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**Title:** Laminar technology and the onset of the Upper Paleolithic in the Altai, Siberia

**Date:** 2012-06-06

Laminar technology  
and the onset of the Upper Paleolithic  
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Leiden University Press

Studies in Human Evolution  
is published by Leiden University Press, in the Netherlands

Series editors: J.-J. Hublin, H. Kamermans, S. P. McPherron and W. Roebroeks

Cover design: Joanne Porck

Layout: Nora Barr, Leipzig

Illustrations: Except special mention, all drawings and pictures are from the author, with the participation  
of Caroline Herold.

ISBN 978-90-8728-173-1

e-ISBN 978-94-0060-110-9

NUR 682

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STUDIES IN HUMAN EVOLUTION

# Laminar technology and the onset of the Upper Paleolithic in the Altai, Siberia

Proefschrift

ter verkrijging van  
de graad van Doctor aan de Universiteit Leiden,  
op gezag van Rector Magnificus prof. mr. P. F. van der Heijden,  
volgens besluit van het College voor Promoties  
te verdedigen op woensdag 6 juni 2012  
klokke 13.45 uur

door

Nicolas Zwyns

geboren te Liège, Belgium  
in 1980

Promotiecommissie

Promotor: Prof. Dr. Jean-Jacques Hublin

Co-promotor: Dr. Shannon P. McPherron

Overige Leden: Prof. Dr. Wil Roebroeks  
Dr. Alexander Verpoorte  
Prof. Dr. Marcel Otte

Dit proefschrift is mede mogelijk gemaakt door het Max Planck Gesellschaft.

We are top-of-the-water adventurers,  
who limit our opinions of icebergs  
to what we can see

John Irving, *Other people's dreams*

*To Camille*



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## Foreword

During the last several decades, the demise of Neandertals and the emergence and dispersal of modern humans (MH) in Europe have been the subject of numerous studies and intense debate. For mostly historical reasons, Europe has been a natural case study for addressing fundamental issues regarding the origins of biological and behavioral modernity. In Europe, which was occupied by Neandertals since the Middle Pleistocene, a biological replacement occurred at about the same time as the appearance and systematization of new technologies associated with material evidence suggesting a significant development of symbolic behaviors. This shift from the Middle to Upper Paleolithic occurs at the end of a so-called transition period that is marked by the presence of archeological assemblages which combine aspects of the Middle Paleolithic with innovations of the Upper Paleolithic.

It is understood that the analysis of material culture is an important complement to physical anthropology and genetic studies to tackle issues related to the Paleolithic peopling of Europe. The dispersal of MH, however, is a worldwide event, and it is now clear

that models of emergence and dispersal built on the European record are not universally applicable. For instance, early MH occur first in Africa with a different anatomical and behavioral package than the one that characterizes the subsequent European Upper Paleolithic. With this in mind, this thesis turns the focus to Asia and examines the processes associated with the Middle to Upper Paleolithic transition there.

In Asia, genetic and paleontological data suggest the existence of two dispersal routes, one north and one south of the Himalayas. The Altai occupies a strategic position along the northern route where recent archeological, anthropological and genetic discoveries suggest a complex history of peopling events. Recent genetic and paleontological data do not support a model of an independent regional emergence of MH that was built on the archeological data set. Through an analysis of the lithic technology of some of the key Altai sequences, the present study tries to reconcile the archeological record with the genetic and paleontological data by proposing an alternative model explaining the emergence of the Upper Paleolithic in Siberia.

