

计算机在多大程度上可以成为像普通人一样？*

——翻译竞赛译文评述

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本次竞赛的英文原文选自《*Science*》Vol. 284, 30 April, 1999, 是一篇书评, 作者 Diane Proudfoot, 工作单位: the Department of Philosophy, University of Canterbury, Christchurch, New Zealand. 所评论的书的全名为“*The Age of Spiritual Machines*”, 副题为: “*When Computers Exceed Human Intelligence*”, 其作者为: Ray Kurzweil. 这本书很有特色; 书评更是妙语连珠. 将该书评译成中文是一件有趣的事.

本文承李佩、吴承康、谈庆明等先生审阅, 他们提出了许多宝贵意见. 这些意见大多已采入本文, 另外一些则在文中列出, 以作参考.

题目: **How Human Can They Get?**

They 指 Computers 应无疑义; Get 为“变得”, 即: (shows a change in state) to become. 例:

The food's getting cold.

Human = concerning or typical of ordinary people, 例:

Everyone makes mistakes sometimes - we're only human. (人非圣人, 孰能无过.)

综上所述, 题目可直译成: 计算机在多大程度上可以成为像普通人一样?

实际的译文有: 电脑的人性化究竟能够达到何种境界?

李佩教授建议的译文为: 计算机能跟人一样吗?

第1句: Since its beginnings in the work of Alan Turing, the British mathematical genius who conceived of the computer, artificial intelligence has been overly anthropocentric.

这里理解的要点是开始的 its 指什么? 当

然是 artificial intelligence, 其在 Alan Turing 的 work (成果、产品) 初次出现; conceive = “设想出”. 在 1935 年 Turing 提出计算机的设想时, 真正的计算机尚未问世; 有人将其译为“设计”, 不妥. Anthropocentric = that considers man as the central fact, or final aim, of the universe, 以人为 (宇宙的) 中心; 而 artificial intelligence = 人工智能. Artificial = man-made, 其与 Natural 相对; intelligence = ability to learn, reason, and understand, 也为人所特有, 与人有关是无异议的, 但不必一定“以人为中心”, 这是本文讨论的要点. 句中还用“overly” (= to an excessive degree), 证明本文作者对于“anthropocentric”是持否定态度的. 该句直译如下:

人工智能的概念最初出现于设想出计算机的英国数学天才 Alan Turing 文章之中, 自此之后, 这个概念一直过分地以人为中心.

最后一句, 李佩教授建议译为:

从那时起, 人工智能的概念一直强调人的作用、人的智力与经验.

第2句: Its traditional-some would say misguided-aim has been to build machines that are like humans.

人工智能传统的——有人会说是令人误入歧途的——目标一直是造出像人一样的机器来.

(这个目标说起来是 anthropocentric 的, 即以人为中心的, 但如上所述, 这并不一定是从人工智能的定义所得到的结论).

第3句: For example, the Turing test for

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machine intelligence holds that a computer is a genuine thinker if it resembles a human being to the degree that someone interviewing both the computer and a human by teletype cannot tell which is which.

这个例子证明“人工智能这个概念一直过分地以人为中心”的。译文为：

例如,对于机器智能的 Turing 检测指出:要判断一台计算机是否为一真正的思考者,应看其是否能模拟人类到如下程度,即人们通过电传打字机与该计算机和一个人进行交谈时,无法将其区分开来。

第 4 句: Against this background, it is not surprising that researchers in artificial intelligence often make believe that their inventions possess human qualities.

This background 即为“人工智能这个概念一直过分地以人为中心”。Make believe = pretend“假装”,“要人们相信”,是有贬义的。译文为:

人工智能的研究人员常常要人们相信,他们的发明具有人的特点。在上述背景下,这就不令人奇怪了。

这里,不少来稿将“make believe”译成“确信”、“坚信”、“认为”,这是不妥的。有一篇来稿的译文有创造性:

鉴于这种背景,人工智能的研究者们总是要使他们的发明看起来具有人类的特点就不令人奇怪了。

吴承康院士认为,make believe 不仅要人们相信,而且自己也相信。建议译为“假装相信”。

第 5 句: Turing himself described a simple computational mechanism as a “child-machine”, to be “rewarded”, “punished”, and taught by a process intended to produce “discipline” and “initiative”.

要知道,在 Turing 的时代,尚无真正的计算机。这里,mechanism 为机械装置,可以理解为计算机硬件和软件的组合(人工智能);process,过程,也许主要是计算机软件(外部刺激)。译文可为:

Turing 本人描述过一个称之为“儿童机器”的简单的计算机,对此机械,一个过程可

以通过“奖励”和“惩罚”加以教育,以产生“纪律”和“主观能动性”。

第 6 句: Turing's child-machine was a “creature” that was taught by an “inspector of schools” but could not be sent to school “without the other children making excessive fun of it” (1).

这里,creature 不容易译好,它指“人”,但有一定的感情色彩。“inspector of schools”是“学监”,而非教师,后者要授道解惑,这里只涉及“纪律”和“主观能动性”而已。But 后面的句子是 could not... without,主句和条件都是否定的。举一个例子: He could not read without his glasses. (他戴了眼镜才能阅读。)。译文可为:

Turing 的“儿童机器”为一“活灵活现的家伙”,它可以接受“学监”的教导,但若将其送到学校里去,“其他孩子一定会横加嘲笑”(1)。

后面半句译成“但不能将其送到学校里去,因为‘其他孩子一定会横加嘲笑’”,也无不可。

第 7 句: In a contemporary example, Daniel Dennett states that Cog, a robot under construction at the MIT Artificial Intelligence Lab, is to have an “infancy and childhood”.

这句话不难译,问题是时态。Under construction = 正在建造之中。example 这个例子也是要证明“人工智能这个概念一直过分地以人为中心”的。译文可为:

作为一个当代的例子,根据 Daniel Dennett 的报道,麻省理工学院人工智能实验室正在建造的机器人 Cog 将有其“婴儿期和童年”。

第 8 句: Cog has “hips” and a “waist”, and will have skin and a face. Cog is to be “as human as possible in its wants and fears, likes and dislikes”. It will “want to keep its mother's face in view” and is to “delight in learning, abhor error, strive for novelty, recognize progress” (2).

有来稿将“wants and fears, likes and dislikes”译成“七情六欲”,真是太好了。七情也者,据《礼记·礼运》,为喜怒哀惧爱恶欲: joy, anger, sorrow, fear, love, hate and desire; 六欲则泛指各种感情欲望,《吕氏春秋·高诱注》说是: 生死耳目口鼻之欲。Recognize = see clearly

though perhaps unwillingly,例: You must recognize the difficult position the company is in. 因此, recognize progress 意为能察觉到自己的进步,有人译为“愿意进步”、“从善如流”或“向往进步”,通是通的,但有点差强人意。In view 处于视野之内。译文为:

Cog 有“臀部”和“腰”,还将有皮肤和脸。Cog 将“尽可能地像人一样,有欲望、有恐惧、有喜爱、有厌恶”。它将“想方设法看着其母亲的脸”,而且“乐于学习,讨厌错误,追求新奇,认识进步”。(2)

第 9 句: Ray Kurzweil is another who anthropomorphizes machines: nanomachines (devices built on an atomic scale) have “brains”, “bodies”, “arms”, “hands”, and “little fingers”.

Another 是因为有了 Turing 和麻省理工学院人工智能实验室,是它们之外的“另一个”。这里可将 another 译为“也”。译文为:

Ray Kurzweil 也是将机器人人性化的: 纳米机器(原子尺度的装置)有“头脑”、“身躯”、“手臂”和“小小的指头”。

第 10 句: His new book, *The Age of Spiritual Machines*, is an excellent example of the blurring of fact and fiction so common in discussions of artificial intelligence.

他的新作《精神机器的时代》提供了一个在人工智能的讨论中司空见惯的将事实和虚构混为一谈的出色例子。

第 11 句: He blends together present-day technologies, such as artificial legs and breast implants, with those he foresees, such as computers that store “migrated” human brains.

Blend = mix together thoroughly, especially so that the different parts can no longer be separated (掺和), 也就是使 the different parts “be blurred”。这 different parts 包括 fact, 即 present-day technologies, 以及 fiction, 即 those he foresees。这里将上一句的例子具体化。译文可为:

他把当代的技术,如人工肢体和乳房植入物,和他所预见的东西,如可以贮存“移居的”人脑的计算机,掺和在一起。

第 12 句: Kurzweil predicts that computers will rapidly become more intelligent than human beings and will go to church for meditation and prayer. Humans, in contrast, will spend their leisure time in sophisticated virtual environments (often devoted to virtual —for Kurzweil, “better” - sex).

Virtual environments 为虚拟环境,即虚拟现实的一种。这两句不难译:

Kurzweil 预计计算机将很快变得比人类更有智慧,将去教堂作反省和祈祷。而相比之下,人类将在复杂的虚拟环境中去消磨时光,他们常常去享受虚拟的(根据 Kurzweil 的说法是“更妙的”)性生活。

第 13 句: Computational advances will ensure, he claims, that by 2029 the “basic necessities of food, shelter, and security are available for the vast majority of the human population” and “many of the leading artists are machines”.

Claim = declare to be true, 声称

他声称,计算技术的进展将保证,到了 2029 年,“世界绝大部分人口的食品住所和安全保障方面的基本需求会得到满足”,“许多一流的艺术家将是计算机”。

第 14 句: Kurzweil contends that initially humans will use neural implants to extend their cognitive and perceptual abilities, but by the end of the 21st century they “will be software, not hardware” and will “port” their minds to personal computers before their bodies disintegrate.

Contend 与 claim 差不多同义。Port 是计算机用语,作名词用,为“端口”;作动词用则为“移植”,portability 为“可移植性”,即同一软件可用于不同的硬件环境。译文可为:

Kurzweil 争辩说,开始人类将通过神经植入来扩充其认知和感知的能力,但是到了 21 世纪末,人类本身“将是软件而非硬件”,“他们将其思念移植到个人计算机之中,而他们的躯体则随之分崩离析”。

这大概是 Kurzweil 这部新作中最精彩(如果不是最荒诞)的部分。最后一句吴承康院士建议直译为:

而在他们的躯体瓦解之前,他们将其思想
.....。

第 15 句: The history of artificial intelligence is littered with the wrecks of fantastical predictions of machine capabilities and, in consequence, with grant applications rejected by eventually disenchanted funding bodies.

人工智能的历史充斥着关于机器能力的种种异想天开的、最终破灭的预言;因此那些为先是着迷,最终丧失了信心的基金会所拒绝的基金申请也比比皆是。

第 16 句: Make believe infiltrates actual engineering projects—why else is Cog to have a “face” and a “mother”? Too often make believe replaces discussion of basic conceptual issues.

在实际的工程项目中掺入了假装的成份——否则的话,为什么要让 Cog 有一张“脸”和一个“母亲”? 假装代替了有关基本概念问题的讨论,这样的事情太多了。

第 17 句: For example, Kurzweil begins by describing evolution as “intelligent” and “a master programmer” (and from here it’s only a short step to talk of “spiritual” machines). But this is to beg the very question at issue, whether or not human qualities can be applied to the inanimate.

例如, Kurzweil 在其书的开始,把进化说成是“智能的”,进化是编程大师(由此而谈及所谓“精神的”计算机,就只是一小步之遥了)。但是这种说法的前提正是争论的最实质的问题所在,即人的种种特性是否可以适用于无生命的东西。

第 18 句: Another fundamental issue that Kurzweil ignores: What, exactly, is a computer? He offers only the vaguest of definitions. A computer, he says, is a machine that implements “a sequence of rules and instructions that describes a procedure to solve a problem.” Equipped only with this characterization, it is easy to assume—as Kurzweil does—that brains are computers. But whether this is true is actually a scientific question, not one to be settled by semantics.

Kurzweil 忽视的另一个基本问题是:严格地说,什么是计算机? 他提供的是最含糊不清的定义。他说,计算机是这样一种机器,它能执行“一系列描写解决一个问题步骤的规则和指令。”其对于计算机这样的刻画,人们很容易认为——Kurzweil 就是这样认为的——人脑是计算机。但是,是否真是如此呢? 这可是一个科学问题,而不是通过语义学所能解决的。

第 19 句: Kurzweil makes it clear that he intends his speculations about the future to be taken seriously, and his professional credentials—as a highly successful inventor of computer technologies—are impressive.

Make clear = 讲清楚,说清楚。Credentials = 信任状,证书。

Kurzweil 明确表明,他希望读者认真看待他对于未来的推测,他的专业背景——一个极其成功的计算机技术的发明家——令人印象深刻。

第 20 句: His basis for these speculations is a review of the history of computing and of fundamental questions in the philosophy of mind.

Review = 回顾。下面要对 Kurzweil 的书加以评介,也就是要对 Kurzweil 所作的预测加以评介。他要考察的是,这些预测的基础是什么? 他的看法是:历史和哲学。这两方面, Kurzweil 是不够资格的。上一句指出他的资格所在,这一句说明不行:

他对于未来的这些推测的基础是对于计算技术历史和对于精神哲学的根本问题的回顾。

第 21 句: But Kurzweil is no historian. For example, he states that the first operational computer was the Robinson, used against the German Enigma code in World War II. In fact, the Robinson was never used against Enigma, but against Fish (a completely different type of code). And in any case, Kurzweil appears not to know of the various electronic dataprocessing devices Flowers built for the British Post Office before the war. Kurzweil claims that the first stored-program computer was Wilkes’s EDSAC in 1949 and that the first commercially marketed com-

puter was Eckert and Mauchley's UNIVAC. The first electronic stored-program computer, however, was actually the Manchester Baby (June 1948), and the first commercially marketed electronic digital computer was its derivative, the Ferranti Mark I. The first Ferranti was installed in February 1951 and the UNIVAC two months later—not in 1950 as Kurzweil claims(3).

这一段,作者用一系列事实指出 Kurzweil 在历史方面的明显错误。译文为:

但是, Kurzweil 并非历史学家。例如,他说,第一台运行的计算机是第二次世界大战中用以破译德国 Enigma 密码的 Robinson。事实上, Robinson 计算机从未用来破译过 Enigma 密码,而是用来破译 Fish 密码(完全不同类型的密码)的。无论如何, Kurzweil 看来并不知晓在大战前为英国邮局所建造的为 Flowers 的各种电子数据处理装置。Kurzweil 断言,第一台贮存程序的计算机是 Wilkes 在 1949 年建造的 EDSAC; 第一台在商业市场上的计算机是 Eckert 和 Mauchley 建造的 UNIVAC。而事实上,第一台电子的贮存程序的计算机为 Manchester Baby (1948 年 6 月), 第一台在商业市场上的电子数字计算机是在 Manchester Baby 的基础上发展起来的 Ferranti Mark I。第一台 Ferranti 于 1951 年二月安装,而 UNIVAC 是两个月后安装的,并非 Kurzweil 所断言的 1950 年。(3)

第 22 句: Nor is Kurzweil a philosopher. His account of Ludwig Wittgenstein, arguably the most important Western philosopher of the 20th century, is typical. Kurzweil writes that one of the primary theses of Wittgenstein's *Tractatus* "is that the human brain is subject to natural law", and in defining logical positivism he tells us that "analytic" means "deducible from observations". He also says that Wittgenstein's *Investigations* was, like *Waiting for Godot*, "of major importance to modern existentialism." Actually, the *Tractatus* says nothing about brains; every first-year philosophy student knows that analytic

statements are opposed to those deducible from observation; and the *Investigations* influenced linguistic philosophy, which is the antithesis of existentialism. Kurzweil's account of the present and recent past in *The Age of Spiritual Machines* inspires little confidence in his imaginings about the future.

这一段,作者用一系列事实指出 Kurzweil 在哲学方面的明显错误。

Ludwig Wittgenstein (1889—1951) 奥地利哲学家,罗素的学生,有人称他为“哲学家的哲学家”。

Waiting for Godot: 等待戈多, Samuel Beckett (爱尔兰剧作家, 1906—) 的作品 (1948 年发表, 1952 年公演)。

对于 arguably 的用法,可以举一例: The dead woman had had curiously few personal possessions. (Agatha Christie: *The Pale Horse*) (死去的女人没有什么个人财物,这令人难以理解。)

analytic 从 analysis (= proof of a mathematical proposition by assuming the result and deducing a valid statement by a series of reversible steps.)。译文可为:

Kurzweil 也不是一个哲学家。他对于 Ludwig Wittgenstein 的叙述是很典型的。有人认为 Ludwig Wittgenstein 是 20 世纪最重要的哲学家,这一点本身是有争议的。Kurzweil 写道, Wittgenstein 的《逻辑哲学论》(*Tractatus Logico-Philosophicus*) 的一个主要论点是“人脑受自然规律的支配”,他在给逻辑实证主义定义时告诉我们:“分析”意味着“可根据观察得到的事实作出推断”。他还说, Wittgenstein 的《哲学研究》就象《等待戈多》一样,“对于现代存在主义是至关重要的”。而其实,《逻辑哲学论》没有说起过人脑;每个哲学系一年级的学生都知道,分析的叙述正好是与从观察推论得到的叙述相反的;《哲学研究》影响了语言哲学,它正是存在主义的对立面。Kurzweil 在《精神机器的时代》中对于当前的和过去不久的事物的叙述并不能使我们对于他描绘的关于未来的图景存有多大的信心。