

Little Journeys to the Homes of Great Scientists

不可不知的伟大科学家的成长历程

原著 Elbert Hubbard

[美] 阿尔伯特·哈伯德

改编 Bessie Edmond

译注 郑淑明



B E D T I M E R E A D I N G



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中华女子学院



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人物关系表

牛顿

Isaac Newton: 艾萨克·牛顿，牛顿的父亲。牛顿出生前父亲就去世了，母亲给他起了和他父亲一样的名字。

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Miss Story: 斯托里小姐，牛顿的少年女友。

哥白尼

Thales: 泰利斯，古希腊哲学家、数学家和天文学家。

Pythagoras: 毕达哥拉斯，泰利斯的一个弟子。

Ptolemy: 托勒密，古希腊天文学家。

伽利略

Lodovico Cigoli: 罗得威格·奇得里，大画家，伽利略的一名弟子。

Ricci: 里奇，著名的数学家，他让少年伽利略发现了自我。

Porta: 伯塔，伽利略的敌人之一，曾攻击伽利略的天文望远镜。

Marina Gamba: 玛丽娜·甘巴，伽利略的配偶。

Cardinal Bellarmine: 贝拉明，红衣主教，宗教法庭审判官，伽利略的朋友。

Pope Paul the Fifth: 罗马教皇保罗五世，伽利略时期的宗教最高权力人物。

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Sara Elizabeth: 萨拉·伊丽莎白，林奈的妻子。

居里夫人

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Bronya: 伯娅，玛利亚的二姐。

Hela: 赫拉，玛利亚的三姐。

Joseph: 约瑟夫，玛利亚的哥哥。

Mrs. Sklodowska: 斯克罗斯卡夫人，玛利亚的母亲。

Pierre Curie: 皮埃尔·居里，玛丽的丈夫，著名物理学家。

Irene: 艾琳，玛丽的大女儿，第一个孩子。

Eve: 伊夫，玛丽的第二个孩子。

Frederic: 弗雷德里克，玛丽的女婿，艾琳的丈夫，1935年和艾琳一起获得诺贝尔奖。

爱因斯坦

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Mrs. Einstein: 爱因斯坦夫人，阿尔伯特的母亲。

Mileva Maric: 米勒娃·马里克，爱因斯坦的第一任妻子

Elsa Einstein Lowenthal: 爱莎·爱因斯坦·洛文索，爱因斯坦的表妹、第二任妻子

故事梗概

天才的成长总是不拘一格。本书展现了七位欧洲科学家不同的成长历程和在科学史上的卓越贡献。他们个性迥异，但思想的光辉都超越了他们所处的时代；他们不畏险阻和非议，与时代争锋，给后人留下了宝贵的财富。

牛顿在英国乌尔索普的外祖母家长大，没有像母亲希望的那样管理家中的农场，而是对科学产生浓厚的兴趣。在家乡附近的格兰瑟姆学校不断进行着发明创造、观察和数学运算的活动。他18岁被送到剑桥大学深造。他以冷静和坦诚的气质赢得别人的尊重和爱戴。他23岁就发现了万有引力定律和光的性能学说，并成为剑桥大学的数学教授。45岁在伦敦从政，之后被英女王授予爵士头衔。

出生在波兰的哥白尼没有像母亲希望的那样成为家乡一名闻名遐迩的传教士，而是执意进入大学研究医学、数学和天文学。他勇于实践，不断对天体进行观测并作记录。他的行为受到宗教势力的攻击，然而他的著述却建立了现代天文学的学科体系。

伽利略18岁毕业于意大利的比萨大学，没有像母亲希望的那样成为艺术家，而对数学产生极大的兴趣。他在佛罗伦萨发表演讲阐述科学，并在帕多瓦等地传授天文知识。1609年他发明了天文望远镜并宣传日心说，因此受到宗教势力的攻击，晚年曾一度被囚禁在罗马。

达尔文没有像父亲和他的姐姐们希望的那样成为教士，而是从小对植物学和地质学感兴趣。1831年他参加了一项为期四年零十个月的在南美和澳洲等地测绘地图的远洋科学考察旅行。他因此周游世界，采集了大量的生物标本。回到英国经过分析整理出版了《物种起源》一书，阐明了进化论的观点。

林奈自小生长在瑞典的农村。他充满着对大自然的热爱，并周游各地，没有像父亲希望的那样成为当地的传教士。后来他去了乌普萨拉，在那里从事着收集草本植物并为之编撰目录



的工作，同时还就一些博物学的话题各处演讲。他一生经常漫步森林，徒步旅行，并编撰出版了有关博物学的百科全书。

居里夫人年轻时和姐姐一起在华沙做家庭教师。1891年来到巴黎大学攻读物理学，并在27岁那年与在巴黎大学相识的教授皮埃尔·居里结为夫妻。两人在随后的对放射线的共同研究中发现了一种元素，并把它用于癌症治疗。她的努力使她两次获得诺贝尔奖。

爱因斯坦出生在德国乌尔姆的犹太人家庭。他在伯尔尼的专利局工作期间，发现了狭义和广义相对论，后来创立光电效应理论，获诺贝尔物理学奖。1933年因躲避纳粹的迫害移居美国普林斯顿。因其量子力学理论而制造的第一颗原子弹给人类带来了灾难，他深感不安，并极力主张和平利用核能。

徜徉在这些科学家们的故事之中，使我们跨越了时间和空间的阻隔，再一次回到了那个新旧观念大变革的年代。他们离我们并不遥远，我们切实感触到了他们思想的深邃、行动的果敢以及对科学和自然的热爱。



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CHAPTER ONE NEWTON



“When you come into any fresh company, observe their humours. Suit your own carriage accordingly, and in such a way that you will make them more free and open in conversation. Let your discussions consist more of questions and doubts than absolute *assertions* or arguments, it being the purpose of travelers to learn, not to teach. Besides, it will persuade your acquaintances that you have the greater esteem of them, and so make them more ready to communicate what they know to you; whereas nothing sooner occasions disrespect and quarrels than arrogance and boldness. You will find little or no advantage in seeming wiser, or much more ignorant than your company. Seldom criticize anything too harshly, or, if you must, do it moderately, lest you be unexpectedly forced to embarrassingly take back your words. It is safer to praise more than is due, than to criticize a thing so much as it deserves; for praise meets less often with opposition, or, at least, is not usually so ill resented by men that think otherwise; and you will gain men’s favor by nothing sooner than seeming to approve what they like; but *beware* of doing it by a comparison.”

— Sir Isaac Newton to one of his pupils

Isaac Newton was an honest farmer, neither rich nor poor. He was married to Harriet Ayscough in February, Sixteen Hundred Forty-two.

Both were strong, intelligent and full of hope. Neither had any education to speak of; they belonged to England’s middle class — that often-despised and much criticized middle class which is the hope of the world. Accounts still in existence show that their income was thirty pounds a year. It was for them to work all the week, go to church

第一章 牛顿

“当你想融入任何一个新的群体时，一定要观察他们的幽默方式如何，从而把自己的举止与之协调起来，这样你才能够和他们大方坦率地沟通交谈。带着问题和疑惑与他们讨论远比完全的肯定和与之争辩来得好，大凡立志远行者的目的都在于乐学而不在于施教。此外，应该让你的朋友们相信你更加尊敬他们，如此他们才会甘心传授所学；相反，如果你表现得傲慢冒失，就必会引起对方的不敬和反目。如果你装着更聪明，就会获益很少或没有，甚至比你的同伴更无知。切记对人和事不要过于求全责备，如若必须，适度为宜，以免不得不意外难堪地收回前言。过度赞美要比批评更为稳妥，因为赞扬通常不易遇到反对意见，至少不易受到那些意见不同的人的憎恨，而且一旦你表面认可他们的所喜所爱，就会赢得他们的支持；但一定要比较一下利害关系谨慎为之。”

——艾萨克·牛顿爵士致一位弟子的忠告

老艾萨克·牛顿是个厚道的农夫，家境平庸。1642年2月，他与哈瑞特·爱丝考芙结婚。

小两口强健、聪慧、怀揣希望，但都没有受过什么正规的教育；他们属于英国中产阶级——那个经常受到轻视和批评但被社会寄予了希望的中产阶级。现存帐户表明他们年收入三十英镑。所以他们整周都得工作，周日去教堂做礼拜，每年还要赶两三次村里的大集，要不就干脆沉醉于某个假日。

Newton ['nju:tn] *n.* 牛顿 (1642—1727)，全名艾萨克·牛顿爵士 (Sir Isaac Newton) 英国物理学家、数学家，提出万有引力定律、力学三大定律，著有《自然科学的哲学原理》等。

assertion [ə'sɜ:ʃən] *n.* 主张，断言；维护，坚持。stand to one's assertion 坚持己见。

beware [bi'weə] *v.* 注意，当心，谨防 (其后接不接of 均可)

Isaac Newton 艾萨克·牛顿，牛顿的父亲。牛顿出生前父亲就去世了，母亲给他起了和他父亲一样的名字。



on Sunday, and twice or three times in a year attend the village fairs or indulge in a holiday.

Isaac had served his two years in the army, taken a turn at sea, and got his discharge papers. Now he had married the woman of his choice, and settled down in the little house on an estate in Lincolnshire where his father was born and died.

Often, the young wife worked with her husband in the fields, or went with him to market. Great plans were laid as to what they would do next year, and the year after, and how they would provide for coming age and grow old together, here among the oaks and the peace and plenty of Lincolnshire.

In such a country, with such a climate, it seems as if one could almost make repair equal waste, and thus keep death indefinitely at bay. But all men, even the strongest, are living under a death sentence, with but an indefinite stay of execution. And even yet, with all of our science and health, we can not fully account for those diseases which seemingly pick the very best flower of muscle and strength.

Isaac Newton, the strong and healthy farmer, grew ill and died in a week. "The result of a cold caught when sweaty and standing in a draft," the surgeon explained. "The act of God to warn us all of the vanity of life." Acute pneumonia, perhaps, is what we would call it — a fever that burned out the lungs in a week.

In such cases the very strength of the man seems to supply fuel for the flames. And so just as the Autumn came with changing leaves, the young wife was left to fight the battle of life alone — alone, save for the old, old miracle that her life supported another. A wife, a *widow*, a mother — all within a year!

On Christmas Day the child was born — born where most men die: in obscurity. He was so weak that none but the mother believed



艾萨克过去在陆军服役两年，又转至海军才复员。现在他娶了钟爱的妻子，终于在林肯郡一座庄园里的一间小房里安定下来——他父亲在这里生活了一辈子。

经常地，年轻的夫人和丈夫一起出没于田间，或一同赶往集市。盘算着来年、后年乃至将来的日子，在这一片橡树林和宁静而又富有的林肯郡，他们如何白头偕老。

在这种气候的乡村中，人们似乎能使自己的身体得以修养而不会耗损，因而与死神也毫不相干。但从某种意义上讲，人生下来就意味着宣判了死刑，即使是强壮的人也一样，只不过执行得或早或晚而已。即使到现在，用上所有科学和保健知识，我们都很难解释明白那些似乎采摘了肌肉与力量这最好花朵的疾病是怎么一回事。

强健的农民——老艾萨克·牛顿病倒了，并于一周后去世。“出汗时站在风口，着凉感冒所致。”大夫解释道，“上帝通过此举告诫我们要警惕这浮华人世间的一切。”这种一周内就能烧坏肺部的热病，也许就是我们通称的急性肺炎。

这些时候，男人特壮似乎成了火上浇油。留下这位年轻的妻子就象失去了繁枝茂叶的晚秋，要独自面对更严峻的生活挑战——独自，除了人类那特有的古老奇迹赋予她之外，她要活下来支撑起另一个新生命的存在。一年之内她承受了太多的变化——为人新妇，为人孀妻，为人生母。

圣诞节那天，他们的孩子降生了——悄然降生在大多数人离去的世界。他太纤弱了，只有他的亲生母

widow ['widəu] n. 寡妇



he would live.

The doctor quoted a line from "Richard the Third", "Sent before my time into this breathing world, scarce half made up," and gave the infant into the keeping of an old nurse with a meaningful shake of the head, and went his way, with his conscience easy. His time was too valuable to waste on such a useless little human.

The persistent words of the mother that the child should not, must not die, possibly had something to do with keeping the breath of life in the tiny man-child. The fond mother had given him the name of his father, even before birth! He was to live to do the work that the man now dead had hoped to do; that is, live a long and honest life, and leave the fair *acres* more valuable than he found them.

Such was the humble beginning of what Herbert Spencer declared was the greatest life since Aristotle studied the universe.

Outside of India the lot of widows is not especially to be pitied. A widow has beautiful dreams, while the married woman copes with the stern reality.

Then, no phase of life is really difficult when you accept it; and the memory of a great love lost is always a blessing to the one who endures the first cruel shock.

The young widow looked after her little estate, and with perhaps some small assistance from her parents, lived comfortably and as happily as one has a right to it. Her baby boy had grown strong and well: by the time he was two years old he was quite the equal of most babies — and his mother thought, beyond them.

It is quite often declared by simple folks that mother-love is the strongest and most enduring love in the world, but the wise waste no words on such an idle *proposition*. Mother-love retires into the shadow when the other kind appears.

亲才相信他有可能活下来。

医生引用了“查理三世”的一行话——“不等我生长成形，便把我抛进这个令人喘息的世界。”并意味深长地摇了摇头，就把婴儿交给了一位老护士，便心安理得地自行其事去了。他的时间太宝贵了，不愿浪费在这个看起来无可救药的小生命身上。

这个孩子不会死，也决不能死，顽强的母亲反复重复着这样的话。这或许对小男孩存活下来很有帮助。这位充满慈爱的母亲甚至在他出生之前就给他起了他父亲一样的名字，坚信他将要做他死去的父亲生前要做的事；也就是去过那种漫长而正直的一生，让大量的地产升值。

正如赫勃·斯宾塞所说的那样：自从亚里士多德研究宇宙以来，卑微的开端从来都是伟大生命的开始。

印度之外的寡妇的命运无需特别地同情。当那些已婚妇女面临着严酷的现实生活时，寡妇仍有自己的美梦。

不管生活有多艰难，只要你尝试着去接受它，一切问题都会迎刃而解；而如果经受的第一次残酷打击是失去挚爱，那则是不幸之万幸。

年轻的寡妇照看着她的小地产，并从父母那儿得到少量资助，生活得还算舒适并拥有着人人都有权享有的快活日子。她的宝贝儿子长得体格健壮：两岁的时候就和别的孩子差不多一样棒了——他的妈妈认为，甚至强于其他孩子。

质朴的民俗经常这样说，母爱是世间最强烈和最持久的爱，智者不会在这个毋庸置疑的话题上浪费口舌。然而，当另一种爱出现时，母爱就退隐起来。

acre ['eikə] *n.* 英亩; (pl) 土地, 耕地

proposition [,prəpə'zɪʃən] *n.* 提议, 建议, 主张; (口语) 企业, 事业; 事情, 工作, 家伙



When the *Reverend* Barnabas Smith began, *unaware*, to make eyes at the Widow Newton over his prayer-book, the good old women of the community made predictions on the way home from church as to how soon the wedding would occur.

People go to church to watch and pray, but a man I know says that women go to church to watch. Young clergymen fall an easy prey to designing widows, he says. I can discover no proof, however, that the Widow Newton made any original designs; she was below the young clergyman in social standing, and when the good man began to pay special attentions to her baby boy she never imagined that the numerous pats and caresses were meant for her.

Little Isaac Newton was just three years old when the wedding occurred, and was not troubled about it. The bride went to live with her husband at the *rectory*, a mile away, and the little boy in dresses, with long yellow curls, was taken to the home of his grandmother. The Reverend Barnabas Smith didn't like babies as well as he had at first thought. Grandparents are inclined to be soft in their discipline. And anyway it is no particular difference if they are: a shortage of discipline is better than too much. More boys have been ruined by the rod than saved by it — love is a good substitute for a *cat-'o-nine-tails*.

There were several children born to the Reverend Barnabas Smith and his wife, and all were disciplined for their own good. Isaac, a few miles away, was wrapped in the arms of his old grandmother when he was bad and went without punishment.

Many years after, Sir Isaac Newton, in an address on education at Cambridge, *playfully* referred to the fact that in his *boyhood* he did not have to lie to escape punishment, his grandmother being always willing to lie for him. His grandmother was his first teacher and his best friend as long as she lived.

当巴拿巴斯·史密斯牧师开始不声不响地用祈祷的小册子半掩着面向她眉目传情时，虔诚的老太太们在从教堂回家的路上也开始预测，还要多久他们的婚礼才能举行。

人们去礼拜是为了观看并祈祷，但一个我认识的男人们说女人去礼拜仅为了去看热闹。年轻的牧师们很容易成为富有心计的寡妇们捕猎的对象，他说。不过，我没发现牛顿遗孀有任何新打算的迹象；她的社会地位低于牧师，当这个人特别厚待她的孩子的时候，她从没有想过无数次的轻拍和爱抚是为了讨好她的。

就在小艾萨克·牛顿三岁的时候，婚礼举行了，并没有遇到什么麻烦。新娘和她的丈夫住在一英里外的教区长的管区，可这个穿着童装，有着长长的黄卷发的小男孩却被送到姥姥家抚养。巴拿巴斯·史密斯牧师向来不喜欢小孩子。小牛顿外祖母倾向于骄纵孩子。不管怎样，小孩子缺乏约束总要比操之过甚要好。很多孩子毁于鞭子的淫威而不是得益于此——爱是替代九尾鞭的好东西。

巴拿巴斯·史密斯牧师和他的妻子生了好几个孩子，且都教养有素。而几英里以外的艾萨克却被外祖母的怀抱袒护着，做错任何事也不会受到惩罚。

多年后，艾萨克·牛顿爵士在剑桥大学的一次有关教育的演讲时，开玩笑地谈及他的童年时代时称，他不需要说谎以逃避责罚，他的外祖母经常想办法替他撒谎。她的外祖母是他的启蒙老师和终生最好的朋友。

reverend ['revərənd] *adj.* 可尊敬的，可敬畏的；the Reverend或the Rev. 对牧师、僧侣的尊称

unaware ['ʌnə'weə] *adj.* 不知道，没有觉察到的

rectory ['rektəri] *n.* 教区长的管区

cat-o-nine-tails (单复同) 九尾鞭

playfully ['pleɪfəli] *adv.* 开玩笑地

boyhood ['bɔɪhʊd] *n.* 少年时代



When he was twelve years old he was sent to the village school at Grantham, eight miles away. There he boarded with a family by the name of Clark, and at odd times helped in the medicine shop of Mr. Clark, cleaning bottles and making pills. He himself has told us that the work did him a lot of good, whether the patients benefited or not.

The friendly medicine shop owner explained to him that pills were for those who made and sold them, and that if they did no harm to those who swallowed them, the whole transaction was then one of benefit. All of which proves to us that men had the essence of wisdom two hundred years ago, quite as much as now.

The master of the school at Grantham was one Mr. Stokes, a man of genuine insight and delicacy — two things rather rare in academicians at that time. The Newton boy was small and stood low in his class, perhaps because book-learning had not been the bent of his grandmother. The fact that Isaac was neither strong nor smart, nor even smartly dressed, caused him to be an easy target for the bullies.

One big boy in particular made it his business to punch and kick him on all occasions, in class or out. This continued for a month, when one day the little boy invited the big one out into the church lawn and there fell upon him tooth and claw. The big boy had strength, but the little one had right on his side.

The *schoolmaster* looked over the wall and shouted, “Three times more powerful is he who knows his cause is just!” In two minutes the bully was beaten, but the schoolmaster’s son, who stood by as master of ceremonies, suggested that the big boy have his nose rubbed against the wall of the church for luck. This was accordingly done. And when Isaac returned to the classroom, the master, who was supposed to know nothing officially of the fighting, predicted, “Young Mr. Newton will yet beat any boy in this school in his studies.”