



HOW

TRADITIONS

LIVE

AND

DIE

OLIVIER MORIN

HOW TRADITIONS LIVE AND DIE

FOUNDATIONS OF HUMAN INTERACTION

General Editor

N.J. Enfield, Max Planck Institute for Psycholinguistics, Radboud University, Nijmegen,
and the University of Sydney

This series promotes new interdisciplinary research on the elements of human sociality, in particular as they relate to the activity and experience of communicative interaction and human relationships. Books in this series explore the foundations of human interaction from a wide range of perspectives, using multiple theoretical and methodological tools. A premise of the series is that a proper understanding of human sociality is only possible if we take a truly interdisciplinary approach.

Series Editorial Board

Michael Tomasello (Max Planck Institute Leipzig)
Dan Sperber (Jean Nicod Institute)
Elizabeth Couper-Kuhlen (University of Helsinki)
Paul Kockelman (University of Texas, Austin)
Sotaro Kita (University of Warwick)
Tanya Stivers (University of California, Los Angeles)
Jack Sidnell (University of Toronto)

Recently Published in the Series

Agent, Person, Subject, Self

Paul Kockelman

Exploring the Interactional Instinct

Edited by Anna Dina L. Joaquin and John H. Schumann

Relationship Thinking

N.J. Enfield

Talking About Troubles in Conversation

Gail Jefferson

Edited by Paul Drew, John Heritage, Gene Lerner, and Anita Pomerantz

The Instruction of Imagination

Daniel Dor

How Traditions Live and Die

Olivier Morin

HOW TRADITIONS LIVE AND DIE

Olivier Morin

OXFORD
UNIVERSITY PRESS

OXFORD
UNIVERSITY PRESS

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship,
and education by publishing worldwide.

Oxford New York
Auckland Cape Town Dar es Salaam Hong Kong Karachi
Kuala Lumpur Madrid Melbourne Mexico City Nairobi
New Delhi Shanghai Taipei Toronto

With offices in
Argentina Austria Brazil Chile Czech Republic France Greece
Guatemala Hungary Italy Japan Poland Portugal Singapore
South Korea Switzerland Thailand Turkey Ukraine Vietnam

Oxford is a registered trade mark of Oxford University Press in the UK and certain other countries.

Published in the United States of America by
Oxford University Press
198 Madison Avenue, New York, NY 10016

Originally published in French as *Comment les traditions naissent et meurent*
© ODILE JACOB, 2011. Translated and Revised by the author, Olivier Morin.

First published in English in 2016 by Oxford University Press.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system,
or transmitted, in any form or by any means, without the prior permission in writing
of Oxford University Press, or as expressly permitted by law, by license, or under terms agreed
with the appropriate reproduction rights organization. Inquiries concerning reproduction outside
the scope of the above should be sent to the Rights Department, Oxford University Press,
at the address above.

You must not circulate this work in any other form
and you must impose this same condition on any acquirer.

Library of Congress Cataloging-in-Publication Data
Morin, Olivier.

[*Comment les traditions naissent et meurent*. English]

How traditions live and die / Olivier Morin.

p. cm. — (Foundations of human interaction)

Includes bibliographical references and index.

ISBN 978-0-19-021050-2 (pbk. : alk. paper) — ISBN 978-0-19-021049-6
(hardcover : alk. paper) 1. Tradition (Philosophy) 2. Knowledge, Sociology of. 3. Social change—
Sociological aspects. 4. Social values. 5. Socialization. 6. Culture diffusion. 7. Interpersonal
communication and culture. I. Title.

B105.T7M6713 2015

306—dc23

2015013931

9 8 7 6 5 4 3 2 1

Printed in the United States of America on acid-free paper

CONTENTS

<i>Foreword</i>	xi
<i>Series Editor Preface</i>	xiii
<i>Acknowledgments</i>	xv
Introduction. The Flop Problem and the Wear-and-Tear Problem	1
1. The Transmission and Diffusion of Traditions	12
Culture as Distributed	13
Cultural Homogeneity Is Overrated . . .	14
. . . Yet Homogeneity Remains a Heavily Influential Hypothesis	20
A Quantitative and Abstract View of Culture	21
What Is Cultural Transmission?	23
Distinguishing Diffusion and Transmission	23
Transmission and Invention Are Not Opposites	26
Not All Differences between Societies Are Traditional	31
Our Cultural Repertoires Could Not Exist without Transmission	35
Culture: A Set of Traditions Rather than a Set of Differences	36
Do Traditions Exist?	37
Some Traditions Are as Durable as They Seem	37
Culture Is Not an Undecomposable Whole	41
Why Anthropologists Are No Longer Interested in Traditions	43
Traditions Do Not Exist Solely as Ideas	47
Two Questions	50
Why Are There Traditions Rather than Nothing?	50
Why Does One Species Monopolize Traditions?	51

2. Communication and Imitation	53
Imitating and Understanding Others	54
Looking for “True Imitation”	56
Imitation Is neither a Human Privilege nor the Source of Our Cultures	58
Human Ostensive Communication	60
Involuntary Transmission: When Behaviors Leak Information	62
Non-Ostensive Voluntary Transmission	63
Voluntary and Overt Transmission: a Human Phenomenon	65
Culture Did Not Build Our Communicative Skills from the Ground Up	66
Ostensive Communication Is Not Particularly Faithful	69
Communicating to Imitate, Imitating to Communicate	70
Communication for Imitation: Demonstrations and “Rational” Imitation	70
Ostensive Communication Goes Beyond Teaching	74
It Takes Place at Any Time, from Anyone, and for Any Reason	75
It Requires an Active Reconstruction of the Transmitted Material	77
It Can Bypass Language	79
It Does Not Need Adults	83
“A Light, Insubstantial, Fugitive Web”	84
3. The Myth of Compulsive Imitation	87
How Far Do We Follow Conformity and Deference?	88
An Ambiguity of Dual Inheritance Theory	88
“Simple Heuristics that Make Us Smart”—Really?	91
Docility: Does Compulsive Imitation Breed Altruism?	93
The Case for Flexible Imitation	99
Imitation: the Key that Unlocks Every Door?	104
Conformity and Deference: Psychological Mechanisms or Social Facts?	104
Cultural Diffusion in a Population of Flexible Imitators	106
Negative Informational Cascades Are Short or Rare	108
Waves of Compulsive Imitation: Often Evoked, Seldom Documented	110

The Influence of Influentials: Tautology or Misunderstanding? 115	
Closing the Case against the Imitation Hypothesis 119	
4. A Theory of Diffusion Chains	121
Transmission Is Easy, Diffusion Is Hard 122	
There Is No Inertia for Transmission 122	
Why a Few Transmission Episodes Do Not Make a Diffusion Chain 124	
Transmission Fidelity Is Not the Problem 128	
For Transmission, Quantity Matters More than Quality 130	
Cultural Transmission Is No Chinese Whispers Game 130	
A Tradition Must Be Carried by Many Robust Diffusion Chains 131	
Redundancy and Repetition Make Diffusion Chains Less Fragile 132	
Traditions Must Proliferate in Order to Survive 133	
Stability and Success Go Together 134	
Why Do Traditions Proliferate? 136	
Accessibility: Certain Populations Make Contacts Easier 136	
Many Ways to Proliferate, Several Types of Diffusion Chains 138	
Cultural Selection—Many Are Called, Few Are Chosen 140	
Traditions Survive Cultural Selection by Being Attractive 144	
Attraction Can Be Linked to a Restricted Context, or More General 146	
Traditions Are Appealing in Many Ways, Not All of Them Cognitive 148	
Transmission Is Not Memorization, Culture Is Not Collective Memory 152	
When Does Psychology Drive Culture? 155	
Politeness Norms Last Longer if They Tap into Our Sense of Disgust 156	
Among the Kwaio, Beliefs about Spirits Survived by Being Intuitive 157	
Generally Attractive Traditions Do Not Always Prevail 158	
How the Vagaries of Diffusion Dilute General Attraction 160	
Local Attraction Can Override General Attraction, Locally 160	

General Attraction Prevails in Long and Narrow Diffusion Chains	162
For Instance, Widely Diffused Languages Tend to Be Easier on the Mind	164
The Benefit of Moving across Scales When Looking at Culture	167
5. The Passing of Generations	169
“That Constant Stream of Recruits to Mankind”	170
Demographic Generations Are Not Social Generations	170
How to Link Humans Scattered across Time	174
How Generational Overlap Makes Diffusion Easier	175
Demographic and Social Obstacles to Transmission	177
Everything Your Parents Did Not Teach You about Culture	180
Why Do Children Have Traditions?	185
The <i>Lost World</i> of Children’s Peer Culture	187
Children’s Traditions Are Not Vestigial Adult Practices	190
They Are Mostly Transmitted from Child to Child	192
They Are Children’s Games, and They Look Like It	194
They Are at Least as Durable as Cross-Generational Traditions	196
They Are Homogenic and Share a Common Fate	199
What Makes Children’s Peer Culture Last?	201
Traditionalism Is Not What Took Children’s Culture across Time	201
Neither Does Memorability Preserve Children’s Rhymes	204
Children’s Traditions Were Selected to Proliferate	207
Generational Turnover Need Not Impair Cultural Survival	210
6. An Ever More Cultural Animal	213
Three Clues for One Puzzle	215
What Is Cultural Accumulation?	219
“Cumulative Culture” Is an Avatar of Evolutionary Gradualism	220
Faithfully Replicated Small Changes Cannot Explain Everything	222
Traditions Often Endure without Improving . . .	223

... and Cultural Progress May Do without Conservation	224
The Growing Number of Traditions Is What Matters	226
The Opening Up of the Human Public Domain	228
Human Populations Became Increasingly Hospitable to Culture ...	228
... But Hospitable Populations Are No Guarantee of Cultural Progress	232
The Extreme Accumulation Hypothesis	233
What Kind of Cultural Animal Are We?	237
We Need Not Believe that We Are Wired for Culture ...	238
... or that Communication Is Designed for Cultural Transmission	243
A Species Taken in a Cultural Avalanche	246
The Growing Weight of Traditions Does Not Erase Human Nature	248
A Cultural Animal by Accident	251
<i>Appendix</i>	253
<i>Bibliography</i>	267
<i>Index</i>	291

FOREWORD

In a way, this book is the third incarnation of my PhD thesis, defended in 2010 and published in French in 2011, as *Comment les traditions naissent et meurent—la transmission culturelle*. While translating that book, I felt it necessary to revise various parts, and the book that you have opened substantially departs from the French version. Chapters 1, 2, and 4 were translated almost as they were, but chapters 3, 5, and 6 have been thoroughly rewritten. A technical appendix now supplements the essay on children's traditions that forms the core of chapter 5. I have made available the relevant data in a database that can be consulted online (<http://sites.google.com/site/sitedoliviermorin/morin-rabelais-online-material.pdf>).

This book, however, is not quite a second edition of the 2011 version. There is no change in the overall claims and arguments worth signaling, and no attempt has been made to update the references with the post-2011 literature on the many topics this book touches on. The literature on cultural evolution is growing at such a pace that an altogether new book would be needed to deal with these developments. On the other hand, I also felt that the present argument could still stand on its own today.

In fact, there are only so many books and articles that I think would have made a huge difference to this book, had it been written now. One of them is Thom Scott-Phillips's *Speaking Our Minds* (2014). Chapters 2 and 6 of the present work dwell on the evolution of ostensive communication on more than one occasion. They echo the view that ostensive communication could have evolved in rather straightforward ways described by the theory of natural selection, and that its cultural exploitation by languages was secondary to its biological evolution. In 2010 arguments to back this claim existed but were scattered among dozens of papers. Now a book exists that makes the case quite elegantly.

Two sections of chapter 2 have been adapted, with many modifications, in a 2014 *Biological Theory* paper: "Is cooperation a maladaptive by-product of

cultural transmission? Simon's Docility Hypothesis reconsidered" (Morin 2014). The part of chapter 5 that dwells on children's peer culture was published (in an early version much amended since) in 2010 under the title "Pourquoi les enfants ont-ils des traditions ?" in *Terrain : revue d'ethnologie de l'Europe* (Morin 2010).

Durkheim is quoted in G. Simpson's translation, Johannes Herder in T. O. Churchill's translation. The version of Marcel Proust's *Remembrance of Things Past* used here was due to C. K. S. Moncrieff. Gabriel Tarde's *Laws of Imitation* is quoted in E. C. Parsons's translation. Additional quotes from these and other francophone authors are translated by me.

SERIES EDITOR PREFACE

Human interaction is the engine room of social reality. It is where minds meet, and thus where minds go public. When we encounter other people, we learn what they do and how they do it, what they have and why. And as Olivier Morin richly explores here, we may find others' actions, ideas, inventions and possessions more or less attractive. If there is enough attraction, we will copy, adopt, or transform the bits of culture that appeal to us, and in this way we drive the spread and possible transformation of traditions. This is how traditions become distributed across minds, places, times, and worlds. They are not just the products of interacting agents; they become contexts for interacting agents. So just as human interaction is a foundation of culture, culture becomes a foundation of human interaction.

N. J. E.
Sydney, July 2015

ACKNOWLEDGMENTS

The dissertation that became this book was completed in 2010 at the Institut Jean Nicod in Paris and the Central European University in Budapest, under the supervision of Dan Sperber. In Paris, I received help and advice from Pierre Jacob, Élisabeth Pacherie, Jérôme Dokic, Gloria Origgi, Steven Davis, Frédérique de Vignemont, Delphine Blitman, Florian Cova, Valeria Giardini and Marie Guillot. Not at Nicod, but still in Paris, I learnt a lot from Maurice Bloch, Julie Grèzes, and Swann Pichon. Christophe Heintz kindly greeted me at the CEU Budapest, where I also benefited from conversations with György Gergely and Gergely Csibra. The “Nash” group (standing for “Naturalisme et sciences humaines”) has been, then and now, a decisive intellectual influence: Nicolas Baumard, Pierrick Bourrat, Nicolas Claidière, Coralie Chevallier, Olivier Mascaro, Hugo Mercier, Hugo Viciàna, Ophélie Deroy, Anikó Sebestény, Guillaume Dezecache, Christophe Heintz, Thom Scott-Phillips. Part of the work that went into chapter 5’s theory of intra-generational diffusion was produced with Jean-Baptiste André, who influenced this whole work in many different ways, always with acumen. I was lucky in being able to present this work to a wide range of audiences from different disciplines. For this I am grateful to David Berliner, Odile Jacob Jean-Baptiste van der Hernst, Michael Stewart—and, especially, to Christine Langlois and the whole team of the journal *Terrain*. My very special thanks, and more, go to Olivier Mascaro.

The dissertation’s jury, composed of Daniel Andler, Pascal Boyer, Jean Gayon, Bruno Karsenti, and Bernard Thierry, examined my text with tireless, generous thoroughness, and this version owes them a lot. My debt to my supervisor, Dan Sperber, will be apparent to any one who reads this book and his work. It is through Dan that I first came across most of the people cited here, and most of the ideas in this work.

The English version was written while I was a post-doctoral fellow at the KLI Institute in Klosterneuburg. Thanks to Daniel Dennett’s generous invitation, I was fortunate enough to discuss preliminary drafts of this version in

Santa Fe with Susan Blackmore, Robert Boyd, Nicolas Claidière, Peter Godfrey-Smith, Joseph Henrich, Peter Richerson, Dan Sperber, and Kim Sterelny. Their feedback was extremely precious. So were the advice and comments given by Jay Fogelman, Thom Scott-Phillips, Dan Sperber, and Radu Umbres. I also wish to thank two anonymous reviewers for their efforts. This edition benefitted from the technical help of the SOMICS grant (*Constructing Social Minds: Coordination, Communication, and Cultural Transmission*) of the ERC.

HOW TRADITIONS LIVE AND DIE

INTRODUCTION

THE FLOP PROBLEM AND THE WEAR-AND-TEAR PROBLEM

... or again, if any of her friends were to reproach her, in terms which she felt to be undeserved [Albertine said]: "That really is magnificent!" an expression dictated in such cases by a sort of middle-class tradition almost as old as the Magnificat itself, and one which a girl slightly out of temper and confident that she is in the right employs, as the saying is, "quite naturally," that is to say because she has heard the words from her mother, just as she has learned to say her prayers or to greet a friend. All these expressions Mme. Bontemps had imparted to her at the same time as her hatred of the Jews and her feeling for black, which was always suitable and becoming, indeed without any formal instruction, but as the piping of the parent goldfinches serves as a model for that of the young ones, recently hatched, so that they in turn grow into true goldfinches also.

(Proust 1921/1982, 369–370)

This depiction of cultural transmission reflects a view that guides many researches in this field. Cultural transmission goes from one generation to the other. It can be so unconscious and automatic as to seem natural: Albertine faithfully absorbed the customs of her society, which she reproduces without even thinking about it. Culture, in this view, is acquired in bulk. Prayers, antisemitism, greeting conventions, the elegance of the bourgeoisie: one smooth socialization process got all these things from Mrs. Bontemps's head into her niece's.

Are traditions always passed on in that way—faithfully, vertically, and en bloc? This book would like to convince you that they are not—that transmission inside a generation matters as much as transmission between generations; that we do not spontaneously copy everything that is done around us; that culture is made of relatively discrete, relatively independent traditions. If true, these ideas can shed light on the life of traditions—what makes some of them last, thrive, or go extinct, and why they are more numerous among modern humans than anywhere else.

Johann Herder may have been the first philosopher clearly to make the claim (to make it clearly and to substantiate it with evidence) that human populations are not influenced solely by their heredity, their milieu, their laws. In his *Ideas for the Philosophy of History of Humanity*, he argued that another force should be added to the mix: the traditions that are passed on inside each human group. Our species being everywhere the same, he argued, environmental factors do not suffice to explain the differences between human groups: these differences are *cultural*.

This idea raises many questions: why does culture play such a role in human life? What is so special about us that makes us cultural animals?

God, Herder replied, endowed us with special “receptive powers” (Herder, 1791/2010: 313). Because of those, we inevitably absorb our culture from the moment we are born, “like a wet sponge that has long been soaking on a wet floor” (Herder, 2010, 315). Thus, a young girl soaked in a bourgeois education cannot fail to catch good manners and antisemitism, as one picks up germs from a swimming pool.

Where would this capacity come from? Herder cited imitation, language, a spontaneous sympathy for others’ feelings, the plasticity of the human brain. The psychology of his time did not allow him to develop those hypotheses.

Why would God choose to turn us, and us alone, into cultural animals? How does imitation work? How does language? Two centuries later, these questions have changed. Divine intervention does not seem quite such a satisfactory explanation of how we became cultural. We seek an answer that would be compatible with what we know of the past of our species—hence with the theory of evolution by natural selection. In other words, we seek a biologically and psychologically plausible theory of culture. This objective seems more accessible today than it was even thirty years ago. Interdisciplinary approaches have thrived. Anthropologists, psychologists, biologists, ethologists, and philosophers each bring their piece of the puzzle. The way we look at culture has been transformed.

Ethologists, for instance, have discovered what rapidly became known as animal traditions: behaviors that are specific to certain groups, whose existence seems best explained by transmission from one individual to another. While trying to account for this discovery, comparative psychologists have investigated behavior transmission in a variety of species, from fishes and rats to great apes and humans. These explorations may help us learn how humans became cultural animals.

The same question can also be explored by studying cultural transmission as it functions among humans today. That second way of approaching the

problem is older. Its beginnings can be dated to the writings of Gabriel Tarde. It is now being revived, with models borrowed from epidemiology and population biology. The successes of these methods raises a certain number of questions. Is cultural transmission comparable to the spread of genes and viruses? Is it comparably faithful? Is it primarily vertical, from parent to child, or does it take other paths?

These new approaches to culture differ on many such issues. How much similarity is there between the history of traditions and the biological evolution of species? For some, the analogy is all but perfect, for others it is so vague as to be confusing. Do traditions tend to travel along generational lines, or could they survive without ever taking that path? Both options have defenders. How faithful is cultural transmission? Some claim that we copy them faithfully, almost automatically. Others think we pick and choose what suits us among the traditions that surround us, refashioning and customizing culture as we acquire it.

Still, the new approaches agree on at least two counts. First, a taste for quantitative methods (mostly mathematical models and controlled experiments) and quantitative questions. How long do traditions live? What makes them (more or less) successful? How do they accumulate through time? Why are they so much more numerous among humans? How homogeneous can human cultures get? The answers to all these questions cannot be yes or no: they ask for quantitative estimates, albeit often very rough ones.

The new approaches have another thing in common: they see culture as a set of ideas and practices, each of which could spread independently from the others. This idea is at odds with the view that prevails in many contemporary anthropological circles, where cultures are readily described as coherent structures, well-integrated blocks of signification, where everything hangs together with everything else. The reverse, I will argue, is equally plausible. Religious rites, dressing etiquette, political opinions, can be acquired separately. They do not necessarily hang together in a block. Their association in certain heads, at certain times, is in large part a product of the vagaries of cultural histories. Cultures could be made of elements that need not stick together. These elements have received various names, depending on the author or the century: *items*, *culturgenes*, *memes*, *representations*, and so on. Herder simply called them *traditions*, and that is the name they will be given in this book.

Cultures made of independent traditions—this idea was common currency in anthropology, not such a long time ago. It will be defended in the first chapter of this book. I will review the motivations (most of them excellent) that drove anthropologists to abandon this view, and I will try to

rehabilitate it. Some issues of definition will be addressed along the way. An idea or a behavior is traditional on two conditions. It has to be transmitted from one individual to another (instead of being the fruit of independent inventions) and to be widely distributed in space and time. This definition is fuzzy. It defines no sharp qualitative boundary between what is traditional and what is not. That is quite deliberate. Traditions are fuzzy objects. They are never completely copied without a share of reinvention. They are traditional only to the extent that they manage to spread to remote times and places. All this is a matter of degree. Hence, this book offers no strict definition of traditions. On the contrary, it tries to turn a philosophical question into an empirical matter. What does or does not make a practice traditional will not concern us much; what makes traditions travel far will.

In the next chapters, I will try to address two big questions: *Why is there culture rather than nothing? Why among humans rather than elsewhere?* These are philosophical questions in that, at first glance, they seem too broad to be solved. The philosopher's job is to try to make them specific enough that they can be solved, without losing their generality.

So let us specify the first question. Some practices and some ideas diffuse very far in space and time. Traditionalists have been known to overestimate their longevity, but on the whole, we can prove that their stability is quite real—and surprising! After all, most of our actions and ideas are not transmitted more than once or twice. Why, then, are things different for a few lucky ideas? Why are there traditions?

This question cannot be raised without running into a second issue: Why are all the cultural riches of this world (with few exceptions) in the hands of a single species? Humans, after all, are not the only cultural species on earth. Traditions exist in other species, too: some animal practices are learnt under the influence of conspecifics, and some of these animal practices travel far and wide, both in space and time. But why are they so rare?

That question will be kept for the last chapter. In the meantime, I shall try to explain how traditions get propagated in spite of the dangers of travel, and the passing of time. Doing so requires two problems to be solved: the Wear-and-Tear Problem and the Flop Problem.

The best known and best explored of the two is the Wear-and-Tear Problem. We all know it from playing Chinese Whispers (known in the United States as the game of Telephone): when a message goes through a transmission chain, it takes no more than a small number of links for mistakes to accumulate. The message suffers corruption and is eventually lost in little time, unless transmission is absolutely perfect (a condition that in reality never obtains).

The Flop Problem is different. It has nothing to do with the quality of transmission. We can reproduce a gesture quite faithfully and never see it again. We can retain a sentence with near-perfect exactitude, without transmitting it to others. In those cases, the transmission chain just peters out for lack of success. The message does not even have the time to suffer wear and tear: it is a flop.

How are these two problems solved? The answer will depend on which problem is considered to be the more serious. Many authors seem to think that triumphing over the Wear-and-Tear Problem is the hard part. After that, the Flop Problem takes care of itself. Others, myself included, consider that if a tradition manages not to flop, its success all but cancels the damage of frequent transmission. Solving the Flop Problem, then, is the hard part: master it, and the Wear-and-Tear Problem will take care of itself.

The first view (putting the Wear-and-Tear Problem first) characterizes the numerous scholars who have sought the root of culture in imitation. The Flop Problem seldom arises in their writing. After all, they assume that humans have a natural tendency to reproduce the ideas and behavior they are exposed to, as if driven by a compulsion to imitate. Social influence pushes us spontaneously to copy traditions. Its strength may vary, depending on the models around us: are they numerous? Are they prestigious? Most of the time, however, we end up spontaneously replicating many traditions, without necessarily knowing why. The Flop Problem thus solved, one has to explain how ideas and behaviors manage to survive deformation, as they undergo one transmission episode after the other. As a solution to the Wear-and-Tear Problem, these theories usually propose high-fidelity transmission mechanisms. Those mechanisms permit efficient communication, faithful imitation, and accurate memorization. Thanks to them, traditions survive.

In brief, the received view sees the life of traditions as being driven by faithful and compulsive transmission. They are born from imitation. Humans create long-lived traditions because they possess a capacity to imitate, with unique fidelity, what is done around them. This answer, which we will call the *imitation hypothesis*, is quite old. Herder theorized it. It is that of many contemporary authors. Though they would grant that our closest cousins possess some mimetic capacity, most hasten to add that cultural transmission outside our species is not faithful enough to permit more than the transmission of a handful of simple techniques. Only human imitation can take us further. Humans owe their many traditions to the cognitive capacities that allow us to imitate, to communicate, and to retain cultural information. Herder would have said that God endowed us with special “receptive powers.”

That theory will be the target of chapters 2 and 3. I will argue that the transmission of traditions is neither particularly faithful nor especially compulsive. We lack both the desire and the capacity to imitate everything that circulates around us. Instead we transform, we customize, we reinvent, we forget, we select.

Chapter 2, *Communication and Imitation*, explains why I do not think that cultural transmission usually takes the form of teaching, or imitation. It seems that in our species—and, I will contend, nowhere else—transmission passes mostly through ostensive communication, a soft and flexible form of transmission that always includes a reconstruction of what is transmitted. Unlike imitation, communication does not require behaviors to be faithfully replicated. Unlike what happens in teaching, communicators do not necessarily have close control over those who learn from them. Unlike many forms of teaching and imitation, communication is voluntary and ostensive.

The transmission of behaviors, or pieces of information, can be voluntary or involuntary. Outside our species, it is often involuntary. For instance, upon seeing that other birds have gathered around a source of food, a bird may be driven to imitate them. The models need not know they are serving as models.

Voluntary transmission, in contrast, entails that the model deliberately seek to be imitated by, or to instruct, her target. Adult meerkats, for instance, provide their young with small, weakened, stinger-free scorpions to play with. The only plausible function of this behavior is to transmit a know-how. Such cases of voluntary transmission are rare outside of our species. Furthermore, these instances of animal “teaching” are always (with only one or two possible exceptions) *non-ostensive*. Non-ostensive transmission is what we do when we attach small wheels to a child’s bicycle. The extra wheels certainly help the child learn how to ride a bike; but knowing this is not what helps her the most. Non-ostensive transmission need not be manifest in order to succeed. Ostensive transmission is different. It cannot work unless the intention of the model is shown and recognized. Pointing at something with your index finger, waving a hand—these signs mean something because they rely on the recognition of an intention. The target understands the source’s communicative intention, and the source uses this recognition to get her message across. In spite of its apparent simplicity, this mode of transmission seems rare or inexistent outside our species.

We shall see that ostensive communication has yet another special property. To understand what is communicated to us, we must reconstruct the communicator’s message, selecting what we need to learn from the signals she

sends us. Communication is not achieved by copying information. It is not particularly faithful, or designed for cultural transmission. As a result, most of the ideas and practices conveyed through communication will never become traditional. Communication, as Herder remarked, is a poor tool for faithful cultural transmission.

The critique of imitation goes on in chapter 3, where *The Myth of Compulsive Imitation* is described. That chapter has a simple message: we are not as docile as most of the literature on cultural transmission would have us think. We are not so easily influenced that we would copy anything from the majority or the prestigious, without good reasons to do so. Making this point will require a brief review of an enormous literature that seems to demonstrate exactly the opposite. One often hears, for instance, that suicides are readily imitated, especially prestigious suicides. Taking one's life is an extremely costly behavior; if people were joining massive waves of suicide out of sheer imitative docility, it would be hard to call them discerning. Yet such stories are much less plausible than they seem. The studies supporting the assumption of compulsive imitation, be they coming from social psychology or from sociology, suffer from several problems and biases. The data that are used to show that prestige and conformity drive the diffusion of innovations, technological or linguistic, often happen to show the contrary. On the whole, we acquire our culture in a selective, cost-sensitive, and discerning way.

If true, all this implies that the imitation hypothesis cannot explain the existence of traditions. Absent a compulsion to imitate prevailing customs, the Flop Problem remains unresolved. If human cultural transmission is not a high-fidelity device, the Wear-and-Tear Problem still stands.

The *Theory of Diffusion Chains* described in chapter 4 suggests another solution. It begins with a reversal of priorities. The imitation hypothesis tackles the Wear-and-Tear Problem first of all. The Flop Problem is almost an afterthought (compulsive imitation is supposed to take care of it). In my view, the opposite is true. When the Flop Problem is solved—and only when it is solved—the Wear-and-Tear Problem stops being a problem. At any rate, no high-fidelity transmission mechanisms are needed to solve it. On the other hand, the Wear-and-Tear Problem is unlikely to be solved if the Flop Problem is not. Traditions do not last without a modicum of success: they have to thrive if they are to survive. Being well transmitted, faithfully imitated, or committed to a reliable memory is useless if this process happens only once and concerns only a handful of individuals. The quantity of transmission episodes matters more to the survival of traditions than the quality of the transmission itself.

Experiments that simulate cultural transmission in laboratories illustrate this principle. They are quite similar to the game of Chinese Whispers: in almost all of them, a few transmission episodes are enough to distort the message until it is barely recognizable. This effect is often blamed on a lack of fidelity in transmission mechanisms: what is Wear-and-Tear, after all, but an accumulation of copying errors? Yet I do not think this problem could be solved by making transmission more faithful. A very small error rate (and such rates are never zero) is enough for errors to accumulate inexorably. Furthermore, outside the laboratory, traditions very often get distorted with no dire consequence for their survival. Thus the Wear-and-Tear Problem, as observed in the lab, does not seem to result from a lack of fidelity.

Then whence comes wear and tear? In these experiments, I think, it comes from the fact that participants cannot transmit one thing several times to several persons, or learn from several sources. Just as in the game of Chinese Whispers, the rules of these experiments block the repetition, redundancy, and proliferation of transmission episodes. In the real world, cultural diffusion chains never take a Chinese Whispers form—and that is precisely why real-world transmission chains are stable. Repetition, redundancy, and proliferation constitute the cultural success of a tradition. Without them, even the most faithful transmission cannot stave off extinction. With success on its side, though, transmission does not even need to be particularly faithful.

The rest of chapter 4 explores the causes of cultural success. It depends on two things: accessible individuals and attractive traditions. The accessibility of individuals is built by technologies, by institutions, and by contacts between generations. These things make it possible for traditions to circulate, but they do not give us reasons to diffuse them around. “Attractivity” does. Traditions are attractive when they are catchy, interesting, or useful—and, of course, many things can make them so. Some of these “factors of attraction” will be described. But the theory does not merely list attraction factors. It can predict what kind of factors of attraction will favor the success of a tradition in a population, depending on the accessibility of individuals.

The argument starts from the idea, made popular by cognitive anthropologists, that some cultural items tap into psychological mechanisms that are found in the wide majority of humans. They are “generally attractive.” They should, therefore, be more successful than others. Yet, according to the theory, those items do not outcompete others in every case. They do so, mostly, when accessibility is low—in other words, in dispersed populations, where information-storage technologies are poorly developed, and where generations rotate too rapidly for the oldest to instruct the youngest. In such cases, general “attractivity” is predicted

to drive cultural diffusion. This could explain why certain traditions manage to last in populations where contacts are difficult—how they can thrive in sparse populations, without the help of powerful institutions, and without the help of information-storage technologies.

These are the kind of traditions our cultures must have begun with. The only way they can cover wide distances in space and time is by being transmitted on a great number of occasions. Each individual who passes them is a small link in the diffusion chain. When accessibility is low, however, many small links are required to build a long chain. As a result, traditions have to engage a great number of distinct individuals, in a great number of different contexts. In other words, they have to be generally attractive. This constraint, I shall argue, is weaker for other traditions.

Chapter 5 applies the theory of diffusion chains to an ancient problem in the philosophy of history: *The Passing of Generations*. How can a population's culture remain the same, when that population is continuously restocked by the cycle of deaths and births? One path is generally admitted to afford the passing of generations: vertical transmission, through which older individuals pass something on to much younger individuals. This, it is often suggested, is the only way to obtain cultural transmission through time—at any rate, the only way that we understand well enough. The chapter will focus on other forms of transmission, which may also ensure cultural diffusion through time, on their own or as a complement to vertical transmission.

The second half of chapter 5 studies children's peer culture. Folklorists have good reasons to think that some traditions (mostly games and rhymes) are passed down inside groups of children, with minimal adult intervention. This raises a problem. Children do not stay children for very long. Thus, groups of children are very frequently renewed, as the individuals that compose them get older. As a result, accessibility is low inside children's populations, and cultural transmission is almost completely horizontal (or quasi-horizontal, from slightly older to slightly younger). The traditions whose transmission is confined to these groups need to be transmitted to newcomers again and again, with all the risks of distortion and failure that attach to frequent transmission. We should expect them to have shorter life spans than comparable adult traditions. Yet it seems that the reverse holds true! Their life span is at least comparable, and arguably greater than, the life span of analogous adult traditions.

How do they achieve this? Well, most of them do not achieve anything. Cultural selection is tough to children's traditions. It only retains a few. These traditions, my hypothesis goes, tend to be generally attractive: they are sufficiently

appealing to a sufficiently large number of children. They are more likely to be abundantly transmitted, to last, and to be recorded by folklorists. The sample we observe is heavily biased toward survival.

What about the Wear-and-Tear Problem? Children's traditions, if they last, have to confront it—even more so than adult traditions, since they are more frequently transmitted. The theory of diffusion chains predicts that this deformation problem should all but vanish for the successful traditions (and only for them). The repetition, redundancy, and proliferation of children's traditions (not their memorability, nor the alleged traditionalism of children) ensures their survival through time.

Only in chapter 6 will I use the theory of diffusion chains to answer my second question: Why is the cultural wealth of the world into our human hands? How did *Homo sapiens* become *An Ever More Cultural Animal*?

The first thing to do is dismiss the answer suggested by the imitation hypothesis: Humans would be particularly gifted to copy traditions faithfully. That is not a necessary condition. Indeed, it might not even be useful. Sure enough, we have unique and extraordinary abilities for communication. Yet this is merely one of the things that make us uniquely fitted to learn from and cooperate with our conspecifics. If the flow of information is considerably more important in human societies than it is elsewhere, we have more than our cognitive capacities to thank for this. Our peculiar demography and sociability also play a part. Their conjunction forms what might be called the "human public domain."

Sharing information, however, is not enough. Ideas that are put in common are not made traditional by this very fact. They need (this book claims) to fulfill at least one of two conditions: they need to be attractive, or to be carried by accessible individuals. These two conditions have one thing in common: they are not immutable traits of human nature. In human populations of the past, individuals were not always as accessible to one another as they are now.

Consequently, the conditions that make traditions more likely to appear and thrive probably underwent important variations. The presence of attractive traditions is not wired in our genes, either. Our ability to exchange information does not enable us to control the destiny of traditions over time, or to ensure that they will thrive and survive.

In the end I will offer a conjecture. The accumulation of traditions in human populations—not the progressive amelioration of some traditions, but the quantitative increase of our cultural repertoires—was a slow, gradual process. At some point in their evolution, humans were gifted with

unprecedented capacities for information transmission. Yet this capacity did not give birth, all at once, to human cultures as we know them. Traditions accumulated one by one, as attractive items appeared, as circumstances became fit for them to become stable.

Why would this take a long time? Because (quantitative data gathered in diverse fields show) the life spans of traditions follow an extremely unequal distribution, most being quite unstable, while a few live long. The traditions popular enough to survive the passing of generations are a minority, their apparition a rare event. Hence, they were probably not born all at the same time. Once born, however, they would last long enough to see the birth of more stubborn traditions just like them. Together these “extreme” traditions would drive a slow (but hard to reverse) process of accumulation.

If this bit of speculation is accurate, it lends some plausibility to a strange vision: there could have been human populations, societies just like we know them, with humans communicating and cooperating like we do, but whose cultural repertoire would resemble those of modern chimpanzees. Only by going through a long history would they have reached the level of cultural wealth common to all humans today. We could imagine humankind without culture.

1 THE TRANSMISSION AND DIFFUSION OF TRADITIONS

This chapter explains in what respects the new approaches to culture differ from the methods usually employed in the study of traditions. Their originality can be summed up in two words: they are quantitative and abstract. Thanks to this, they can explore a wide array of scales in space and time; compare not only different cultures, but also different species; and try to explain why certain traditions live much longer than others. What I really value about them, though, is something different. They reveal traditions in their most characteristic shape: the shape that survives the passing of generations, that proves resilient to changing social contexts. In this way we can observe culture on its own scale—a scale beyond the short time frame of human lives, beyond shifting social arrangements. Culture, as defined here, consists in stable traditions that travel far, thanks to cultural transmission.

A tradition's transmission may refer to two things related but distinct. The transmission of Thales's theorem or that of hula hooping may be seen as a diffusion chain that extends through space and time: the trajectory of Thales's work from its origins to our times, or the spread of hula hooping in playgrounds. The word *transmission*, however, may also point to the process by which someone learns to reproduce an idea or a behavior from someone else: we would,

then, be talking about the activity of teaching Thales's theorem, or demonstrating hula hooping. What one points at, in the former case, is the *diffusion* of hula hooping (or Thales's theorem): its spread through space and time. In the latter case, we point to the passing of the game (or the theorem) from one individual to the other. For this process I shall keep the word *transmission*. Diffusion is a distribution of ideas and practices in time or space; transmission is an interaction among individuals.

This chapter characterizes these three notions—transmission, diffusion, and traditions—with an eye on their recent past. Common though the words may be, the notions that they cover are not today as central to social science as they used to be; yet new tools promise to revive a mindset that such authors as Tylor or Tarde might share with contemporary biologists, psychologists, or linguists. I will try to explain why this mindset slowly fell from grace with the main stream of the social sciences (which had good reasons to reject it)—and why the time seems ripe for granting it a second chance.

Culture as Distributed

How can urban legends or Icelandic sagas be preserved by many successive generations? Why do certain words decay faster than others? What makes a principle of etiquette, or a rule of politeness, stick? These are the kinds of questions that will be raised in this book. To address them, one needs to look at traditions from a historical and statistical point of view. Such an approach is nothing original in social science, but when talking about culture, it cannot be taken for granted. Distributive views of culture are opposed by two strong (though antithetic) prejudices.

First is the view that a group's culture is a mindset shared by all its members, and almost no one else. Time does little to change it. The question of its diffusion is not worth asking, for we know in advance that the common mindset is perfectly shared within the boundaries of the associated social group, and spreads not an inch further. The reverse prejudice is what brought many authors to disregard the issue of cultural continuity (when they were not busy denying said continuity). For decades, traditions have mostly been a myth to be debunked by social anthropologists. The only legitimate way of using the word is to refer it to fragmented, precarious, hybrid constructions. There are no enduring cultures, only fragile, constantly renegotiated social constructs. Beware those who preach the continuity or homogeneity of cultures! Their essentialist, reified stereotypes must be deconstructed in earnest. Such misgivings have gone far enough that many anthropologists would not