



# DARK AGES

THE CASE FOR A SCIENCE OF HUMAN BEHAVIOR

Lee McIntyre

# Dark Ages



# **Dark Ages**

**The Case for a Science of Human Behavior**

**Lee McIntyre**

**A Bradford Book  
The MIT Press  
Cambridge, Massachusetts  
London, England**

© 2006 Massachusetts Institute of Technology

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

MIT Press books may be purchased at special quantity discounts for business or sales promotional use. For information, please e-mail [special\\_sales@mitpress.mit.edu](mailto:special_sales@mitpress.mit.edu) or write to Special Sales Department, The MIT Press, 55 Hayward Street, Cambridge, MA 02142.

This book was set in Stone sans and Stone serif by SNP Best-set Typesetter Ltd., Hong Kong and printed and bound in the United States of America.

Library of Congress Cataloging-in-Publication Data

McIntyre, Lee C.

Dark ages : the case for a science of human behavior / Lee McIntyre.

p. cm.

"A Bradford book"

Includes bibliographical references and index.

ISBN-13: 978-0-262-13469-9 (alk. paper)

ISBN-10: 0-262-13469-1 (alk. paper)

1. Social sciences. I. Title.

H85.M45 2006

300.1—dc22

2006046173

10 9 8 7 6 5 4 3 2 1

For Josephine  
*Per Ardua*



Men at some time are masters of their fates:  
The fault, dear Brutus, is not in our stars,  
But in ourselves, that we are underlings.  
—William Shakespeare, *Julius Caesar*, Act I, Scene II





# Contents

Introduction    xiii

**1 | Diagnosing the Human Condition    1**

**2 | A Science of Human Behavior    15**

**3 | Resistance to Knowledge    43**

**4 | A Lesson from the History of Science    71**

**5 | What Is to Be Done?    103**

Notes    123

Bibliography    129

Index    135



## Acknowledgments

I have benefited greatly from the advice and suggestions of several friends and colleagues who were kind enough to provide comments on earlier drafts of this book: Rich Adelstein, Jon Haber, Harold Kincaid, Noretta Koertge, Dan Little, Mike Martin, Dan McIntyre, Susan McIntyre, Andy Norman, Alex Rosenberg, Merrilee Salmon, and Pat Starr. To each I offer my heartfelt thanks, especially given my certainty that none of them will agree with all that I have written here.

I would like to give special thanks to Kit Ward, who believed in this book almost before anyone else did, and to my editor Tom Stone, who believed in it when it most counted. I would also like to thank my copy editor Beverly Miller for her keen eye and good suggestions, which saved me from a number of infelicities, as well as Susan Clark, Robyn Day, Sandra Minkkinen, and all of the others at The MIT Press who have helped this book to see the light of day. I am especially grateful to my friend Laurie Prendergast for preparing the index.

Finally, I thank my wife, Josephine, who has always believed in me and supported my ideas. It is the happiness that I have felt in our life together that has inspired me to think about how to make the world a better place and has given me the confidence to write this book.



## Introduction

A few years ago, in the small town in which I lived in upstate New York, there was a villagewide power blackout. Although it was nearly 2:30 in the morning, I couldn't resist going outside. Nothing was lit; the night was as black as the ocean. Looking up, I could see the thousands of stars that are normally lost to the light pollution of modern civilization. As I did so, I began to reflect on what it must have been like to live in the Dark Ages of human life, before the scientific revolution and modern technology. Of course, the Dark Ages weren't literally dark; presumably they had sunlight during the day and torches and candles at night. But the metaphor is apt; for total darkness does make one reflect on the progress that humans have made and the scope of what we today take for granted.

What would it feel like to live in a Dark Age? Would you realize it? Or would you just see the achievements of the day—perhaps even feeling lucky to live in such “modern times”—and fail to see all that had *not* been achieved. Of course, no one living in a Dark Age would call it that; rather this label is placed on a backward era only by a later one, in which the state of human civilization is more advanced. With the benefit of

hindsight, it is easier to see what has been missed. But isn't there nonetheless some way to judge one's own era?

Look around you. We live in a time of enormous technological achievement, when we are able to bend nature to our will, and yet we suffer from the same social problems that have plagued the human race for millennia. Despite the enormous progress that we have made in our understanding of nature, who can honestly say that the bulk of the problems that are the cause of human misery today are not of our own creation? And yet what have we done about them?

The comparison between our success in understanding nature and our failure to understand ourselves is vast. We have satellites and fax machines that transmit stories of barbarous cruelty that could have been told by our ancestors. We have ever more sophisticated weaponry of war and yet no true understanding of what causes war in the first place. Terrorism, crime, war, and poverty continue unchecked throughout the world, largely because we lack the understanding to stop them. We are as ignorant of the cause-and-effect relations behind our own behavior as those who lived in the eighth or ninth centuries once were of those behind disease, famine, eclipses, and natural disasters. We live today in what will someday come to be thought of as the Dark Ages of human thought about social problems.

What were the first Dark Ages like? And why are they called that? The Dark Ages are one of the most intriguing periods of human history. They mark a nearly 600-year blank spot in the progress of human civilization in which the knowledge of antiquity almost completely disappeared from the West. It was a time when few people received any sort of education whatsoever, and life was governed by the superstitions and fears fueled by ignorance. In terms of the exploration of ideas and the

quality of human life, the Dark Ages were indeed dark; they always seem to me a temporal analogy to the huge blank spaces on ancient maps of the world that are marked “unknown.”

Although scholars differ as to the exact beginning and ending dates of what should properly be called the Dark Ages, they are normally taken to occupy the period of time from the fifth to the eleventh centuries A.D., sometimes also known as the Early Middle Ages. The Middle Ages themselves occupy a nearly 1,000-year span of time between the period of classical antiquity (which reached its height in the Greek and Roman empires and ended with the fall of Rome in 476 A.D.) and the Renaissance of the fifteenth and sixteenth centuries in Europe (which saw the rebirth of learning in the West). Hence the name “Middle Ages” is given to the time between these two great eras in which human knowledge flourished, which lasted from roughly the 400s to the 1400s A.D.

What is the difference between the Dark Ages and the Middle Ages? Scholars of the medieval period will be quick to point out the political and economic changes that occurred during the High Middle Ages of the twelfth century and the important ideas of various Scholastic thinkers from this period. It is a mistake, they will argue, to use the terms *Dark Ages* and *Middle Ages* synonymously. And yet—in terms of the creative advancement of human thought beyond the dominant paradigm of medieval Christianity—there were no significant breakthroughs in art, science, philosophy, or literature during this time.

Then came the Renaissance, first in Italy, then to spread throughout Europe. During this period, thinkers began to recover, and to be influenced by, the learning of antiquity, and great advances were made in art and literature. The philosophy of humanism was born, and with it came a focus on the role



that human reason might play in directing the course of our lives, challenging the hegemony of Christianity.

The Renaissance came last to the sciences, beginning with Copernicus's publication of a new theory of the universe in 1543, which spawned the scientific revolution of the sixteenth and seventeenth centuries that brought us Kepler, Galileo, and Newton. During this period, scientists sought and discovered many of the great laws of nature by employing a methodology using experimentation, the application of mathematics, and a belief that there was a natural order to the universe. It is the success of this viewpoint that has led to all of the modern achievements of science, even to the present day. Indeed, if one is bold enough to defy historical convention for a moment in order to focus exclusively on the sciences, one might usefully—albeit loosely—think of the Dark Ages for the natural sciences as extending from the period following the birth of scientific reasoning by the Greeks and the great technological advances of the Roman Empire (which ended in the fifth century), all the way to the scientific revolution of the sixteenth and seventeenth centuries—a period of almost 1,100 years.

Seen from this historical context, it is clear that scientific reasoning is a rare and fragile thing and that its advances can be impeded or even extinguished altogether if given the wrong set of cultural conditions. Indeed, knowing this, we would be wise to ask ourselves what remaining barriers might stand in the way of the extension of scientific reasoning into new domains. Did the scientific revolution extend as far as it might have? Can scientific inquiry be brought to the remaining areas of human ignorance, far beyond those probed even by the greatest minds of antiquity and the Renaissance? Now that we have seen how successful science can be in answering some of the long-

standing questions that humans have asked about the natural world, might we employ it in trying to understand the greatest remaining blank spot on the map of human knowledge: the causes of human behavior?

Of course, the skeptics will say that this is impossible—that despite the best efforts and ambitions of the Enlightenment, many thinkers have tried and failed to establish the scientific study of human behavior. From Francis Bacon to the logical positivists, the holy grail of understanding human action within the context of a precise scientific calculus has remained an elusive dream of Western thought. But why? Many will argue that it is because human beings are unique and not subject to scientific treatment. Are we not conscious of the forces that move us? Do we not have free will to change them?

In the years that have passed since the inception of the scientific revolution, numerous scholars have meditated on the reasons that we have waited so long for a revolution in the social sciences. Grown bitter over time, the consensus of such scholars today seems to be that such a revolution is never coming. In the interim, an impressive array of arguments has been formulated that attempt to show why it is impossible to employ a scientific mode of understanding in the study of human behavior. And, like jilted lovers, the number of scholars who are receptive to such arguments has grown over time, until today the voices against the prospects for a science of human behavior drown out all others.

In advocating a science of human behavior, I have taken seriously the idea that there are powerful arguments against it, and I have spent the better part of my career examining them. A few years ago, I wrote a scholarly book, *Laws and Explanation in the Social Sciences: Defending a Science of Human Behavior*, in which

I systematically analyzed all of the major arguments against a science of human action. And the conclusions I came to were shocking. Not only were the arguments weak, they were so weak that I became convinced that even their advocates did not really believe them. I began to see that by and large, the arguments put forward were not meant to convince someone who seriously wanted to advocate a science of human behavior. Rather, they were mere window dressing—a peg on which to hang the prejudices and fears of those who did not want to have a social science in the first place. Thus, I came to the conclusion that the primary reason that we do not today have a science of human behavior is not that it is impossible; it is that we fear the threat that such a science might pose for our cherished religious or political beliefs about human autonomy, environmental determinism, race, class, and gender. In short, I believe that—just as in the study of nature 400 years ago—the primary barrier to a science of human behavior is ideological. Political ideology is today doing to social science what religious ideology did to natural science in the first Dark Ages.

Some things never change. Resistance to knowledge has always characterized periods of great scientific advance. When a new paradigm threatens the reigning religious or political order, we manufacture congenial but weak arguments against it. Many of the contemporary arguments against a science of human behavior are rooted in a naive misunderstanding of the nature of scientific progress and work against a true “social science” only if we are prepared to believe that science has already had its last victory. Time and again, however, science has overcome such prejudices and replaced convenient myths with testable theories. The scientific truths that we today take for granted seem obvious to us only because of the courage of those who fought for them

against earlier prejudice. I argue that we must now be willing to make this same effort on behalf of the new scientific frontier: empirical inquiry into the causes of human action.

I came to write this book precisely because I think that the majority of philosophers and social scientists working today do not have such courage, and have sought to smother the public's desire for a precise understanding of our social problems under the forces of political correctness. Afraid of what we might find out about ourselves, today's academics have stood in the way of a science of human behavior in precisely the same way that religious clerics attempted to stunt the scientific revolution of Copernicus and Galileo. Having abdicated their responsibility to improve the human condition, many of today's scholars satisfy themselves with the status quo in social science, feeling that it is preferable to preserve the myths that we harbor about the causes of our actions rather than attempt a systematic study that may topple the idols of political fashion. Thus does ideology take precedence over empirical investigation; we fiddle while the world burns.

By contrast, I hope to show that there is something that we can do about the current situation in the social sciences—that just as the human race once saw its way clear from the ignorance and superstition that had dominated its thinking about nature, culminating in the scientific revolution, we may now take the first steps toward a social scientific revolution in which we come to understand the true forces behind our social ills, and so may build an improved human society on this basis. But, I argue, we may do this only if we take seriously the idea that we have a long way to go in our understanding of human behavior and that the only way to get there is to follow the path lit by science.

This is not a traditional academic book. I owe its inspiration, however, to two scholars, both now dead, who were not content to see their work have influence only in academic circles, but instead sought to bring learned debate to the attention of a larger audience, in the hope that by addressing some of the great social dilemmas of our time, we could do something about them. The first is someone I never met, James Harvey Robinson, who believed in putting learning in the service of human betterment and also in the hands of the public. His important book *The Mind in the Making* (1921) (a best seller in its day) long ago highlighted the folly of the human condition: When we have the tools to improve our situation, why do we tarry?

The second scholar is someone whose life touched my own and who served as an inspiration of a first-rate scholar who never lost sight of her obligation to improve the social world. Barbara Wootton's *Testament for Social Science* (1950), like Robinson's earlier book, sought to make the case for a science of human action, at a time (just following World War II) when we most needed to hear the message.

In this book I have sought to follow in their footsteps and engage a wider audience in what is arguably the most important debate there is over the future of the human race. The stakes could not be higher. The issues at hand affect us all and should not be locked up in the hands of only a few professors. With this in mind, I have tried to write this book in an accessible style, with few footnotes and virtually no professional jargon, in an attempt to reach the broadest possible audience. In doing so, I hope to engage those readers, both inside and outside the academy, who long to make social change by improving the horrifying social conditions that will long affect human life until we have the courage to do something about them.

It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness.

—Charles Dickens, *A Tale of Two Cities*

As we begin the twenty-first century, how many of us can honestly say that we are optimistic about the direction in which the human race is headed? Aren't the social problems that we face today much the same as—or worse than—those our ancestors faced? Yet aren't they for the most part of our own making? But what have we done about them?

Ask yourself what it is today that contributes most to human misery and suffering. In the first Dark Ages, the answer was easy: disease, hunger, and natural disasters. Today we have modern medicine, grow more than enough food to feed the planet (though we still have famine, largely for political reasons), and understand the causes of earthquakes, volcanoes, and hurricanes well enough that it is possible to ameliorate their effects on us through advanced warning.

In modern times, however, the list of ills that we face seems quite different. The tyranny that we face today is largely a result

of human cruelty and indifference in the way that we treat one another: women cannot walk the streets alone at night for fear of sexual assault; inner-city children cannot use public parks for fear of death from a stray bullet; child prostitution is rampant in Southeast Asia; modern slavery exists in the Sudan and Mauritania; Congo's civil war so far has resulted in 3 million deaths in five years, including beheadings and other atrocities; systematic rape was used as a form of terrorism during wartime in Bosnia and has since been emulated in Congo and the Sudan; genocide in Rwanda resulted in 800,000 deaths during three months in 1994; Sudan's civil war has caused 2 million deaths and created 4.5 million refugees; 6 million Jews were killed during the Holocaust; countless Korean "comfort women" were forced into sexual slavery by Japanese soldiers during World War II; during the "Rape of Nanking," soldiers held contests to see how many people they could kill in an hour; school and workplace shootings have become commonplace; prison rape is routine; serial killings are on the rise; and on a crisp September morning a few years ago, the world witnessed a new form of human horror when the World Trade Center in New York City was demolished by terrorists.

How can we be so cruel to one another? Why are such things allowed to happen? At times it seems that there is nothing that is so horrible that it has probably not been done by one human being to another at some time on this planet. But the worst thing to realize is that such atrocities continue largely because we tolerate them or because those of us who will not tolerate them do not know where to turn for answers. Can anything be done to stop such modern evils? What are the causal forces behind them?

One might imagine that such questions are the proper domain of the social sciences. First conceived of in the nine-

teenth century as the scientific study of human action—on analogy with the natural sciences as the study of nature—the first social scientists self-consciously emulated the natural scientific model of explanation and sought to do for our understanding of human behavior what Newton had done for the study of nature. In realizing this goal, however, the social sciences have been a dismal failure.

In testament to the success of Newtonian physics, humans first began to assume their mastery over nature, leading to the technological breakthroughs of the industrial revolution, culminating in our own day in space travel and digital computers. In the application of our understanding of human social behavior to the amelioration of human misery, however, the social sciences have few such successes to offer. For all of the theoretical and statistical apparatus of criminology, do we really feel that we know how to reduce crime? For the much-vaunted technical precision of economics, do we have confidence that we know how to avoid a recession? For all of the studies that political scientists have done on terrorism, has agreement been reached on the question of whether concession to terrorists incites further demands? Do the experts in these areas even have solid theories on which to base good social policy? On September 11, 2001, where were the social scientists—the experts in psychology and sociology—who might have helped us to understand the larger forces at work? Are we convinced that we now understand the root causes of terrorism so that we may prevent such actions in the future?

In its current incarnation in the contemporary disciplines of economics, psychology, sociology, anthropology, political science, and history, much of today's social scientific inquiry does not even seek to address the pressing social problems of our day,



choosing instead to focus on technical or interpretive theoretical models of human action that make such grand simplifying assumptions that they have little predictive or explanatory value when applied to the real world. Faced with this, many of the practitioners of social science have begun to deny that their disciplines should even be conceived of as scientific. Yet the scope of human suffering continues unabated.

We all read the same newspapers and watch the same news on TV, tallying the scope of human misery as a result of war, crime, and poverty. And yet, despite all of our scholarship, what have we done to remedy these problems? Aren't the evils we suffer at our own hands pretty much the same as those we have been inflicting on one another through the ages? Will we ever be able to make any progress? Should we simply give up?

Ignorance and indifference are the two biggest obstacles to changing our fate. I am an optimist. I believe that the majority of people are not cruel and do not wish to see others suffer; that is, I believe that most of us would not be so indifferent or resigned to our inhumanity to one another if we were not so ignorant of how to stop it. But we *are* all currently ignorant of the true nature of the causal forces behind riots, depressions, strikes, and wars. Is this because there are not cause-and-effect relations behind them? I know very few people who actually believe this. Rather, it is that we do not understand the nature of science and how it can be applied to the study of human affairs. And (I reveal a little pessimism here) I believe that we are also afraid of what we may find out about ourselves if we look too closely.

The fact that we are ignorant of the causal factors behind our social ills is overwhelmingly apparent. To demonstrate this, let's examine something that almost everyone would agree is an

important social problem that we would like to prevent: major crimes such as murder.

On May 6, 1996, a story appeared on the front page of the *New York Times* with the headline: "Major crimes fell in '95, early data by FBI indicate." Good news. Perhaps if we understood why the drop in the national crime rate had occurred, we could fine-tune our social policy and decrease the crime rate for years to come. The text of the article following the headline, however, gave us no such hope. When asked to explain the drop in crime rate here is what three leading experts in criminology had to say:

"I think we can now say a trend has been established. . . . But I'm not sure we know why."

"When push comes to shove, nobody has any ability to explain the increases any better than the decreases. . . . Criminologists are like weathermen without a satellite. We can only tell you about yesterday's crime rates."

"The honest answer is that no one knows why crime rates go up and down."

What possible reason might there be for such utter helplessness? Criminology, after all, might seem to be one of the best hopes for a true social science. We have been collecting data for centuries, we have the ability to study not only group but also individual behavior in a relatively controlled setting so that we may test hypotheses (e.g., does parole contribute to recidivism?), and we have statistical models to help us put the demographics into perspective. So why the absolute failure to come up with testable theories?

One might think, on the basis of the quotations just given, that criminologists could think of no theories whatsoever, or that they were unable to test their assumptions against the data.

Is this the case? Some possible theories: the decline in crime was related to an improving economy in the United States in the 1990s, the decline in crime was a function of tighter immigration enforcement, the decline in crime was a function of fewer criminals being on the street due to increased law enforcement efforts and longer prison sentences, the decline in crime was merely an artifact of a demographic shift whereby fewer people were in their crime-committing years. These are all testable hypotheses. Indeed, the last one mentioned, noted by a fourth criminologist in the *New York Times* article, is quite interesting in that it implies that the drop in crime rate could have been predicted. Thus, as demographic patterns shift again in the next decade, as a new and larger generation of those in their crime-committing years comes of age, we can expect the major crime rate to increase once again.

It seems entirely appropriate that criminologists examine such hypotheses and that they ask the difficult questions that they raise about the relationship between crime and economic status, race, IQ, gender, and age. I am not a criminologist. And I am sure that all of the above hypotheses have occurred to those who are. So what is it that is lacking in our understanding of crime? Why do we remain so ignorant? Is it for want of better data? For lack of understanding the scientific tools available to us? Or for want of the intellectual courage to test our favored hypotheses? Are we willing to have a science of criminology? Or shall we forever remain ignorant of one of the most pressing sources of human misery?

Lest the reader think that this is only an isolated example, and that surely we are better off in our other attempts to understand the causes behind our social afflictions, let's examine two more cases.

The first was the momentous occasion in 1991 when the Soviet Union fell, ringing in a new era of political and social order for the largest country on our planet. To be sure, there were many uncertainties facing the changeover from a planned socialist economy to a fledgling capitalist one. Unanticipated results, like the explosion in organized crime, made for a bumpy road to a free market economy. Perhaps the most formidable and threatening barrier to a capital economy, however, was hyperinflation, which was fully predictable by social scientists! That is not to say that the social scientists had done their job in anticipating hyperinflation in post-Soviet Russia, any more than a meteorologist has done his job in telling us that we are in for some snow in upstate New York in February. We want to know why hyperinflation would inevitably follow from the destruction of the socialist economy and, more important, what we might do to stop it.

For those who have not lived through hyperinflation, it is easy to underestimate its human consequences, and scoff at its comparison to a problem such as crime. But it causes genuine misery. During 1993, Russia had an inflation rate of 300 percent per month. Stop for a moment and imagine this. You get a paycheck in July, and by the time you get your next one, its value has been reduced by two-thirds. The upward spiral in prices, and wages trying to catch up to them, heads up and up until you get to the point where Boris Yeltsin announced in mid-1996 that he was going to multiply war veterans' pensions by a factor of one hundred as a gesture of goodwill. The breathtaking thing, however, is to realize that had he wanted to really make them keep pace with currency inflation over the previous five years, he would have had to multiply them by a factor of ten thousand!

What can be done about this terrible social problem? Would limited price controls help? Should the market be allowed to continue as it is until it reaches equilibrium? Will it ever reach equilibrium? Should the money supply be restrained? Where were the answers given by social scientists?

It is surely obvious to anyone who has studied economics that economists do have an answer to the cause of hyperinflation. Hyperinflation—defined as the sharp and sudden fall in the value of currency and a rise in prices—is caused by an increase in the supply of money and the psychological factors attendant on a loss of confidence in the currency. Moreover, as opposed to the creeping inflation that we all are fairly familiar with, hyperinflation is normally associated with some enormous social upheaval such as occurred in postwar Germany in the 1920s and Hungary in the aftermath of World War II.

What we really want to know from the social sciences, though, is whether hyperinflation can be stopped altogether. That is, rather than simply knowing the factors associated with hyperinflation, we want to know enough about it to prevent its dire consequences when we see it coming. It seems simple enough: If we genuinely understand the causes of hyperinflation, why are we not able to control it given sufficient control over the money supply or the ability to impose price controls? Do we really understand all of the causal factors at work? Have we gotten to the bottom of the problem? Is our understanding sufficient to improve the quality of our lives when faced with such a problem? Such questions go to the heart of social scientific inquiry into factors like hyperinflation, where we require knowledge sufficient not merely to explain—or even to be able to predict—such eventualities, but to be able to control their impact on our lives.

The second case is about one of the worst breakdowns in social order in the past two decades. It seems beyond human comprehension to imagine how any society, even one pushed to the brink during wartime, could invent something so horrible as the “ethnic cleansing” used by the Bosnian Serbs against the Muslims during the war of the 1990s. Not only were thousands of Muslims killed, but soon the Serbs developed a new and chilling twist on ethnic cleansing, involving the systematic rape of Muslim women by Serbian soldiers. Indeed, the systematization of the crime was central to its commission. This was not some random wartime atrocity committed by a few morally heinous individuals. It was, instead, a program by which 20,000 to 50,000 Muslim women were taken captive and raped until they became impregnated by Serbian men.

The moral outrage of most Americans was matched only by the utter ineptitude of our political leaders to do anything about it. Short of war, we were told, there was no instrument available to us to stop this atrocity. And leaders’ response, that atrocities were being committed on all sides, seemed to say that to know that *others* were suffering too somehow made it more palatable. As a nation, our post–World War II commitment “never again” to allow the systematic and state sponsored victimization of one ethnic group by another that occurred during the Holocaust became a hollow promise, as ethnic cleansing occurred while the world watched.

It is hard to know what to say about such an utter breakdown in our humanity to one another—not just by the perpetrators but also by the spectators. It is easy to say that it was the American political leaders who failed to do anything. Or that the American people did not care enough about the problem to pressure their government into action. When faced with

worldwide inaction in the face of a contemporary Holocaust, there is more than enough blame to go around. Where it leaves many of us, however, is searching for answers to the question of how this could happen at all, let alone twice (or more) in one century. What must possess a mind to commit such horrible crimes against another person? What is the human response to authority when given orders that are patently immoral and illegal? Can the entire episode be chalked up to diffusion of responsibility or the attractiveness of defending morally heinous actions with the claim that one was “just following orders”? Or are there other—perhaps unknown—forces at work that motivate and captivate the human mind toward cruelty? Can we commit right now “never again” to allow something like this to happen because we will immediately begin trying to explain its causal roots in the human psyche?

Such, as I see it, is the charge to social science: to study the most pressing social problems of our day so that we may understand the causal forces behind them, and therefore hope to control them better. It is not enough to comprehend roughly or vaguely the tendencies in such social events. *There are genuine and specific causal forces behind them.* And until we understand the nature of these causal factors, we will continue to be at the mercy of our ignorance and suffer its devastating human consequences.

It is, of course, probably unknowable whether, even if we had a better understanding of the criminal mind, or hyperinflation, or wartime psychology, any of the particular instances I have cited here could have been averted. But as long as our tools in fighting against them are so blunt that we often feel utterly helpless to do anything at all, certainly more understanding would be an improvement. And that is what I am

asking of the social sciences: to take seriously the idea that there are real cause-and-effect relationships behind the social problems of our day and to believe that these can be discovered through the proper scientific inquiry. Indeed, let us indulge ourselves for a moment and try to imagine what it may be like in the far-off day when social science hits its mark. To be sure, there will still be social problems. For all of the success of natural science and modern technology, we still have not conquered AIDS or cancer, or entirely figured out how to shelter ourselves from the caprice of natural disasters. But the issue I am after here is that in natural science, we have hope; we feel that we are on the right track. We feel that if such questions are answerable, they will be addressed as a result of scientific inquiry. What, then, of the prospects for success in social science?

Imagine a society where we understood individual psychology well enough to know the predispositions for criminal behavior or pathological obedience. Imagine a world in which we had studied war as a scientific problem, not in the terms put forth by "military science" (which is the study of military tactics and strategy), but rather in order to help us to understand how war might be averted, in much the same way as game theorists have studied human tendencies in cooperation and retaliation. Imagine a social order in which we were not subject to sudden economic upheaval because we understood well enough the relationship among inflation, unemployment, and the supply of money.

Of course, many will dismiss these imaginings as nothing more than a vision of a social utopia that is no more reachable to us than the flights of fancy found in science fiction. But let's think about that for a moment. To a mind of the



first Dark Ages, what would our contemporary technological society have seemed like if not a utopia? We have electricity and automobiles, we have airplanes and inoculations against childhood diseases, we have satellites, computers, fax machines, microwaves, VCRs, photocopiers, the Internet, and all of the other technology that we today take for granted. Such is the bounty of our conquest of the laws of nature that resulted from the scientific revolution. Is such a conquest of the social order now available to us as a result of a genuine science of human behavior?

Such a conception, of course, is not new. It is as old as the Enlightenment, when the fledgling social sciences first looked with envy at the achievements of the natural sciences. And yet the history of such attempts to embark on a true scientific study of human behavior has not lived up to its promise. But why? Is it because such a program is impossible in principle and could never succeed no matter what our efforts? Is human behavior just not amenable to study by scientific methods? Or is it that this way is open to us, and perhaps we are already on it, but the progress is just much slower than we would like? Or, perhaps, are the barriers at work of a different kind altogether, resulting largely from the fact that we do not want to have a scientific understanding of human behavior because we are afraid of what we may find?

As I shall argue in this book, the improvement of the human condition awaits our response to such questions. What will we do to answer them? The fruits of a greater understanding of our social problems are, I hope, obvious. And I believe that a better grasp of the causal forces behind these problems is essential to our hope to improve the quality of human life. The path toward this, I shall argue, is lit by science. It holds great promise in

helping us to understand the laws of human nature in just the same way as it has been successful in helping us to discover the laws of nature. A genuinely informed and enlightened social policy might then be able to come forward.

Yet, as we shall see, there are powerful forces at work to block this path. And so the world burns as we linger yet in these Dark Ages.



## Bibliography

Baird, Robert, and Stuart Rosenbaum (eds.). *Punishment and the Death Penalty: The Current Debate*. Amherst, N.Y.: Prometheus Books, 1995.

Becker, Gary. *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press, 1976.

Bedau, Hugo (ed.). *The Death Penalty in America*. New York: Oxford University Press, 1982.

Borjas, George. "Immigration and Welfare, 1970–1990." *Research in Labor Economics* 14, (1995): 253–289.

Borjas, George, and Lynette Hilton. "Immigration and the Welfare State: Immigrant Participation in Means-Tested Entitlement Programs." *Quarterly Journal of Economics* (May 1996): 575–604.

Borjas, George, and Stephen Trejo. "Immigrant Participation in the Welfare System." *Industrial and Labor Relations Review* 44 (1991): 195–211.

Bronowski, Jacob. *The Identity of Man*. London: Heineman Educational Books, 1965.

Chang, Iris. *The Rape of Nanking: The Forgotten Holocaust of World War II*. New York: Basic Books, 1997.

Close, F. E. *Too Hot to Handle: The Race for Cold Fusion*. Princeton N.J.: Princeton University Press, 1991.

D'Souza, Dinesh. *Illiberal Education: The Politics of Race and Sex on Campus*. New York: Free Press, 1991.

Drake, Stillman. *Galileo*. New York: Oxford University Press, 1980.

Federal Bureau of Investigation. *Crime in the United States*. Washington, D.C.: U.S. Government Printing Office. Annual.

Finocchiaro, Maurice. *The Galileo Affair*. Berkeley: University of California Press, 1989.

Fix, Michael, and Jeffrey Passel. *Immigration and Immigrants: Setting the Record Straight*. Washington, D.C.: Urban Institute, 1994.

Fraser, Steven (ed.). *The Bell Curve Wars: Race, Intelligence, and the Future of America*. New York: Basic Books, 1995.

Futuyma, Douglas. *Science on Trial: The Case for Evolution*. Sunderland, Mass.: Sinauer, 1982.

Gaffron, Hans. *Resistance to Knowledge*. San Diego: Salk Institute for Biological Studies, 1970.

Gross, Paul, and Norman Levitt. *Higher Superstition: The Academic Left and Its Quarrels with Science*. Baltimore: Johns Hopkins University Press, 1994.

Gross, Paul, Norman Levitt, and Martin W. Lewis (eds.). *The Flight from Science and Reason*. New York: New York Academy of Sciences, 1996.

Harris, Sam. *The End of Faith: Religion, Terror, and the Future of Reason*. New York: Norton, 2004.

Hayek, F. A. *The Counter-Revolution of Science: Studies on the Abuse of Reason*. Indianapolis: Liberty Press, 1979.

Herrnstein, Richard, and Charles Murray. *The Bell Curve: Intelligence and Class Structure in American Life*. New York: Free Press, 1994.

Hogben, Lancelot. *Retreat from Reason*. New York: Random House, 1937.

Huizenga, John. *Cold Fusion: The Scientific Fiasco of the Century*. Rochester, N.Y.: University of Rochester Press, 1992.

- Kahneman, Daniel, et al. *Judgment under Uncertainty: Heuristics and Biases*. Cambridge: Cambridge University Press, 1982.
- Kates, Donald (ed.). *Firearms and Violence*. San Francisco: Pacific Institute for Public Policy, 1984.
- Kates, Donald, et al. "Guns and Public Health: Epidemic of Violence or Pandemic of Propaganda?" *Tennessee Law Review* 62 (1995): 513–596.
- Kelling, George, and Catherine Coles. *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. New York: Free Press, 1996.
- Kitcher, Philip. *Abusing Science: The Case against Creationism*. Cambridge, Mass.: MIT Press, 1982.
- Kleck, Gary. *Point Blank: Guns and Violence in America*. New York: A. de Gruyter, 1991.
- Kuhn, Thomas. *The Copernican Revolution*. Cambridge, Mass.: Harvard University Press, 1957.
- Levitt, Steven, and Stephen Dubner. *Freakonomics: A Rogue Economist Explores the Hidden Side of Everything*. New York: HarperCollins, 2005.
- Lindblom, Charles. *Usable Knowledge: Social Science and Social Problem Solving*. New Haven, Conn.: Yale University Press, 1979.
- Lynd, Robert. *Knowledge for What? The Place of Social Science in American Culture*. Princeton, N.J.: Princeton University Press, 1939.
- Mallove, Eugene. *Fire from Ice: Searching for the Truth behind the Cold Fusion Furor*. New York: Wiley, 1991.
- McIntyre, Lee. *Laws and Explanation in the Social Sciences: The Case for a Science of Human Behavior*. Boulder, Colo.: Westview Press, 1996.
- Passel, Jeffrey, and Rebecca Clark. "How Much Do Immigrants Really Cost? A Reappraisal of Huddle's 'The Cost of Immigrants.'" Working paper, Urban Institute, February 1994.
- Peat, F. David. *Cold Fusion: The Making of a Scientific Controversy*. Chicago: Contemporary Books, 1989.

Pinker, Steven. *The Blank Slate: The Modern Denial of Human Nature*. New York: Viking, 2002.

Popper, Karl. *The Logic of Scientific Discovery*. New York: Harper Torchbooks, 1959.

Power, Samantha. *A Problem from Hell: America and the Age of Genocide*. New York: Harper Perennial, 2003.

Robinson, James. *The Mind in the Making: The Relation of Intelligence to Social Reform*. New York: Harper, 1921.

Ruse, Michael. *But Is It Science? The Philosophical Question in the Creation/Evolution Controversy*. Amherst, N.Y.: Prometheus Books, 1996.

Sagan, Carl. *The Demon Haunted World: Science as a Candle in the Dark*. New York: Random House, 1995.

Simon, Julian. *The Economic Consequences of Immigration*. Oxford: Basil Blackwell, 1989.

Skogan, Wesley. *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. New York: Free Press, 1990.

Snow, C. P. *The Two Cultures*. Cambridge: Cambridge University Press, 1959.

Taubes, Gary. *Bad Science: The Short Life and Weird Times of Cold Fusion*. New York: Random House, 1993.

Wegner, Daniel. *The Illusion of Conscious Will*. Cambridge, Mass.: MIT Press, 2003.

Wilson, Edward. *On Human Nature*. Cambridge, Mass.: Harvard University Press, 1978.

Wilson, James. *Crime and Public Policy*. San Francisco: Institute for Contemporary Studies, 1983.

Wilson, James, and Richard Herrnstein (eds.). *Crime and Human Nature*. New York: Simon and Schuster, 1985.

Wilson, James, and George Kelling. "Broken Windows", *Atlantic Monthly* (March 1982): 29–38.

Wootton, Barbara. *Testament for Social Science: An Essay in the Application of Scientific Method to Human Problems*. New York: Norton, 1950.

Wright, Robert. *The Moral Animal: Evolutionary Psychology and Everyday Life*. New York: Vintage Books, 1994.

Zimbardo, Philip. "The Human Choice: Individuation, Reason, and Order versus Deindividuation, Impulse, and Chaos." In W. Arnold and D. Levine (eds.), *Nebraska Symposium on Motivation 1969*. Lincoln: University of Nebraska Press, 1970.



