



A WORLD OF HEALTH: CONNECTING PEOPLE, PLACE AND PLANET

The part can never be well unless the whole is well.

- PLATO



A WORLD OF HEALTH:
CONNECTING PEOPLE,
PLACE AND PLANET



Copyright 2010

By



Northwest Earth Institute
107 SE Washington, Suite 235
Portland, OR 97214
(503) 227-2807
E-mail: contact@nwei.org
Website: www.nwei.org

Requests for permission to reproduce any materials
in this course book should be directed to
Northwest Earth Institute.

See "Permissions" page for information
on reading materials; these cannot be
reproduced without separate permission.

Curriculum Director: Meg O'Brien
Layout and Typography: Margaret Parker

This course could not have happened without the help of the amazing volunteers who
comprised the curriculum committee: Lisa Frack, Rebecca Friedman, Jonathan Jelen,
Sarah Menzies, Betty Shelley, Kate Rinder, Lena Rotenberg, Emily West and Atty Zschau.
They shared their time, talent, humor and wisdom to help develop this course.
Many other NWEI volunteers contributed to this effort as well, from typing and proofing,
to reviewing a draft copy. We are grateful for their support of our work.

*This publication was printed using 100% post-consumer waste, FSC certified recycled paper,
and vegetable-based inks, and is 100% process-chlorine free.*

CONTENTS

INTRODUCTION	4	SESSION 4 — BUILDING HEALTHY COMMUNITIES	51
TIPS FOR IMPLEMENTING A WORLD OF HEALTH: CONNECTING PEOPLE, PLACE AND PLANET	5	Weekly EcoChallenge: Driving Less.....	52
GUIDELINES FOR FACILITATING AND OPENING	6	Activity: Creating an Accessibility Map.....	53
EVALUATION	7	Environmental Amnesia by Sandra Steingraber.....	53
SESSION 1 — REDEFINING HEALTH	9	Our Chemical Legacy by Stacy Malkan.....	54
The Diagnosis of the Unknown Physician by Carolyn Raffensperger.....	11	Excerpt from <i>Big Box Swindle</i> by Stacy Mitchell.....	55
Beyond the Patient by Lee Thirer.....	12	At Risk: High-Traffic Areas... by Eric Nagourney.....	58
The Coming Age of Ecological Medicine by Kenny Ausubel.....	14	Why Bikes are a Sustainable Wonder by John C. Ryan.....	59
The Rabies Principle by Sandra Steingraber.....	17	Leave No Child Inside by Richard Louv.....	60
SESSION 2 — EATING WELL	19	SESSION 5 — CURING CONSUMPTION	65
Weekly EcoChallenge: Eating BPA-Free Meals.....	20	Weekly EcoChallenge: Buying Less.....	66
Buying Organic: Some Points to Consider by Julie Deardorff.....	21	Video: The Story of Stuff with Annie Leonard.....	67
Pesticide Drift by Rebecca Clarren.....	23	The Rise and Fall of Consumer Culture by Eric Assadourian.....	67
The Myth of the BPA-Free Diet by Kat Kerlin.....	26	Simplicity and Consumption by Duane Elgin.....	70
Excerpt from <i>Cheap Eats</i> by Ellen Ruppell Shell.....	30	The Plastic Killing Fields by Amanda Woods.....	71
The Only Way to Have a Cow by Bill McKibben.....	32	A Cure for Consumption by Juliet Schor.....	73
Video: Teach Every Child About Food with Jamie Oliver.....	33	e-Waste: where does it go? by NWEI staff.....	75
SESSION 3 — CLEANING HOUSE	35	One Approach to Sustainability: Work Less by John de Graaf.....	76
Weekly EcoChallenge: Detoxing Your Home.....	36	SESSION 6 — HEALTHY PLANET/HEALTHY SELF	79
How to Keep Your Family Safe from Toxic Chemicals by Virginia Sole-Smith.....	37	Weekly EcoChallenge: Saving Energy.....	80
Nine Ways to Avoid Household Toxins by Christina Gillham.....	40	Think Like an Ocean by Andi McDaniel.....	81
Bridging the Divide: It's not only about Taste by Carolyn Butler.....	42	Embedded in Nature: Human Health and Biodiversity by Eric Chivian and Aaron S. Bernstein.....	82
The Dark Side of Lawns by Beth Huxta.....	44	Climate Change and Health Vulnerabilities by Juan Almedares and Paul R. Epstein.....	83
Excerpt from <i>Chasing Molecules</i> by Elizabeth Grossman.....	47	Restoring Nature, Restoring Yourself by Francesca Lyman.....	85
Activity: Healthy Home Assessment.....	48	3 Bets by Sandra Steingraber.....	86
		Excerpt from <i>Hunting for Hope</i> by Scott Russell Sanders.....	90
		CALL TO ACTION	93
		PERMISSIONS	94
		MEMBERSHIP	95

INTRODUCTION

Thank you for participating in a Northwest Earth Institute discussion course. The Northwest Earth Institute is a non-profit organization working to *inspire people to take responsibility for Earth* through transformative small group dialogue. Since 1993 over 110,000 participants throughout North America have gathered in groups to explore the critical issues of our times through dialogue with others.

Recently, there has been considerable attention and debate around the topic of health, much of it focused on issues of access and coverage. We hope to broaden that conversation by bringing together people like you, to consider what “good health” really means and how we, both individually and collectively, can enjoy it.

The course begins by examining the roots of Western medicine and how it has evolved in an industrial society. It then progresses through the places where our personal health intersects with the environment — from our food and homes, to our communities and society, and finally, to our planet. At each stage we find individual actions that promote good health and in turn promote a healthier environment. These positive changes reinforce one another, since a healthier environment is a fundamental condition for sustaining human health and well-being, as well as the health of all the other species with whom we share our planet.

The course consists of six sessions, designed for group discussion. Sessions include readings, video clips, short assignments and group discussion questions. To help connect the session themes to actions you can take, you will also find a weekly EcoChallenge, a What You Can Do list, and a list of Further Readings and Resources. Please plan on spending about an hour to prepare for each meeting.

As you gather with your discussion group, we invite you to bring your own experience, critical thinking and ideas to the process. The readings are intended to invoke meaningful conversation and inspire action. We hope you will come away from this experience with an increased awareness of the connections between health and the environment and actions that you can take to promote health for your loved ones and for the Earth.

If you wish to learn more about the Northwest Earth Institute, please visit our website at www.nwei.org and sign up to receive NWEI's email updates. To support the sharing of this work with others, become a member of NWEI by making a donation at www.nwei.org/join or by completing the membership form on page 95. You may also join by contacting our office at (503) 227-2807.

The Northwest Earth Institute currently offers the following discussion courses:

- *Choices for Sustainable Living*
- *Voluntary Simplicity*
- *Menu for the Future*
- *Global Warming, Changing CO₂urse*
- *Sustainable Systems at Work*
- *Reconnecting with Earth*
- *Healthy Children, Healthy Planet*
- *Discovering a Sense of Place*

Special thanks to the generous individuals who made this course possible by making donations to “sponsor a page” of this discussion course book. Donor inscriptions are noted at the bottom of the pages throughout this book.

Health must be one of life's greatest joys,
as no other joy is possible without it.

— ANONYMOUS

Tips for Implementing *A World of Health:* *Connecting People, Place and Planet*

Thank you for your interest in the programs offered by the Northwest Earth Institute. The following tips serve as a guide as you prepare to implement *A World of Health: Connecting People, Place and Planet* in your organization or community. While this discussion guide has tremendous stand-alone value, please keep in mind it was designed to be used with others in a group dialogue setting. The following suggestions are based on NWEI's experience with facilitating small group programs since 1993.

1. The ideal group size is 8-12 participants. This ensures that each member will be able to actively participate in each discussion.
2. Host an introductory orientation meeting for participants in order to share information about the course and course process. Invite people to sign up (if participation is not required).
3. Describe the group process. One of the key benefits of participation in NWEI programs is that participants have the opportunity to facilitate sessions on a rotating basis. Most groups meet for an hour and a half for each meeting. Each session will be led by a volunteer facilitator from the group.
4. Point out the "Guidelines for the Weekly Facilitator" found on page 6. Note that NWEI programs are designed to encourage discussions inspiring behavior change. Consensus regarding content found in the articles is not the goal. Be sure to explain the role of the facilitator, using the next page as a reference point.
5. Ensure that participants have signed up for the opening and facilitating roles (using the Course Schedule form below).
6. Follow the format presented throughout the course book. Begin each session with a brief opening (described on page 6), followed by the Circle Question (provided in each session), then follow with the other discussion questions provided in each session.

You will receive the most benefit from this course if you complete all assignments and participate in each of the group discussions. If you have questions along the way, please don't hesitate to contact our support team at 503-227-2807 or email contact@nwei.org.

We trust your course experience will be of value and we appreciate your commitment to creating a more healthy future.

COURSE SCHEDULE FOR A WORLD OF HEALTH: CONNECTING PEOPLE, PLACE AND PLANET

This course schedule may be useful to keep track of meeting dates and of when you will be facilitating or providing the opening.

CLASS SESSION	DATE	OPENING	FACILITATING
Redefining Health	_____	_____	_____
Eating Well	_____	_____	_____
Cleaning House	_____	_____	_____
Building Healthy Communities	_____	_____	_____
Curing Consumption	_____	_____	_____
Healthy Planet, Healthy Self	_____	_____	_____

GUIDELINES

FOR FACILITATING AND OPENING

For each session of this course, one participant facilitates the discussion and one participant leads the “opening.” The roles rotate each week with a different group member offering an opening and another member facilitating. This process is at the core of the Earth Institute culture — it assumes we gain our greatest insights through self-discovery and peer learning.



FOR THE SESSION FACILITATOR

As facilitator for one session, your role is to stimulate and moderate the discussion. You do not need to be an expert or the most knowledgeable person about the topic.

Your role is to:

- Remind the designated person ahead of time to bring an opening.
- Begin and end on time.
- Feel free to ask the questions included in each chapter, any of the following general questions, or your own:
 - Did you have a strong reaction to any of the articles in this session?
 - What surprised you the most in this session?
 - Did you learn any new information or gain new insights from this session?
 - Do the materials in this session inspire any changes in your daily life?
- Make sure your group has time to respond to the action-oriented discussion questions about the Weekly EcoChallenge — it is a positive way to end each gathering.
- Keep discussion focused on the session’s topic. A delicate balance is best — don’t force the group into the questions, but don’t allow the discussion to drift too far.
- Manage the group process, using the guidelines below:

A primary goal is for everyone to participate and to learn from themselves and each other. Draw out quiet participants by creating an opportunity for each person to contribute. Don’t let one or two people dominate the discussion. Thank them for their opinions and then ask another person to share.

Be an active listener. You need to hear and understand what people say if you are to guide the discussion effectively. Model this for others.

The focus should be on personal reactions to the readings and ideas for taking action. The course is not for judging others’ responses or problem solving. Consensus is not a goal.

FOR THE SESSION OPENING

- Bring a short opening, not more than five minutes. It should be something that expresses your personal appreciation for the natural world. Examples: a short personal story, an object or photograph that has special meaning, a poem, a visual, etc. Be creative.
- The purpose of the opening is twofold. First, it provides a transition from other activities of the day into the group discussion. Second, since the opening is personal, it allows the group to get better acquainted with you. This aspect of the course can be very rewarding.

For more information on the NWEI course model and organizing a course, see “Tips for Implementing A World of Health: Connecting People, Place and Planet” on page 5.



EVALUATION

Optional contact information:

Name _____

Address _____

Phone _____ E-mail _____

Please add me to your e-newsletter list.

PART 1. PLEASE FILL OUT WEEKLY, while your thoughts and opinions are fresh in your mind. We suggest removing this page to use as a bookmark as you read through the course. Rate the six sessions. If you prefer to submit this online, go to www.nwei.org/evaluation.

	POOR CHOICE		EXCELLENT			COMMENTS:
1. Redefining Health	1	2	3	4	5	
2. Eating Well	1	2	3	4	5	
3. Cleaning House	1	2	3	4	5	
4. Building Healthy Communities	1	2	3	4	5	
5. Curing Consumption	1	2	3	4	5	
6. Healthy Planet, Healthy Self	1	2	3	4	5	

Were the following materials helpful? Circle "Y" if we should use the material next time or "N" if we should replace it instead.

COMMENTS:

1. "The Diagnosis of the Unknown Physician" Y N
 "Beyond the Patient" Y N
 "The Coming Age of Ecological Medicine" Y N
 "The Rabies Principle" Y N
2. Weekly EcoChallenge: Eating BPA-Free Meals Y N
 "Buying Organic: Some Points to Consider" Y N
 "Pesticide Drift" Y N
 "The Myth of the BPA-Free Diet" Y N
 Excerpt from *Cheap Eats* Y N
 "The Only Way to have a Cow" Y N
 Video: "Teach Every Child About Food" Y N
3. Weekly EcoChallenge: Detoxing Your Home Y N
 "How to Keep Your Family Safe from Toxic Chemicals" Y N
 "Nine Ways to Avoid Household Toxins" Y N
 "Bridging the Divide: It's Not Only About Taste" Y N
 "The Dark Side of Lawns" Y N
 Excerpt from *Chasing Molecules* Y N
 Healthy Home Assessment Y N

- 4. Weekly EcoChallenge: Driving Less Y N
 - Creating an Accessibility Map Y N
 - "Environmental Amnesia" Y N
 - "Our Chemical Legacy" Y N
 - "At Risk: High-Traffic Areas" Y N
 - Excerpt from *Big Box Swindle* Y N
 - "Why Bikes are a Sustainable Wonder" Y N
 - "Leave No Child Inside" Y N

- 5. Weekly EcoChallenge: Buying Less..... Y N
 - Video: "The Story of Stuff" Y N
 - "The Rise and Fall of Consumer Cultures" Y N
 - "Simplicity and Consumption" Y N
 - "The Plastic Killing Fields" Y N
 - "e-Waste: Where Does It Go" Y N
 - "A Cure for Consumption" Y N
 - "One Approach to Sustainability: Work Less"..... Y N

- 6. Weekly EcoChallenge: Saving Energy Y N
 - "Think Like an Ocean" Y N
 - "Embedded in Nature: Human Health and Biodiversity" Y N
 - "Climate Change and Health Vulnerabilities" Y N
 - "Restoring Nature, Restoring Yourself" Y N
 - "3 Bets" Y N
 - Excerpt from *Hunting for Hope*..... Y N

If a NWEI representative has been involved in your course, he or she will collect evaluations at the final session. If not, please send your completed evaluation to NWEI, 107 SE Washington, Suite 235, Portland, OR 97214.

PART 2. PLEASE COMPLETE AT END OF COURSE.

Has the course made an impact on you? Yes No Please describe how. _____

Please list other articles or books that should be included in the course. Identify URLs or chapter(s)/page(s) and the session where they should be included. _____

Were the session activities and Weekly EcoChallenges beneficial? Why or why not? _____

What has been the most valuable aspect of this course? _____



REDEFINING HEALTH

Good health lies in recognizing that each of us is part of a wider web of life.

When the web is healthy, we are more likely to be healthy... Just as the knee bone is connected to the thigh bone, humans and environmental health are inseparable.

— KENNY AUSUBEL, FOUNDER OF BIONEERS

SESSION GOALS

- To examine our personal beliefs and attitudes about health
- To examine modern medicine's approach to health and the environment
- To explore the tenets of ecological medicine
- To become familiar with the precautionary principle

SESSION BACKGROUND

Good health is something we all strive for, but what do we really mean when we talk about it, and how might we go about creating the conditions that foster it? This session explores how we define health and how that understanding informs our individual and collective well-being. The readings included here propose a fundamental shift from the current perspective to a more integrated view of health;

that is to say, one that understands health as a dynamic relationship between humans and the environments they live within.

In the first reading, "The Diagnosis of the Unknown Physician," environmental lawyer, Carolyn Raffensperger, offers several definitions of health, as well as her own prescription for addressing the health issues of the 21st Century.

In the next reading, "Beyond the Patient," Lee Thirer traces the roots of modern medicine back to Hippocrates' treatise *On Airs, Waters, and Places*, noting its emphasis on ecology. Thirer describes a growing number of practitioners who, recognizing how far modern medicine has strayed from this ecological view, have become part of an "ecological medicine" movement. Kenny Ausubel explores this idea further in "The Coming Age of Ecological Medicine." He introduces the precautionary principle as a primary tool of ecological medicine, a concept which is illustrated in the final reading, "The Rabies Principle," by Sandra Steingraber.

Circle Question

To what extent do you believe that environmental factors contribute to health problems?

Circle questions should move quickly — each member responds briefly without questions or comments from others. Facilitator guidelines are on page 6.

SUGGESTED DISCUSSION QUESTIONS

1. In the first reading, Carolyn Raffensperger offers several definitions of health. Which resonates with you the most? Explain.
2. In your opinion, is the Hippocratic Oath still paramount today?
3. What would your ideal doctor's appointment look like? Would you go to a physician who practiced "ecological medicine" if one was available to you? Why or why not?
4. In "The Coming Age of Ecological Medicine," Kenny Ausubel describes some of the medical-waste problems associated with current medical practices. Can you think of more ecologically sound practices that your health care practitioners could adopt?
5. Why aren't environmental issues addressed in most medical schools? Should they be?
6. Which makes more sense to you, the European adoption of the precautionary principle or the American inclination to assume that something is safe unless proven to be harmful?
7. When is the current "risk paradigm" acceptable and unacceptable to you? Where do you draw the line?
8. Kenny Ausubel describes how some governments support sustainable practices, such as a taxes on pesticides, or paying farmers to grow organically in watersheds. What would it take to do that in the United States?
9. Sandra Steingraber provides reasons why public health officials treat rabies differently than environmental pollutants known to be harmful to our health. Which of her reasons sounds most compelling to you?

Weekly EcoChallenge

In the next five sessions, look here for your group's Weekly EcoChallenge. The challenges are tied to the session themes, providing an opportunity to put your learning into action. A week before each meeting, be sure to see what the suggested action is and determine a realistic but challenging way to incorporate it into your life for a week. At the next meeting you will have an opportunity to share your struggles and successes with your group.

To find out more about NWEI's annual EcoChallenge event, visit www.ecochallenge.org.

SUGGESTED READINGS AND RESOURCES

ORGANIZATIONS

Silent Spring Institute: researches the link between the chemicals and toxins that have made their way into our environment and breast cancer. www.silentspring.org

Science and Environmental Health Network has been the leading proponent in the United States of the Precautionary Principle as a new basis for environmental and public health policy. www.sehn.org

ARTICLES

Please go to the Northwest Earth Institute website (www.nwei.org) for the most current list of articles relating to this session.

BOOKS

Alternative Medicine: The Definitive Guide (2nd Edition) by Burton Goldberg, John W. Andersen and Larry Triviera. Four hundred of the world's leading alternative physicians have contributed safe, affordable, and effective remedies for more than 200 medical conditions ranging from common health problems like allergies, asthma, and obesity to serious illnesses like cancer, heart disease, and AIDS.

FILMS/DOCUMENTARIES

Living Downstream is a documentary based on the acclaimed book by ecologist Sandra Steingraber. The film follows Steingraber during one pivotal year as she travels across North America, working to break the silence about cancer and its environmental links.



THE DIAGNOSIS OF THE UNKNOWN PHYSICIAN

By Carolyn Raffensperger

According to an old story told by Sun Tsu at the beginning of *The Art of War*, a lord of ancient China once asked his physician, a member of a family of healers, which family member was the most skilled at medicine. The famous physician replied, “My eldest brother is the most skilled since he sees the spirit of sickness and removes it before it takes shape, so his name does not get out of the house. My elder brother cures sickness when it is still extremely minute, so his name does not get out of the neighborhood.” The greatest physician was unknown because he prevented disease rather than having to cure it.



I have the remarkable fortune of having great genes. Both my parents are alive, well and unusually rascally for Midwesterners. My Dad was in his late 60s when he sailed across the Atlantic and back. He published a novel last year under a pseudonym (so don't look for it using my name) and regularly paddles out into the ocean in his homemade sea kayak. My Mom was in her mid-70s when she got a new job on the upper Peninsula of Michigan, moved into a log cabin and took up snow-shoeing and nature photography. They have no history of cancer, diabetes, or cardio-vascular problems. Alas, my parents' medical histories aren't going to be much help in predicting what I will live with as I age

and what I will die of. All the trends in things like cancer, Alzheimer's, diabetes, and Parkinson's suggest that I along with my age cohort are going to be sicker longer and die after lingering, debilitating illnesses.

What's going on? Basically our diseases are corollaries of our civilization. As Rene Dubos said, “each type of society has diseases peculiar to itself — indeed, . . . each civilization creates its own diseases.” Our bodies reflect the interaction of our genes with the manifestations of our civilization — the built, social and natural environments. In fifty years we've fundamentally altered all of these systems. We get less exercise, we eat nutritionally-suspect food and we've filled our world with toxic chemicals. . . . Where are we headed given this trajectory? Here are my four predictions on the future of human health.

1) We will see more chronic diseases such as asthma, diabetes, and Alzheimer's. The reason is that we have a whole long list of stressors like nutritionally deficient diets, inadequate exercise, and air pollution, all of which lead to oxidative stress and inflammation — the biological mechanisms for disease.

2) Diseases that make people fundamentally anti-social will affect a much larger population. These illnesses include autism, Alzheimer's, and mental illness. These diseases are rising now in the population and render people unable to function within their families and communities.

3) We will suffer from an increased number of rapidly changing infectious, zoonotic pandemics (think swine flu, bird flu, hemorrhagic viruses.) because climate change,

modern transportation, and industrial agriculture are disrupting ecologies, setting up the conditions for rapidly evolving bacteria, fungi and bacteria that use multiple species as hosts. In addition, we are moving people and stuff around the planet at an ever increasing rate. Infectious agents are hitching rides and zipping around the planet in cargo ships and airplanes.

4) Subtle, difficult to diagnose malaises like chronic fatigue, fibromyalgia, and suppressed immune systems will become the norm. Patients will exhibit multi-factorial, complex symptoms that defy categorization.

If we wanted to alter this course, where would we start? We'd start with decent definitions of health because how we define it determines how we maintain health and cure disease.

Wendell Berry defines health as membership — membership in the community of humans and membership in the Earth community. “Can our present medical industry produce an adequate definition of health? My own guess is that it cannot do so. Like industrial agriculture, industrial medicine has depended increasingly on specialist methodology, mechanical technology, and chemicals; thus, its point of reference has become more and more its own technical prowess and less and less the health of creatures and habitats.” Berry later says, “this, plainly, is a view of health that is severely reductive. It is, to begin with, almost fanatically individualistic. The body is seen as a defective or potentially defective machine, singular, solitary, and displaced, without love, solace, or pleasure. Its health excludes unhealthy cigarettes but does not exclude unhealthy food, water, and air. One may presumably be healthy in a disintegrated family or community or in a destroyed or poisoned ecosystem.”

A related definition to Berry's idea of membership comes from Aldo Leopold who defined health as the capacity for self-renewal. Leopold was referring to land but it applies equally well to the individual. Leopold means that health is an intrinsic and internal biological process, not a static quality. It is the process of re-membering our communities.

Sun Tsu's unknown physician must have been working with similar definitions of health in order to prevent the diseases of his day. Today, I imagine he would write a prescription to restore the Earth's resilience, and repair the social systems to alleviate the debilitating stresses of poverty, racism and hunger, and create built environments that nurtured living beings.

This article was posted on December 10, 2009, Science and Environmental Health Network webpage, www.sehn.org. Carolyn Raffensperger is executive director of the Science & Environmental Health Network, www.sehn.org. As an environmental lawyer she specializes in the fundamental changes in law and policy necessary for the protection and restoration of public health and the environment.



BEYOND THE PATIENT

By Lee Thirer

Before Hippocrates, health was a supernatural affair. Exorcists and priests charmed money from the dying. Snakes squirmed beneath sickbeds. Sacred dogs licked fatal wounds. Pilgrims dozed within shrines, awaiting divine visitations, and dreamed of magical cures at places like the temple hill at Cos, where the mastermind of Western medicine — born on the island around 460 BC — rooted his revolution in ecology. Though few who now benefit from modern medicine remember, its creator overthrew the order of the gods with one simple mandate: that the physician seek truth only in the natural world, in the study of air, water, soil, and climate — in the study of the body within its ecosystem.

“From these things,” Hippocrates commanded in his treatise *On Airs, Waters, and Places*, “he must proceed to investigate everything else.”

Hippocrates taught that nature was the doctor, the doctor its aide. Studying the interchange of the internal and the external, a Hippocratic healer paid careful attention to food, exercise, and the ways the waters and the climates acted on the four humors — blood, phlegm, and yellow and black bile, each associated with a particular temperament. By trusting and helping nature, the great healer, to maintain health, Hippocrates' students sought to provide preventive care over a lifetime. Only after nature had begun to fail would the doctor prescribe treatments that would, in Hippocrates' words, “help, or at least do no harm.”

For the first time in millennia, however, nature itself is so unwell that doctors cannot fulfill their ancient duties. Twenty-six centuries of medical innovations cannot now protect the patient from the wider world, with its modern