THE LISTENING GENOME · READER COMPANION

The Evidence Map

Every claim the book grades, on one page: **79 claims** from 14 chapters, sorted by how strong the evidence is. Read across a row to see what a chapter can promise, and what it can't.



THE FOUR SEALS

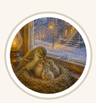
STRONG — Many good studies, by different groups, that agree, or a mechanism taken apart step by step.

MODERATE — Good evidence with a limit you should know: one large study, one kind of population, a young measure.

PRELIMINARY — Interesting, but not yet repeated, or from a small sample, or from animals only.

UNSUPPORTED — In circulation, often in books like this one, with no good evidence behind it.

23 | 35 | 8 | 13

	STRONG	MODERATE	PRELIMINARY	UNSUPPORTED
PART ONE *What You Were Born With*				
 **1** The Bandages of Tübingen	DNA carries heredity Every cell holds the same text Any two people differ at 1–2 letters in 1,000 Light switches genes on within hours IN MICE			× Mood or willpower rewrites your DNA
 **2** Twins	Traits average 49% heritable Heritable ≠ unchangeable (height rose)	Sensitivity is ~47% heritable Twins' DNA marks drift apart with age	Twins can find the sensitivity genes	
 **3** The Gene That Wasn't	The "depression gene" didn't hold up Most traits: thousands of tiny variants Gene scores travel poorly across ancestries	Sensitivity: ~47% genetic, many genes	A gene score predicts who benefits from treatment	× A saliva test says if you're an "orchid"
PART TWO *What Life Writes*				
 **4** The Rats That Were Licked	Methyl clips and spools decide what is read Licked pups: fewer clips, calmer stress IN RATS The mother who raises counts, not the one who births IN RATS	Human changes are small: a few % at few sites	Early adversity adds clips in people	× A supplement places clips where you want
 **5** The Hunger Winter		Famine in the womb, small marks 60 years on Womb famine, slightly faster aging (women) Famine: body size, diabetes, schizophrenia	The womb tunes later sensitivity	× A hard start fixes your future
 **6** What Is Passed On, and What Is Not	Eggs and sperm wipe almost all marks	Mice pass a learned fear to offspring IN MICE Survivors' descendants are as well adapted Parents pass on the home their genes build	Survivors' children: opposite marks at a stress gene	× Grandparents' trauma is a wound in your DNA
PART THREE *The Body's Clocks*				
 **7** The Laces of the Chromosomes	Telomeres shorten with each division IN CELLS Telomerase adds TTAGGG back Telomerase lets cells pass their limit IN CELLS Telomerase faults cause inherited disease	Babies are born with very different telomeres		× A supplement lengthens telomeres for health
 **8** The Wear of Caring	Cortisol lowers telomerase (lab); people unclear IN CELLS · PRELIMINARY IN PEOPLE	Stress and shorter telomeres: tiny link Childhood adversity, shorter adult telomeres Longer telomeres: less heart disease, some cancer		× A telomere test tells your biological age
 **9** Horvath's Clock	A few hundred sites predict age GrimAge and DunedinPACE predict death, disease	Stress and threat go with faster clocks Eating ~12% less slightly slowed aging Omega-3 slightly slowed clocks after 70	A drug turns back the clock in people	× One clock test can guide your health
PART FOUR *The Environment Under the Skin*				
 **10** The Window		Nature after stress lifts mood Greener schools, better working memory ASSOCIATION Green homes, slower clocks ASSOCIATION	A view of trees, shorter hospital stays	× Forest air makes you biologically younger
 **11** Two Months Without the Sun	Your clock runs ~24.2 h, light keeps it on time Clock genes loop and open chromatin MOSTLY IN ANIMALS AND CELLS	Evening room light delays the clock Light sensitivity varies 50-fold ONE STUDY OF 55 YOUNG ADULTS		× Sensitive people have light-sensitive clocks NOT YET TESTED
 **12** Noise and the City	Aircraft noise inflames vessels (Nox2) IN MICE	Loud schools, worse reading; quiet, catch-up Night noise: awakenings and heart-rate jumps Traffic noise: more heart attacks, strokes Noise sensitivity ~36–40% genetic		× Noise speeds up the epigenetic clock NOT YET STUDIED
PART FIVE *Orchids*				
 **13** The Worst and the Best		Sensitivity ~47% genetic Sensitivity is a continuum, not two types Sensitive children gain more from good settings Sensitivity goes with anxiety, low mood	Sensitivity shapes telomeres both ways	× A few single genes read your sensitivity
 **14** Building Your Surroundings		Brighter nights, more disease risk Bright light treats winter depression Evening light halves melatonin in many Noise disturbs sleep, raises heart risk Rich social ties, longer life		× Changing surroundings moves your clock NOT YET SHOWN

HOW TO READ IT

A note beside a claim, such as *in mice* or *association*, is part of the seal: what is Strong in mice is not automatically Strong in you, and an association is not a cause. Seals change as evidence changes. Some of today's Preliminary will be Strong in ten years, and some will quietly disappear.

WHERE IT COMES FROM

The "Evidence at a Glance" box at the end of each chapter, with the full references in the bibliography.

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