

一部包罗万象的知识宝典

一套营养丰富的文化大餐

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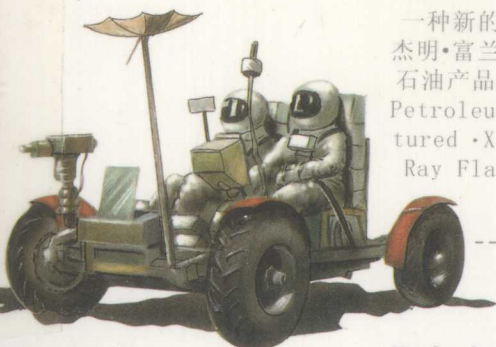
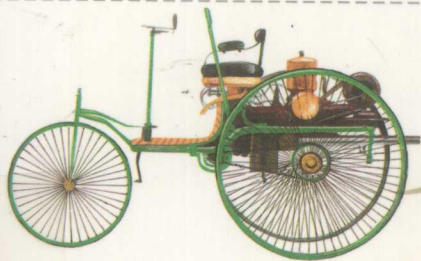
BILINGUAL ENCYCLOPEDIA FOR TEENAGER

# 双语青少年百科

Science and Technology 科技卷



会识别语言的手机 Cell Phones  
Pick up Language · 无线电的发明  
The Invention of Radio · 爱  
因斯坦 Albert Einstein · 电话及  
其发明者 The Telephone and Its  
Inventor · 在手腕上打电话  
Calling All Wrist Phones



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双语

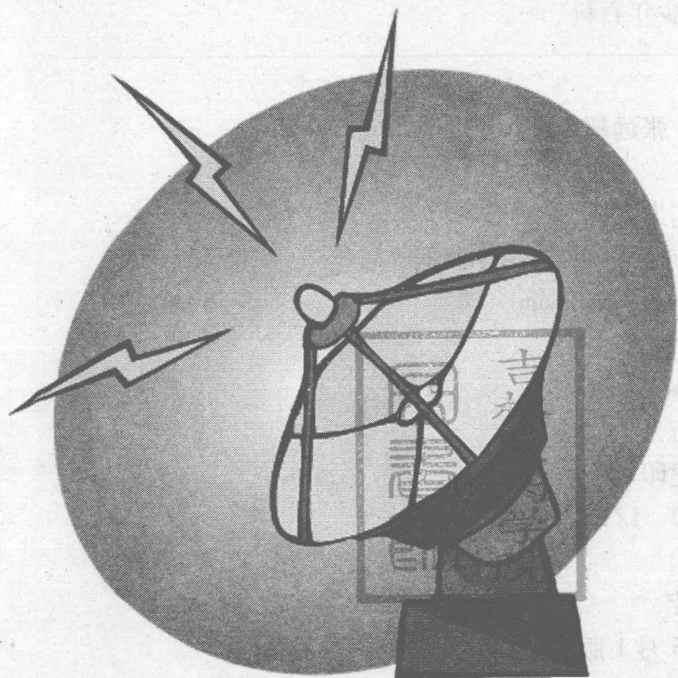
# 青少年百科

DOUBLE LANGUAGE

ENCYCLOPEDIA FOR TEENAGER

科技

□主编 / 孙静确



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## Cell Phones Pick up Language

### 会识别语言的手机

Cell phones always have one problem: the keyboard is very



small. That makes typing anything more than a phone number a tiring, boring task. But a solution is on the way: designing mobile devices that are adept at recognizing spoken language. Some cell phones already use

speech recognition as an alternative to keypad entry for simple tasks such as dialing a number, but someday soon you may also find yourself dictating a text message into your phone, asking your car for direc-





tions, or telling your MP3 player that you want to listen to the Beatles. Indeed, today's cell phones are capable of running sophisticated speech recognition software that could eventually mean the end of pecking at keyboards.

手机一般存在键盘较小的问题,这使得拨号以外的任何操作都显得繁琐而枯燥。而一种解决方案正应运而生,即研



发出善于识别言语的移动通讯装置。一些手机已经采用了语音识别技术做一些诸如拨号的简单操作,以此来代替按键拨号。然而也许很快有一天你会发觉自己可以对着手机口述一段短信,或是给你的爱车发号施令来指明行驶方向,抑或是告诉你的 MP3 你想听披头士

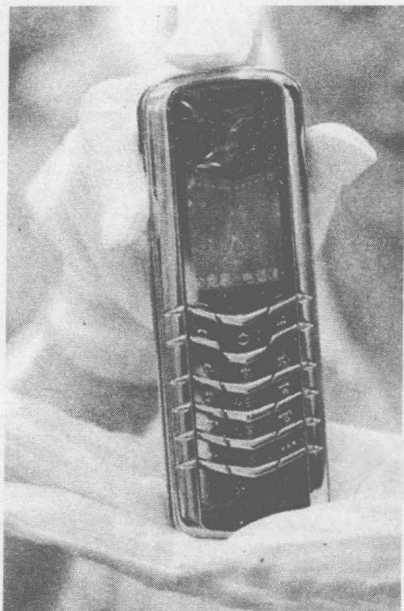
的歌曲。事实上,如今的手机已经能够运行较复杂的语音识别软件,这将意味着按键输入时代的结束。



While companies like IBM have been selling desktop speech recognition software for more than a decade,



mobile devices with even limited speech recognition abilities appeared only several years ago. And until now, such devices work well only for their principal users and have to be trained to recognize individual words. Faster processors and more efficient software, however, are enabling new speaker-independent systems that can recognize the speech of any user and require no training. These systems can distinguish thousands, rather than dozens, of names and are designed to work even when the speaker is in a noisy environment, such as the front seat of a speeding car.



尽管美国国际商用机器公司等一些公司早在 10 多年前就开始销售台式电脑的语音识别软件,但语音识别能力有限的手机近几年才开始面市。目前这些手机只能识别其机主的语音,对每个词的识别也需经过训练。然而,更快的处理器与更高效的软件却可以使手机摆脱对用户的限制并不必经过任何训练。这些系统可以区分成千上万的名字,其设计也适应用户所在的嘈杂的环境,如高速行驶的汽车的前座。

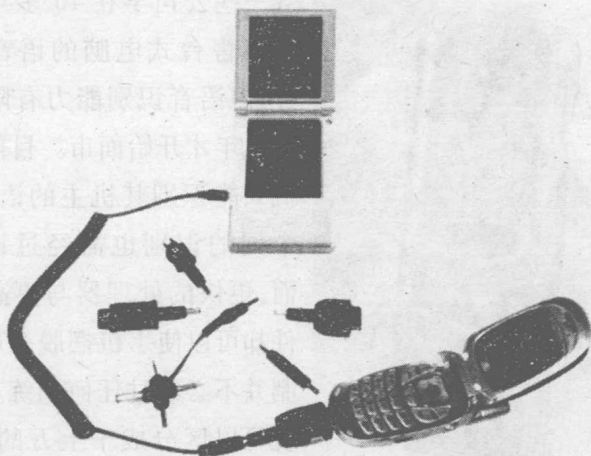
For those engineers, the key to this advance was a shift in focus from *accuracy* to *efficiency*. The highly accurate speech recognition algorithms designed for desktop computers are too complex to run on mobile devices. Therefore, experts are trying to design algorithms for mobile devices requiring less processing power,





which work by matching the sound wave of an entire word to a sound wave stored in a device's memory, but are not limited to a small vocabulary.

对于那些研发人员来说,使这项技术进一步完善的关键是如何将侧重点由准确性转移到高效性。专为台式电脑设计的高度准确的语音识别运算法若应用于手机则过于复杂。因此,专家们正试图设计出一套适用于手机的运算法则,它对处理器配置的要求不高,却可以将一个完整单词的声波与存储在手机记忆中的声波匹配,并且不受词汇量少的限制。

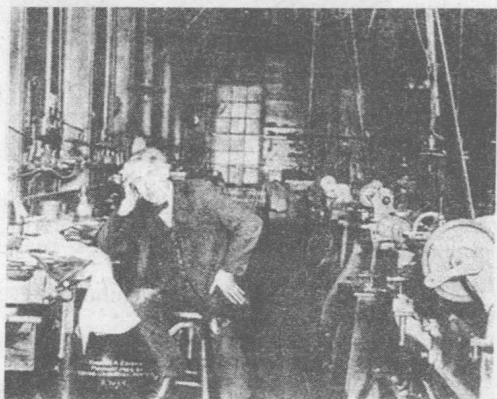




Thomas Edison

托马斯·爱迪生

Thomas Edison was a man of wonderful ability who had the good

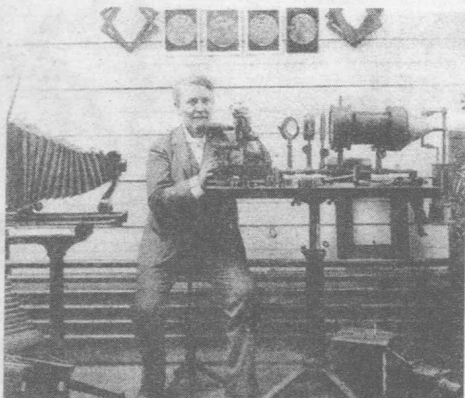


luck to be born at a good time. In the period just after the American Civil War the United States growing conditions were right for the talents of a man like Edison.

托马斯·爱迪生是一位诞生在恰当时代里的天

才人物。南北战争以后，美国正在成长壮大，各种条件对于像爱迪生这样有天才的人都是有利的。

The Edison family had come to the United States from Holland in the early part of the 18th century. Thomas Edison, the youngest of Samuel's

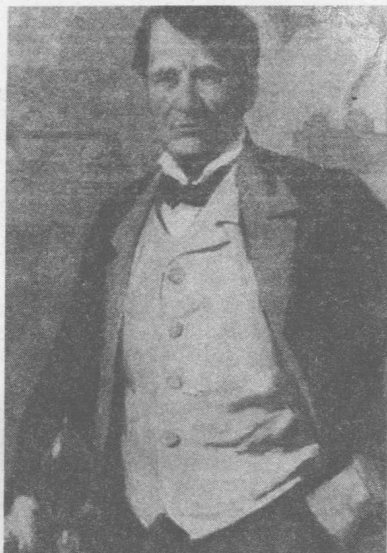




seven children was born in 1847.

爱迪生一家在十八世纪早期从荷兰来到美国。托马斯·爱迪生生于 1847 年,是撒缪尔的七个孩子中最小的一个。

Edison was an unusually curious child. Even at an early age he loved to read and make experiments. Because he was so dreamy and quiet that a teacher once accused him of being stupid. Edison's mother was so displeased by this remark that she took her son out of school and never



sent him back. She took charge of his education herself and taught him reading history, science and philosophy. Edison was a very quick reader

and he remembered everything. Once he got the idea of starting at the first shelf of a large library and reading everything in it. But after reading through fifteen feet of books he gave up this ambition.



爱迪生是一个很有好奇心的孩子。在幼年时代,他就爱读书和做



实验。由于他非常爱好空想和保持沉默,以致一位老师有一次骂他

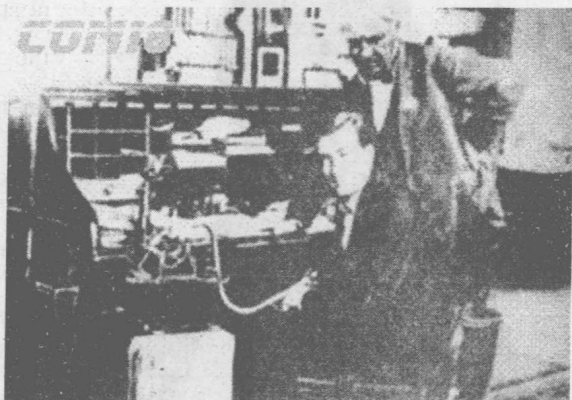


愚蠢。爱迪生的母亲对这个评语很不高兴,她让孩子退学不再返校。母亲自己照管孩子的教育,教他阅读,教他历史、科学和哲学等。爱迪生读起书来,领会得快,而且过目不忘。有一次他异想天开,要从一所大图书馆的第一个书架看起,看完书架上每一本书。但在看完了书架上十五英尺厚的书籍后,他放弃了这个

野心。

In order to earn money for books and for his scientific experiments, Edison sold vegetables from the family garden. This work did not bring in enough money, so

he began to sell newspapers and candy on a train that ran between Port Huron, Michigan and Detroit. Because people were so eager for the latest news about



the Civil War which was then at its height, Edison decided in February 1862 when he was fifteen years old to print a newspaper of his own the





*Weekly Herald*, in a baggage car of the train where he worked. In four years he earned two thousand dollars from this business.

为了挣钱买书和搞科学实验,爱迪生就出售他家菜园中的蔬菜。这份工作挣不到足够的钱,所以他就开始在一列专跑休伦港、密歇根和底特律的火车上卖报纸和糖果。因为人们在南北战争的高潮中急于了解战争的新情况,爱迪生在 1862 年 2 月间,他十五岁时,决定在他所工作的火车行李车上印刷他自己的报纸《先驱周报》。四年之间,他从这份报纸上赚了二千美元。



When he worked on the train, young Edison continued to experiment, setting up a laboratory in the bag-

gage car. One day a stick of phosphorus fell onto the floor and set the car on fire. The conductor of the train was so angry that he threw Edison and all his equipment off the train at the next station; he also struck Edison, causing a permanent injury which later made him deaf in the right ear.





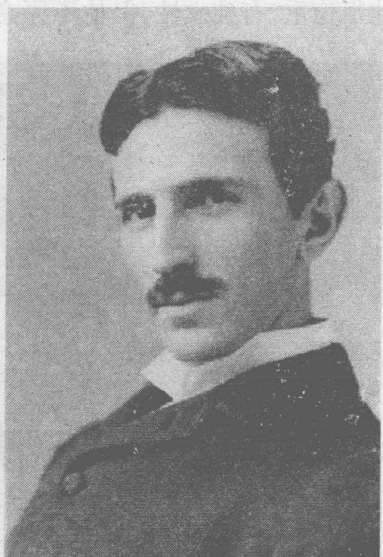
年轻的爱迪生在火车上工作时继续做实验,他在行李车上建立



了一间实验室。有一天,一根磷棒掉在地板上使这节车厢着火。列车长十分生气,在下一个车站把爱迪生和他的所有实验设备都扔下了火车,还揍了爱迪生一顿,给爱迪生造

成了永久性伤害,使他的右耳后来变聋了。

One day not long after he had started his newspaper, Edison saw a child playing on the tracks in front of a train. He jumped off the station platform and snatched the child from the wheels of the train. The father who happened to be the stationmaster was so grateful that he offered to teach Edison to become a telegraph operator. He gave him lessons four days a week after the station had closed for the night and in three weeks Edison was a better telegrapher than his teacher.



在开办他的报纸后不久,有一天爱迪生看见一个小孩在火车前面的铁轨上玩耍。他急忙从站台上跳下把小孩从火车轮子下抢救出来。

这孩子的父亲正好是站长,他很感激,主动提出要教会爱迪生成为电



报员。他在车站夜晚关门后,每周给他上四次课,三个星期之后爱迪生便成为比他老师更好的电报员了。

Edison was sober and independent for his age, but he was restless and very careless in his dress. He began to wander from city to city and from job to job. Because his ideas were too strange to please the men who hired him, they often asked him to leave. During this time, he worked in Indianapolis, Cincinnati, Memphis, and Louisville.



以爱迪生他的年龄来说,他很稳重,有独立性,但他不愿意过安定的生活,而且对于衣着很不



注意。他开始从一个城市漫游到另一个城市,从一个职业换到另一个职业。因为他的想法太离奇,不能使雇用他的人满意,雇主们常常叫他卷铺盖走人。在这段时间里,他在印第安纳波利斯,辛辛那提,孟菲斯和路易斯维尔等城市都工作过。

Edison went to Boston where he had been prom-



ised work as a telegraph operator, mainly because of the neat handwriting in his letter of application. When he appeared in that city, he looked so untidy and strange that the superintendent asked him to return later in the day to take a test in telegraphy, with the idea of making the test so difficult that the young man could not possibly pass it. As the rapid message came in, Edison realized clerks in the station were playing a joke on him. They had arranged for the New York operator to send him a message, faster and faster, in an effort to make Edison admit that he could not write it down at such a rapid pace. But Edison was not discouraged. He



decided to outwit these fellows, and he began to send a message himself. He said to the New York operator, "Come on, don't go to sleep. Get busy!" That ended the joke, and Edison won his job, as

well as the title of fastest telegraph operator in the Western Union Company.

爱迪生去了波士顿,在那里有人答应给他电报员的工作,主要因为他的求职信中字迹写得工整。当他在波士顿露面时,他看起来衣冠不整,怪里怪气,主管叫他当天晚些时候去参加电报技术的考试,目的是要故意出难题,使这位青年考不及格。当电报迅速拍进来时,爱迪生意识到电报局的职工们是在和他开玩笑。他们已经和纽约市的电报员安排好,给爱迪生拍一份电报来,越拍越快,企图迫使爱迪生承认他抄不下这么快的电报。但爱迪生没有泄气。他决心以智取





胜,于是他开始自己拍出一份电报。他对纽约市的电报员说:“来吧,别去睡觉,使劲吧!”这就结束了这场玩笑,爱迪生也赢得了他的职位,同时还赢得了西联电讯公司“最快电报员”的称号。

In 1869 he borrowed some money and went to New York. During the first three years he spent there, he nearly died of starvation. He slept in a room belonging to a company that sent information on stock prices to the business houses of New York.

One day the machine that printed news about gold stopped. Six hundred banks and business houses were without information about what was being bought and sold that day. Edison succeeded in repairing the machine, and he was then offered a job as manager for \$ 300 a month. He was soon hard at work making improvements in the machine and



inventing new parts. His Universal Printer, invented at this time, printed full information about gold prices, instead of showing them only by a few letters and numbers. This was his first big success. General Marshall Leferts, president of the Gold and Stock Telegraph Company, bought this and several other inventions of Edison's for forty thousand dollars.

1869年,爱迪生借钱来到纽约,他在纽约的头三年里,几乎饿死。他睡在一家公司的一间房子里,这家公司专给纽约各商行提供股票行情。一天,那台印刷黄金行情的机器不动了。六百家银行和商行都收不到关于那天买进卖出的商情,爱迪生把这台机器修好了,因此