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CYBERSPACE
网络世界

—— 进入满足人类无限憧憬的世界 ——

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人民教育出版社

自然英语

Discovery

听读系列

网络世界

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总之，让我们的"自然英语"，
带您，开拓视野，涤荡心灵，冲击大脑！
让您，听的自然，想的自然，说的自然！
带您进入最自然的英语状态！

编者 2002 年 10 月

Cyberspace

Cyberspace, the consensual hallucination experienced daily by billions of legitimate operators in every nation, a graphic representation of data extracted from the banks of every computer in the human system, unthinkable complexity, lines of light ranged in the ... non-space of the mind, clusters and constellations of death, death, death.
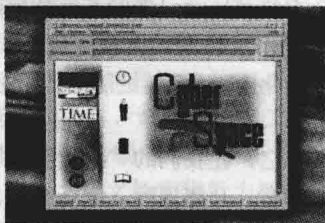
Science fiction writer William Gibson used the word cyberspace for the intense place where we're dodging demons in video games or exchanging masses of information electronically.

But it could also be as simple as talking on the telephone.

"I'm David Suzuki for The Discovery Channel and together with Time Magazine we're going to take you on a journey into cyberspace.

For most of us, it's a journey we've already started but may not realize it.

If you're ever used an automatic cash machine, scanned a carton of milk at the supermarket checkout or just said, "charge it", you are just entered a portion of cyberspace.

But it's much more.

网络世界

网络世界是各个国家中无数上网者每天都在体验着的交互虚拟世界，是人脑数据库的图形表现方式，具有无法想象的复杂性，是心灵里交错的各种光线，是虚幻的集聚。

科幻作家威廉·吉布森用网络世界这个词来形容这个广泛的空间，我们就在那里面或者想办法躲避电子游戏中的魔鬼，或者以电子方式交换大量信息。

但这也像在电话上交谈那样简单。

"我是探索频道的戴维·铃木，我将与时代杂志一起，带您进入网络世界。

对我们大多数人而言，这是一次已经开始但却还没有觉察到的旅程。

如果你使用过自动提款机，买牛奶时在超市交款处用扫描仪计过价，或用信用卡付过账，你就已进入了网络世界。

但它还远不止这些。

It's a virtual palette of creativity, where musicians and audiences are redefining art. And doctors practice surgical procedures on virtual patients.

It's a collective intelligence. It's even home to our best friend, a creation of the MIT Media Lab.

Its founder is Nicholas Negroponte.

"You know, it's a ten-point-five on the Richter Scale of change. I mean this is, this is a big one."

"This is, in fact, bigger, in my opinion, than the invention of the printing press."

Cyberspace is a world founded on powerful computers conceived almost fifty years ago.

"Run to your assigned shelters. Run to your assigned shelters."

It was in the 1950s during the darkest days of the Cold War. Americans built fallout shelters to protect themselves from Soviet missiles.

该时代杰出的科学功迹之一

One of the great scientific feats of the age. The arms race was on. The Pentagon poured funds into university computer research.

For many people in the '60s, computers represented cold, impersonal control over their lives, like the frightening computer Hal in "2001: A Space Odyssey".

"Open the pod bay doors, Hal."

"I'm sorry, Dave. I'm afraid I can't do that."

因为可以知道世界的天气

它还是个创造力的虚拟调色板，音乐家和听众在里面重新理解艺术的含义，医生利用虚拟病人演练手术程序。

它是集体智慧的结晶。可以成为我们最好的朋友，它是麻省理工学院媒体实验室的产物。

其创始人是尼古拉斯·尼格洛庞提。

"这个发明的震撼力就好比里氏10.5级的地震，我的意思是，这是很大的改变。"

"在我看来，其实这比印刷术的发明还重要"。

网络世界是在大约50年前由功能强大的计算机建立起来的。

"赶快躲进防空洞。赶快躲进防空洞。"

那是在20世纪50年代最危险的冷战时期，为了防备苏联导弹的攻击，美国人修建了防辐射的防空洞。

五角大楼向大学投入资金，用于计算机研究工作。军备竞赛由此开始。这是当时最伟大的科学贡献之一。

五角大楼帮助大学的电脑研究

对20世纪60年代的人来说，计算机代表的是对他们生活的冷酷无情的控制，比如电影"2001年太空漫游"里恐怖的计算机哈尔。

"哈尔，打开舱门。"

"对不起，戴夫！恐怕我不能那样做。"

Counterculture figure Stewart Brand was one of the first to discover that his generation was also programming the university's computers.

"You have a real intersection of counterculture people with counterculture attitudes and engineering people with engineering attitudes and engineering humor. And the hackers are really the combination of those two. So you have a looseness and sort of personal lifestyle, a public-spiritedness in relation to the world and yet a real engineering rigor. And that combination turned out to be unbeatable."

The young hacker were creators. They invented the first personal computer, virtual reality, computer games, the first word processor.

在这同时，军方则在设计第一个电展网路

At the same time, military planners were designing the first computer network. They made it decentralized to survive a nuclear attack.

It was the perfect playing field for the open and free spirit of the young hackers.

"The idea that this military command grid built to survive the nuclear holocaust, that it might, that it somehow got appropriated by all these ex-hippies, ah, you know, smoking dope and, and getting high on, on technology, it's one of the most, most bizarre marriages, ah, in recent, in recent history."

In the beginning, researchers dominated cyberspace, and they're still its cornerstone.
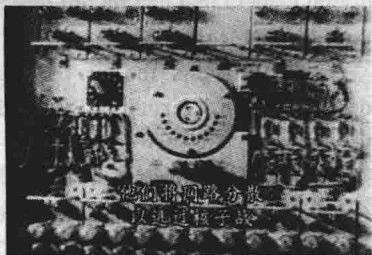
反文化人士斯图尔特·布兰德是第一拨认识到同龄人也在设计大学计算机系统的人之一。

"这是具有反文化心态的人与追求专业技术，具有幽默感的技术人员的融合。黑客正是这二者的融合体。这种人具有自由的个人生活方式，对世界的共享心态以及对科学的严谨精神。这种融合往往战无不胜。"

年轻黑客就是它们的产物。他们发明了第一台个人电脑、虚拟现实技术、电脑游戏和第一台文字处理机。

与此同时，军事设计人员正在开发第一个计算机网络。他们把这个网络分散开来，以免遭到核战争的破坏。

这是具有开放和自由精神的年轻黑客们的绝佳演练场。

"设立军事指挥分散网络系统以逃脱核战浩劫的理念被这些曾经的嬉皮士据为己有。你们知道，这些嬉皮士过去吸毒，寻求刺激，现在却投入到了技术中去，这真是近代历史上最最奇异的组合。"

最初，科研人员主导着网络世界，他们还处于基础阶段。

But scientists have gone beyond the simple exchange of ideas. In 1994, they created the first virtual human in cyberspace.

This is a story about a man, a convicted murderer, who was executed and then brought back to life on the Internet. In cyberspace he is known as the Visible Man. In life, he was thirty-nine year-old Joseph Paul Jernigan, a fitness freak in prison who willed his body to science.
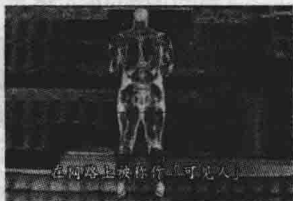
Jernigan, now dubbed Adam by scientists, was sliced into more than eighteen hundred pieces, each photographed with a digital camera that can record directly into the computer and made available on the Internet for a variety of uses.

"The muscles, the fat, the organs are extremely well-developed. Ah, everything is very distinct and very easy, ah, to see."

Jernigan was exactly the kind of specimen Doctor Michael Ackerman, who heads this project for the National Library of Medicine, was hoping for.

"... here. Well, we're looking for somebody who, ah, essentially, ah, doesn't look like they died. So they can't have any, ah, debilitating diseases, no cancers, ah, no history of operations. The person that we ended up with was executed by lethal injection, which meant that the person literally looks as if, that he died for no reason."

Jernigan's body was shipped to the University of Colorado's Health Sciences Center, placed in a mold, surrounded with gelatin and frozen to fifty to sixty degrees below zero.

The corpse was then cut into four lateral parts, each block carefully sliced with a mill saw normally used for planing steel.

但科学家们在简单的经验交流基础上更上了一层楼，到 1994 年，他们开发出了第一个网络虚拟人。

这是关于一个谋杀犯的故事，他已被处死，可后来又在互联网上得以重生。在网络世界里，他被看作是一个"可视人"；生活中，他是约瑟夫·保罗·杰尼根，39 岁，在监狱里热衷于健身，自愿在死后把身体捐献出来，用于科学试验。

科学家们现在把杰尼根叫作亚当，把他的身体切成1800 多片，每片都用数码相机拍摄下来，直接存入电脑，用于互联网上的各种用途。

"他的肌肉、脂肪和器官都发育得很好，各部分清晰可见。"

国家医学图书馆负责这项计划的阿克曼医生正需要杰尼根这样的人作为自己的试验对象。

"我们要找的人，看起来不要像是已经死掉的，因为他不能有过任何退化性疾病，没得过癌症、没动过手术。我们最后要找的人必须是注射死亡的，这意味着这个人真正看起来像是自然死亡的。"

杰尼根的尸体被送到科罗拉多大学健康科学中心，放在模板内，然后倒入凝胶体，冷冻到零下五六十度。

接着，尸体被横向切成 4 部分，每部分都使用刨钢专用的铣锯小心地切成片状。

"We're at the level of the kidneys and, ah, the large intestine, some small intestine still."

Martha Pelster is working on the next human to travel into the cyberspace, the Visible Woman, or Eve. She was a fifty-nine year-old who died of a heart attack.

To ensure pictures of even greater detail than that of the Visible Man, her body is being sliced over six thousand times.

"So you can see it's pretty frosty right now."

"We spray it with a, a layer of alcohol to sort of put a nice shine on the whole specimen, get rid of that frost."

"We put this black frame over the, over the dry ice. And then we're ready to take a picture."

"... on the shoulders, looking now at the lungs. Here's the heart right here."

Doctor Victor Spitzer is using the Visible Man in his anatomy class at the University of Colorado. He helped pioneer techniques for this project and thinks it will evolve into something even more useful.

"It'll change the way I believe that we, that we learn medicine.

Everything, the slice, re-cut, extract, dissect if you will, ah, someday, ah, and take them all apart. But the important thing is you can put him back together again.

Ah, we can grow diseases in him. Ah, we can give him hepatitis and let his liver progress all the way to an end-stage disease. And we can make him anything you want.

He's thirty-nine years old. We'd like to be able to age him. Let's make him a fifty-nine year-old. Let's make him a fat fifty-nine year-old or a twenty year-old, ah, very, very thin twenty year-old."

"这是肾脏，然后是大肠和一些小肠。"

玛莎·佩尔斯特正在处理下一个游历网络世界的人，即"可视女人"，或叫夏娃，她59岁时死于心脏病。

为了把她的照片照得比那个"可视男人"更清楚，她的身体被切了6000多片。

"所以，你看它马上就结霜了。"

"我们在上面喷洒一层酒精，以增加光泽，还可以除去那些霜。"

"把这个黑色的框子放到干冰上，就可以准备拍照了。"

"肩膀，接下来是肺。这就是心脏。"

维克托·史毕泽医生把"可视男人"这个案例用到了科罗拉多大学的解剖课上，他率先为该项目拿出了解决方案，并认为将来能形成更有价值的实际成果。

"我认为它将改变我们医学教学的方式。

需要的话，这些人体部分可以再切割、抽取并解剖，将来也能分离。但重要的是还可以把它们重新组合起来。

我们还能让他生病、得肝炎甚至让他的肝病发展直到成为晚期肝病。而且我们可以把他变成你想要的样子。

他现在是39岁，我们可以给他安排个年龄，让他变成59岁，一个胖一些的59岁男人，或者成为一个20岁左右的瘦小伙儿。"

With the development of new software just months away, Spitzer believes the Visible Man will help make better doctors. Just as commercial pilots learn to fly without actually flying a plane, soon doctors will be able to do their surgical training without actually cutting a patient, says computer scientist Carl Reining.

"I can track this pseudo-scalpel, and I can move this around, and take cuts out of this data just like it was a real leg. Say we were trying to simulate taking out the gall bladder. We would show the interior. And as the surgeon's working on it, we could say, hey, the blood pressure just dropped down. And that, that rings a bell to him and he says, oh, I need to do such and such. Maybe I clipped the vein or an artery or something and I need to look into that."

Some of our future doctors are taking this high school anatomy class in Greenfield, Indiana. Like many high school and college teachers, John Rim recently got part of the Visible Man from the Internet.

For most institutions, it's not practical to download the whole body, since it takes days and an extraordinary amount of computer storage space.

"You recognize the nose and these big blue areas are, ah, open places and those are the nasal sinuses, the things that give everybody, ah, sinus headaches."