The Achuar Indians live in the remote forest reaches of the Upper Amazon and have developed sophisticated strategies of resource management. Philippe Descola, who has gathered material over several years of fieldwork, documents their rich knowledge of the environment. He explains how this technical knowledge of the increasingly threatened Amazonian ecosystems is interwoven with cosmological ideas that endow nature with the characteristics of society. Combining a symbolist approach with an ecological analysis, the book contributes a new theory of the social construction of nature.

“This work is not only an historical and ethnographic contribution to the study of a particularly important area of the New World, at the hinge of Amazonian and Andean high cultures; it is also a work of undoubted theoretical and methodological value, one that opens up new paths for anthropological thinking.”

Claude Lévi-Strauss
Cet ouvrage est publié dans le cadre de l'accord de co-édition passé en 1977 entre la Fondation de la Maison des sciences de l'homme et le Press Syndicate of the University of Cambridge. Toutes les langues européennes sont admises pour les titres couverts par cet accord, et les ouvrages collectifs peuvent paraître en plusieurs langues.

Les ouvrages paraissent soit isolément, soit dans l'une des séries que la Maison des sciences de l'homme et Cambridge University Press ont convenu de publier ensemble. La distribution dans le monde entier des titres ainsi publiés conjointement par les deux établissements est assurée par Cambridge University Press.

This book is published as part of the joint publishing agreement established in 1977 between the Fondation de la Maison des sciences de l'homme and the Press Syndicate of the University of Cambridge. Titles published under this arrangement may appear in any European language or, in the case of volumes of collected essays, in several languages.

New books will appear either as individual titles or in one of the series which the Maison des sciences de l'homme and the Cambridge University Press have jointly agreed to publish. All books published jointly by the Maison des sciences de l'homme and the Cambridge University Press will be distributed by the Press throughout the world.
In the society of nature
A list of books in the series will be found at the end of the volume
IN THE SOCIETY OF NATURE

A native ecology in Amazonia

PHILIPPE DESCOLA

Translated from the French by Nora Scott
Contents

List of illustrations ix
List of part title illustrations xi
Preface xii
Preface to the English edition xvii
A note on spelling xviii

General introduction 1
Nature and society: lessons from Amazonia 1
Achuar and Jivaro: an illusory state of nature 7

PART I: THE SPHERE OF NATURE

Introduction I 15

1 The territorial space 20

2 Landscape and cosmos 36
   Terrestrial water, celestial water 36
   Upstream and down 53
   The cosmos and its markers 62

vii
Contents

3 Nature's beings 77
   The taxonomic order 78
   The anthropocentric order 93

PART II: ON THE PROPER USE OF NATURE

Introduction II 105

4 The world of the house 108
   Architectonic elements 110
   Symbolic topography of the house 118
   Domestic sociability and its spaces 125

5 The world of gardens 136
   Clearing and gardening 137
   Gardening magic 191

6 The world of the forest 221
   Foraging techniques 222
   Affinal nature 257

7 The world of the river 270
   Fishing techniques 271
   The marital bed 279

8 Categories of practice 284
   The quantitative order 286
   The qualitative order 296

9 The good life 308
   Underexploitation of resources 309
   Productive efficiency 313

Conclusion 323
Notes 332
References 345
Subject index 355
Index of plants and animals 362
Illustrations

1 Location of the Jivaro Group in Upper Amazonia  page 8
2 Present location of Jivaroan dialect groups  22
3 Achuar territory in Ecuador: map of human settlements  30
4 Achuar territory in Ecuador: relief map of soils  39
5 Achuar soil and mineral typology  43
6 Astronomical and climatic calendar  48
7 Achuar territory in Ecuador: habitat map  57
8 Calendar of seasonal resources  72
9 Generic names of the animal kingdom  88
10 Floor plan of an Achuar house (upper Pastaza)  112
11 Framework of a naveamu jea house  115
12 Two types of framework  115
13 House vocabulary  119
14 Spatial organization of relations of conjunction and disjunction  131
15 Social structuring of space  132
16 Garden site: no. 1  141
17 Garden site: no. 2  143
18 Garden site: no. 3  144
19 Typical settlement pattern for a monogamous residential unit  147
20 Typical settlement pattern for a polygynous residential unit  148
## List of illustrations

21 Typical settlement pattern for a polygynous residential unit 150
22 Stump density in different types of garden 156
23 Clearing and burning times 159
24 Food cultigens 161
25 Cultigens for technological, medicinal, and narcotic use 163
26 Forest species acclimated in gardens or spared during clearing, and tolerated weeds 164
27 Principal garden predators 165
28 Sexual division of swidden horticulture 169
29 Average density of plants according to species 171
30 Density of dominant cultigens 172
31 Ratio of cultivated area to number of consumers 188
32 Average area cultivated per consumer in seven Amazonian populations 189
33 Size of plots individually cultivated by 29 married women in 11 separate domestic units 190
34 Spatial organization of hunting grounds 242
35 Order of frequency of kills per game type 246
36 Differential hunting returns per biotope 247
37 Sexual division of labor in hunting 250
38 Forest plants used for food 253
39 Division of labor in fishing 278
40 Average daily time spent in places of work 288
41 Average daily times devoted to each production sector 289
42 Average daily times devoted by a woman to each production sector according to the number of co-wives 291
43 Relation between plot size and average daily gardening time for an adult woman 292
44 Average daily time devoted by a man to hunting and fishing according to the number of co-wives 294
45 Importance of main cultigens according to gross daily harvest weights 311
46 Exploitation of the productive potential for growing manioc 312
47 Daily per capita dietary contribution of each production sector 314
48 Average calorie and protein consumption in five Jivaro and non-Jivaro Amazonian populations 316
49 Labor productivity for each subsistence activity as a function of its dietary contribution (%) 321
List of illustrations  xi

Part title illustrations
I  Down river on a balsa raft, Numpaimentza  page  13
II Inside an Achuar house, Numpaimentza  103
Conclusion  Achuar woman returning from the garden, Kapawientza  331

Chapter drawings
Pitiat storage basket  page  vii
Man’s ear sticks (tsukanka akitiai)  ix
Achuar man wearing a toucan-feather crown (tawasap)  xii
Achuar woman with a labret  xviii
Achuar man with ear sticks  1
Achu palm (Mauritia flexuosa)  15
Armadillo  20
Chonta palm (Guilielma gasipaes)  36
Cuvier’s toucan  77
Pininkia drinking bowl  105
Chimpui stool  108
Chankin carrying basket  136
Tunta quiver  221
Canoe decorated with the constellation Orion (utunim)  270
Temash comb  284
Muits jar for fermenting manioc beer  308
Signal drum  323
Pumputs mortar for mashing manioc  345
Preface

The present book is both a description and an analysis of the technical and symbolic relations entertained by an Upper-Amazonian Indian tribe with its natural environment. The result is a degree of ambiguity, which the unsuspecting reader might ascribe to some awkwardness in the construction or vagueness in the conception of the theme expounded. And yet this ambiguity is a basic constituent of the anthropological approach, which has always oscillated between a subtle geometric mentality and an esprit de finesse. The contradiction is usually resolved by a division of labor: while some favor a type of intuition rendered demonstrative by the consistency of the logical sequences it permits, others—less numerous, it is true—concentrate on detecting patterns which can be confirmed empirically by means of statistics. The theme I chose precluded such disjunction, since any system whose aim is the socialization of nature inextricably combines material as well as conceptual aspects. The analysis of energetic exchange flows calls for rigorous quantification of food production and time allocation, while the study of symbolic relations with the environment depends on the interpretation of myths, taxonomic systems, and magical techniques and rituals.

Unfortunately quantification and hermeneutics rarely make a happy match, and each member of this unlikely couple tends to be self-sufficient in its particular sphere of objectivation. Whatever the economy of the text, the description of production techniques, the measure of their efficacy, and the
analysis of the social actors’ representations of them seem doomed to
discursive divorce. Each part of the development takes on a sort of internal
coherence of its own, which persists like a faint echo when it comes to
showing that these are not separate, autonomous objects, but merely
discrete approaches to a single object. No doubt this unfortunate dissocia-
tion of the various ways of analyzing praxis is inevitable, however, and the
present work is no exception. But beyond the methodological constraint of
disjunction, I propose to show that it is illusory and useless to draw a hard
line between technical and conceptual determinations. I have therefore
given equal heuristic weight to quantitative and qualitative data in this
analysis of the relations between one society and its natural environment.
The nature of the subject dictates that the book be bound by the rules of the
ethnographic monograph; but the reader must judge for him- or herself
whether its ambition – to avoid the snares of dualism – is, in the end,
fulfilled.

Any undertaking of this sort is obviously conditioned by the intellectual
milieu in which it was conceived. As a young philosophy student, I
succumbed, like many of my contemporaries, to the “scientific” fascina-
tion of Althusserian Marxism. Ethnology shook me out of this dogmatic
lethargy and gave me a lesson in both humility and hope. Instead of a
totalizing theory that promised to render reality absolutely intelligible, to
my naive stupefaction, I discovered the existence of strange, exotic institu-
tions for which no number of reductionist incantations of “determination
in the last instance” could account.

Whereas Marx himself minutely detailed precapitalist socio-economic
systems, we thought we could simply pronounce on the scientific worth of
his labors, never addressing the question of their operative fruitfulness. To
break out of the circular exegesis of de jure questions, I had personally to
undergo the painful test of the facts; I had to take leave of the lofty
community of philosophy and descend into the dark depths of empiricism.

The ethnological exile turned out to be promising, however, for, if it
humiled the neophyte, it also gave him reason not to despair. Predictably
for a philosopher, it was Claude Lévi-Strauss’ work that greeted me on the
threshold of my new world and was soon joined by Maurice Godelier. Of
these authors, our little group of doctoral students generally knew just
enough to hold forth with brio on the notion of structure, but that was
about all, and it was very little. I suddenly discovered that what we had until
then regarded as an idealism without a transcendental subject, or as a
metastasis of Marxist epistemology could also be used to solve some thorny
ethnographical problems. In his structuralist study of Amerindian myth-
Preface

ology, Lévi-Strauss showed that the logic of the concrete was amenable to rigorous analysis, thus shaking the comfortable certainties of the reflection theory of myth. Grounding his thinking in a reinterpretation of Marx and in a vast body of literature on economic anthropology, Godelier challenged Althusserian mechanical causality by revealing the conditions in which certain elements of the “superstructure” could also function as relations of production. From Godelier and Lévi-Strauss alike I also learned that an ethnographer must be attentive to the slightest detail, however lowly. Resituated in a meaningful context, the plumage of a bird, the revolution of a planet, the productivity of a field or the construction of a fence become crucial elements for interpreting social and cultural reality. This scrupulous attention to the concrete fabric of material life was paradoxically lacking in the would-be Marxist ethnological works of the day. With a few exceptions – in particular André-Georges Haudricourt – ethnologists of a materialist stripe seemed to favor a morphological approach to relations of production over in-depth analysis of systems of productive forces. Both Lévi-Strauss and Godelier, each in his own area, made me see that the way to understanding social logics necessarily led through the study of the material and intellectual modes of socializing nature. Like exchange or ritual, the ecology of a society appeared as a total social fact that synthesized technical, economic and religious elements following a pattern whose deep structure was isomorphic with the other structures underlying the social whole.

This rather long preamble was meant to show the extent of my intellectual debt to those who pointed me towards the type of anthropological approach illustrated in the present work. But even when marked by gratitude, a declaration of filiation does not guarantee recognition of paternity; therefore I alone take the responsibility for any deformations that may have occurred in the thought of those who inspired my undertaking.

The initial intellectual fecundation led to the birth of an ethnographic study, which Lévi-Strauss and Godelier encouraged wholeheartedly. My ethnographic knowledge suffered from numerous gaps, and when, in 1973, Lévi-Strauss kindly accepted to direct my thesis, my entire apprenticeship still lay before me. I acquired the rudiments of my trade at the Sixth Section of the Ecole Pratique des Hautes Etudes (now the Ecole des Hautes Etudes en Sciences Sociales), and particularly in the seminar on research methods in anthropology. I became acquainted with Amerindian anthropology in Simone Dreyfus-Gamelon’s seminar, which drew the whole generation of young ethnologists interested in the lowlands of South America. Her
teaching and advice were valuable assets when it came to drawing up my research project. Maurice Godelier’s seminar initiated me into the *arcana* of economic anthropology and to the techniques of measuring and quantification he had perfected in the course of his fieldwork among the Baruya of New Guinea. From him I learned that reading Polanyi and Schumpeter did not obviate the necessity of knowing how to measure a field or to time a task.

Finally, in 1976, I was able to leave for Ecuadorian Amazonia and to live among the Achuar, thanks to funding from the Centre National de la Recherche Scientifique, obtained through the Laboratoire d’Anthropologie Sociale of the Collège de France, whose director at the time was Claude Lévi-Strauss. I would like to thank the many people who helped me over the course of my fieldwork. Mr. Dario Lara, adviser with the Embassy of Ecuador in France, saw to the administrative formalities for my stay and provided me with a warm recommendation to the authorities of his country. A supplementary stipend from the CNRS and a Paul Delheim scholarship from the Collège de France enabled me to spend nearly all my time, from September 1976 to September 1978, with the Achuar. From September 1978 to September 1979, I divided my stay between fieldwork and teaching in the anthropology department of the Pontificia Universidad Católica del Ecuador, in Quito. This extension was made possible by a scholarship from the Mission de la Recherche, which Professor Olivier Dollfus was kind enough to obtain for me. My courses at the Catholic University gave me the opportunity to establish a true working relationship with my Ecuadorian colleagues, the only concrete way of showing them my gratitude for their warm welcome. From them I learned a great deal about the social and political realities of Ecuador, and about the art of living that characterizes Quito and which I dearly miss. I have in mind more particularly Segundo Moreno, Diego Iturralde, Marcelo Naranjo, Jose Pereira, and Jorge Trujillo, who have done so much to ensure that anthropology is recognized in Ecuador as both an important scientific discipline and an instrument for lucid social criticism.

I would also like to thank the civilian, military, and church authorities as well as the native organizations which gave me continuous support. I am especially grateful to Mr. Hernan Crespo Toral, director of the Instituto Nacional de Antropología e Historia, for having granted me a permit to conduct ethnological research, and which served as a safe-conduct pass in many circumstances. The Federación de Centros Shuar took an interest in my project and gave me permission to proceed as I saw fit. I treasure memories of my conversations with a number of its leaders: Domingo Antun, Ernesto Chau, Ampam Karakras, Rafael Mashinkiash, and Miguel
Preface

Tankamash, who are struggling to preserve their cultural identity while facing the present with courage and realism. Without the support of this outstanding native organization and its Salesian advisers – in particular Juan Bottasso and Luis Bolla – I could never have realized my project. I also owe a debt of thanks to Lloyd Rogers (Shell-Mera Evangelist Mission) and to the North American pilots of the Alas de Socorro company, who organized most of my air trips around the Achuar territory.

To Antonino Colajanni and Maurizio Gnerre, pioneers in anthropological fieldwork among the Achuar, I am indebted for having guided my first steps in the forest; I would like to thank them here for that handsome gesture, which was the beginning of a long friendship. Professor Norman Whitten was constantly forthcoming with advice and encouragement; his familiarity with the places and people of Ecuadorian Amazonia, as well as his keen anthropological perception made him an ideal mentor for a beginning anthropologist. I received a warm welcome from my ORSTOM compatriots based in Quito, who gave me the benefit of not only their scientific aid but their generous hospitality.

In 1980 I returned to France and turned to writing my thesis, which constitutes the main matter of this work. During this period many colleagues and friends gave me their support. I am especially indebted to Mr. Clemens Heller, director of the Maison des Sciences de l’Homme in Paris, for his timely financial assistance on many occasions. Nor shall I forget the exceptional working conditions provided by King’s College in Cambridge. But my gratitude goes first and foremost to my real and classificatory families, to use an expression common to ethnologists and the Achuar. By sharing his interest in Indian America with me, my father oriented my research towards the New World, while my mother devoted several months to typing my manuscript. With my wife, Anne-Christine Taylor, I shared the joys and trials of life with the Indians as well as the uncertainties and enthusiasms of work in camera. To say that this book owes much to her is an understatement. It is every bit as much the fruit of our complicity as of my own labors. Out of sight, but close to heart and mind, my Achuar classificatory family was formed little by little by the mythic ties of adoption. From Wisum, the first man to call me “brother” and to treat me as one, I inherited a vast kindred that extends to the limits of the tribe. This book is dedicated to all those Achuar who took me in and educated and protected me because they pretended to take the duties of our imaginary kinship seriously. I hope that, when the grandchildren of my brother Wisum are able to read this apachiru Yakum papiri, the world it attempts to describe will not have vanished forever.
Preface to the English edition

Although the original edition of this book appeared in French in 1986, I finished writing it in early 1984. In the ten years that have elapsed since then a great amount of material has been published on the cultural ecology of Amazonian Indians as well as on the ethnography of the Jivaro. Faced with the choice of either extensively rewriting the book to include and discuss this new material, or to let it stand as it was, I chose the second solution. Indeed, most of the data published in the last decade on native adaptation to Amazonian habitats appears to substantiate the hypotheses I set forth in this work rather than contradict them. As for the theoretical approach to the question of the relations between nature and society which I advocate here, I have every reason to believe that it has lost nothing of its actuality and relevance.

Paris, 1993

xvii
A note on spelling

The Achuar terms used in this work are spelled according to the traditional transcription of Jivarro adopted by agreement between the Federación de Centros Shuar, the Salesian Mission, and the Summer Institute of Linguistics. This transcription is based on the phonetic system of Spanish and is not entirely rigorous; nevertheless, it seemed legitimate to choose a standardized system of transcription used in alphabetizing those for whom Jivarro is the native tongue.

<table>
<thead>
<tr>
<th>Standard Jivarro*</th>
<th>Phonetic transcription</th>
<th>Standard Jivarro*</th>
<th>Phonetic transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>consonants</td>
<td></td>
<td>vowels</td>
<td></td>
</tr>
<tr>
<td>ch</td>
<td>/Che/</td>
<td>a</td>
<td>/a/</td>
</tr>
<tr>
<td>j</td>
<td>/he/</td>
<td>/a/</td>
<td></td>
</tr>
<tr>
<td>k</td>
<td>/ke/ , /ge/</td>
<td>c</td>
<td>/i/</td>
</tr>
<tr>
<td>m</td>
<td>/me/</td>
<td>e</td>
<td>/i/</td>
</tr>
<tr>
<td>n</td>
<td>/ne/</td>
<td>i</td>
<td>/i/</td>
</tr>
<tr>
<td>n</td>
<td>/ne/</td>
<td>i</td>
<td>/i/</td>
</tr>
<tr>
<td>p</td>
<td>/pe/ , /be/</td>
<td>u</td>
<td>/u/ , /w/</td>
</tr>
<tr>
<td>r</td>
<td>/re/</td>
<td>/e/</td>
<td></td>
</tr>
<tr>
<td>s</td>
<td>/se/</td>
<td>y</td>
<td>/i/ , /j/</td>
</tr>
<tr>
<td>sh</td>
<td>/se/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>/te/ , /de/</td>
<td>ai</td>
<td>/ei/</td>
</tr>
<tr>
<td>ts</td>
<td>/te/ , /ts/ , /dz/</td>
<td>ei</td>
<td>/ei/</td>
</tr>
<tr>
<td>w</td>
<td>/we/ , /be/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*In standard Jivarro an underlined phoneme indicates nasalization (see above); to simplify the typography, I have omitted the underlinings in the text.