculum that represents and disseminates the most favourable behavioural rules and optimal information for coping with the decision problems that confront young people with regard to sexuality, pregnancies, contraception and childbearing.

Legislation
On several points, national law contributes to the context of considerations with regard to fertility and its proximate determinants. Legislation as an institution is specifically made up of complexes of behaviour-guiding or normative rules. It prescribes appropriate behaviour in various domains of activity and it is, in principle, ultimately backed up by the power of the state. Among the laws that are relevant for reproductive health and fertility, the 1971 Act on Medical Termination of Pregnancy must be mentioned, which largely legalised abortion. Various studies show that there is a great need for this service, and that reasons to resort to induced abortion are mainly contraceptive failure (Chhabra and Nuna 1994, Mathai 1989), but also the need for birth spacing methods in the perceived absence of temporary methods and the need to terminate unacceptable extra-marital pregnancies (Caldwell et al., 1982b). A main area where legislation sets rules for fertility related behaviour is marriage. Over the years, the government of India has enacted several laws and amendments with regard to the minimum age at marriage. Subsequently, the officially permitted age at marriage for girls increased from 14 (after the 1929 Sarda Act) to 18 after the most recent Law, and from 18 to 21 respectively for men. The Hindu Marriage Act of 1955 also prohibits polygamous marriages. The actual situation with regard to age at marriage is not concomitant with national law. A World Bank study on the position of women in India reported that as many as eight per cent of girls aged 10-14 and 44 per cent of those aged 15-19 are already married, which indicates that a large proportion of all women are married before the legal age (World Bank 1991, cf. Jejeebhoy and RamaRao 1992). The enactment of laws alone can do little to change a situation, although it is important because it signals the intent and direction of state policy. Awareness of legislative rules is a first prerequisite for compliance with a law and in this respect, the situation in India is far from ideal. Few women are aware of the possibility of legal abortion, and knowledge of a legal minimum age at marriage is equally poor (Mathai 1989, Saxena 1989, UNICEF 1991). Moreover, registration of marriage is not compulsory and sanctioning efforts by state governments are limited: penalties are not severe, measures do not invalidate illegal marriages and sanctions are applied with reserve because of the sensitivity of the subject (Surendeer, no date). In this respect, rules provided by institutionalised law seem to have little effect on individuals’ considerations compared with the impact of information derived from other socio-cultural sources.
8.2.4. Summary: institutions in individual perspective

The social context interpreted as a coexistence of social institutions represents a complex, but structured pool of information which is selectively tapped by individuals who consider behaviour related to the proximate determinants of fertility and fertility itself. People interpret and combine this specific information and act accordingly, thereby maintaining or adjusting the meaning or significance of social institutions. Added to this decision process are considerations rooted in the specific individual history, partly reflecting rules internalised at earlier stages in the life course, partly reflecting genuine individual experiences. In a typical rural Indian situation, the family and people of the local community serve as main agents or channels for sanctioning behaviour and conveying information that is organised in institutions like Hinduism, Ayurveda, local labour markets, marriage- and kinship systems, or local representations of health and education systems. Some of these sources are locally based, others have a much wider scope, reflecting the hierarchical structure of the social environment. Many impart information along the same lines, while many also advance contradictory rules. Some of the institutions have emerged recently, others originated in a distant past and reflect a long process of adaptation within the confines set by their evolutionary development.

The intricate coexistence of normative and interpretative rules reveals some general considerations about health, childbearing and proximate fertility determinants. These include a relatively high value of children, especially sons, because of their implied social status and support and ritual functions; an economic and social value of (early) marriage; understandings of physiology and health embedded in modern allopathic or in traditional knowledge systems; the influence of super-human forces versus individual control on health and fertility; gender ideas that restrain women’s decision making power and exposure to information from the outside world, for instance by attending schools, labour market participation or visiting clinics; and in particular, the power of men over women and older generations over younger, which leaves girls and young women with only a modest degree of control in decision making in domains such as marriage, sexuality, fertility and contraceptive use.

Concluding the section on social institutions in India, it can be asserted that the information stored in the societal organisation and experienced by the population is relatively unfavourable for behaviour that is carefully planned, controlled and implemented in accordance with women’s personal aspirations of good health and optimal family regulation. This is especially the case for women in rural areas and in northern India. Notwithstanding the explicit efforts through a number of formal institutions, the combined impact of information from the total social context results in a situation where personal aims of health and fertility control are made subordinate to other goals or where they are unattainable because of a lack of adequate knowledge and less than optimal quality of services.

8.3. Fertility in a dynamic perspective

8.3.1. Introduction
The information fuelling the personal considerations that underlie decisions with regard to fertility and the proximate determinants of fertility is not only influenced by the institutional organisation of the social environment. The personal background of more or less stable personal endowments and dynamic characteristics of life course development provide an additional information background. Following Bogue (1983), an elaboration of the component of personality traits is not pursued here, as the evidence of its effect on fertility behaviour, especially in developing countries, remains circumstantial and speculative. The dynamic or developmental aspect of the personal background, on the other hand, will receive more attention as it represents one of the main foci of this study. The central idea behind a dynamic perspective is that to considerable extent salient personal considerations and behaviours as arising from peoples mental schemes, are functions of the information that is represented by developments in different life careers (see Figure 8.3). This section focuses on the time-related aspects of reproductive behaviour and its most relevant intermediate behavioural determinants. Summarising this section, the developments in different careers—physiological development, the educational, marital and reproductive careers—are interdependent through the meaning that is attributed to them. Developments on each of the lines can change the considerations contributing to the decisions that underlie developments in other careers. The interpretation of the fertility career as a staging process reveals considerable dynamics in a person’s considerations with regard to subsequent childbirth: changes with regard to the motivation to add another child or to postpone a next pregnancy, and consequently the motivation for birth control and specific method use, but also changes with regard to decision style and to the options and constraints and the perception of control to act in accordance with such aspirations. The concept of sequential decision making acknowledges these development-dependent considerations.
8.3.2. Reproductive behaviour in a life course perspective

Reproductive behaviour, its intermediate determinants and their underlying considerations demonstrate a clear life course profile. Forrest’s five-stage framework provides a relevant starting point for a dynamic interpretation of fertility-related behaviour and decision making (Forrest 1988, see Section 6.3.5). The stages she identifies are demarcated by a number of important life events (menarche, first sexual intercourse, marriage, first birth, completion of desired family and menopause). Each stage can be characterised by specific knowledge, childbearing motivation, contraceptive needs, autonomy, style of decision making, et cetera. The institutional rules (meaning-giving and behaviour-guiding) that impinge upon the biological baseline of individual development flesh out these stages of the reproductive career for the situations encountered in India. The subsequent sections elaborate women’s life course organisation with respect to reproductive behaviour.

Preamble to reproductive behaviour: education and marriage
Menarche indicates the onset of the capacity to bear children and often denotes a new status for adolescent girls. For large parts of the Indian population it does not seem essential to differentiate the pre-marital period in the stage between menarche and first sexual intercourse and that between first intercourse and marriage. Especially in rural and northern areas, any pre-marital sexual relations are strongly disapproved of given the value attached to women’s virginity, and rather improbable given the extensive control over their behaviour by others. Moreover, before marriage even possessing knowledge about family planning methods, or
reproductive matters in general, is considered incongruous with the ideas of female chastity (cf. Basu 1984, Mathai 1989, World Bank 1991). On the other hand, the period of adolescence is very important in terms of internalisation of adequate information and attitude formation about fertility, reproductive health and family planning. Schooling provides a potentially excellent channel to convey relevant information in this respect to groups in the pre-marital stages of the life course, especially in situations where there is little communication between parents and daughters about these matters (cf. George 1994, Mathai 1989, World Bank 1991). Notwithstanding strong social disapproval and control, engagement in pre-marital sexual relations may occur and perhaps even more than often suggested (Nag 1995). In these cases, the greatest demand is for easy accessible, reversible and effective means to prevent births and secrecy of services and delivery (Mosher and Bachrach 1987).

There is an intricate relationship between menarche, education, the period between menarche and marriage and various reproductive aspects after marriage. In some circumstances, menarche may denote a girl’s readiness for marriage or the sign to commence the search for a marriage partner (Caldwell et al., 1983). The anxiety to keep daughters chaste and preserve their virginity are reasons to withdraw them from school or work in the fields and contributes to the motivation for marrying them off at an early age (e.g. George 1994, Jeffery et al., 1988b, Khan and Singh 1987). Social change, however, is influencing the ideas with regard to age at marriage. Increased life expectancy, changed concepts of childhood and immaturity (as wife, mother or daughter-in-law), an increased need to obtain a degree of consent from the husband-to-be in matters of marriage, a waning feeling of religious or moral transgression in failing to marry a girl by menarche and the perceived high risks of physical impairment and death associated with early pregnancies, are some of the considerations to arrange a daughter’s marriage later now than in the past (Caldwell et al., 1983).

Girls’ education can be another, independent, source of considerations to postpone marriage. The marital and educational careers seem to be perceived as incompatible: in almost all cases women terminate their education before marriage (Jain and Nag 1985). Besides this incompatibility, a chief cause of marriage delay because of education is the greater difficulty in finding appropriate match for a girl with some educational qualifications (Caldwell et al., 1983, Jejeebhoy 1995). Another mechanism, possibly related to the duration of school attendance, which is hypothesised to postpone marriage, is that in becoming more educated the girl develops a less favourable attitude toward early marriage and at the same time increases her power to influence parental decision making (Jejeebhoy 1995). The causal direction between education and marriage, however, need not to be uni-directional. The increase in age at marriage that takes effect in India and the consequent habituation to a period of several years between menarche and marriage may, in time, result in a greater likelihood of girls staying on at school.

The impact of marriage postponement on women’s health and fertility later in life can be significant, especially if it corresponds with a longer educational career. It averts the risk of early pregnancies and it places a more mature, and therefore probably stronger, woman in the decision processes that take place within the family about number and timing of children and contraceptive use (Cohn 1971, Caldwell et al., 1983). Prolonged education usually strengthens this autonomy effect, besides having an independent impact on aspects of motivation, knowledge, understanding, efficacy and spousal communication with regard to the number and timing of having children, fertility regulation and health (e.g. Basu 1992, Jejeebhoy 1991, Mason 1984).
Establishing a position in society: the birth of a first child

The event of marriage marks one of the most important transitions in a woman’s life course. In a patrilineal marriage system she is transferred from her natal kin to her husband’s family and acquires a new status as wife and prospective mother. Sometimes the transition even may be considered as the obtainment of a complete new identity, indicated not only by the replacement of her father’s surname by that of her husband’s, but also by the change of her first name (cf. Hutter 1996).

Marriage (or more particularly, *gauna*) marks the transition to the third stage that Forrest (1988) identifies in the fertility career: reproductive motivation changes radically, from avoiding pregnancy at any cost to desiring a child at any cost and possibly as soon as possible (Rajaretnam and Deshpande 1994). In patriarchal and patrilineal contexts such as in India, a wife’s status is derived primarily from reproduction. It is only upon the birth of a child and of a son in particular that a young wife finds herself incorporated into the husband’s family (Koenig and Foo 1995). The foremost concern of everyone around her and even herself is when she will become pregnant and prove her fertility (Khan and Singh 1987, cf. Hutter 1994, Mahadevan and Jayasree 1989). As Khan and Singh (1987) described for the situation in Uttar Pradesh, if pregnancy fails to occur a woman can become ridiculed, debarred from participating in ritual performance, feared by women with children, completely lose her role in decision making in all kind of matters and may have to bear the presence of a second wife and the status of a mere servant. Such examples demonstrate girls and young wives the paramount meaning of childbearing and provide the motivation to become pregnant as soon as possible after marriage. Although not everywhere in India, the fate of barren women is so grim that there is usually little motivation for practising birth control during this third stage (e.g. Basu 1993). Moreover, adequate knowledge of reversible contraceptive methods is often insufficient (IIPS 1995, Jamshedji and Kokate 1990, Jejeebhoy and RamaRao 1992, Khan and Rao 1989, Mathai 1989, Rajaretnam and Deshpande 1994, UNFPA 1991b) and communication about reproductive matters is sometimes completely absent during early stages of marriage (Khan and Singh 1987).

Family completion: a different choice situation

The fourth stage covers the period between the first birth (or alternatively the birth of the first son) and a point in the life course where a desired family size is reached. Since family building is still incomplete in this stage, terminal contraceptive methods are irrelevant. Whereas first pregnancy and birth soon after marriage is common to the whole of India, the subsequent reproductive career and underlying considerations diverge to some extent. For instance, there is some differentiation in terms of the preferred length of the subsequent birth intervals (Rajaretnam and Deshpande 1994, cf. Hutter 1996).

Since for women an important task in the family has been fulfilled by producing (male) offspring, she can often be a little freer, especially in the confrontation with her mother-in-law. In general, several authors have noted that changes in the power or status of women occur over the life course (Khan 1987, Koenig and Foo 1992). This is not necessarily related to fertility, but also depends on age or marital duration (Mason 1984, Hollerbach 1983). Not only may women’s relative power change with marital duration or the number of children born, also the content of the influence and the categories of people who exert it (e.g. parents-in-law, other relatives, neighbours, friends, family planning and health workers) may change (Khan 1987). Similar developmental changes can be observed with other decision making elements: spousal communication or the intensity of discussion with regard to birth control (Beckman
1983, Hollerbach 1980, Khan and Singh 1987) as well as styles of decision making regarding fertility (routine or explicit) (Hollerbach 1983, Hull 1983) may depend on the stage in the family building process. Moreover, effective knowledge about reversible family planning methods is likely to increase over the marital career. Married women are no longer denied this information on moral grounds and they are exposed to information of this kind during marriage through a number of channels (media, family planning and health services, people in their social environment). With regard to almost any of these decision making aspects, as well as on fertility-related motivation, educational attainment earlier in life is considered to be important (e.g. Jejeebhoy 1995).

There are indications that breastfeeding and frequency of intercourse have a personal-time-related character. However, surprisingly little is known about the considerations and mechanisms underlying these behaviours. World Fertility Survey data from other countries suggest that duration of breastfeeding may depend on developmental stages that are associated with parity or age of the mother (United Nations 1987). The effects, however, are not very consistent and were largely attenuated once modernisation variables such as education and residence were controlled (Jain and Bongaarts 1981). Other life course careers, such as educational and working careers, thus seem to have an impact on breastfeeding, although definitional problems and inconsistent findings produce a blurred picture (Lloyd 1991, United Nations 1987, World Bank 1991). World Fertility Survey studies also reveal that frequency of intercourse declines with age and marital duration (Blanc and Rutenberg 1991, Udry 1993). Similar life course trends have been observed for India (e.g. Yadava and Rai 1989), but there are also indications for a recent increase of intercourse frequency in early marital stages.

Several time-related mechanisms may be at work here, such as declining periods of the family life cycle that used to be spent in extended families (suggesting limited freedom for sexual intercourse in early marriage), and a dwindling custom of sending just-married women frequently and often for long periods back to their parents’ home (Hutter 1996, cf. Basu 1993, Koenig and Foo 1992).

The end of childbearing: menopause and sterilisation

The last stage of a woman’s reproductive career is the period demarcated by family completion and menopause. Sometimes, completed family size is a status that is unintended and recognised only after the fact. Often, however, it can be identified with a point in life when people want to terminate childbearing. To a large extent, people in India have an idea of desired or ideal family size (cf. Khan and Rao 1989, Saxena 1989). This is at least partly due to the massive effort of India’s family planning programme, without implying that people’s family size norms also coincide with the programme’s (cf. Basu 1992, p. 109). Several studies suggest that rather than considering a desired family size, the desired number of sons is relevant (for a discussion on this matter, see Hutter et al., 1996, cf. Nag 1991, Rajaretnam and Deshpande 1994). This motivation to end the fertility career depends on a variety of reasons and life course developments: because a desired number of children or family composition is attained, because of financial implications of larger families (Vlassoff 1990b) or because further childbearing would conflict too much with developments in other careers such as work or health (Caldwell et al., 1985). Even life course development of others may be part of the motivation to refrain from additional children, as in the case where women feel uncomfortable when their own sons or daughters start bearing children (Caldwell and Caldwell 1985, Kakar 1989, Khan and Singh 1987, Nag 1983). At this stage in the reproductive career, sterilisation becomes an acceptable option alongside reversible methods. Additionally, people may rely on abortion (Chhabra and
8.4. Personal considerations

8.4.1. Introduction

Personal considerations pertain to the selective information that is organised in people’s mental schemes and that is salient at a certain moment in the reproductive career. These time-dependent considerations concern the learned and retained information that is derived from a variety of backgrounds. They reflect the various institutional domains (Section 8.2), but also the individual history and the position in the life course (Section 8.3). These subjective considerations are supposed to take shape in the form of a problem space, motivation, perceptions of control and decision styles. Due to mechanisms of selective attention, contradictory information backgrounds, uncertainties and life course development, such considerations may exhibit a certain degree of inconsistency, both across life domains and in temporal perspective.

The aspects of personal considerations, together with the complex of reproductive behaviour and its intermediate determinants will provide the structure of the following discussion. In Section 8.4.2 (and Figure 8.4), decision making with regard to fertility and pregnancy is the central issue, while Section 8.4.3 (and Figure 8.5) focuses on decision making with regard to the intermediate determinants of fertility. At present there are no studies on India that systematically address the proximate determinant complex of fertility behaviour from an integrated and dynamic choice perspective as developed here. There are, however, numerous studies that cover extensive areas of the aspects identified in the model of fertility behaviour.
The subsequent sections utilise the findings of these studies and try to interpret them in terms of the model’s conceptualisation.

8.4.2. Reproductive behaviour

Motivation and problem space
Childbearing is the prime avenue for the large majority of women in India to achieve fundamental goals such as affection, power and self-esteem, and in particular, social status and security and survival (e.g. Jejeebhoy and Kulkarni 1989). Especially in rural areas there are few if any alternative pathways to fulfil these basic needs.

In the cultural context of India the major value of a woman is assessed in terms of her role as a mother, and therefore she can gain little respect, support and sympathy in the family or in the larger community if she fails to bear children, and more particularly sons (cf. Hutter 1994, Khan and Singh 1987, Koenig and Foo 1992). Her position at the onset of her childbearing career is especially vulnerable because an early marriage implies that she cannot obtain status on the basis of her age. Moreover, she has just entered an unfamiliar household where she finds no natural allies and where she has to start from scratch in terms of securing a decent position in the household hierarchy. It would be too simple, however, to narrow the picture down to the family as the only source of motivation to produce children. Women grow up in a social environment where much of the information contains positive messages about having children. This information which is importantly learned through observational experience (e.g. Khan and Singh 1987) implies elements of cultural definition (meaning-giving rules) that will
contribute to an intrinsic motivation for having children that should also be interpreted in terms of self-fulfilment rather than only in terms of social status and sanctions.

In the apparent absence of any alternative arrangement for old-age security, one important meaning of children is their expected support role. The old-age security motive is important, especially to women as their prospects to be self supporting are meagre in a social environment where they are confronted with behavioural rules that undermine female autonomy, and with labour market opportunities that signify a negative bias to women’s participation (cf. Cain 1981, Desai and Jain 1994, Dharmalingam 1994, Grover 1989, Jejeebhoy and Kulkarni 1989, Mahadevan and Jayasree 1989, United Nations 1993).

Although the expected support of children (economically and emotionally) remains an important and persistent factor underlying the demand for children, the actual support received in old age and the expectations of the reliability of children in this respect, seem to decrease Dharmalingam 1994).

There may be a point in the reproductive career where these needs to safeguard security and status are fulfilled to an acceptable degree and where other goals in a dynamic Maslowian perspective may gain in importance. The birth of a first child, and more particularly the birth of a first son (and perhaps even more precisely: the first son surviving childhood) may mark this transition point (Forrest 1988, Khan 1987, Koenig and Foo 1992, Namboodiri 1983).
Whether such a transition point exists at the first birth or at higher parity will probably depend on people’s awareness of the children’s survival chances. In communities with high infant and child mortality a motivational transition like this would occur only after a safe margin in terms of births has been attained. With respect to the ideal family size and gender composition of children, child deaths seem also to play a role: many people want at least three children but almost always on the condition that these include at least one or two sons in order to be sure of the survival of at least one (Khan and Prasad 1985, Khan and Rao 1989, Saxena 1989). Security and status might be perceived as major motives for childbearing, but other expectations of fertility also enter the motivation structure. These include, for instance, affection or stimuli associated with children, the performance of religious ceremonies and continuation of the family line by children, the health effects (of mother and child) of pregnancy and childbearing (Caldwell et al., 1985), the time required for bearing and raising children or the costs associated with children, especially if this is connected to dowry requirements and ideas about the quality of children (e.g. in terms of their educational attainment or their prospects in life) (e.g. Caldwell et al., 1982b, 1985, Jejeebhoy and Kulkarni 1989, Mahadevan and Jayasree 1989, United Nations 1993, Vlassoff 1990a, 1990b, 1991). Formal institutions play an important role in communicating information related to several of these motives. The educational system promotes investment in schooling of sons and daughters and emphasises quality aspects of children, family welfare programmes address the causal links between fertility and maternal and child health, formal social security schemes loosen the perceived connection between children and survival in times of need.

**Personal control**

Representation of motivational statements often do not specify under which particular conditions the intended behaviour will actually be performed. Thus, the studies by Rajarettnam and Deshpande (1994) and by Vlassoff (1990b) revealed that despite expressed ideals about child spacing and family size respectively, many respondents failed to realise these particular intentions. A prerequisite to a person’s ability to effectively influence his or her reproductive behaviour is the knowledge about the instrumental connections between intermediate determinants and fertility. Also, the (perceived) availability of and access to means to influence pregnancies and births contributes an important element to the decision making process: the perceived ability to perform required action in terms of fertility regulation through any of the different proximate determinants (self-efficacy expectations). Aspects of awareness and effective knowledge about the functions of proximate determinants and availability and control over means to influence reproductive outcomes will be discussed in greater detail in Section 8.4.3, but here they are briefly considered in terms of their effect on personal control over fertility behaviour.

**Contraceptive methods and abortion** are the most direct and reliable options to regulate fertility. Although the option of sterilisation is common knowledge, awareness of reversible methods is inadequate, especially among rural women (IIPS 1995). Moreover, effective knowledge entails more than just knowing from hearsay and in this respect scores are even much lower (Jamshedji and Kokate 1990, Jejeebhoy and RamaRao 1992, Khan and Patel 1993, Khan and Rao 1989, Rajarettnam and Deshpande 1994, Stevens and Stevens 1992). This especially undermines people’s sense of control over the start of childbearing and the timing of pregnancies and births, implying that, with respect to reproductive matters, the two most involved formal institutions (the educational system and the family planning programme) have failed to effectively provide the population with relevant information (UNICEF 1991).
Furthermore, to the extent that conflicting indigenous beliefs prevail over accurate understanding of causal processes, they too undermine people’s perception of personal control (in the sense of outcome expectancy) and their willingness to undertake effective action. A point in case is the idea that fertility outcomes depend on the will of divine powers (Bogue 1983, Caldwell *et al.*, 1982b, Jeffery *et al.*, 1988b, Khan and Singh 1987). The effects of the other intermediate determinants are sometimes acknowledged, but activity in these spheres is usually to a lesser extent aimed at influencing reproductive outcomes. Thus, effective knowledge about the effects of sexual intercourse - not only including frequency considerations, but also correct notions of timing during the menstrual cycle - has shown to be poor, especially among adolescent and recently married girls (e.g. Khan *et al.*, 1989). The employment of terminal abstinence is, however, a widespread custom (Caldwell and Caldwell 1985, Nag 1983, Srinivasan 1989), and perhaps periodic abstinence and separation of spouses are not only adhered to because of social and religious meanings, but also because of their impact on reproduction (Basu 1993, Hutter 1996, Jeffery *et al.*, 1989, Kakar 1989). The practice of breastfeeding is usually not part of the subjective representation of the causal complex underlying fertility. The causal connection between marriage and reproduction is not only obvious to the people, but also intended: procreation is one of the main reasons for marriage. Even the observed tendency to deliberately delay marriage timing has partly been ascribed to the perceived probability that early childbearing has repercussions in terms of reproductive health (Caldwell *et al.*, 1983).

Even if accurate knowledge and understanding of the effects of the proximate determinants is asserted, people may encounter a number of constraints that inhibit appropriate control over pregnancies and childbearing. The position of women in the family and in society as derived from religious and family and marriage institutions is an important determinant in this respect. Many girls in India perceive their ability to influence marriage as virtually non-existent and a woman’s influence in the domain of contraception and sexual intercourse is usually subordinate to that of her husband and mother-in-law, which reduces her feeling of control (Dyson and Moore, ESCAP 1987b, Khan and Singh 1987, Koenig and Foo 1992).

Also people’s perception of family planning services in terms of method choice, ensured supply, proper support and appropriate qualities of service providers, probably contributes to the level of personal control. The history of the Indian family planning programme has been disappointing in this respect, especially if spacing behaviour is concerned.

*Style of decision making*

The decision style with regard to reproductive behaviour may be different, depending on whether it concerns the number of children and the sex composition, and depending on the life course related determination of starting, spacing and stopping childbearing (cf. Bulatao 1984, Bulatao and Fawcett 1981, Hollerbach 1980, Namboodiri 1983). An understanding of changing fertility decisions should distinguish between the changing calculus of choice (process), and changes in the alternative opportunities available to decision-makers (content) (Hull 1986, cf. Bulatao 1984, Fawcett 1991). For a large proportion of women in India, at least at higher parities, reproductive behaviour is the result of purposive and explicit decision making, given the large awareness and high acceptance rates of sterilisation, the traditional custom of terminal abstinence and personal accounts of discontinuation of reproduction. On the other hand, accounts of the lack of autonomy in reproductive matters and insufficient knowledge and availability of reversible contraceptive methods, may suggest that for another large proportion of women, and particularly at lower parities, there is little involvement in
decision making, at least in the sense of free, deliberate and unconstrained choice. A decision making approach may, however, be applicable to these situations if choice is conceptualised in a broad sense and includes elements such as ignorance and uncertainty, social pressure and personal control, and institutional and passive styles of decision making (Bulatao 1984, Hollerbach 1983, Hull 1983, Leibenstein 1981).

Under circumstances such as at the onset of marriage, the restricted information available to a woman may be so much in favour of having children and arouse so much fear for failing to have children (Khan and Singh 1987) and may contain so few clues that there might be alternatives, that childbearing becomes the obvious path to choose. Any attempt to engage in procedures of search for alternatives and evaluating them seems useless, or even subject to negative sanctions, and is therefore discarded. The cognitive environment provides the ready-made satisfying solutions for difficult choice situations, and following the rules of institutional and satisficing decision making, individuals are released from the psychological burden of active deliberation and intensive search procedures.

Notwithstanding the possibility that childbearing and its timing concern deliberate choice, passive decision making is probably also a common style of decision making. Perhaps many couples have a child when they do not intend to, engage in sex without thinking through the consequences or raise families without ever considering any alternative (Bulatao 1984, cf. Montgomery 1996). Goals related to fertility (whether pertaining to the level of consequences of fertility or to the level of fertility behaviours themselves) need not explicitly articulated: people do not always have clear perceptions of the number of children they want (e.g. Jeffery et al., 1988b), although forced answers in survey questionnaires suggest that in fact they do (cf. Blake 1994). Moreover, spouses may be uncertain about each other’s fertility-related intentions because often couples cannot discuss topics like sexuality, reproductive health, menstrual cycle or certain specificities of contraceptive methods at ease (Beckman 1983, Bogue 1983, Hollerbach 1980, Khan and Singh 1987), whereas research has demonstrated that husband-wife concurrence can have an important effect on sustained contraceptive use (e.g. Biddlecom et al., 1996, Pariani et al., 1991). A restriction of spousal communication on sexual and reproductive matters that is also observed in India (Khan and Singh 1987, Koenig and Foo 1992), may cause feelings of ambivalence and uncertainty in the sphere of fertility motivation and in turn may lead to passive styles of fertility decision making (Limanonda 1993).

8.4.3. Intermediate determinants

Marriage
The large majority of marriages in India are arranged and can often be considered as contracts and exchanges between families, rather than agreements between spouses. Decision making in the sense of completely free, informed and calculating choice cannot be attributed to young daughters (Khan and Singh 1987, Koenig and Foo 1992). Decision making style is largely adaptive and follows prevailing institutional rules. In the strongly patriarchal context the exercise of marital decision making is largely located with the family and usually involves explicit and deliberate procedures of search for alternatives and clear evaluation criteria (e.g. timing of marriage ceremony, amount of dowry and personal or family characteristics like age, caste, schooling or occupation, village exogamy and personality characteristics) (Caldwell et al., 1983, Mandelbaum 1970). Ensuring a proper position of daughters within marriage,
controlling sexual relations, reducing financial liabilities and maintaining various functions of the family, especially through reproduction, are among the main considered motives (e.g. Basu 1992, Dyson and Moore 1983, Khan and Singh 1987). In the motivation structure, (children’s) fertility takes the position of expected outcome of marriage and expected means for more ultimate goals such as economic, social and religious aspirations. Maternal (and child) health has been reported as a reason to arrange daughters’ marriage at a later age particularly, however, because of repercussions in terms subsequent fertility potential (Caldwell et al., 1983).

In the perspective of young brides-to-be, marriage is typically a choice situation where the consideration of personal control prevails over motivation. Motivational considerations with regard to marriage presumably hold positive and negative outcome associations. At least partly intentions correspond with those of their parents, either through exposure and adherence to similar information and rules from the institutional environment (internalised personal expectations), or through the motivation to comply with the parents’ ideas (normative expectations). In many situations, however, individual motivation seems irrelevant as within the family power structure and in the moral codes there is so little possibility to influence marriage timing or partner selection (e.g. ESCAP 1987b, Koenig and Foo 1992). Rephrasing Ajzen, personal motivation would be expected to determine individually-arranged marriage to the extent that the individual has personal control, and individually-arranged marriage should increase with behavioural control to the extent that the person is motivated to have such a marriage (Ajzen 1991, p. 183).

Contraceptive use and abortion
The use of birth control methods is the proximate determinant that is most directly, explicitly and intendedly connected to reproduction. In turn, the aim to prevent pregnancies or births is by far the most important and cognised aspect in the motivation structure with regard to contraception and abortion. Bulatao (1984), however, states rightly that decisions with regard to contraception can only be fully comprehended if they are situated in a broad and multi-level motivation structure. In addition to birth control, other outcome expectations associated with specific contraceptives or abortion (e.g. spousal opposition, side effects, financial costs) or with the process of getting them (e.g. time costs, unkind treatment by staff) may enter importantly into this motivation. But the motivation structure must also include ultimate consequences of reproductive behaviour, such as maternal health and (family) security.

With regard to motivation contents, monetary costs of family planning are, in principle, small in India. Although social marketing (mainly condoms and pills) works on a commercial basis, contraceptives and services are provided free through the governmental health structure. Nevertheless, acceptance of family planning involves such costs as travel expenses, loss of wage and extra food (cf. Khan et al., 1989) which is part of the family planning programme’s argument to maintain an incentive structure (cf. Stevens and Stevens 1992). Normative and psychic considerations (cf. Bogue 1983) are more significant elements in a person’s motivation structure. They include reservations with regard to discussing family planning, the need of consent of the partner and parents, pressure from family planning programme staff, acceptability and inconvenience of methods, fears of negative health consequences and uncertainties related to method use, problems related to service accessibility, and aversion of insensitive family planning workers or of contact with male service providers (e.g. Bhende et al., 1990, Caldwell and Caldwell 1988, Chhabra and Nuna 1994, Khan and Singh 1987, Khan et al., 1989, Koenig and Foo 1992, Rajaretnam and Deshpande, Stevens and Stevens 1992).
Many of these considerations are derived from the informational contents of the social environment and especially from religious and family-related institutions (cf. ESCAP 1987a) and the operation of the family planning programme. The health and family planning system, particularly its quality of care aspects, involves significant psychological constraints to the access to and the use of effective birth control methods.

Considerations of personal control with regard to family planning are related to many aspects that are also involved in motivational considerations and people’s knowledge level. They may take two different forms. The perceived ability for effective use of birth control methods (efficacy beliefs) may depend on the awareness of existing alternatives to do so. It may also depend on the perceived availability and supply reliability of methods and on the perceived access possibilities, but it crucially also depends on specific and effective knowledge on contraception and health (cf. World Bank 1995, p. 84). The belief in the role of external powers (such as a sovereign interference by God) in reproductive or health outcomes typically refers to the locus of control, rather than to expectations about competence to perform required actions to attain these outcomes (self-efficacy).

Research in India has indicated that for the majority of people information on reversible contraceptive methods is not as comprehensive as it needs to be to enable them to make an efficacious choice on family planning. Knowledge about reversible methods more often than not goes without the specifications such as availability of methods, correct method use, method working, advantages and disadvantages of methods, contra-indications, side effects and complications - that render it effective knowledge for reproductive decision making (e.g. Jamshedji and Kokate 1990, Jejeebhoy and RamaRao 1992, Khan and Rao 1989, Rajaretnam and Deshpande 1994, UNFPA 1991b).

Access involves aspects of distance to service outlets, the time needed to get there and the financial costs involved in obtaining services or products. Importantly, it also includes social and psychological constraints such as the level of freedom to travel and visit clinics and dispensaries, spousal control over family planning or the apprehension of dealing with unresponsive staff. As indicated above, such considerations not only enter decision making as motivational aspects, but most probably also as forms of perceived control. Research among teenage girls in the United States showed, for instance, that knowledge about reproduction and contraception, a lack of fear of parental reactions and experience of access to contraceptive methods were associated with higher self-efficacy considerations, and that girls with these characteristics were more likely to use contraceptive methods effectively, even under adverse circumstances (R.A. Levinson 1986). For a Maharashtra village, Vlassoff found with regard to sterilisation that women clearly felt confident that they could regulate family size, which she attributed to the high acceptance of sterilisation, the availability of operation services and the easy access (Vlassoff 1990b).

The analysis of institutions has pointed out that contents of information dispersed by the family planning programme and the style it operates are factors contributing to existing low levels of awareness of and effective knowledge about family planning. Moreover, the educational system in India does not seem to be particularly suited to contribute to personal understanding and action in reproductive matters (apart from the issue of low and short educational participation by girls). Nor has it been able to sufficiently challenge normative and meaning rules vested in cultural institutions about the subdued position of women in matters of reproductive decision making (Section 8.2.3). Knowledge systems including understanding the causes of fertility and health as derived from modern and scientific sources) such as the family
planning and health system or the educational system) may well exist side by side with other, possibly contradictory, bodies of knowledge such as religiously inspired beliefs about influences of divine forces or beliefs resulting from ethnophysiology or from more spontaneous local rumours (cf. Caldwell et al., 1982b, Jain and Nag 1985, Khan and Singh 1987, Koenig and Foo 1992). A person’s perceived control over fertility regulating actions will depend on the cognitive framework in which family planning and fertility or health is interpreted (Warwick 1988, p. 8). And this cognitive framework may, in turn, reflect the ambivalence represented by competing knowledge systems.

People or couples who apply any method of birth control have usually gone through an explicit process of decision making. Given the high value attributed in India to having children and the need for consent of partners and often parents (Caldwell et al., 1982b, 1983, Khan and Singh 1987, Koenig and Foo 1992), family planning adopters usually have clearly articulated motives for applying a method of birth control. Many studies point out that with regard to options for and consequences of family planning, the most important direct sources of information are not the formal institutions (the educational system, media and family planning and health programmes. Rather, information is acquired in the course of life through observation of and discussion with models in informal networks of local community members, especially household members, neighbours, relatives and friends (e.g. Bashar 1993, Khan 1987, Limanonda 1993, Mathai 1989). The observation of homogeneous contraceptive patterns in communities or regions in countries with a broad contraceptive mix available (Niehof 1994), may suggest that people often apply institutionalised decision rules in the sense that the search process for alternative contraceptive methods is stopped at an early stage and people adopt a standard solution that seems satisfactory to others.

Breastfeeding
In India, breastfeeding is almost universal, prolonged (around 20 months), and this duration of lactation usually implies full breastfeeding (cf. Kakar 1989, Prema and Ravindranath 1982, United Nations 1993). Generally, the conception-preventing effect of breastfeeding is not a consideration in the decision frame concerning breastfeeding behaviour, although there are situations where people are aware of the amenorrheic effects (Caldwell and Caldwell 1985, Nag 1983). The specific mechanisms that play a role in decisions about duration of lactation and particularly about patterns of breastfeeding, are scarcely addressed in the available literature and remain largely undetermined (e.g. Bulatao 1984, Huffman 1984, Nag 1983). Decision making with regard to breastfeeding is usually disposed of as complying with cultural custom. Nevertheless, people are usually sufficiently introspective to state health motives for extended breastfeeding which transfers the act from customary to intentional decision making (Ryder 1983). In India, as in other societies the primary purpose of breastfeeding is infant nourishment: lactation provides the best and cheapest food and usually the most certain source, especially in rural and deprived households. Besides decisions concerning factors underlying breastfeeding practices (such as supplementation of the child’s diet, practice of scheduled feedings and night-time feedings, and use of feeding bottles) probably the most explicit decision with regard to lactation itself concerns the timing to stop breastfeeding. Caldwell and Caldwell (1985) suggest that formerly in India the weaning decision was determined either by fact of next pregnancy (a motivational consideration) or by the diminution of milk supply (a biological constraint). As far as breastfeeding was under behavioural control, weaning decisions are importantly
decreasingly) influenced by mothers-in-law (Caldwell and Caldwell 1985, Caldwell et al., 1982a) and based on either practical (time, convenience) or ethical and ethnophysiological considerations.

Sexual intercourse

Another area that, until recently, received little attention in demographic research is decision making with regard to sexual relations between partners. In almost any social setting the connection between sexual intercourse and childbearing is part of people’s cognitive causal frames, but rarely is conception the direct and primary motive for coitus. Moreover, if people believe that conception depends on the will of divine forces (cf. Koenig and Foo 1992), sexual decision making involving considerations of pregnancy and childbearing become different in terms of personal control and responsibility than if coital outcomes are perceived as entirely dependent upon one’s own behaviour (Bogue 1983, Myntti 1988). In many cases, however, the choice for (unprotected) intercourse is independent of any reproductive implications, without necessarily implying that conception is unwelcome.

The situation may be different with regard to the choice for abstinence. Srinivasan (1989) distinguishes three types of sexual abstinence within marriage: terminal abstinence; abstinence during the postpartum period related to child health through birth spacing and poisoning effects of semen on breastmilk (e.g. Caldwell et al., 1982b); and periodical abstinence for various religious or social reasons related to religious festivals or phases of the moon (e.g. Kakar 1989). The first two of these will often explicitly relate to contraceptive considerations, and it should not be excluded that adherence to normative rules for abstinence may be employed for this purpose as well. Additionally, periodical abstinence can be motivated on the basis of the menstrual cycle, which may include considerations about conception. This assumes a correct understanding of the menstrual cycle, but correct knowledge about the safe and unsafe periods seems limited. Khan et al., for instance, found consistently incorrect knowledge among couples in rural Uttar Pradesh who claimed that they used the safe period method to stop childbearing (Khan et al., 1989).

Decision making with regard to timing and frequency of intercourse are partly determined by the bargaining processes between husband and wife and sometimes by the influence of the husband’s mother (Jeffery et al., 1988b, cf. Caldwell et al., 1982a, Mandelbaum 1970, Karve 1965). Many studies indicate the frequently subordinate position of women in sexual decision making. In rural north India in particular, it was commonly reported that women were never consulted by their husbands in the matter of having sex, that they should always be responsive to their husbands’ desires, that their own pleasure should not be a consideration and that they never should take the initiative themselves (e.g. Jeffery et al., 1988a, Khan and Singh 1987, Koenig and Foo 1992, cf. George 1994, Kakar 1989). The internalisation and observance of such meanings and norms and the taboo on discussing sexuality severely restrict women’s control over pregnancies and births through control over sexual intercourse.

Biological determinants

There are a number of other intermediate determinants of fertility, such as spontaneous intrauterine mortality, onset of permanent sterility and natural fecundability, which lie largely beyond the domain of behavioural control. As such, they act as a kind of baseline in the ‘supply’ of fertility and do not require a behavioural explanation. However, biological proximate determinants can be influenced by behaviours that are subject to individual choice processes and institutional impact. Srinivasan, for example, suggests that the fecundity in India...
has improved in the last decades as a result of better nutrition and health (Srinivasan 1989, 1992).

8.5. Summary: fertility in India from a dynamic micro-perspective

The previous sections related elements of individuals’ reproductive decisions to the institutional environment and to personal development. The analysis addressed the information that shapes the meaning of fertility behaviour and of each of the proximate determinants and that generates related personal considerations, such as motivation structure, decision style and perceived behavioural control. It revealed a myriad of personal considerations that induce the behavioural connections from the social context, via personal development to the proximate determinants and fertility behaviour and lastly to more ultimate goals. In the picture different elements of the proximate determinants and fertility complex are dealt with by different segments of the institutional background and they in turn cover different segments of a person’s motivation structure. It must be emphasised that the social environment comprehended in the sense of structured information cannot be equated with a sure and hard ‘given’. Although in India the role of many institutions seems adamant about determining individuals’ behaviour, their informational content is not unchangeable as they exist because of their interpretation by and (sanctioned) adherence of participants. Thus, although people may seem convinced of the role played by divine powers in cases of illness or fertility, no one is absolutely sure of the exact causes and principles involved, thus often allowing themselves room to search and try alternative behaviours (cf. Caldwell et al., 1982, p. 703b).

Embarking on a summary of the analysis, religion and the patriarchal family system, particularly through rules regarding gender roles, can be considered to influence to a large extent motivation, control and decision style with regard to marriage, sex composition of offspring and childbearing at low parity. For the Indian family, family and gender relations, religious belief systems, labour markets and rural communities define a crucial position in almost any aspect in life. In general, the family system and religion define family maintenance and continuation as the prime avenue for achieving the most important life goals, and therefore as a common motivational background for many proximate determinants and fertility aspects. For women in particular, there are few, if any, salient alternatives to childbearing that secure them a position in a family and which can give them some guarantee for fulfilment of the most basic needs, not only in terms of economic and physical security, but also in the sense of social status, respect and emotional satisfaction. Other goals such as maternal health or women’s professional careers, tend to be subdued or even excluded from contemplation against this towering causal complex. As long as women’s position and function in the household is primarily defined in terms of motherhood, the marriage and fertility careers represent the most important life domains and dominate other domains such as education or health. Hierarchical power structures in the family along age and gender lines define decision frames in which considerable weight is assigned to husbands and older generations. Thus with regard to marriage and contraceptive use, complying with such family members appears importantly in women’s motivation structure, while with regard to, for instance, breastfeeding normative freedom tends to be greater.
Education seems to have a profound impact on people’s considerations with regard to most of the intermediate determinants and reproductive behaviour. It should be stressed that not only the content of school curricula may contribute to better knowledge and different motivation structures, but that participation in the educational system also provides people with the means to acquire more information from the environment and use it more effectively and thus (indirectly) influence motivation, decision styles and feelings of personal control with regard to various life domains.

The Indian family planning programme provides important inputs for considerations on birth control. But until recently mainly with regard to the number of children rather than to onset and spacing in the fertility career, because of its emphasis on sterilisation. The recent transformation of India’s family welfare programme may signify a major shift from its previous low performance in terms of improvement of people’s ability to make optimal decisions about birth control, fertility behaviour, health and their life course in general. The contraceptive method supply and Information, Education and Communication (IEC) efforts in the past have met with considerable criticism because of their assessed lack of client perspective, insufficient audience research and little social scientific basis of design. In this respect, studies also revealed that the quality of interpersonal relations (usually considered to be the most important medium for communication, demand creation and delivery of services) have lacked basic aspects of responsiveness, privacy and respect.

Observation, communication and personal experience extract the informational rules embedded in various institutions and contribute to the mental frameworks from which motivational structures, perceived options and constraints or personal control arise. They direct the search procedures that are part of the choice processes involved in fertility behaviour. In Indian villages these learning mechanisms often address a relatively small scope of information. The direct reference groups and the local communities usually provide relatively homogenous behavioural models. Village life and labour are primarily centred around agriculture with more or less strict rules about rights and responsibilities that organise people’s lifestyles. Cultural institutional backgrounds, such as religion and family systems are shared to a large degree.

Family planning and health facilities have sometimes little salience, education may be poorly accessible to girls and communication with the outside world through transport or media is often limited. Nevertheless, there is considerable social change in present-day India even in the remote rural villages. Even if communication, education and health systems do not function optimally, they still provide principal channels for new information. And once messages have entered local communities, they can rapidly spread through the informal networks of family, neighbours and friends, and can be applied in innovative behaviour.

It is not only social change that gives some nuance to the picture of fertility behaviour in India; a life-time perspective also warrants a differentiation of considerations and behavioural mechanisms. Marriage timing, the ability to use contraception effectively or reproductive motivation may depend on attained level of education. Women’s personal voice in reproductive decision making seems to be dependent on the stage in the life course. In the early reproductive career, choice with regard to sexuality, childbearing and contraceptive use is often characterised by high social pressure and little effective knowledge and control, and decision styles are often characterised by institutional rule following and low levels of explicit calculation. In later stages knowledge and power tend to increase, and the design of the further reproductive career is to a greater degree a matter of explicit deliberation. The salience of reproductive health may become greater after personal experience of pregnancies and
deliveries, and women’s knowledge about contraceptive methods accumulates through exposure to sources of information such as media, family planning workers and observation and discussion in the local environment. The analysis of the contents of the information backgrounds, their dynamic character and the processes involved in their translation into personal considerations contribute to an understanding of how people decide on matters of fertility and proximate determinants. The understanding of these principles underlying fertility behaviour can provide suggestions for and underpinnings of family planning and health programmes. If it is known which information reaches people, how they learn it, from which sources and via which channels, and how they use it in further stages of the choice process, more effective and better specified interventions can be designed which will allow people to behave in accordance with their capacities and basic needs.

8.6. The Indian Family Welfare Programme in behavioural perspective

8.6.1. Preface: the individual and the global perspective

The Action Plan for Revamping the Family Welfare Programme (Ministry of Health and Family Welfare 1992) marked a major departure from the past orientation on population and development in India. Although population growth remains a major issue underlying the programme, it has now explicitly placed human beings at the centre of the activities related to population and development. The programme also more firmly situates family planning within the broader context of reproductive health. In this respect it is congruent with) and considerably antedates) the International Conference on Population and Development (ICPD) in Cairo 1994. The effectuation of any new orientation, however, requires considerable time and a recent evaluation of India’s family welfare programme by the World Bank (1995) found that the implementation still faces a number of unresolved issues, among which the shift to a client-centred approach.

The major conclusion of the Cairo Conference, which is supported by the Government of India, is that individual well-being in terms of reproductive health or the status of women and demographic objectives in the sense of fertility decline can be pursued simultaneously if the design and management of programmes is directed to the rights, needs and ambitions of individual men and women. These functional and normative considerations define individuals’ and couples’ decision making as the key issue in development. The micro-perspective of this study adds the behavioural-theoretical component to these considerations and thereby provides the scientific underpinning of the individual-based approach. The framework represents the individual perspective of reproductive behaviour: how and why do people make choices about having a child, about using contraception or about utilising services, within their social context and within their life course. As such it can be a helpful frame of reference to develop the client-centred direction in which the Indian family welfare programme wants to move.

This formulation responds to an acknowledged need for a stronger theoretical foundation to increase the efficiency and effectiveness of intervention programmes in the field of fertility and reproductive health. One of the main outcomes of a World Bank donor workshop on effective
family planning programmes expressed that in order to arrive at effective programmes, more information about and a better understanding of the social aspects of women’s health and reproductive behaviour will be needed (World Bank 1992). The workshop also called for better methodologies to be developed for studying people’s behaviour and choices concerning health and fertility. After an evaluation of several decades of family planning programmes, Tsui *et al.*, (1992) arrive at similar recommendations about theory requirements (cf. ESCAP 1988, McNicoll 1992). Also for the particular case of India, the family planning programme and many IEC strategies have been criticised for the inadequacy of their social scientific underpinning (e.g. Bashar 1993, Jejeebhoy and RamaRao 1992, Shanmugam 1989).

8.6.2. Choice and information

The assessment of choice in terms of the notion of personal considerations would reveal people’s aspirations and functional values of fertility-related behaviours, the perceived options to realise these aspirations, the perceived control over actions required to realise them and the style of decision making involved in reproductive behaviour. Programme efforts should be directed to remove the various possible constraints associated with these considerations, which impede free, motivated and responsible choices and their effective implementation. Reproductive and health motivation, perception of and control over reproduction and health, and perhaps even decision styles may be seen as criteria for the identification of programme target groups.

Recommendations for programme efforts developed from a choice perspective would, of course, focus on expanding people’s perspectives through the provision of a broader range of contraceptives and of information about their availability. But IEC-activities would also include information that would allow people to position different contraceptive methods in their motivation structure in terms of relevant consequences of their use: financial and time costs, health risks, reliability, duration of effectiveness, the consent or cooperation of partners or a larger social environment, ethical or religious considerations, et cetera. Moreover, the provision of effective knowledge not only includes such motivational aspects, it also involves considerations of perceived control, which may determine how well people can successfully execute a behaviour required to implement choices with regard to contraceptive use or having children. New research is needed to establish the relevance of the concept of perceived control in family planning programmes and fill the gap of systematic knowledge about this aspect of reproductive choice. However, several efforts seem relevant if they are employed in the perspective of perceived control. These efforts would include the provision of accurate (physiological) knowledge about health, pregnancies and family planning methods, since lay concepts may represent incorrect ideas about intervention strategies or may lead to beliefs that desired outcomes are a matter of chance or fate; that they are unpredictable or under the control of other forces. Perceived control is likely to be a relevant concept in the sense that at present women may feel they have little influence in sexual, contraceptive or reproductive matters.

Although this will not be alleviated unless by broad social change, efforts might be directed to make those in the family with decision power more responsive to the needs of these women. Lastly, application of the notion of control in other study areas might suggest that aspects such as the ensured availability of contraceptive supplies or proper counselling and monitoring in service delivery may not only have practical implications for clients’ family planning and health
behaviour, but also consequences for the confidence and effectiveness with which they engage in contraceptive use.

A more deliberate style of decision making may be encouraged to allow women and couples to adjust their reproductive careers to other possible life goals such as good health, work or mobility. This might be established if spouses heed the consideration of timing (especially the first) pregnancy and birth, and if they engage in an explicit communication about the pros and cons of having a child or about related considerations such as contraception or sexual intercourse. IEC activities, therefore, should include messages that convey the idea that normative (institutionalised) patterns of marriage and childbearing are not necessarily those that would parallel the most desirable development of couples and individuals; the consideration of alternatives and spousal communication may reveal more suitable opportunities and provide people with real choice.

Responsiveness to people’s needs would require more than listening to what they say and providing solutions to identified concerns. The understanding of information processing and mental schemes that underlie decision making and behaviour, would also require that messages should ideally be phrased in idiom and concepts that are in line with their perception of reality. This underscores the need to adapt the design and organisation of IEC efforts to the local cultural context of the (potential) recipients (Bruce 1980, Warwick 1988). It should be recognised, however, that this may involve contradictions between on the one hand internalised mental frameworks, such as those derived from institutions like local knowledge systems about health and reproductive physiology, and on the other insights with a scientific and allopathic foundation. Similarly, girls’ and women’s position with regard to reproductive and health choices can and does arouse much dispute between institutional circles. Effective information and service strategies must somehow find a way out of this dilemma by carefully accommodating to people’s perceptions, without withholding essential messages and facilities from them. This does not necessarily imply an agreement with indigenous beliefs, but it does suggest an adequate knowledge of and connection to people’s mental frameworks.

Extensive audience research is required to assess both people’s representation of the choice situation and adequate programme responses by means of information and services. The analysis and interpretation of reproductive and health decision making in terms the framework’s personal considerations is a valuable contribution to the development of this audience research, which remains a deficient aspect of the IEC programme’s design (UNFPA 1991b, Shanmugam 1989, World Bank 1995).

8.6.3. Context and information

The incorporation of the institutional environment of individual considerations in the theoretical framework is a crucial provision with respect to a culturally sensitive formulation of IEC messages and services supply. It situates fertility and reproductive health in a broader perspective, not only culturally, but also socially, economically, politically and historically. An institutional analysis differentiates the sources of personal considerations and identifies their contents and influence, as well as their mutual and/or hierarchical interaction. Thus, it may embed local networks and community institutions in the multi-level context of, for instance, regional-based family systems and labour markets, national family planning and health programmes or nation-wide caste principles, and a global economic system, science or
consultative bodies (cf. Retherford and Palmore 1983, Watkins 1989). The contextual disentanglement not only provides essential understanding of the backgrounds of individual behaviour and the channels through which information reaches decision makers. It can also subsequently help to identify (and even design) the social institutions, in different sectors and at different levels, that can play a role in the achievement of the aim of providing people with the possibility of free, motivated and responsible choices.

The question then becomes how the needs and requirements of individuals can provide an input into national policies and programmes, or even into global actions and agreements (such as the ICPD Programme of Action or efforts in social-behavioural or medical sciences) and how the results in the form of services or messages can be transmitted to the people by transforming the institutional context at different levels and in different sectors. This need not be restricted to the public health sector at various levels, but may also involve the private sector (e.g. for provision of contraceptives, care at childbirth), the voluntary sector and NGO’s, as well as other public sectors, such as legislation or the educational system. Evaluations have pointed out that in India the educational curriculum can be improved by more attention to practical knowledge and skills for life, such as matters concerning health, basic ideas about conception and pregnancy, and the essentials about different contraceptive methods. Moreover, education can contribute to a general improvement of the status of girls and women if (implicit) adverse gender stereotypes in the curriculum are averted (UNFPA 1991b, UNICEF 1991, World Bank 1991).

Furthermore, support can be sought by representatives of more informal institutions. Thus, those exercising power in the family with regard to reproductive decisions (the husband, the mother-in-law) could be given specific information with regard to their contribution to the reproductive health of their wife or daughter-in-law. At the community level beyond the direct household or family circle, priests or imams could be invited to strengthen certain messages from a religious point of view. Other local institutions (women’s groups and mandals, folk groups, the panchayat system) can and have been used to plan and implement health and education activities, or to disseminate related information.

8.6.4. Life course and information

Health and childbearing can be situated not only contextually, but also in the dimension of life time. As with the position taken within a context, the position in the life course has a profound influence on perceptions of, motivation for and control over reproductive behaviour. It underpins the idea that target groups should not only be differentiated on the basis of situational or personal characteristics, but also on aspects that are connected to the successive stages in people’s lives (Bruce 1990, Irudaya Rajan, et al., 1993, Khan 1987). The strong emphasis on sterilisation in the history of India’s family planning programme focused on the last stage of the reproductive career and severely neglected the requirements of people before they wanted to stop having children, or on their possible role in later stages of life.

A life course approach provides an important criterium for the identification of target groups for the family welfare programme. A major implication in this respect would be the programmatic focus on adolescents and especially girls (before entering marriage). They should be provided with some basic knowledge to prepare them for their reproductive and marital careers and to allow them free and informed choices in these matters. But also in the broader perspective, the formative phase of adolescence is considered essential for further life development and general orientations. Education plays a crucial role in the perspective of
reproductive health and fertility. Not only because of the perceived incompatibility of the marital (and childbearing) and educational careers which prevents the risks of early childbearing but also of the educational effects in the sense of strengthening women’s position in the family and in the sense of improvement of decision processes: it may stimulate ways of thinking and information processing that involve more mental reflection, more initiative for information search, more accurate interpretations and higher confidence in personal capacities (Cochrane 1979, Basu 1992, Jejeebhoy 1991, Mason 1984, Sears 1987, United Nations 1987). The specific needs of adolescents would involve the demand for counselling and easily accessible, reversible and effective means to prevent births and secrecy of service and delivery. In subsequent stages of the reproductive career, the need for reversible family planning methods may become apparent, because of health considerations but probably also because of other reasons. Sustained availability and effective knowledge of such methods are prerequisites for a free and informed choice in this matter. At the end of the reproductive career sterilisation may be added as a viable alternative to the contraceptive mix. In India decision making on childbearing, contraceptive use, marriage, and sometimes also breastfeeding and sexual intercourse, is not entirely a private concern. Parents, parents-in-law (particularly mothers-in-law) and husbands often exert extensive influence over these decisions. Programmes can therefore be directed at such secondary target groups with the aim of sensitisation about health aspects of specific reproductive behaviour, enhancement of women’s position in the household and eliciting support for the reproductive choices of the primary target groups (cf. Ruzicka and Kane 1987, Shanmugam 1989).
8.6.5. Sources and channels of information

Information, education and communication strategies refer to the efforts to spread relevant information to the people. Apart from the question of which specific information is relevant and what is the target audience, such strategies also involve the question of how to convey such information effectively and efficiently. The choice of communication channels is, however, importantly dependent on the specific issue at which a campaign is directed and the specific target group for whom the campaign is designed. There are a number of avenues through which people become aware of relevant information which may influence their considerations underlying their reproductive behaviour.

In an overview article about interpersonal communication in family planning programmes in the ESCAP region, Limanonda distinguishes four categories of interpersonal communication:

1. Communication at the individual level which includes face-to-face communication, word-of-mouth, peer group discussions, interactions between neighbours, and personal contacts between ‘satisfied’ current users and the potential users, but also the negative rumours circulating in a community (cf. Entwisle et al., 1996, Freedman 1987, Khan 1987, Niehof 1992, Sathar 1993). A crucial social factor appears to be peer use not simply peer approval which clearly concurs with the ideas of social learning theory.

2. Communication at the family or household level includes husband-wife communication and interactions between family members. The strict segregation between male and female worlds in India impedes communication between husband and wife to a large extent (cf. Hollerbach 1983, Khan and Singh 1987, Koenig and Foo 1992).

3. Intra-programme communication involves the interaction between the different levels of the operational and management system, from the policy makers to the grassroots workers (e.g. Rajarettnam and Deshpande 1994).

4. Communication in the information and services providing process pertains to the interaction between family planning service providers or other change agents and service recipients or clients: contact with doctors, healthworkers, dais, but also with school-teachers, salespeople, performers in village theatre or puppet shows, et cetera.

Both theoretical studies (e.g. Bandura 1982, 1986) and empirical observations in the field of family planning (e.g. Bongaarts and Watkins 1996, Cleland 1987, Entwisle et al., 1996, Freedman 1987, Khan 1987, Niehof 1992, Sathar 1993, Watkins 1989) show that, apart from own experimenting, observing others’ behaviour and direct communication with family members and direct acquaintances represent the major sources and channels for learning. Despite this acknowledged importance, the means to utilise these informal information channels are limited. Nevertheless, knowledge of local networks and the function of behavioural models may help to identify target groups for IEC efforts. Another issue is, however, how relevant information gets into local networks in the first place, before it spreads through these channels (cf. Caldwell et al., 1987b).

Mass media, education, and the interface between (prospective) clients and service providers (doctors, health workers, extension workers, dais, et cetera) are main avenues to penetrate local conversation and disseminate information from various institutional backgrounds. Mass media can be exploited in IEC strategies, particularly in the sense of creating awareness among large audiences. The messages conveyed through mass media need to relate to people’s existing decision frameworks in order to generate adequate effect. This implies that messages
conveyed through mass media need to address specific issues, must be directed at specific
target audiences and should be based on thorough audience research (cf. Bashar 1993).
However, the potential of mass media to influence motivational aspects, personal control, or
decision styles without support from other communication channels seems to be limited
(Bashar 1993, Limanonda 1993, UNFPA 1991b). Research and communication experts
indicate that interpersonal communication is necessary to change attitudes and opinions and to
build up motivation to utilise reversible contraceptive methods or adopt family planning in
general (Bashar 1993, Limanonda 1993, Rogers 1973, UNFPA 1991b). In that sense, mass
media and interpersonal communication must be seen as complements, rather than as
substitutes. Interpersonal staff-client relations are the most effective commu-nication medium
available for IEC strategies to influence people’s personal considerations. Under the condition
that this direct interpersonal communication conforms to certain quality standards, it usually
has a more profound impact on people’s motivation, sense of control and decision styles than
communication through mass media.
Although schooling is not primarily developed for dispersing information about reproductive
behaviour, part of the educational curriculum could be focused on matters concerning health,
fertility and aspects of proximate determinants. This would involve basic ideas about
conception and pregnancy and the essentials about different contraceptive methods.
Furthermore, education seems to have fundamental effects on people’s motivation, awareness
of behavioural options and skills to make decisions in accordance with their needs. The crucial
importance of schooling is, moreover, emphasised by the notion that at the end of the period of
adolescence in which children receive education, basic life orientations have sunk in and carry
their impact throughout the rest of life. Education in forms other than formal schooling may
consist of support of women’s groups or utilising the potential of local artists’ groups. This last
form has the advantage of being very adaptive in the sense of its ability to implement
information tasks in a culturally sensitive way and focusing on specific target groups within the
population.
Lastly, information can be channelled into a community through messages by those who are
considered important by relevant target groups in the community: religious leaders, panchayat
members, central figures in local networks. Their identification, in turn, depends on a careful
(institutional) analysis and their support must be sought, which may define them as secondary
target groups for a IEC programme.
8.6.6. Conclusion

Contextual analysis and audience research concerning people’s considerations about reproductive behaviour and health are primary requirements to accomplish a client-centred family planning and health programme as envisaged by the Indian government. They are indispensable for the identification of target groups, the contents and channels of programme efforts, and the barriers to individuals’ free, informed, motivated and responsible reproductive decision making. They are similarly required to identify the institutional sectors and levels to focus practical and effective interventions. The framework’s analysis in terms of choice, institutional context, learning and life course can be viewed as providing important behavioural-theoretical starting points in this respect.
Chapter 9. Conclusion

9.1. Introduction

Demography needs theoretical foundations. It does not need theory as a goal in itself, nor does it need profound theories to produce the statistics on the events and states that form the core of a discipline whose task is to describe populations and population changes. At least, it does not need much behavioural theory in this respect. But it does need behavioural-theoretical backgrounds to place demographic phenomena and demographic change in a perspective that allows their adequate interpretation; such backgrounds are indispensable for an answer to the most fundamental and ever recurring question of scientific endeavour: why? The value of this study is situated in the provision of an interpretive framework to answer this question.

Demography has a variety of theoretical backgrounds, but as yet these are not sufficiently adequate for a satisfactory answer to this fundamental question. Taken together they are often inadequate in the sense of completeness, coherence and, much too often, depth. Pending the evolution of the theoretical apparatus for a fuller understanding, demography has little to offer for the design of effective intervention programmes or population policies. As a scientific discipline it has witnessed that (quantitative) data collection procedures, descriptive ability and statistical analysis on the one hand, and theory development on the other, have proceeded at different speeds. Acknowledging their interdependence, this book intends to contribute to the side of further progression of the conceptual background of demography and, specifically, fertility studies. In this respect, a deductive approach is followed: starting from a number of explicit premises about human behaviour, a general theoretical model is conceived for the study of fertility. In particular, it aims to provide a social-behavioural background for research and research-based action in the field of fertility and reproductive health. The various chapters of this book pursue a number of theoretical elements and starting points required for an encompassing conceptual framework of fertility which is presented in Chapter 7. This final chapter summarises the conclusions that can be drawn from the effort to integrate these constituent elements and from the application of the framework as presented in Chapter 8.

9.2. Conceptual issues

Given the nature of demographic events, demography can be classified as a social-behavioural science, even though it has to incorporate a strong biological basis. The state of the art in the discipline, or in the social sciences in general, does not permit the conceptualisation of a ‘grand unifying theory’ for demography. Most probably, the development of such an overarching theory will remain out of reach in any foreseeable future. Nevertheless, at a meta-theoretical level, it is possible to assess the various conceptual building blocks of an integrated theory and to consider their position in relation to one another. Following the major debates within and between the social sciences, these would prominently involve the role of structure and individual agency and the notion of dynamics that underlie phenomena of interest at different levels of analysis. Therefore, these major concepts delineate the structure of this book and
provide the basis for the theoretical framework presented in Chapter 7, while a biological component adds to this general model the adjustment for an approach to fertility. Any further conceptualisation of structure, agency and time requires the choice for specific theoretical orientations. This study’s aim to contribute to a theoretical basis for the understanding of fertility with possible implications for the design of intervention strategies directs this choice towards an individual and interpretive orientation. In the tradition of methodological individualism, it defines individual fertility behaviour as the ‘analytical primacy’ to explain reproductive outcomes at the societal level, but in turn it relates to the formative processes objective and subjective that underlie individual behaviour. In this respect it becomes clear that the understanding of fertility crucially depends on a realistic model of man for demography.

The elaborations of various concepts in this study have shown that a cognitive perspective can provide an adequate orientation for a general theoretical framework of fertility. It can offer consistent conceptualisations of structure, behaviour and change, including the processes through which context (structure) and individual development (change) impinge on behaviour. The key concept in this cognitive approach is ‘information’ and its application is associated with its supply, reproduction and change, and its attendance, retention, organisation and actual use by individual agents. To the extent that these processes of individual consideration touch upon the (socio-)biological determinants of fertility, they can provide an adequate analytical background for the understanding of reproductive behaviour. The common interpretation in terms of information of both structure and agency furthermore provides a conceptual solution to the problem of the macro-micro gap that is encountered in the social sciences (cf. Bandura 1982, Esser 1993).

The model of fertility presented in this book deals with some of the major issues encountered in the social sciences, including demography. The framework’s structure satisfies the need to cast explanation of demographic phenomena in a multi-level perspective (e.g. Bilsborrow et al., 1997, Wunsch 1995). It not only acknowledges the basic distinction (and interrelation) between structure and agency in terms of context (macro) and behaviour (micro). The structure also distinguishes different levels within the embedding social context, and it differentiates between an individual and an intra-individual level within the microlevel. The study suggests that each level by itself, but importantly also the interpretation of the linking processes between the different levels, provide a distinctive contribution to the understanding of fertility behaviour (cf. Greenhalgh 1995b).

Furthermore, the model mirrors the increased attention for process approaches which can be read as a paradigm shift in the social sciences, including demography (cf. Crimmins 1993, Willekens 1990b). The time dimensions incorporated in the framework in terms of life course development, institutional change and the processes underlying individual choice, assert that reproductive outcomes cannot be adequately understood by reference to only present circumstances, states and perceptions, but crucially also acquire their meaning through the emergence of these in evolutionary, developmental or procedural perspectives.

The thematic Chapters 4, 5 and 6 provide interpretations of the model’s basic components by elaborating a theory of individual behaviour, an approach to the structure and contents of the environment embedding individual agents, and by providing a dynamic perspective, in particular with regard to changes and development over the life course. Furthermore, they address the socio-biological determinants of fertility which provide the last step in the causal
chain leading to reproductive outcomes.
The quintessence of the life course is envisaged as the people’s evolving mental representation of reality ensuing from events, developments and anticipations in different life domains, which structure their sequential and parallel careers. The various types of considerations that people employ in reproductive behaviour are interpreted as cognitive constructs that are shaped, maintained and reshaped, depending on these changes in different life careers.
The challenge to define the directive role of the social environment has been taken by perceiving context in terms of social institutions made up of complexes of rules of meaning and behaviour that are constructed, reproduced and changed through the interaction between people. The structure by institutions lends to the social environment is captured in terms of contextual levels, subsistential dimensions of institutions and their impact on different life domains. In this way, the conceptualisations of context and life course provide articulations of their meaning to individual agents and their effects on behaviour.
The leading principle to capture behaviour is embodied in a theory of choice. The notion of choice is elaborated beyond the conceptualisation prevailing in standard decision-making theories and allows a much broader spectrum of human behaviour to be addressed, if only as a benchmark (Elster 1983, 1984, cf. Ní Bhrolcháin 1993). The broad concept of choice includes a number of issues that are suggested to account for the personal considerations that shape individual’s fertility behaviour: a perspective on the construction of motivation for behaviour, a theory of attention and representation, the addition of perceived personal control in decision making, and a regard for the heuristics and styles of decision making. This elaboration relies on the assumptions of a realistic model of man (Chapter 2) and transforms the concept of choice into a tool to make behaviour understandable, rather than a tool to forcibly compress behaviour into the confines of a small sense of rationality. The central theme of this approach to behaviour formation is to identify and describe how and why people decide and behave in the way they do: which processes are involved, what are the contents of their considerations, and how are these related to the social context and the individual life course.
Lastly, the link between social, developmental and behavioural backgrounds on the one hand, and the (biological) outcomes of fertility on the other, is represented in the framework by incorporating a model of intermediate fertility determinants as derived from the work of Davis and Blake (1956) and Bongaarts (1978). The function of this conceptualisation of intermediate determinants lies in its ability to identify and structure those choice considerations that are relevant to the extent that they actually impinge on the physiological processes of conception, pregnancy and childbirth.

Although the different concepts appearing in the framework acquire a certain degree of coherence due to their specific elaboration in terms of an interpretive and information-oriented perspective, they still reflect their theoretical origins. Some of the concepts ) such as the developmental-psychological perspective on the life course, learning processes, choice processes and heuristics) have been introduced from neighbouring disciplines, while others - in particular the notion of intermediate determinants (Bongaarts 1978, Davis and Blake 1956) - originate from within demography itself. Others again may concern theoretical constructs developed in other disciplines but already applied to the field of demography. For instance, the role of life course development in the model mirrors Easterlin’s hypothesis (Easterlin 1978b, 1980). The choice perspective on individual behaviour retains some links with psychological decision making approaches applied to fertility, in particular with attitudinal and value-expectancy approaches (e.g. Bagozzi and Van Loo 1991, Bulatao 1981, De Jong and Fawcett
Some of the aspects of choice (locus of control, decision styles, dynamic choice considerations, choice as a process) have been addressed in occasional publications (cf. Bulatao 1984, Fawcett 1991, Hollerbach 1983, Hull 1983, Namboodiri 1983), but never in a coherent way as in this study. The institutional approach suggested in the model is in line with a recent branch of demographic theory headed by Greenhalgh and McNicoll, and which traces its origins to anthropology and institutional economics (e.g. Greenhalgh 1995b, McNicoll 1994). However, its conceptualisation is taken a step further, thereby taking up some of the threads left dangling in the original article by McNicoll (1980) and extensively relying on cognitive fields within economics, anthropology and sociology (e.g. D'Andrade 1995, Burns and Flam 1987, Giddens 1984, North 1994, Nelson and Winter 1982). Lastly, the (renewed) search for some theoretical content of diffusion of fertility-related behaviour and considerations (cf. Bongaarts and Watkins 1996, McNicoll 1992, Pollak and Watkins 1993) may be met by the mechanisms of social learning that are introduced and developed in this study.

9.3. Methodological issues

The model of fertility represents not a formal theory as much as an interpretive framework. In this respect, it constitutes a rather foreign element among the standard, quantitatively-oriented approaches in demography. Given the origins of many of the model’s components, there might be a good chance to develop those concepts into formalised approaches, if desired. But the very aim of this study (to acquire a thorough understanding of reproductive behaviour and to comprehend the meaning of the constituent factors and processes) cannot easily be realised by the standard, survey-like methodologies and quantitative analyses. A more interpretive approach is better suited to this task (cf. Greenhalgh 1995a, Lockwood 1995, Obermeyer 1997) and therefore, the application of the model of fertility would firstly rely on qualitative and more holistic methods, such as case studies, in-depth and focus-group interviews, (participant) observation, network research, but also the exploration of local archives, document analysis and historical accounts.

This appraisal of qualitative methods by no means rejects the value of quantitative research; it only states that for specific aims, interpretive research methods may be favoured. Ideally, qualitative and quantitative methodology should be complementary and reinforce each other towards a full and representative account of demographic behaviour. Qualitative research yields different information and can provide both an interpretation frame for results from other studies and a guide to collect specific quantitative material (cf. Bongaarts and Watkins, 1996, Knodel 1997, Lockwood 1995). Several research projects have already demonstrated this complementarity and synergy, for example Caldwell et al., (1982b) on demographic change, Eelens et al., (1992) on labour migration, Hutter (1994) on health during pregnancy, Khan et al., (1989) on access to family planning services, and Hull et al., (1988) and Shedlin and Hollerbach (1981) on fertility regulation.

9.4. Evaluation and future perspectives

The main contribution of the interpretive model presented in this book consists of the provision of theoretical depth to the discipline of demography. It does not provide an exhaustive and all-
encompassing theory for demography, nor one for the narrower field of fertility. But it does provide a contribution to the foundations of demographic theory, in terms of both extending the theoretical basis of the discipline and integrating different approaches. In this respect the model of fertility addresses the requirements formulated for social theory (cf. Chapter 2) and enhances several of the shortcomings and lacunas that were identified with respect to the existing theoretical approaches (Chapter 3).

The added value of the fertility framework consists first and foremost of its ability to present in an integrated perspective different concepts that are required to understand how and why reproductive behaviour evolves in terms of starting, spacing and stopping of childbearing, the number of children born or the sex composition of offspring. Although the model definitely adopts a microperspective, it explicitly encompasses both the micro and the macro level as well as the dynamics that are inherent to context and individual behaviour. Moreover, these major concepts are elaborated in a way that emphasises their interactive processes and their meaning vis-à-vis one another. The model provides an interpretive background for research findings by proposing various conceptual elements that enable a comprehensive understanding of reproductive behaviour. Furthermore, the model may direct the research focus itself and it suggests lines along which research activities may proceed. Since the research efforts implied by such a holistic framework involve a very large amount of work and different expertise, the model may well be perceived as the kind of research agenda McNicoll (1992) had in mind to further develop the field of population studies.
Whereas a major function of the model is to unite a number of theoretical perspectives from within and outside demography in order to provide an encompassive approach to fertility, it also contains some important contributions to their further development and application. They provide the conceptual tools to better interpret subjects like life course development or diffusion, and, in particular, fertility decision making and the meaning of the embedding social context.

In combination with and in addition to this contribution to population research, the notions underlying the model can provide a theoretical basis for the design of effective intervention programmes, for instance in the field of family planning or reproductive health. The application of the model for the case of India in Chapter 8 indicated that the specification of the aspects and processes involved in reproductive behaviour can help to direct possible intervention strategies and identify promising points of impact. Its foremost value may be situated in its ability to locate, from an individual and subjective point of view, the problems people encounter to attain a desired reproductive outcome in terms of health and number and timing of children. These boil down to inadequate knowledge about and (perceived) control over fertility and fertility-related behaviour; insufficient and non-client oriented supply of services and facilities, both in terms of methods and treatment, as well as in terms of information and messages conveyed. An interpretation according to the conceptual model identified the sources of these problems in terms of the impact of the institutional context on the meaning of children and fertility, on gender relations, on the status of women over the life course as well as on the information and behavioural options available to people to regulate fertility in agreement with their own needs. Such analysis may further indicate which information and services, from which sources, and through which channels to which audience a family planning and health programme should operate to improve people’s opportunities in this respect. In view of this, the theoretical reasons for employing an individual perspective to the study of fertility are backed-up by a functional consideration and, taking into account the central position assigned to individual men and women in the ICPD Programme of Action, a normative motivation as well.

Another important feature of the model is its general applicability. The model’s formulation is content-free and its concepts and processes are considered to have a universal validity, even though some will be more relevant in one setting than in another. The model provides a general framework identifying and situating these various concepts and processes; their specific contents will depend on situational analysis. In this way it is suitable for the study of fertility in, for instance both Western and non-Western settings. There is no reason to question the relevance of the concepts of social institutions or even rationality and choice as defined in the broad sense, although their specific form and contents will vary over time and place (cf. Blake 1994, Greenhalgh 1995b, McNicoll 1992, Ní Bhrolcháin 1993). Accordingly, the model explicitly defines individual fertility behaviour as context-dependent, but it provides a general perspective for this dependency by introducing context as a variable and a subject of examination, rather than as a given (cf. Hammel 1990, p. 455). In this respect, the model provides the conceptual tools to Greenhalgh’s terms) “situate fertility, that is, to show how it makes sense given the sociocultural and political economic context in which it is embedded” (Greenhalgh 1995b, p. 17).

The only part of the framework that is not exactly content-free is the incorporated model of intermediate fertility determinants, but its inherent physiology may be considered to be an
objective representation of fertility. The incorporation of these determinants adjusts the general model to the specific study of reproductive behaviour. If this part is omitted or modified, the model is in principle applicable to other demographic behaviour as well. In this perspective it can be considered a general foundation of demography.

Whereas many of original theories comprised in the model supported quantifiable measurement, the related concepts appearing in the model of fertility have a more interpretive character. A major issue for future research remains, therefore, the (renewed) operationalisation and formalisation of the theoretical approaches represented by the framework. At this time, however, the interpretive nature of the framework presents a plea to complement the standard and strongly quantitative approaches in demography with ones that are located towards the end of the continuum between quantitative and qualitative methodology. Especially in view of the aim to understand the complexities of reproductive behaviour, qualitative methods may be the most valuable way to acquire the meaning and role of choice, life course development and context (Obermeyer 1997, Caldwell 1988). In this respect, the model fulfils the purpose it was developed for in the first place: a contribution to the theoretical foundation of demography for the interpretation and understanding of fertility.
Appendix. Concepts and Definitions

Action. All human behaviour when and insofar as the acting individual attaches subjective meaning to it. Action in this sense may be either overt or purely inward or subjective; it may consist of positive intervention in a situation, of deliberately refraining from such intervention or of passively acquiescing in the situation (cf. Weber 1947, p. 88).

Behaviour. Any activity (or non-activity), either intended and foreseen or unintended and unforeseen. Thus, it also includes not only motivated action, but also the outcomes of, for instance, biological processes or chance.

Choice. The encompassive process of orientation (information search), and valuation, selection and implementation of behavioural alternatives. This mental activity is not restricted to ‘logical’ and reasoned thought, but also includes moral, ethical, emotional considerations. This study uses ‘choice’ and ‘decision making’ as synonyms.

Cognition. Cognition is understood in the broad sense of the (subjective) interpretation and representation of the world. It includes processes of attendance, selection, processing and organising of information.

Cognitive schemes. Cognitive or mental schemes represent the knowledge structure of individual agents which provide them with the opportunity to organise information and to structurally interpret experiences, events, behaviours, situations, etc. (cf. Bandura 1977b, 1986, D’Andrade 1995, Piaget 1975, Wyer and Gordon 1984).

Concept of the person. See ‘Model of man’.

Context. The (institutionally) structured environment from which individual actors deduce information about options and constraints for behaviour and the values attached to these.

Culture. A more or less shared, loosely internalised set of ideas, transmitted and reshaped by interaction through which individual actors attribute meaning and coherence to the world and its materialisation in objects, symbols and behaviour (cf. D’Andrade 1995, Hammel 1990, Handwerker, 1986).

Decision making. See ‘Choice’.

Information. All the explicit and implicit models, meanings and messages that may result from the interaction between contextual or personal stimuli and agents’ interpretative capacity.

Institution. A relatively coherent set of rules comprising information about the meanings of objects, symbols, behaviours and events in specific recurrent situations of interaction between people, about the participants’ rights and duties in these situations, and often accompanied by sanctioning mechanism that enforce expected behaviour (cf. Burns and Flam 1987, D’Andrade 1984, Denzau and North 1994, Langlois 1986c).


Mental schemes. See ‘Cognitive schemes’.

Model of man. A set of basic premises about human capabilities, constraints and characteristics.
that are relevant for understanding behaviour in a setting specified by research goals. The premises of a demographic ‘model of man’ relate to the underlying biological dimension of demographic behaviour, the role of mental agency in human behaviour, the importance of motivation and rationality in decision making, the social embedment of individuals, and the time-dependency involved in personal development.

**Personal considerations.** The information content that actually enters the decision making process and the principles along which this information is attended and processed.

**Rationality.** Rationality denotes a style of behaviour that is appropriate to the achievement of given goals, within the limits imposed by given conditions and constraints (H.A. Simon 1964, p. 405).

- **bounded.** The concept of bounded rationality recognises that behaviour is rational not with respect to the richness of the objective world, but only with respect to a model of reality that rests on partial information and limited reflection (Sen 1987, H.A. Simon 1957, 1978, 1979a).


- **procedural.** ‘Procedural rationality’ refers to the effectiveness of the processes to generate an adequate representation of a decision problem and to choose appropriate courses of action in the light of human cognitive powers and limitations (cf. Simon 1978, 1979a, 1987).

- **substantive.** ‘Substantive rationality’ refers to the extent to which appropriate courses of action are chosen to optimally achieve given goals in view of the characteristics of the objective environment in which people make their decisions (cf. Simon 1978, 1979a, 1987).

**Rules.** The rule concept captures the idea of abstracted, generalised and socially shared information about the definition of actors, situations, events, valuations (meaning-giving) and about expectations, norms, rights and obligations (behaviour-guiding) that is produced, maintained, transformed and implemented in the interaction of individual agents, and that often tends to be organised into institutional systems of rules that apply to particular spheres of social activity (cf. Burns and Flam 1987, D’Andrade 1984, Hargreaves 1980).
Samenvatting


Het is op dit terrein dat het doel van deze studie is gelegen: het bijdragen aan de theoretische basis van de demografie als gedragswetenschap. Het beoogt daarbij *een interpretatiekader waarvan de conceptuele bouwstenen op een samenhangende wijze leiden tot een fundamenteel begrip van de causale processen van demografisch gedrag en de verandering daarvan, en met dit begrip tot de mogelijkheid onderzoek, beleid en activiteiten te ontwikkelen op een gedragswetenschappelijke basis*. Hiermee wordt niet het belang van de kwantitatieve aspecten van de demografie als wetenschap ter discussie gesteld; wel wordt gesteld dat de discipline gebaat is bij een evenwichtige ontwikkeling: concepten en theorie naast kwantificering en empirie. Het onderwerp van dit boek betreft het eerste en richt zich daarbij specifiek op het ontwikkelen van een conceptueel kader voor vruchtbaarheid. De gekozen benadering leent zich echter ook voor de interpretatie van andere demografische verschijnselen.

Het onderzoek volgt een deductieve benadering: het gaat uit van een aantal vereisten van sociale theorievorming en van een aantal fundamentele assumpties van menselijk gedrag in het algemeen en reproductief gedrag in het bijzonder (Hoofdstuk 2). Deze uitgangspunten vormen de achtergrond van de structuur en inhoud van het conceptuele model dat ingevuld kan worden aan de hand van een plaats- en tijdspecifieke situatie.

De voornaamste sociaaltheoretische uitgangspunten worden weergegeven door het onder- schrijven van een methodologisch-individualistische benadering en het onderkennen van het belang om het aspect tijd toe te voegen als verklaringsdimensie. Een methodologisch-individu-alistische benadering veronderstelt dat voor een begrip van een maatschappelijk verschijnsel - zoals vruchtbaarheid - inzicht nodig is in de gedragingen van individuen die tezamen leiden tot deze uitkomst. De uitwerking van dit microperspectief in Hoofdstuk 2 suggereert dat hiervoor
een *theorie van individueel gedrag* vereist is, en een conceptuele weergave van hoe individueel gedrag is ingebouwd in een *maatschappelijke context*. De toevoeging van een *tijdsdimensie* impliceert vervolgens een procesbenadering, waarbij context en individueel gedrag (en daarmee maatschappelijke verschijnselen als fertilititeit) opgevat worden als evolutionaire, padafhankelijke processen (Sectie 2.3).

De gedragstheoretische uitgangspunten die hierbij een centrale plaats innemen zijn gevat in een *‘demografisch mensbeeld’* (model of man for demography). Dit mensbeeld wordt weergegeven met de Engelse afkorting BMMRSDM: *Biological, Mentally endowed, Motivated, Rational, Social, Developing man* (Sectie 2.2). Het expliciteert de biologische dimensie van vruchtbaarheidsgedrag, de rol van cognitie in gedragsvorming, het belang van motivatie en rationaliteit als gedragsgronden, de sociale inbedding van individuen en de tijdsdimensie in individuele ontwikkeling. Een deel van Hoofdstuk 2 gaat in op de verschillende vormen en interpretaties van rationaliteit en suggereert een formulering die in overeenstemming is met een realistisch mensbeeld (Sectie 2.4).

Hoofdstuk 2 verschaft het geraamte voor het conceptuele fertiliteitmodel. Met de drie kern-elementen ‘individueel gedrag’, ‘context’ en ‘tijd’ en het geformuleerde mensbeeld biedt het de criteria en het referentiekader voor de evaluatie van bestaande theoretische benaderingen van vruchtbaarheid in Hoofdstuk 3. Tevens biedt het de aanknopingspunten voor de uitwerking van individueel gedrag, context en tijd en hun onderlinge samenhang in hoofdstukken 4, 5 en 6 in termen van, respectievelijk, keuzeprocessen, sociale instituties en een leertheoretische benadering van de levensloop. Daarbij wordt het begrip *‘informatie’* als interpretatiemedium gehanteerd om de conceptuele elementen in een geïntegreerd model te kunnen vatten.

Hoofdstuk 3 bevat een overzicht en evaluatie van de voornaamste gedragstheoretische fertiliteitbenaderingen binnen de demografie. Het doel van dit hoofdstuk is een weergave van de sterke en zwakke punten van theorievorming binnen de demografie aan de hand van de in Hoofdstuk 2 geformuleerde uitgangspunten voor theorievorming. Het overzicht onderscheidt achtereenvolgens Malthusianse theorie, transitietheorie, biologische benaderingen, micro-economische theorieën, sociaal-psychologische theorieën, diffusietheorie en cultureel-structurele benaderingen.

Het resumé biedt een beeld van een aantal conceptuele benaderingen die elk een deel beslaan van het inzicht in vruchtbaarheidsgedrag. Daarbij is sprake van een zekere complementariteit, maar nauwelijks van enige integratie van ideeën (cf. Van de Kaa 1996). Gegeven de uitgangspunten voor de ontwikkeling van een algemeen conceptueel model voor fertilititeit, zijn er echter een aantal benaderingen die een waardevolle bijdrage leveren. De *‘proximate determinants’* modellen van Davis en Blake (1956) en Bongaarts (Bongaarts 1978, Bongaarts en Potter 1983) bieden een uitstekend houvast voor de biologische dimensie van vruchtbaarheidsgedrag. De sociaal-psychologische benaderingen verschaffen een aantal relevante aanknopingspunten voor de ontwikkeling van een theorie van individueel gedrag, met name ten aanzien van de conceptualisering van motivatie en besluitvorming. De binnen de demografie gangbare benaderingen zijn echter nauwelijks representatief voor de huidige stand van zaken van theorievorming in de psychologie en verdienen derhalve aanvulling en aanpassing. Met betrekking tot de conceptualisering van context bestaat er een aantal recente ontwikkelingen in de demografie waarop deze studie heeft voortgebouwd. Hierbij gaat het met name om de institutionele benaderingen zoals voorgestaan door McNicoll, Greenhalgh en Lesthaeghe. De eveneens vrij recente aandacht voor levensloopbenaderingen biedt een uitgangspunt voor de uitwerking van een tijdsdimensie, maar behoeft een verdere substantiële invulling.
Hoofdstukken 4 (keuze), 5 (context) en 6 (tijd en verandering) geven de uitwerking weer van de drie kernelementen van het conceptuele model. Hierbij wordt deels voortgebouwd op de relevante theoretische benaderingen die in Hoofdstuk 3 werden geïdentificeerd. In belangrijke mate worden echter ook nieuwe elementen uit verschillende aangrenzende disciplines - met name sociologie, antropologie en psychologie - geïntroduceerd. Het microperspectief dat dit onderzoek kenmerkt komt tot uiting in de cognitieve benadering van deze modelementen. In het licht van deze cognitieve benadering wordt in Hoofdstuk 4 een interpretatie gegeven van het begrip ‘informatie’ als integrerend principe in het vruchtbaarheidsmodel. Informatie wordt hierbij niet opgevat alleen in de zin van expliciete communicatie, maar ook van impliciete betekenissen, signalen en emoties. Individuen worden hierbij gezien als actores die geplaatst zijn in een context van informatie en die een actieve bijdrage hebben in de constructie, selectie en interpretatie van informatie. Dit leidt tot de uitwerking van *cognitieve schema’s* (de mentale organisatie van informatie) en *individuele consideratie* (de subjectieve informatie-elementen die ten grondslag liggen aan gedrag) als centrale concepten in de theorie van individueel gedrag.

De toepassing van een *keuzetheoretische benadering* van individueel gedrag in Hoofdstuk 4 houdt niet in dat alle gedrag opgevat wordt als uitsluitend de uitkomst van expliciete en weloverwogen besluitvorming. Gesteld wordt echter dat een keuzebenadering als referentiekader een adequaat analytisch instrument kan zijn om individueel gedrag te interpreteren en te begrijpen. Hiertoe wordt in Hoofdstuk 4 een keuzeconcept geformuleerd dat breder is dan de conceptualisering in de gangbare rationele keuze tradities in verschillende disciplines. Drie strategieën zijn hierbij gevolgd:

a. keuze wordt geplaatst in een breder cognitief perspectief;
b. keuze is gebaseerd op een breder rationaliteitconcept;
c. keuze wordt expliciet gesitueerd in een informatiecontext.

De uitwerking van dit keuzeconcept omvat voorts de formulering van individuele consideratie in termen van *keuzeruimte* (*problem space*), *motivatiestructuur, besluitvormingsstijl* en *veronderstelde beheersing van gedrag* (*perceived control*). Tenslotte wordt de formulering van keuze verder toegesneden op vruchtbaarheidsgedrag door de integratie van de notie van de *‘proximate determinants of fertility’*.

Hoofdstuk 5 bevat een conceptuele uitwerking van de context van individueel gedrag. Een interpretatie van de (sociale, culturele, economische, politieke) context is in elke situatie van doorslaggevende betekenis voor inzicht in vruchtbaarheidsgedrag en mogelijke veranderingen daarin. Een algemeen interpretatiekader moet daarom een abstracte weergave van de context kunnen bieden die ingevuld kan worden aan de hand van de tijd- en plaatsgebonden situatie. De uitdrukking van context in termen van een structuur van *sociale instituties* biedt deze mogelijkheid. Sociale instituties worden hierbij opgevat als complexen van *betekenisgevende en normstellende regels*, die worden geconstrueerd, gereproduceerd en omgevormd door de interactie tussen individuen (Secties 5.2 en 5.3). De structuur die instituties geven aan de sociale omgeving wordt weergegeven in termen van contextuele niveaus, de inhoudelijke dimensie van institutionele regels en hun invloed op specifieke levensterreinen (Sectie 5.4). Deze cognitieve en interactionistische interpretatie van sociale instituties biedt voorts een uitstekende mogelijkheid om een brug te slaan tussen het macroniveau van de sociale omge-
ving en het micro-niveau van individueel gedrag en besluitvorming door de identificatie van de
mechanismen waarmee de context betekenis krijgt voor de individuele actores (Sectie 5.5).

In Hoofdstuk 6 wordt het belang van het element tijd toegelicht. Gedrag, gebeurtenissen of
situaties worden opgevat als uitkomsten van processen die inherent zijn aan een tijdspad of een
ontwikkeling die is doorgemaakt. In een algemeen interpretatiekader voor vruchtbaarheid is er
sprake van verschillende tijdsdimensies. In Sectie 6.2.2 worden historische, institu-tionele,
sociale en individuele tijd en tijd in elementaire processen onderscheiden. Hoofdstuk 6 geeft een
verdere uitwerking van de *levensloop* als een aan individuele tijd gerelateerd organiserend principe voor gelijktijdige en opeenvolgende aspecten van individuele
levens (Sectie 6.3). In een poging om meer inhoud te geven aan het ‘lege’ levensloopconcept
worden een aantal ontwikkelingspsychologische theorieën geëvalueerd (Sectie 6.4). De
psycho-analytische benaderingen van Erikson en Havighurst, de cognitieve ontwikkelingstheo-
rije van Piaget en, met name, sociale leertheorie bieden een aantal belangrijke handvatten voor
de interpretatie van de ontwikkelingsachtergronden van indivi-
dueel gedrag in nauwe relatie
met de conceptualisering van keuze en context.

In Hoofdstuk 7 wordt een geïntegreerd interpretatiekader voor de studie van vruchtbaarheid
gepresenteerd, op basis van de uitgangspunten van Hoofdstuk 2 en een synthese van de
conceptualisering van keuze, context en tijd (ontwikkeling) in Hoofdstukken 4, 5 en 6. Figuur 7.1 biedt een weergave van de verschillende modelcomponenten en hun onderlinge
relaties en onderliggende causale processen. Deze figuur en de achterliggende gedachten
bieden de handvatten om relevante verklaringselementen van fertiliteit op een samenhangende
wijze te identificeren en te interpreteren. Meer dan als een volwaardige en allesomvattende
vruchtbaarheidstheorie moet het gezien worden als een manier van kijken dat op wetenschaps-
theoretische gronden inzicht verschaf in fertiliteit en fertiliteitverandering. De belangrijkste toegevoegde waarde van dit model is gelegen in de volgende kenmerken:

- Het biedt een *multi-level* perspectief, dat het aandeel in een volledige verklaring erkent van
  de afzonderlijke niveaus van intra-individuele processen (keuze, perceptie, leren, biologische
  processen), individueel gedrag en (verschillende niveaus van) de macro-context.
- Het model vertegenwoordigt een verdere ontwikkeling van een aantal bestaande theo-
  retische denkbeelden binnen de demografie en voegt een aantal nieuwe concepten toe uit
  relevante aangrenzende disciplines. Daarmee vertegenwoordigt het model een inter-discipli-
 inaire benadering.
- Het is een algemeen toepasbaar kader voor het onderzoek naar en de interpretatie van
  vruchtbaarheid, in te vullen aan de hand van situatiespecifieke analyse. De benadering is
  echter ook bruikbaar voor de verklaring van ander demografisch gedrag, zoals migratie.
- Er is sprake van een verregaande integratie en synthese van denkbeelden door model-
  componenten te interpreteren in termen van informatie en informatieverwerking en door het
  consequent hanteren van een expliciet mensbeeld.

Hoofdstuk 8 omvat een toepassing van het interpretatiekader op het gebied van fertilititeit en
reproductieve gezondheid op basis van secundaire gegevens over India. Het wil daarmee
illustreren hoe de abstracte concepten uit het model - zoals sociale instituties, regels, keuze,
motivatie - ingevuld kunnen worden in een concrete situatie en kunnen bijdragen aan dieper
inzicht in fertiliteit en de mogelijkheden interventiërend beleid en activiteiten te formuleren. In praktische zin levert het hoofdstuk aanbevelingen op het gebied van contextuele analyse en doelgroep onderzoek, identificatie van inhoud en kanalen van informatievoorziening, en levenslooponderzoek.

In hoofdstuk 9 worden de belangrijkste bevindingen van het onderzoek gerecapituleerd. Naast de sterke punten van algemene toepasbaarheid, ontwikkeling en integratie van denkbeelden van binnen en buiten de eigen discipline, en de multi-level en procesbenadering, heeft het model ook een aantal zwakke kanten, vooral waar het gaat om de veelomvattendheid en de operationalisering van het interpretatiekader. Geconcludeerd wordt echter dat het model voor vruchtbaarheid zoals uitgewerkt in Hoofdstuk 7 een gedragswetenschappelijke verdieping van de demografie betekent en handvatten biedt voor de ontwikkeling van programma’s en beleid.
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