

criticisms, and then attempting an integration that combines their respective strengths. This review is limited to cross-cultural developmental psychology, and does not pretend to include recent developments in such areas as cognitive anthropology and evolutionary psychology. I am indebted to similar reviews by Gardiner, Mutter, and Kosmitzki (1998), Mistry and Saraswathi (2003), and Sabatier (1994a) that refer partly to the same frameworks. Clearly, a consensus emerges about their usefulness.

In particular, I will focus on the *ecocultural framework* developed over the years by Berry, and used as the basis of our textbooks on cross-cultural psychology (Berry, Poortinga, Segall, & Dasen, 1992/2002; Segall, Dasen, Berry, & Poortinga, 1999; see Berry, this volume) and on the *developmental niche* of Super and Harkness (1986; 1997). Both frameworks have led to important research programmes, that helped substantiate the conceptualization with empirical support. My own research over the years has been inspired by the former from its beginnings, and although much of it was done before the developmental niche was formalized, it can be usefully rephrased in the terms of the latter (Dasen, 1998). It has become progressively obvious to me that the two frameworks needed integration; while the developmental niche is said to be an open system, macro social variables are largely left unexplored, whereas they are more specifically taken into account in the ecocultural framework.

I will also briefly review other theoretical frameworks in the field, in particular Bronfenbrenner's (1989) *ecological systems theory*, which is another example of a framework in which the child is located within the concentric circles of contexts, from the micro-system to the macrosystem. Georgas (1988; 1993) combined the ecocultural framework with the ecological systems theory. Attention will also be drawn to Ogbu's (1981) *ecological and cultural model* geared towards explaining school success or failure in multicultural contexts, to Kagitcibasi's (1990; 1996a; 1996b) *model of family change* in relation to the construction of separated or relational self, and to Trommsdorff's (1999) contributions.

I will also attempt to add some structure to one component of the developmental niche. What is proposed is that most of the observations are at the level of "parents' ideas" that researchers can integrate into "social representations" or "parental ethnotheories". These are themselves part of more general value systems,



Theoretical Frameworks in Cross-cultural Developmental Psychology: An Attempt at Integration¹

PIERRE R. DASEN

Cross-cultural psychologists are often concerned about the minimal impact their research has on mainstream psychology; this has been attributed to the methodological difficulties of carrying out research in diverse cultural settings and attempting comparisons across settings, and to the lack of strong theoretical frameworks (Dasen & Mishra, 2000). It is this second aspect that I would like to tackle in this paper, since we now have a number of interesting theoretical frameworks in the field of cross-cultural developmental psychology. What do these have in common, and can they be integrated into one single overarching framework? This is what I will attempt to do in this paper.

I start by reviewing of a number of these frameworks, commenting briefly on their main advantages and mentioning some

¹ This chapter was first prepared under the title "The role of indigenous conceptions for developmental theories" for the workshop "Theories of individual development: Demarcating and integrating metaperspectives", held in Lutherstadt-Wittenberg, November 5-8, 1998 in honour of Lutz Eckensberger. It also benefited from discussions at the workshop "Ethnotheories on child development and value of children in cultural context", University of Konstanz, July 11-13, 1999, and presentations at the Universities of Geneva and Paris-10 Nanterre. I wish to thank everyone who has contributed critical comments, in particular Ramesh Mishra, Elizabeth Reichel, Colette Sabatier, T.S. Saraswathi, Axel Scholmerich, and Fabienne Tanon.

capped by overarching "cultural belief systems" such as cosmologies and religion. While this is rather banal, it is striking that research on human development only rarely deals with all these levels, or with the relationships between these levels.

The Theoretical Frameworks Reviewed

THE ECO-CULTURAL FRAMEWORK

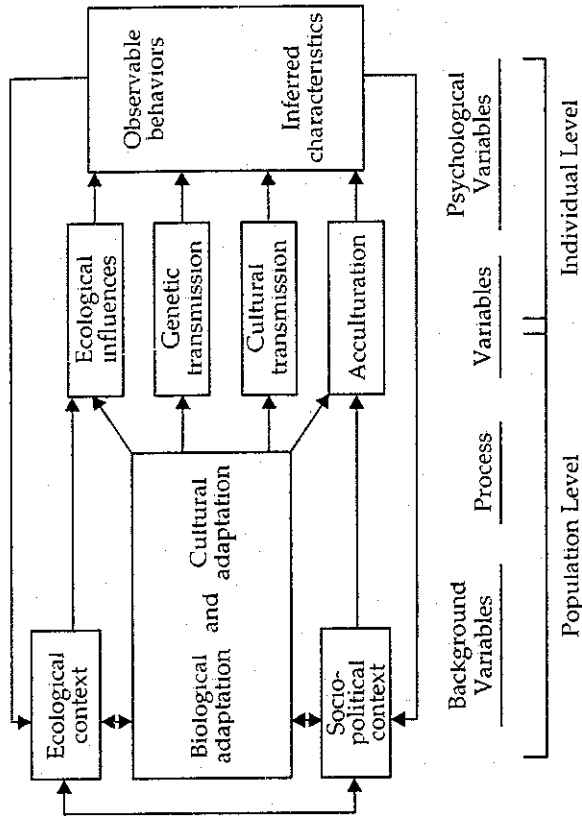
An "ecocultural" approach in cross-cultural psychology was proposed by Berry since the first years of its development into a recognized discipline and the theoretical framework he developed over the years (Berry, 1976) has served as general guidelines for two textbooks on cross-cultural psychology (Berry et al., 2002; Segall et al., 1999) (see Figure 4.1; Berry, this volume).

I am not dealing with this framework in any detail, since it is presented by Berry (this volume), and is also described in Segall et al. (1999), and Berry et al. (2002). The main feature of this framework is to distinguish between the population and the individual levels of analysis. This reflects the originality of an interdisciplinary cross-cultural approach, that draws on various social sciences such as anthropology, demography, human geography, and sociology to set individual psychological functioning in a sociocultural context.

While the general flow of the framework is from left to right, feedback arrows represent influences by individuals back to the other variables in the framework; hence the framework is not limited to simple antecedent-consequence relationships, but is potentially open to interactive or dialectical relationships such as those emphasized in action theory and cultural psychology (Boesch, 1991; Eckensberger, this volume). Nevertheless, further work is needed on these feedback loops to make the framework more interactive.

As Jahoda (1995) and Berry et al. (2002) pointed out, the ecocultural framework has a long past in the history of ideas, including the functionalism of Malinowski and the psychocultural model of Whiting (1977). Berry (1995; this volume) and Troade (2001) provided further links to the more recent and ongoing research inspired by the framework.

Figure 4.1
The Eco-cultural Framework



Note: Reprinted by permission of the publisher from M.H. Segall, P.R. Dasen, J.W. Berry, & Y.H. Poortinga (1999). *Human behavior in global perspective: An introduction to cross-cultural psychology*. Revised second edition. Boston: Allyn & Bacon, p. 26. Copyright © 1999 by Pearson Education.

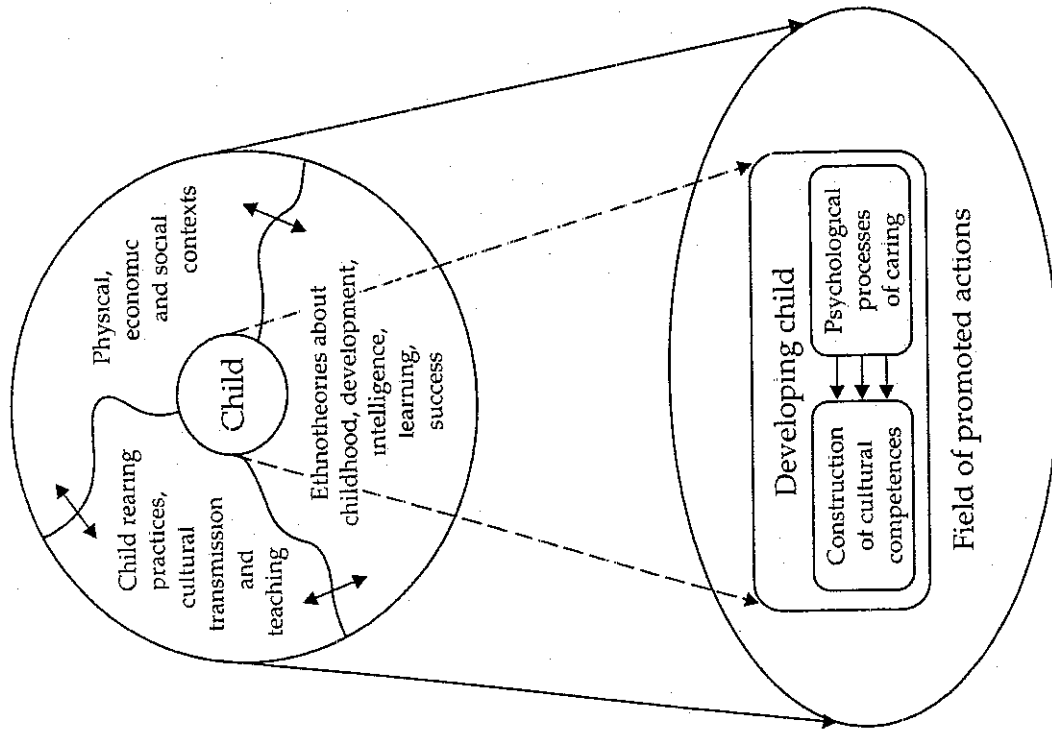
The ecocultural framework is very broad, and although cultural transmission (enculturation and socialization) figures as a central process, the framework is not specifically designed to deal with human development. In the next framework that is reviewed, the developmental niche, the developing individual is taken as the focal point.

THE DEVELOPMENTAL NICHE

The framework developed by psychologist Super and anthropologist Harkness (Harkness & Super, 1983; 1996; Super & Harkness, 1986; 1997) as a means for integrating findings from psychology and anthropology, making the child within its context the unit of analysis is illustrated in the top part of Figure 4.2. Surrounding the child are three components or subsystems: (a) the settings, or the physical and social contexts in which the child

lives; (b) the customs, or culturally determined rearing and educational practices; and (c) the psychological characteristics of the caretakers, including parental ethnotheories of child development. Examples illustrating these three components are presented in Table 4.1, some of which will be discussed later.

Figure 4.2
The Developmental Niche



Note: Adapted with permission from B. Bril (1999). Dires sur l'enfant selon les cultures. Etat des lieux et perspectives. In B. Bril, P.R. Dasen, C. Sabatier, & B. Krewer (Eds), *Propos sur l'enfant et l'adolescent: quels enfants pour quelles cultures?* Paris: L'Harmattan, p. 26.

Table 4.1
Components of the Developmental Niche

1. *Settings*
 - Physical settings
 - Visual ecology, availability of objects (including print, media)
 - Nutrition
 - Size and organization of living space
 - Social settings
 - Household size and density, sleeping arrangements
 - Family structure (nuclear, extended)
 - Family composition, multiple mothering, generations present, children as caretakers, size of peer group
 - Prominence of father and mother
 - Language(s)
2. *Customs/Child Rearing Practices*
 - Postures and stimulations
 - Caretaking practices, e.g., carrying, body contact, handling, massage, toilet training
 - Opportunity for practice (e.g., sitting, walking)
 - Routines: eating, sleeping (co-sleeping)
 - Work and play (e.g., household chores)
 - Maternal responsiveness; interpersonal communication (touching, talking; proximal/distal)
 - Styles: authoritarian/authoritative, primary/secondary control
 - Multiple vs dyadic interactions, and co-active vs exclusive attention structure
 - Legitimate peripheral participation in communities of practice
 - Education (informal, formal; teaching styles)
3. *Parental Ethnotheories, Cultural Belief Systems, Social Representations, Caretaker Psychology*
 - Developmental theories (nature vs nurture)
 - Developmental timetables
 - Types of competencies expected
 - Levels of skill mastery
 - Evaluation procedures
 - Final stage
 - Definitions of "intelligence"

It is important to note that the developmental niche is a system in which the child and the three components interact in a coherent fashion, although there are inconsistencies at times, especially under the impact of acculturation. As the child adapts to his surroundings, the niche also adapts to the individual, and it thus changes itself in the course of ontogenesis. It is an open system where each component is linked with other aspects of the more general environment, but these links with the macrosystem are more explicit in the ecocultural framework, and in the ecological systems theory.

The lower part of Figure 4.2 represents an extension proposed by Brill (1999, Reed & Brill, 1996). The main idea is that the cultural organization of human life is so pervasive that even "biological skills" such as eating and walking are scaffolded by society.

Infants will be *selectively exposed* to only a subset of [the ecological] niche, to certain selected opportunities for experience and action. This selected subset of the niche we call the *field of promoted action*. Although each child probably inhabits a unique field of promoted action, it is very likely that fields of promoted action will tend to be organized in characteristic ways by each culture (Reed & Brill, 1996, pp. 439-440).

According to Reed and Brill (1996), the field of promoted action should be studied along the dimensions of intensity (how strongly an opportunity for action is promoted or prohibited), extensity (how frequently a child encounters an affordance), propriety (which refers to the "social rules about who may do what with what objects and in what circumstances", p. 440), and development (the change with age in the field of promoted action). This concept points to the fact that the niche favours some actions more than others, and that the child is not passive in the process.

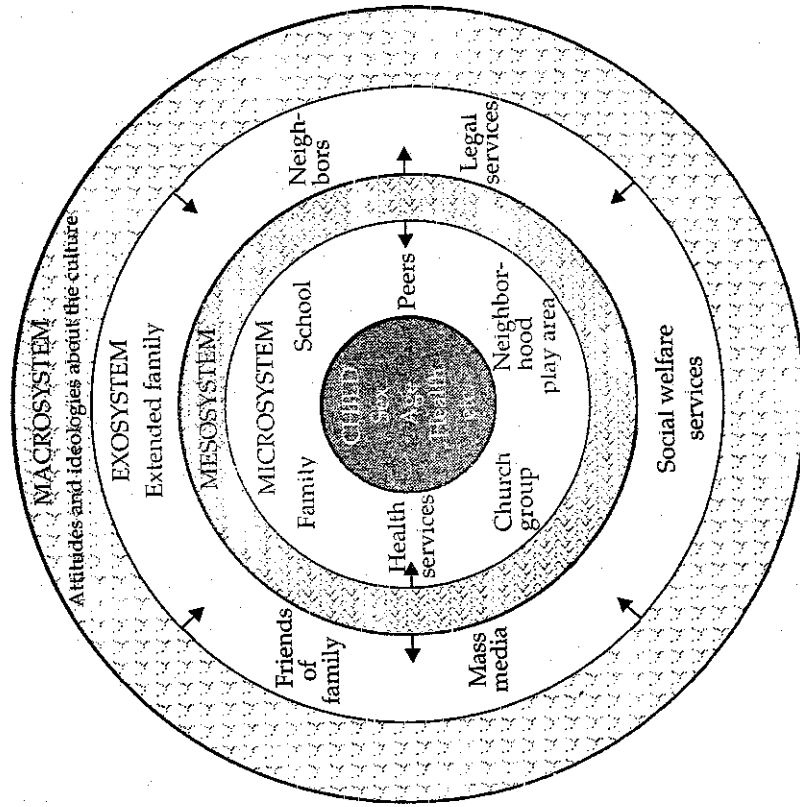
In presenting the developmental niche as a field of promoted action, Brill (1999) emphasized the fact that attention paid to the context should not prevent us from studying the learning processes and how these allow the child to construct cultural competences. In diverse cultural contexts, different learning processes are emphasized as, for example, in the comparison between learning in

Theoretical Frameworks in Cross-cultural Developmental Psychology 135
everyday settings and learning in school (Dasen, 1988; 2000; Segall et al., 1999; Trommsdorff & Dasen, 2002).

BRONFENBRENNER'S ECOLOGICAL SYSTEMS THEORY

Over the years, Bronfenbrenner (1989; 1993) developed an "ecological systems theory" in the area of human development (see Figure 4.3).

Figure 4.3
Ecological Systems Framework



Note: Reprinted by permission of Pearson Education from C.B. Kopp & J.B. Kaslow (1982). *The child*. Reading, MA: Addison-Wesley, p. 648.

Just as in the case of the developmental niche, the developing child is in the middle, interacting actively, through bidirectional, reciprocal influences, with the environment. The latter is structured in terms of concentric circles representing the microsystem, the mesosystem, the exosystem, and the macrosystem. The microsystem represents experience with the immediate (physical or social) surroundings. The exosystem comprises settings of which the individual is not a part, but that nevertheless exert an influence; and the mesosystem contains the interactive processes between two or more settings. The macrosystem includes such general aspects of society as its values and belief systems; in other words, its "culture".

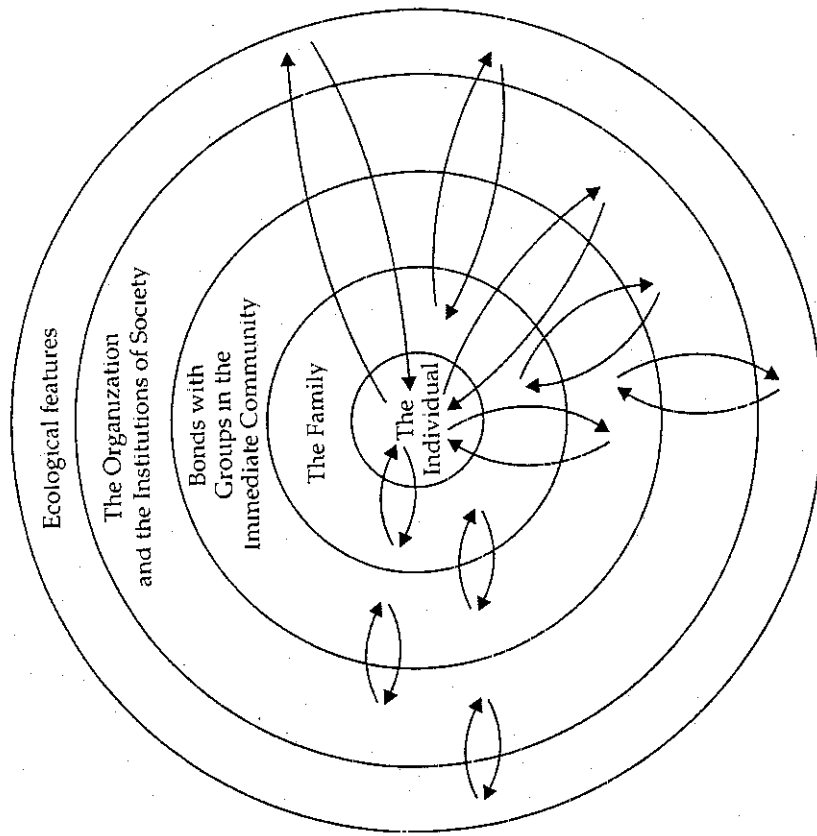
While the ecological systems theory was not designed specifically for cross-cultural research, it is obviously close to both the developmental niche and the ecocultural framework. Along with the developmental niche, Gardiner, Mutter, and Kosmitzki (1998) used it as the main theoretical framework of their textbook on cross-cultural human development.

ECOLOGICAL AND SOCIAL CROSS-CULTURAL MODEL (GEORGAS, 1988; 1993)

Drawing both on Berry's ecocultural framework and Bronfenbrenner's ecological systems theory, Georgas (1988; 1993) presented a model (cf. Figure 4.4) linking the individual to ecological features, social phenomena, and interpersonal relationships (in particular the immediate community and the family), represented by nested concentric circles, in which the radius of each circle "symbolises the weight of each element, its degree of influence on the psychological differentiation of the individual" (Georgas, 1988, p. 109). Adjoining circles are connected by reciprocal interactions, while outer circles can influence the individual only indirectly through moderator variables.

While Georgas (1988; 1993) initially applied the model to Greek society, ongoing research covering a large number of countries has examined the relationships between family bonds and family structure and function, comparing in particular the nuclear and the extended family (Georgas et al., 1997). The model does not

Figure 4.4
An Ecological and Social Cross-cultural Model



Note: Reprinted with permission from J. Georgas (1988). An ecological and social cross-cultural model: The case of Greece. In J.W. Berry, S.H. Irvine, & E.B. Hunt (Eds), *Indigenous cognition: Functioning in cultural context*. Dordrecht, The Netherlands: Nijhoff, pp. 105-123.

deal explicitly with human development, but the importance attributed to the family does make it relevant to our purpose here.

OGBU'S CULTURAL-ECOLOGICAL MODEL OF CHILD REARING

Ogbu (1981) proposed a framework (see Figure 4.5) in which the flow is from cultural ecology (A), in particular those

aspects that affect the quest for subsistence and protection from threats to physical survival (B), to social organization (F) and values (C), and to "native theories" of success (D) and child rearing (E), child rearing techniques (G), and finally to outcomes in terms of the major (dominant or modal) competencies of the child.

Ogbu's framework did not have a wide impact outside of educational sciences, probably because he applied it mainly to school performance in inner city ghettos in the United States. According to Ogbu, African Americans form a caste-like minority of involuntary migrants, with a history of exploitation and discrimination dating back to slavery; this induces parents to give their children ambivalent messages about schooling and school achievement. "Voluntary" migrants are more positive about their chances in school and in society. The framework draws attention to the fact that diversity exists within societies; as most societies are or are becoming multicultural, the distinction between intracultural and intercultural or cross-cultural research becomes blurred. Ogbu forcefully made the methodological point that competencies between different subgroups of a society cannot be meaningfully compared unless all the components of the framework are taken into account. The question whether Ogbu's framework is restricted to the American historical and political context or not has been dealt with in a special issue of the *Anthropology & Education Quarterly* (Gibson, 1997).

KAGITCIBASI'S MODEL OF FAMILY CHANGE

While the main focus of Kagitcibasi's (1990; 1996a; 1966b; this volume) theoretical framework (see Figure 4.6) is the family, the framework shows similarities with those discussed earlier in so far as it also presents links between antecedents in socioeconomic contexts, in particular living conditions (rural/urban, level of affluence), family structure, and family systems (socialization values, parenting styles—authoritarian, permissive, authoritative, and child rearing orientations—dependence and obedience, autonomy and self-reliance). Due to this focus on the family, it is specifically directed at human development.

Note: Adapted with permission from J Ogbu (1981) *Origins of human competence: A cultural-ecological perspective* *Child Development*, 52, p 422 Copyright © Society for Research in Child Development

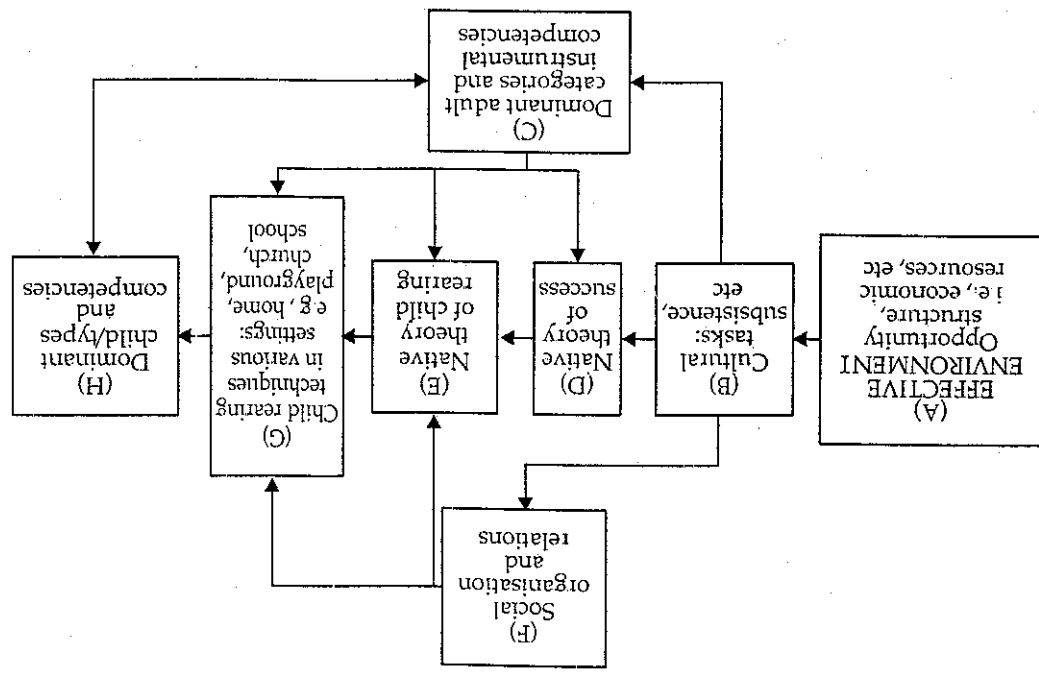


Figure 4.5
Origins of Human Competence

TROMMSDORFF'S FUTURE ORIENTATION, VALUE OF CHILDREN AND INTERGENERATIONAL RELATIONS

Trommsdorff (1989; 1993; 1999) conducted research on various aspects of cross-cultural human development relevant to our interests. The theoretical framework she adopted in relation to future orientation in adolescents, following the summary presentation made by Seginer (in press), can best be depicted as a series of concentric circles, with the target behaviour in the innermost circle, surrounded by motivational antecedents (beliefs and values such as control beliefs and optimism), then social roles (linked to age, gender, occupation), socialization settings (family, school), and finally sociocultural settings (such as social class).

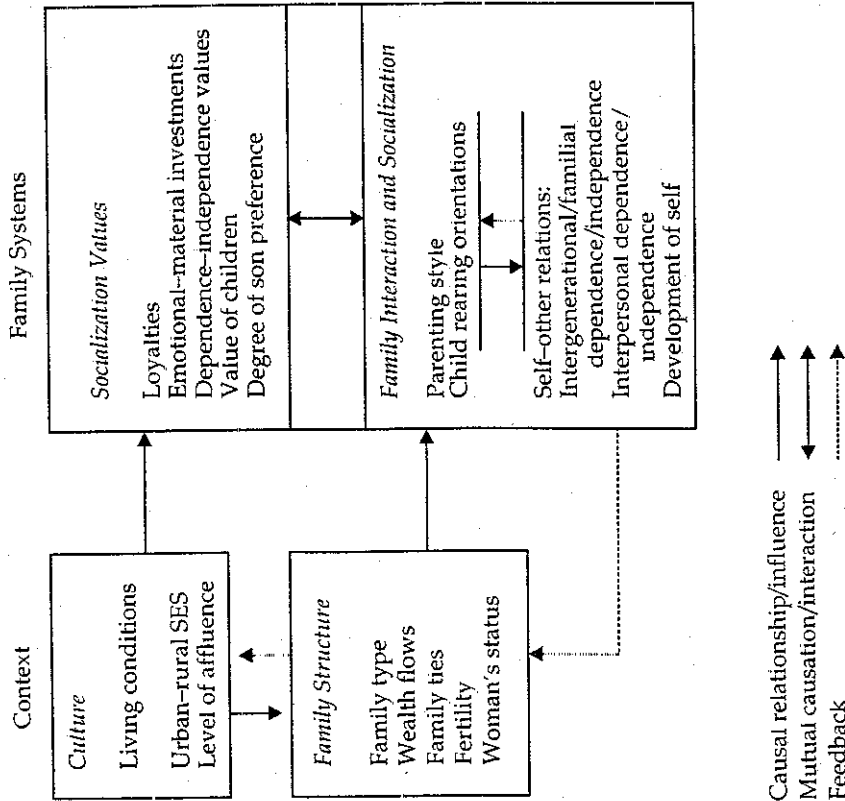
Another theoretical framework in Trommsdorff's work (summarized by Seginer, in press) presents reciprocal relationships between two antecedent variables, economic, social and political conditions and cultural values, that determine parents' beliefs, goals and practices, which together with the parent-child interaction determine the child outcomes. An overall feedback loop leads back from child outcomes to the socioeconomic and political contexts.

The first of these two frameworks is close to Bronfenbrenner's concentric circles; it could no doubt be generalized beyond future orientation as observed behaviour. The second framework is graphically more similar to the ecocultural framework, but focused on child outcomes like the developmental niche.

An Integrated Framework of Human Development from an Ecocultural Perspective

All these frameworks have their strengths as well as weaknesses, but they have much in common. They are fundamentally psychological, i.e., they explain the behaviour of the individual and particularly of the developing child; they focus on normal development, and not on pathological conditions. They agree with the basic tenet of cross-cultural psychology, namely that "human behaviour must be viewed in the sociocultural context in which it

Figure 4.6 Model of Family Change



Note: Reprinted with permission from C. Kagitcibasi (1996). *Family and human development across cultures: A view from the other side*. Hillsdale, NJ: Lawrence Erlbaum.

Although the individual does not appear as a separate component in the framework, the psychological outcome that interests Kagitcibasi most is the development of the self, as either independent (separated) or interdependent (relational), or indeed the interesting combination of the autonomous-relational self (Kagitcibasi, 1996b), that is particularly found in collectivistic societies undergoing rapid urbanization and industrialization. This framework is interesting because it deals in greater detail with one of the components of the ecocultural framework, that of sociohistorical change.

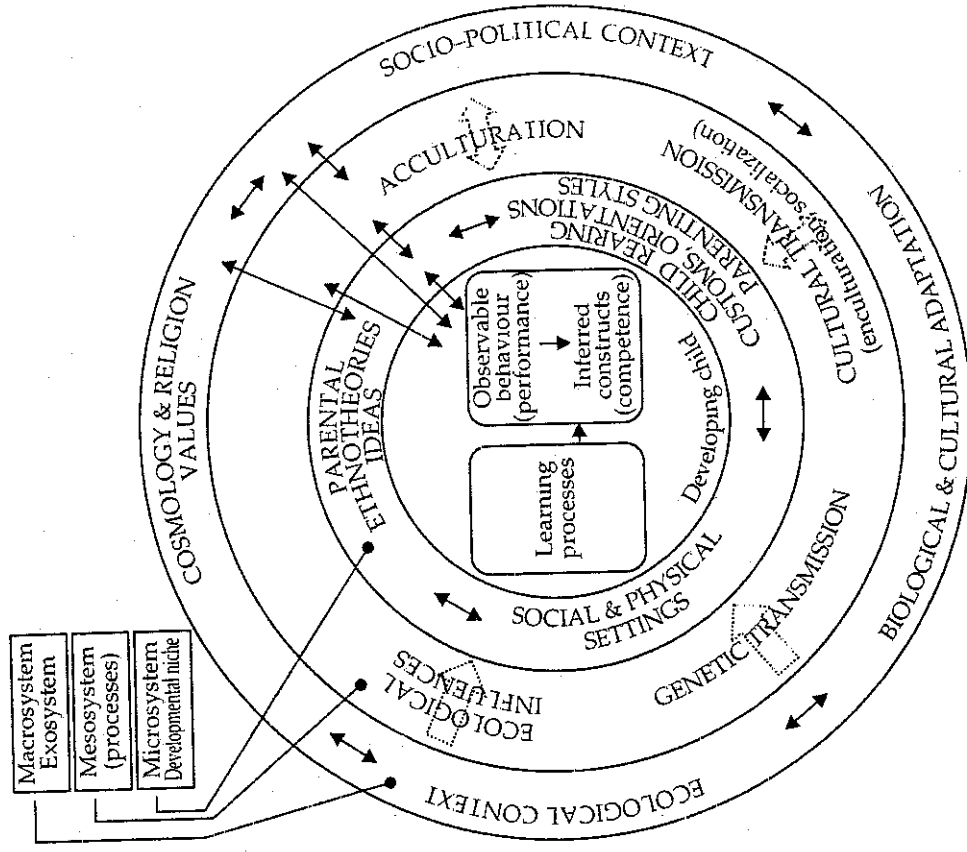
occurs if we are truly to understand it" (Segall et al., 1999, p. 1). Hence, the individual is embedded, in various but complementary ways, in a series of contexts that can best be conceptualized as a nested set, from the more proximal (microsystem) to the more distal (macrosystem). Bronfenbrenner, Georgas, and Trommsdorff explicitly used concentric circles in the graphic expression of their frameworks, because this format adequately captures this essential feature, particularly if the circles are taken not to represent separating borders but reciprocal interactions.

I have tried to combine both this general overview and particular points drawn from each of the different frameworks in Figure 4.7. Of course, it is quite impossible to integrate the wealth of detail of each, but readers may well fill in some of the gaps according to their own interests and preferences.

The link between this schematic representation and its predecessors discussed earlier is obvious—the use of concentric circles drawing on Bronfenbrenner, Georgas, and Trommsdorff. The outer circle of the macro- and exosystems includes the ecological and sociopolitical contexts and biological and cultural adaptation drawn from the ecocultural framework; cosmology, religion and values are set at this most general level. Contrary to most of the other frameworks, components are not presented in boxes or compartments, but are separated by arrows showing reciprocal interactions.

The second circle represents the processes linking these variables to the microsystem of the developmental niche (third circle inwards). It should be noted that genetic transmission is by definition not a reciprocal process (nor are usually direct ecological influences, although that is a debatable issue), while all other interactions proceed both ways. Within the developmental niche, the three components also interact; they are depicted without separation to emphasize the fact that all three components interact through the mesosystem with the exo- and macrosystems. The developing child is at the centre, with an emphasis on learning processes, and an explicit distinction between observable behaviour and inferred characteristics (i.e., constructs), drawn from the ecocultural framework; this is akin to the performance/competence distinction, to which I have drawn attention repeatedly

Figure 4.7
An Integrated Theoretical Framework for
Cross-cultural Human Development



(Däsen, 1982), and which is particularly important for the methodology of cross-cultural studies.

Theoretical frameworks are always heuristic devices that simplify complexity into manageable schemes, and this is particularly apparent when they are presented, as is Figure 4.7 and all those that I have reviewed so far, in a graphical format. In cross-cultural

pygmies of Central Africa (Hewlett, 1991). Some of the studies explicitly compare hunting and gathering and agricultural groups in the same geographical area, for example, among the Efe foragers and the Lese farmers of the Congo (formerly Zaire) (Morelli & Tronick, 1991), and among different groups of Adivasi, or the so-called "tribals" in India (Mishra, Sinha, & Berry, 1996).

Overall, the impression one gains from research linked to subsistence patterns is an overarching coherence between the latter and the developmental niche, be it in terms of the particular settings provided, the indigenous conceptions, and the child rearing practices. The cultural similarities between various hunting and gathering societies all over the world are quite striking (Coon, 1971; Testart, 1982), particularly the important role of fathers in caregiving.

Another theoretical strand that is directly linked to the ecological contexts deals with the basic health conditions provided by these settings. In his theory of the "universal hierarchy of parental goals", LeVine (1977; LeVine et al., 1994; Richman et al., 1988) argued that the caregivers' primary concern is the child's survival. Only if that is insured that adults focus on imparting knowledge and skills that contribute to economic capabilities, and the transmission of cultural values is their last priority.

No doubt, several aspects of the developmental niche can be explained by this scheme. For example, in many societies which have high infant mortality, the baby is not considered to be a full person before quite some time—until the infant has been named, or several weeks after birth, or until weaning (Erny, 1968; 1972a; 1972b). Among Australian aborigines (Hamilton, 1981), for instance, an infant may even be killed if birth spacing was not adequate. If an infant died, it was because the spirit of the ancestor had decided to come back at another time. Functionally, such an indigenous conception reduces the bereavement associated with the loss of an infant.

On the other hand, the hierarchical nature of LeVine's theory, and its Darwinian evolutionary leanings (LeVine, 1973) lead, I believe, to an oversimplification that does not do justice to a variety of observations. In many West African contexts, for example, while infant mortality is high, caregivers spend a great deal of time interacting with infants emotionally, verbally and socially in a manner that goes well beyond insuring simple survival (Baoulé of Côte d'Ivoire: Dasen, Inhelder, Lavallée, & Retschitzki, 1978;

psychology, we have to be particularly suspicious of oversimplifications, because reality is always more complex than can be described by any particular framework.²

What I wish to do in the following part of the paper is to provide some comments on each of the components, reviewing some of the research along the way, and pointing out some controversial issues and the need for further research. I will move from the outside in, i.e., *grosso modo* from the antecedents to the consequences (the need to consider feedback loops and dialectical interactions has been described earlier); in other words, from the macro to the micro levels. As the borders are rather fuzzy, and because of many interactions, the framework is best seen, in Jahoda's (1995, p. 23) words, as "a conceptual framework—in other words, a heuristic device".

ECOLOGICAL CONTEXT

When dealing with human development, it is difficult to distinguish precisely what pertains to the ecological context *per se*, the cultural adaptation to it, or the interaction between the two. There is no culture without an environmental context, and no context in which humans live that has not been influenced by culture. This distinction has mainly a heuristic value.

In his paper, Berry (this volume) demonstrates how research based on the ecocultural framework should sample societies over the widest range possible. Unfortunately, this is usually done only in holocultural studies. Even the famous six cultures study (Minturn & Lambert, 1964; Whiting, 1963; Whiting & Whiting, 1975) included only herding, agricultural and industrial groups. However, we now have some interesting studies of child rearing and human development among Australian aborigines (Hamilton, 1981), the San of the Kalahari desert (Konner, 1977), and the

² One particularly frequent oversimplification takes the form of what Segall et al. (1999, p. 132) called "great divide" theories: primitive vs civilized, illiterate vs literate, non-Western vs Western, majority vs minority world, and so on. Individualism and collectivism (I/C), that currently has the favour of many cross-culturalists (Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994; Triandis, 1995), is in danger of being one of these great divide schemes that pretends to explain all cultural differences. In her review of I/C, Kagitcibasi (1997) showed how complex this distinction really is.

Nso of Cameroon; Nsamenang, 1992; Wolof of Senegal: Rabau, 1979). Ho (1994) demonstrated that the theory does not fit parent-child relationships in China. In LeVine's scheme, some of the observations seem to be widely confirmed, namely that the infant is constantly near the caretaker's body, and crying is immediately attended to, especially through feeding. That there is little organized concern about the infant's behavioural development and relatively little treatment of him as an emotionally responsive individual (as in eye contact, smile elicitation, or chatting) may be true for the Gusii in Nyansongo, Kenya (LeVine & LeVine, 1963) as well as some other societies (Richman et al., 1988), but cannot be generalized to Africa or Asia.

SOCIOPOLITICAL CONTEXT

There are obviously reciprocal relationships, or constructions, between culture and context. It is, nevertheless, useful to ensure that the sociopolitical context is viewed as a separate component, because it draws attention to the need to always introduce a diachronic perspective; sociopolitical, herein, also implies sociohistorical. Indeed, culture is not just a static given, but is in constant change (which is also revealed by the use of the term cultural "adaptation"). Also, this component draws attention to the fact that much of current psychological theory is in effect a Western indigenous conception, linked to the present historical period, and that various aspects of human development may change according to historical periods (for historical changes in parental ethnotheories see Bril, Dasen, Sabatier, & Krewer, 1999).

This component draws attention to the processes of acculturation (Berry & Sam, 1997; Dasen, 2001), that are usefully distinguished from enculturation and socialization; while the latter apply to human development in any society, the former deal with the contact between societies. Of course, today there are hardly any isolated societies, as most of them have become multicultural. Hence, a large part of cross-cultural psychology is devoted to studying the processes of contacts between cultures. Camilleri and Malewska-Peyre (1997), for example, dealt with the "identity strategies" through which migrant adolescents cope with their bicultural upbringing (see also Dasen & Ogay, 2001). The number of

studies of human development under conditions of social change and acculturation, in particular with migrants (Rabain-Jamun & Wornham, 1990; Sabatier, 1994b), is rapidly increasing, and those combining studies of immigrant minority groups as well as those still living in their cultures of origin (Greenfield & Cocking, 1994) are particularly interesting.

An important aspect of the sociohistorical context is informal and formal education, with which I have dealt elsewhere (Dasen, 2000; Segall et al., 1999; Trommsdorff & Dasen, 2002). A fact that is at times forgotten is that schooling, although now a pervasive institution worldwide, is historically fairly recent even in Western countries, and carries with it a particular set of contexts, customs, and conceptions (Serpell & Hatano, 1997).

BIOLOGICAL AND CULTURAL ADAPTATION

The ecocultural framework recognizes the complementarity of biological and cultural adaptation (Berry et al., 1992/2002). Just as there are ecological constraints, there are biological constraints, and the two are intertwined. Greenfield and Childs (1991) illustrated this through the restrained motor activity they observed as a constant stylistic feature of Zinacantec development, present at birth and attributed to genetic factors, reinforced throughout maturity by Zinacantec child rearing practices, and congruent with the adult restrained style of movement. In their writings on the developmental niche, Harkness and Super repeatedly stressed the importance of temperament and individual differences that may be linked to genetic underpinnings. While it is evident that culture and biology interact, there are some extreme forms of sociobiology that amount in the very least to an oversimplification of the complexities of human development, and sometimes to great divide theories. For example, Rushton (1995) represented nineteenth century social evolutionism and racism in scientific disguise (see Segall et al., 1999, pp. 135-156). Because of these ethnocentric overtones of some of the biologically-oriented literature, I have not given it as much attention as the more sophisticated current thinking, particularly in anthropology and evolutionary psychology, may warrant. The interested reader will find it easy to refer to current literature to bridge this gap.

Cultural adaptation is, by definition, the centrepiece of any cultural or cross-cultural perspective. Yet, because in a way "culture" is present everywhere, it is difficult to distinguish it from other components of the framework, not only within the ecocultural framework (cf. the difficult distinction between contexts and culture, discussed earlier), but also within the developmental niche, in which culture is all-pervasive. This is especially true if we abandon the definition of culture as being purely outside the individuals who constitute a society, i.e., not as a collection of antecedent variables, but as a co-construction in the minds of individuals.³

The paradox is that, if everything is cultural, the explanatory power of the concept tends to disappear, unless it is "unpacked" (Whiting, 1976). Cultural adaptation therefore has to be broken down into manageable subunits, which is where the epistemological problems start. How can this be done without destroying the systemic character of culture as an overarching structure? Can we split it up into so many categories, as in the HRAF database? At what level should we aggregate the data? It is not easy to answer these questions. The symbolism of concentric circles is an attempt to show that we should focus attention on the level at which we decide to work, and establish links up and down to the other levels of analysis.

It is, of course, impossible to review all the relevant aspects of cultural adaptation. However, two topics are of particular importance, because they cap, as it were, parental ethnotheories—cosmology and religion, and values. I therefore devote more space to these topics than to others.

COSMOLOGIES, RELIGION, AND CULTURAL BELIEF SYSTEMS

At the most general level, there are overarching cultural belief systems, such as cosmologies or religions, that deal with fundamental issues such as the place of humans in nature. In the Judaeo-Christian or Islamic worldviews, nature is to be dominated and controlled, whereas in Hinduism, Buddhism, Taoism and

³ This raises the more general issue of "culture as antecedent vs culture as co-construction", and hence the issue of choice of scientific paradigms.

especially in various forms of animism, humans are a part of nature, and often responsible for maintaining the balance. According to Nsamenang (this volume), worldview is "a shared frame of reference or psychosocial outlook by which members of a particular culture perceive or make sense of the universe and the place of the human being in it". Cosmologies and worldviews are usually shared by large segments of a society. However, Reichel (1999) argued that strictly speaking the term cosmology has as its scope the universe or cosmos, while the worldview deals with the world. These terms should not be conflated for analytical purposes, because in some societies they give rise to different, gender based knowledge systems.

Another characteristic of cosmologies and religion is that they are often resistant to cultural change, or they may coexist with new conceptions brought about by acculturative contacts without being perceived as contradictory (Camilleri & Malewska-Peyre, 1997; Saraswathi & Ganapathy, 2002).

While much is known, through ethnographic documents, about differences in cosmology and worldviews, the far-reaching consequences they may have for human development remain mainly speculative. It is obvious that they will influence value systems, parental ethnotheories, and child rearing practices, but unfortunately there is little empirical research demonstrating these links.

For example, the belief in reincarnation appears, in different forms, in many societies. Intuitively, it is obvious that this should fundamentally change the very view of what a child is, and different forms should lead to varying consequences, but I have not found many studies which actually demonstrate this. In the Hindu worldview, the belief in an endless cycle of birth and death is linked to the concepts of *karma* and *guna*, the latter pointing to the dominant role attributed to innate predispositions that cannot be easily altered by child training and socialization (Saraswathi & Ganapathy, 2002). Nevertheless, I would speculate that the idea of being able to influence the process through one's behaviour should lead to far more stringent socialization, through which adults try to instil "good" behaviour in children. This would be quite different from Australian aborigines, for whom children are ancestors who are reborn with a developed personality, and do not have to be shaped or taught in any way, which explains what Western people perceive as extremely lenient child rearing practices (Hamilton,

1981). Children are not expected to show respect for adults, but adults for their reborn ancestors!

In his numerous works on African infancy and childhood,⁴ Erny (1968; 1972a; 1972b) extensively discussed African cosmologies and reincarnation in particular. Erny (1972b, pp. 40–41) pointed to the complexity of beliefs about reincarnation that can represent: (a) the return of part of the spiritual principle of an ancestor (i.e., the newborn child represents the ancestor ontologically); (b) the name of the child represents the ancestor socially; and (c) the ancestor can be seen as a protective patron. Erny (1968, p. 144) schematically represented the life cycle according to African philosophy, in which the individual passes from this life to the other world at death, becomes an ancestor, and is reborn. The passage to the present world, however, does not occur at birth, but only after successful weaning.

This has important consequences for the ethnotheory of what a child, or indeed any individual, really is:

Society is not expected to intervene actively, but to welcome [the child], to place it in optimal conditions of development; there is nothing to be added to the new being, that contains within itself all the potentials necessary to its full realisation. The child is not to be moulded like clay, is not to be conditioned, is not to be imposed with any outside will, but is to be placed in an adequate environment, that will pay attention to its wishes and will fulfil its needs (Erny, 1972b, p. 57, my translation).

Recent writings on African worldviews as they influence human development can be found in Tapé (1994) with examples from the Bété of Côte d'Ivoire, Zeitlin (1996) on Yoruba (Nigeria) worldview and reincarnation, and Nsamenang (1992) on the Nso of Cameroon.

Worldviews or the belief systems people hold about the universe and their place in it, elaborated and encoded in cultural traditions during evolutionary history, prime human social action in a manner analogous to how genes undergird biology.

⁴ These seem to have been largely ignored by anglophone writers, despite their partial availability in English (Erny, 1973; 1981).

Worldview is thus a cultural blueprint for social functioning [...], orienting and guiding occupants of developmental niches in how to picture, relate to, and deal with the world, as well as how to organize life in order to maximize not just inclusive fitness but also human welfare (Nsamenang, 1992, p. 19).

Another interesting example of how cosmology influences parental ethnotheories and child rearing practices was described by Chamoux (1986; see Segall et al., 1999 for a summary in English) for the Nahuas of Mexico. In the Nahuas' ethnotheory, the soul is not present at birth but develops gradually. An individual has "soul levels", one of which is inborn and connotes character or destiny while another may be acquired through personal effort. The progressively acquired soul may also be lost, and it is the duty of adults to conduct rites designed to ward off this possibility. Soul loss would be manifest in illness, or in developmental retardation, which are not attributed to the child's constitution, but rather to external perturbations.

VALUE SYSTEMS

Cosmologies and worldviews carry with them value systems; values express a society's moral and ethical guidelines, implying rules and standards of conduct. They are shared by a majority of a social group, but are set at a slightly lower level of generality than cosmologies, and are reflected at a still lower level in beliefs, attitudes, and behaviours. In many cases, these value systems come close to political ideologies (Triandis, 1995), but note should be made of the important methodological distinction between studying values at the level of cultural productions (proverbs, tales, and myths) and at the individual level (using questionnaires and scales, individual scores being aggregated as means by countries).

The latter approach is current in cross-cultural psychology, particularly the focus on the dimension of independence/interdependence, known as idiocentrism/allocentrism at the individual level, and individualism/collectivism at the societal level (Kagitcibasi, 1997; Triandis, 1995). Kagitcibasi (1996b; 1998) and Trommsdorff (1999) applied this scheme to the area of human development.

Instances of ethnotheories or social representations are conceptions of the respective roles of nature and nurture in development, or the definition of developmental goals (the "end stage") (cf. Greenfield, 1976) illustrated by various definitions of intelligence (Dasen, 1984; Dasen et al., 1985; Serpell, 1993). Extensive literature is available on parental ethnotheories or parents' cultural belief systems, references to which have been provided by Super and Harkness (1997), and Brill et al. (1999). These, of course, do not concern only parents, but also all caretakers, including professionals such as teachers and paediatricians. For example, Harkness et al. (1996) studied the "root metaphors" used by American paediatricians while discussing sleep patterns with parents, and how these have changed over time.

The observable behaviour that the researcher notes when interviewing informants is usually at the level of sporadic "ideas"; at times one gets the impression that "ethnotheories" emerge during the interview, because of the interviewer's prompting. In any case, ethnotheories are always a construction or inference made by the researcher.

Of course, we also have to study the links between these different levels, or the absence thereof. Specific parents' ideas or ethnotheories may or may not be congruent with the value system and cosmology, and across the components of the developmental niche (between ethnotheories and practices and settings). Because of these links, the precise location of an item in the structure may be open to discussion. For example, according to a Baoulé parent in a village of Côte d'Ivoire, a good child should spontaneously and obediently perform chores for the family. This is observable behaviour, and would be at the level of a caretaker's *idea*. But this statement goes together with many other ideas of this sort; it is part of the Baoulé definition of *n'g'louèlè*, that we would translate as (predominantly social) "intelligence" (Dasen et al., 1985; Fournier, Schurmans, & Dasen, 1999). Hence, the researcher may conclude that there is a Baoulé *ethnotheory* of what is valued as an end state of human development. Fostering a social rather than a technological intelligence (or, better said, putting the latter at the service of the former) is congruent with an interdependent or collectivistic *value system*, which is itself in line with the African *worldview* of how a person fits into the social group and into nature.

Greenfield and Cocking (1994) used it as a basic underlying scheme of research on socialization.

"PARENTAL ETHNOTHEORIES" OR "SOCIAL REPRESENTATIONS"

While cosmologies and values have usually not been discussed as part of the developmental niche, most of the research has concentrated on what have variously been called "social representations" (Chombar de Lauwe & Feuerhahn, 1991), "parental conceptions" (Sabatier, 1994b), "parental ethnotheories" (Brill & Lehalle, 1988; Brill, Zack, & Nkounkou-Hombessa, 1989; Saraswathi & Ganapathy, 2002), "parents' cultural belief systems" (Harkness, & Super, 1996; Sigel, McGillicuddy-DeLisi, & Goodnow, 1992), "parents' ideas" (Goodnow & Collins, 1990), "implicit theories of development" (Vandenplas-Holper, 1987), "subjective child-rearing theories" (Friedlmeier, 1995), or "caretaker psychology" (Super & Harkness, 1997).

I personally have a preference for "parental (or caretakers') ethnotheories". In every society, adults (particularly parents and other caretakers, including professionals such as teachers when these role distinctions exist) share "ideas", i.e., conceptions about what a child is, the landmarks or stages of development and their timing, and how these can be assessed, or how learning occurs (e.g., whether teaching is necessary or not); ideas about expected gender differences, definitions of illness, of appropriate foods, or of sleeping arrangements and routines are other examples.

Some of these ideas are rather isolated and are therefore likely to be idiosyncratic; at times they may even appear to be contradictory. Often these ideas form a more or less coherent set. Of course, the requirements of a *theory* may not really be met, insofar as ethnotheories are not always very systematic nor fully conscious; I still like the term, because it suggests, as in "ethnoscience" (ethnomathematics, ethnomedicine, etc.), that each society has its system of knowledge, of which the Western (and even that of professionalists) is only one. These systems of conceptions may not be shared by a whole society, but are shared at least by smaller social groups. Hence, the term "social representations" may be a good alternative, although it is itself polysemic.

Research on these links has to be done from a sociohistorical perspective, taking into account social change and acculturation, that are in particular likely to explain any incongruence between the levels (Kagitcibasi, 1998).

PHYSICAL AND SOCIAL SETTINGS AND CUSTOMS AND CHILD REARING PRACTICES

I will not attempt to review the two other parts of the developmental niche in detail, but provide only a few comments. In cultural and psychological anthropology, many descriptive studies have documented these in various societies (Munroe, Munroe, & Whiting, 1981), and the main elements are listed in Table 4.1. The precise attribution of the different elements to one part of the niche or another is open to discussion. For example, Table 4.1 includes nutrition in the physical settings, while it could also be construed as part of the ecological context. Nutrition is a good example of the interactions between various components of the framework: it is basically linked to the ecological context and productive activities, but as far as malnutrition and child development are concerned, the most important factor is not food production but food distribution, that depends on sociopolitical decisions, and a whole complex system of variables, including infectious diseases and patterns of mother-infant interactions (for a detailed discussion, see Dasen & Super, 1988). Or, visual ecology refers, for example, to the studies initiated by Segall, Campbell, and Herskovits (1966; reviewed in Segall et al., 1999), showing how features of the environment such as the number of right angles projected on the retina (the so-called "carpenteredness") influences the susceptibility to specific visual illusions. The degree of carpenteredness is an unconscious aspect of our living space, yet this ecological feature is brought about by culture, in the strict sense of its definition by Herskovits (1948, p. 17) as the "man made part of the human environment".

The component of child rearing practices refers mainly to what caretakers *do* rather than what they *say*. As Brill (1999) argued, the relationship between the two is far from simple. Sometimes they match perfectly. In Zack and Brill's (1989) research on French and Bambara mothers, the latter held that a baby should be able to sit

alone by 3-4 months, and on the average they do, whereas French mothers mentioned 6-7 months, which is the French norm on infant tests. The observed child rearing practices are obviously helpful in leading to such an early achievement of this motor skill among the Bambara. As Super (1976; 1981) demonstrated, there is an almost perfect correlation between parental ethnotheory, practices, and the outcome in terms of motor development. In other cases, however, what the caretakers say does not correspond to what they do. For example, co-sleeping is strongly discouraged by Western ethnotheories (such as psychoanalysis, and paediatricians' lore found in numerous books giving advice to parents), and most Western parents will deny that it ever happens. This is not supported by empirical facts (Morelli, Rogoff, Oppenheim, & Goldsmith, 1992; Wolf, Lozoff, Latz, & Paludetto, 1996): co-sleeping is a normal practice not only in Central America, but also in Europe and in the United States (particularly among African Americans), and even in Japan.

That people do not necessarily do what they say is, of course, rather banal; social psychologists dealing with attitudes and values have been aware of this for a long time. In anthropology, Wassermann (1995) discussed some compelling examples of how ethno-science (such as the classification of foods) as elaborated from language does not correspond to daily practices.

It should be noted that in Table 4.1, education (formal and informal) is listed under this component, while it obviously ranges beyond the category of practices. It provides particular settings and includes ethnotheories, and hence concerns the whole of the developmental niche. Like enculturation and socialization, it could also be dealt with at the level of underlying processes. It is interesting to note that the style of informal education may be influenced by representations of schooling (Rogoff, Mistry, Göncü, & Mosier, 1993).

THE CHILD

The focus of the developmental niche is the child. The major methodological lesson from this theoretical framework is that the object of study should be neither the child alone nor the cultural context alone, but the child in context.

Viewing the individual as an active participant in the construction of the niche (and hence of "culture") is an important part of current theorizing on the cultural construction of human development; other key words in this respect are "community of practice" and "guided participation in cultural activity" (Lave & Wenger, 1991; for a review see Segall et al., 1999; Super & Harkness, 1997). Conceptions of socialization have changed over the years (for cross-cultural studies of socialization, see Saraswathi, 1999; Saraswathi & Pai, 1997; Trommsdorff, 1989). Initially, the child was seen as a passive recipient of socialization practices. It was "being socialized" by "socialization agents". Today, socialization is viewed as far more interactive, with individuals assuming an active role in their own socialization. In complex societies particularly where many social roles are distinguished and numerous social groups interact, individuals partly choose their own socialization (Camilleri & Malewska-Peyre, 1997).

Bri'l's (1999) rendition of the developmental niche draws attention to learning processes, and Dasen (1988; Segall et al., 1999) reviewed relevant cross-cultural research particularly in relation to everyday cognition. The socio-constructivist perspective based on Vygotsky emphasized the social context of learning processes, such as the constructs of zone of proximal development, scaffolding, and "legitimate peripheral participation" (Lave & Wenger, 1991; Super & Harkness, 1997). Since adults are involved in these learning processes (even if unconsciously at times, as in Greenfield's [1984] study of scaffolding in the learning of weaving among the Zinacantec Indians), they could also be placed in the component of child rearing practices.

Greenfield's (1999; 2000) longitudinal study describes the impact of the sociopolitical context on learning processes. She found that the learning process in the same Zinacantec community had changed over the course of 20 years from Vygotskian scaffolding to Piagetian trial and error. Weaving occurs in the context of economic production, mainly for tourists, and instead of being confined to two traditional patterns, innovation is encouraged.

One key issue is how the various components of the system, and of interactions between the components, determine developmental outcomes. Depending on the interests of a researcher, this could be motor development, cognition, emotions, social competencies, the construction of the self, or any other aspect of

psychological development. Piecing together a puzzle from a large number of specific studies, each covering only a small part of the overall framework, would require a separate chapter.

Conclusion

How useful is such an attempt at integration? Do we not lose the most important features of each particular theory when we concentrate them into a single figure? For graphical reasons, it is impossible to do justice to all the components that should be included. However, the end result may not be the most interesting aspect of the enterprise; going through the process has served to draw attention to the existence of these theories and their respective strengths. It shows that the study of cross-cultural human development is gradually becoming self-critical and less ethnocentric (Dasen, 1993; Nsamenang, 2001), bridging the gap between indigenous conceptions and a more general, if not universal, psychological theory.

Commenting on the ecocultural framework, Jahoda (1995, p. 23) said, "it is doubtful whether in the present state of knowledge and technical resources, a full operationalisation of such a model as a whole would be feasible". This would be even more true of an integrated framework such as the one presented here. We cannot hope to have a model that can be empirically tested in all its elements and in a single study. The number of variables that are involved, and that interact with each other, is so large that a simple causal link is not only difficult to demonstrate empirically, but in fact does not make sense. The fact that we have to deal with the full complexity of social systems (Saraswathi, 1994) in their ecocultural contexts should not deter us from undertaking research, but to conduct it with attention to the various levels of analysis (Berry, this volume). The framework should also help us to put the existing research results into a broader and more integrated perspective. And if it demonstrates only one thing, it is that cross-cultural human development is no longer lacking in theory, and that it has really become "an outlook that takes culture seriously" (Dasen & Jahoda, 1986, p. 413), something that was little more than wishful thinking a couple of decades ago.

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TABLE 8.1
PSYCHOSOMATIC STRESS CHECKLIST

Item Number	CMI Number	A: Somatic
1.	7	Do you have pains in the heart or chest?
2.	11	Do you usually belch a lot after eating?
3.	13	Do you constantly suffer from bad constipation?
4.	14	Do your muscles and joints constantly feel stiff?
5.	16	Is your skin very sensitive or tender?
6.	19	Do you suffer badly from frequent severe headaches?
7.	20	Do you often have spells of severe dizziness?
8.	32	B. Exhaustion Do you usually get up tired and exhausted in the morning?
9.	35	C: Other Do you wear yourself out worrying about your health?
10.	39	Do you usually have great difficulty in falling asleep or staying asleep?
11.	44	D: Anxiety Do strange people or places make you afraid?
12.	46	Do you wish you always had someone at your side to advise you?
13.	47	E: Depression Do you usually feel unhappy and depressed?
14.	49	Do you often wish you were dead and away from it all?
15.	50	D: Anxiety (continued) Does worrying continually get you down?
16.	54	Are you extremely shy or sensitive?
17.	59	F: Paranoid Irritability Does it make you angry to have anyone tell you what to do?
18.	60	Do people often annoy or irritate you?
19.	61	D: Anxiety (continued) Do you often shake or tremble?
20.	65	Do you often break out in a cold sweat?

Source: From Cawte et al. (1968).

Marginality

Our second measure within the concept of acculturative stress is a scale of *marginality*. This concept itself has been a major one in the history of scientific attempts to understand the nature of acculturation. Originated by Park (1928) and Stonequist (1937), the theory of marginality was an attempt to comprehend the psychological and social condition of persons caught between two cultural systems; being "poised in psychological uncertainty" between two worlds, neither one fully accepting and argued to be the condition of the marginal man. The theoretical and empirical history of the concept has been difficult; as a theory, it was severely criticized for its limited generality (Antonovsky, 1956), and empirically it was minimally examined. With the publication of a major monograph by Dickie-Clarke in 1966, and an earlier report by Mann (1958), the study of marginality became a focal one; and with the recent volume of studies edited by Gist and Dworkin (1972) it has attained the status of a valid research question once again.

A major distinction has been drawn (Dickie-Clarke, 1966) between the "marginal situation" and the "marginal personality" (or "psychological marginality"). The former is a sociocultural variable; it is a set of conditions characteristic of culture contact between two (or more) groups, one dominant over the other, where a new culture (or "subculture") emerges which is marginal to both the contributing cultural systems. The latter is a set of feelings or traits thought by Park and Stonequist to be characteristic of individuals caught in the marginal situation; these included aggression, suspicion, and ambivalence. Whether these characteristics are associated with the marginal situation is an empirical question; some support for this expectation has indeed been found by Kerckhoff and McCormick (1955), Mann (1958, 1973), and Bery (1970).

A convenient measure of psychological marginality has been developed by Mann (1958), in part from the earlier scale of Kerckhoff and McCormick (1955). It consists of fourteen items (called the "Revised M Scale"), and was employed by Mann with a sample of coloureds in South Africa who are marginal to both the African and European segments of the population. With that sample, Mann was able to identify three factors which he termed "insecurity feelings," "self-pity," and "sensitivity." This scale is provided in Table 8.2.

Scoring the scale is based upon a one being assigned to an answer which is in agreement with the statement, and a zero to non-agreement. It was intended originally to elicit answers in terms of strong agreement and strong disagreement as well, but these were very rare in the response style of these samples. Thus a simple dichotomized scoring is used, identical to that employed for the stress checklist. A maximum score of fourteen and a minimum of zero are thus possible.

far better prepared for these pressures than those which were traditionally "loose" in their social organization. Thus, we expect that acculturative stress will appear with higher frequency in traditionally migratory and "loose" communities which are undergoing acculturation, while stress will be lower for those who were traditionally sedentary and "tight."

However, this expectation raises an important problem: How is it possible for nomadic samples (which as we have seen typically exhibit higher levels of perceptual differentiation) to also exhibit higher levels of acculturative stress, given our earlier expectation that at the individual level of analysis, differentiated behaviour should be negatively related to stress? Any possible answer to this difficulty can be considered only after a detailed examination of our empirical relationships. We thus turn to such an examination, beginning with an outline of the variables and measures subsumed under the term "acculturative stress."

CONCEPTS AND SCALES

Many concepts and measures have been proposed as suitable for the assessment of the psychological disturbance which often accompanies acculturation (Coelho, 1972). And just as many concepts and measures have been proposed to describe the nature of the sociocultural changes which precipitate it (Triandis, 1973). For the purposes of the present study the specification of this latter variable has already been made in Chapter 6, where the index of acculturation was derived from the three variables of mean sample education, the availability of wage employment, and the degree of urbanization. This purely descriptive index has been developed in an attempt to avoid the more culturally and politically loaded terms such as "Westernization" and "modernization." Similarly, the specification of the psychological variable is made in terms of general psychological stress rather than in the more value-loaded terms such as "culture shock," "mental health," or "personal adjustment." Thus a relatively neutral variable has been proposed (Berry, 1971a) to reflect the nature of both antecedent and dependent variable components of the phenomenon—acculturative stress. As we noted in the presentation of the model, there are three variables subsumed under the general title of acculturative stress: psychosomatic stress, feelings of marginality, and attitudes toward modes of relating to the society bearing the acculturative influences.

Psychosomatic Stress

The notion of *stress* has become very popular in the last decade, particularly in psychological studies, but also in anthropology (e.g., Appley and Trumbull, 1967; Naroll, 1959; Spradley and Phillips, 1972). Most uses of the

term may be traced to the original work of Selye (1956) who argued that, at the physiological level, the *General Adaptation Syndrome* is a common reaction of organisms to stressors in the environment. This syndrome is comprised of three states. The first (alarm reaction) includes an initial *shock phase* (in which resistance is lowered) and a *counter shock phase* (in which defensive mechanism become active). The second stage is one of resistance, leading in most cases to organismic adaptation to the stressor. And finally, if the stressor continues and/or the resistance is unable to maintain adaptation, the third state, of exhaustion begins, during which adaptive responses cease. Thus, in response to an environmental situation which requires some adjustment by the organism (the stressor), the body enters a general adaptation syndrome (a state of stress), and as a result, exhibits certain behaviour, called stress responses.

For many researchers (Chance, 1965; Cawte et al., 1968; Langner, 1962); these stress responses are clearly exhibited in somatic responses or symptoms; and when the stressors are sociocultural and psychological, the responses are referred to as psychosomatic. Following this research tradition, our most direct measure of acculturative stress is a checklist of psychosomatic symptoms. Of the many which are available, the one selected as the most suitable was the twenty-item version of Cawte et al., (1968) which had been developed for cross-cultural use from the longer Cornell Medical Index of Brodman et al. (1952). These twenty items were selected on the basis of clinical judgment and factor analyses for stable components, using data from Aboriginal populations in Australia. The items are divided into six categories: seven items are labelled "somatic," one "exhaustion," two "other," six "anxiety," two "paranoid irritability"; these items are provided in Table 8.1.

Participants were asked to indicate their answers with a simple "yes" or "no." In most cases, these answers were given with little hesitation, and in those cases where qualifications were requested or offered, a repetition of the instructions usually resulted in the answer being given in these terms. Scoring is based upon assigning a one to "yes" and zero to "no"; thus a maximum score of twenty and a minimum of zero was possible. No attempt was made to validate the responses, for it is an assumption of the test that the real existence and the imagined existence of these symptoms are both significant psychologically and are important in the same sense.

In all settings, the checklist was administered in the preferred language of the participant. For the Amerindian translations, a procedure of back translation (Brislin, 1970) was employed, until forward and back versions were identical. And for all items, since they deal with basic human difficulties, few problems were experienced in making equivalent forms; perhaps this translation ease is due to the prior selection of these items for cross-cultural relevance and stability by Cawte and his associates.

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