

Konrad Lorenz

on
aggression

"An epoch-making book...also a profoundly civilizing one."

— New York Times

Konrad Loren

On Aggression

Translated by Marjorie Kerr Wilson



A Harvest/HBJ Book
A Helen and Kurt Wolff Book
Harcourt Brace Jovanovich, Publishers
San Diego New York London

Copyright © 1963 by Deutscher Taschenbuch
Verlag GmbH & Co. KG, München
English translation copyright © 1966 by Konrad Lorenz

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher.

Requests for permission to make copies of any part of the work should be mailed to: Permissions,
Harcourt Brace Jovanovich, Publishers,
Orlando, FL 32887.

Library of Congress Cataloging in Publication Data

Lorenz, Konrad.
On aggression.

(Harvest/HBJ: pbk.)

"A Helen and Kurt Wolff book."

Translation of Das sogenannte Böse.

Bibliography: p.

1. Aggressive behavior in animals. 2. Aggressiveness
(Psychology) I. Title.

[QL758.5.L6713 1974] 591.5 74-5306

ISBN 0-15-668741-0

Printed in the United States of America

G H I J

To My Wife

Introduction

A friend of mine, who like a true friend had taken upon himself the task of reading through the manuscript of this book critically, wrote to me, when he was already more than half-way through it: "This is the second chapter I have read with keen interest but a mounting feeling of uncertainty. Why? Because I cannot see its exact connection with the book as a whole. You must make this easier for me." His criticism was no doubt fully justified, and the purpose of this introduction is to make clear to the reader from the start the direction taken by the book as a whole and the way in which the individual chapters are related to its ultimate object.

The subject of this book is *aggression*, that is to say the fighting instinct in beast and man which is directed *against* members of the same species. The decision to write it came about through a chance combination of two circumstances. I was in the United States, first in order to give some lectures to psychiatrists, psychoanalysts, and psychologists about some comparable behavioral theories and behavioral physiology and secondly to verify through field observation on the coral reefs of Florida a hypothesis I had formed, on the basis of aquarium observations, about the aggressive behavior of certain fish and

the function of their coloring in the preservation of the species. It was at the clinical hospitals that for the first time in my life I fell into conversation with psychoanalysts who did not treat the theories of Freud as inviolable dogmas but, as is appropriate in every scientific field, working hypotheses. Viewing them in this way, I came to understand much in Sigmund Freud's theories that I had previously rejected as far too audacious. Discussions of his theories of motivation revealed unexpected correspondences between the findings of psychoanalysis and behavioral physiology, which seemed all the more significant because of the differences in approach, method, and above all inductive basis between the two disciplines.

I had expected unbridgeable differences of opinion over the concept of the death wish, which, according to one of Freud's theories, is a destructive principle which exists as an opposite pole to all instincts of self-preservation. In the eyes of the behavioral scientist this hypothesis, which is foreign to biology, is not only unnecessary but false. Aggression, the effects of which are frequently equated with those of the death wish, is an instinct like any other and in natural conditions it helps just as much as any other to ensure the survival of the individual and the species. In man, whose own efforts have caused an over-rapid change in the conditions of his life, the aggressive impulse often has destructive results. But so, too, do his other instincts, if in a less dramatic way. When I expressed these views on the theory of the death wish to my psychoanalytical friends I was surprised to find myself in the position of someone trying to force a door which is already open. They pointed out to me many passages in the writings of Freud which show how little reliance he himself had placed on his dualistic hypothesis, which must have been fundamentally alien and repugnant to him as a good monist and mechanistically thinking natural scientist.

It was shortly afterwards, when I was making a field study

of coral fish in warm seas, among which the function of aggression in the preservation of the species is plain, that the impulse to write this book came to me. For behavioral science really knows so much about the natural history of aggression that it does become possible to make statements about the causes of much of its malfunctioning in man. To achieve insight into the origins of a disease is by no means the same as to discover an effective therapy, but it is certainly one of the necessary conditions for this.

I am aware that the task I have set myself makes excessive demands upon my pen. It is almost impossible to portray in words the functioning of a system in which every part is related to every other in such a way that each has a causal influence on the others. Even if one is only trying to explain a gasoline engine it is hard to know where to begin, because the person to whom one seeks to explain it can only understand the nature of the crankshaft if he has first grasped that of the connecting rods, the pistons, the valves, the camshaft, and so on. Unless one understands the elements of a complete system as a whole, one cannot understand them at all. The more complex the structure of a system is, the greater this difficulty becomes—and it must be surmounted both in one's research and in one's teaching. Unfortunately the working structure of the instinctive and culturally acquired patterns of behavior which make up the social life of man seems to be one of the most complicated systems we know on this earth. In order to make comprehensible the few causal connections which I believe I can trace right through this tangle of reciprocal effects, I must, for good or ill, go back a long way.

Fortunately the observed facts which are my starting point are fascinating in themselves. I hope that the territorial fights of the coral fish, the "quasi-moral" urges and inhibitions of social animals, the loveless married and social life of the night heron, the bloody mass battles of the brown rat, and many

other remarkable behavior patterns of animals will engage the reader's interest up to the point when he reaches an understanding of the deeper connections between them.

I intend to lead him to it by following as closely as possible the route which I took myself, and this is for reasons of principle. Inductive natural science always starts without preconceptions from the observation of individual cases and proceeds from this toward the abstract law which they all obey. Most textbooks take the opposite course for the sake of brevity and clarity and set down the general before the particular. The presentation is thereby made more lucid but less convincing. It is only too easy first to evolve a theory and then to underpin it with examples, for nature is so diverse that with diligent searching one can find apparently convincing examples to support wholly abstruse hypotheses. My book would really be convincing if the reader reached the same conclusion as myself solely on the basis of the facts which I set before him. But as I cannot expect him to follow such a thorny path, let me offer in advance, by way of a signpost, a brief account of the contents of each chapter.

I start in the first two chapters with the description of simple observations of typical forms of aggressive behavior. Then in the third I proceed to the discussion of its function in the preservation of the species. In the fourth I say enough about the physiology of instinctual motivation in general and the aggressive impulse in particular to explain the spontaneity of the irresistible outbreaks which recur with rhythmical regularity. In the fifth chapter I illustrate the process of ritualization and show how the instinctive impulse newly created by it is made independent—in so far as is necessary for the later understanding of its effects in inhibiting aggression. The sixth chapter serves the same purpose: here I have tried to give a general picture of the way instinctive impulses function. In the seventh chapter concrete examples are given to show what

mechanisms evolution has "invented" in order to channel aggression along harmless paths, the role played by ritual in this process, and the similarity between the patterns of behavior which arise in this way and those which in man are guided by responsible morality. These chapters give the basis for an understanding of the functioning of four very different types of social organization. The first is the anonymous crowd, which is free of all kinds of aggression but also lacks the personal awareness and cohesion of individuals. The second is the family and social life of the night heron and other birds which nest in colonies, the only structural basis of which is territorial—the defense of a given area. The third is the remarkable "large family" of rats, the members of which do not recognize one another as individuals but by the tribal smell and whose social behavior toward one another is exemplary, while they attack with bitter factional hatred every member of the species that belongs to a different tribe. The fourth type of social organization is that in which it is the bond of love and friendship between individuals which prevents the members of the society from fighting and harming one another. This form of society, the structure of which is in many ways analogous to that of men, is shown in detail by the example of the greylag goose.

After what has been said in these eleven chapters I think I can help to explain the causes of many of the ways in which aggression in man goes wrong. The twelfth chapter, "On the Virtue of Humility," should provide a further basis by disposing of certain inner obstacles which prevent many people from seeing themselves as a part of the universe and recognizing that their own behavior too obeys the laws of nature. These obstacles come first of all from rejection of the idea of causality, which is thought to contradict the fact of free will, and secondly from man's spiritual pride. The thirteenth chapter seeks to depict the present situation of mankind ob-

jectively, somewhat as a biologist from Mars might see it. In the fourteenth chapter I try to propose certain counter-measures against those malfunctions of aggression, the causes of which I believe I have identified.

Contents

Introduction

ix

One · Prologue in the Sea

3

Two · Coral Fish in the Laboratory

12

Three · What Aggression Is Good For

23

Four · The Spontaneity of Aggression

49

Five · Habit, Ritual, and Magic

57

Six · The Great Parliament of Instincts

85

Seven · Behavioral Analogies to Morality

109

vii

Contents

Eight · Anonymity of the Flock

139

Nine · Social Organization without Love

150

Ten · Rats

157

Eleven · The Bond

165

Twelve · On the Virtue of Humility

220

Thirteen · Ecce Homo!

236

Fourteen · Avowal of Optimism

275

Bibliography

301

On Aggression

Prologue in the Sea

My childhood dream of flying is realized: I am floating weightlessly in an invisible medium, gliding without effort over sunlit fields. I do not move in the way that Man, in philistine assurance of his own superiority, usually moves, with belly forward and head upward, but in the age-old manner of vertebrates with back upward and head forward. If I want to look ahead, the discomfort of bending my neck reminds me painfully that I am really an inhabitant of another world. But I seldom want to do this, for my eyes are directed downward at the things beneath me, as becomes an earthly scientist.

Peacefully, indolently, fanning with my fins, I glide over fairy-tale scenery. The setting is the coast of one of the many little islands of coral chalk, the so-called Keys, that stretch in a long chain from the south end of the Florida peninsula. The landscape is less heroic than that of a real coral reef with its wildly cleft living mountains and valleys, but just as vivid. All over the ground, which consists of ancient coral rubble, can be seen strange hemispheres of brain coral, wavy bushes of *Gorgonia*, and, rarely, richly branched stems of staghorn coral, while between them are variegated patches of brown, red, and gold seaweed, not to be found in the real coral reefs

further out in the ocean. At intervals are loggerhead sponges, man-broad and table-high, almost appearing man-made in their ugly but symmetrical forms. No bare surfaces of lifeless stone are visible, for any space between all these organisms is filled with a thick growth of moss animals, hydroid polyps and sponges whose violet and orange-red species cover large areas; among this teeming assortment I do not even know, in some cases, whether they belong to the plant or the animal kingdom.

My effortless progress brings me gradually into shallower water where corals become fewer, but plants more numerous. Huge forests of decorative algae, shaped exactly like African acacia trees, spread themselves beneath me and create the illusion that I am floating not just man-high above Atlantic coral ground, but a hundred times higher above an Ethiopian steppe. Wide fields of turtle grass and smaller ones of eelgrass glide away beneath me, and now that there is little more than three feet of water beneath me, a glance ahead reveals a long, dark, irregular wall stretching as far as I can see to each side and completely filling the space between the illuminated seabed and the mirror of the surface: it is the border between sea and land, the coast of Lignum Vitae Key.

The number of fish increases rapidly; dozens shoot from under me, reminding me of photographs of Africa where herds of wild animals flee in all directions from the shadow of an airplane. In some places, above the fields of thick turtle grass, comical fat puffers remind me of partridges taking off from a cornfield, zooming up only to glide down to land again in the next field or so. Other fish, many of which have incredible but always harmonious colors, do the opposite, diving straight into the grass as I approach. A fat porcupine with lovely devil's horns over ultramarine blue eyes lies quite quietly and grins at me. I have not hurt him, but he—or one of his kind—has hurt me! A few days ago I thoughtlessly touched one of this species, the Spiny Boxfish, and the needle-

sharp parrot-beak, formed by two opposing teeth, pinched me and removed a considerable piece of skin from my right forefinger. I dive down to the specimen just sighted and, using the labor-saving technique of a duck in shallow water, leaving my backside above the surface, I seize him carefully and lift him up. After several fruitless attempts to bite, he starts to take the situation seriously and blows himself up; my hand clearly feels the "cylinder strokes" of the little pump formed by the pharyngeal muscles of the fish as he sucks in water. When the elasticity of his outer skin has reached its limit and he is lying like a distended prickly ball in my hand, I let him go and am amused at the urgency with which he squirts out the pumped-in water and disappears into the seaweed.

Then I turn to the wall separating sea from land. At first glance one could imagine it to be made of volcanic tuff, so fantastically pitted is its surface and so many are the cavities which stare like the eyeholes of skulls, dark and unfathomable. In fact, the rock consists of coral skeletons, relics of the pre-ice age. One can actually see in the ancient formations the structure of coral species still extant today and, pressed between them, the shells of mussels and snails whose living counterparts still frequent these waters. We are here on *two* coral reefs: an old one which has been dead for thousands of years and a new one growing on the old, as corals, like cultures, have the habit of growing on the skeletons of their forebears.

I swim up to and along the jagged waterfront, until I find a handy, not too spiky projection which I grasp with my right hand as an anchorage. In heavenly weightlessness, cool but not cold, a stranger in a wonderland far removed from earthly cares, rocked on gentle waves, I forget myself and am all eye, a blissful breathing captive balloon!

All around me are fish, and here in the shallow water they are mostly small fish. They approach me curiously from a dis-