**Which Hand Did They Use?**

他们到底用哪只手？

We all know that many more people today are right-handed than left-handed. Can one trace this same pattern far back in prehistory? ■Much of the evidence about right-hand versus left-hand dominance comes from stencils and prints found in rock shelters in Australia and elsewhere, and in many Ice Age caves in France, Spain, and Tasmania. ■When a left hand has been stenciled, this implies that the artist was right-handed, and vice versa. ■Even though the paint was often sprayed on by mouth, one can assume that the dominant hand assisted in the operation. One also has to make the assumption that hands were stenciled palm downward—a left hand stenciled palm upward might of course look as if it were a right hand. ■Of 158 stencils in the French cave of Gargas, 136 have been identified as left, and only 22 as right; right-handedness was therefore heavily predominant.

我们都知道，活在当下的人们更多是使用右手而非左手。能不能在史前查找出这一相似的性状呢？有太多的来自澳大利亚地区的石屋中模板和字迹以及冰河期法国西班牙以及塔斯马尼亚地区的岩洞上搜集到的证据证明右手较之于左手的优势。当一个左手被用于塑模时就反向暗示了制作他的工匠惯于使用右手。即使是制作一幅画作需要用嘴喷涂，也可以想象惯用手是如何在这一过程中起到协助作用的。另一个假设是被用于塑模的手手掌向下，一只左手塑模朝上也许让它看起来像一只右手。在法国 Gargas 岩洞中的 158 个模板中，有 136 个鉴定确认为左手，只有 22 个是右手；右手习惯毫无疑问是据绝对主导地位的。

Cave art furnishes other types of evidence of this phenomenon. Most engravings, for example, are best lit from the left, as befits the work of right-handed artists, who generally prefer to have the light source onthe left so that the shadow of their hand does not fall on the tip of the engraving tool or brush. In the few cases where an Ice Age figure is depicted holding something, it is mostly, though not always, in the right hand.

岩洞艺术的其他形式也为这一现象提供了依据。例如大多数的雕版都是左起的光照最好，因为是配合惯用右手的工匠的工作，他们经常喜欢让光线从左边照过来以便他们手的影子不会投射在雕板工具或是刷子的末端。很多冰河时期的雕塑都被雕刻为拿着一些物品的摸样，尽管不是绝对的，但是起码大多数都是放在右手上。

Clues to right-handedness can also be found by other methods. Right-handers tend to have longer, stronger, and more muscular bones on the right side, and Marcellin Boule as long ago as 1911 noted the La Chapel le-aux-Saints Neanderthal skeleton had a right upper arm bone that was noticeably stronger than the left. Similar observations have been made on other Neanderthal skeletons such as La Ferrassie Iand Neanderthal itself.

其他方法也能理出右手使用习惯的线索。右撇子的右侧身体会趋于更长，更壮，更多肌肉的骨骼。Marcellin Boule 早在 1911 提到的尼安德特人的骨架有一个右侧上肢骨骼要明显强壮与左侧。对其他尼安德特人的骨架也曾做过类似的调查，例如 La Ferrassie 和尼安德特人本族的族人。

Fractures and other cut marks are another source of evidence. Right-handed soldiers tend to be wounded on the left. The skeleton of a 40- or 50-year-old Nabatean warrior, buried 2,000 years ago in the Negev Desert, Israel, had multiple healed fractures to the skull, the left arm, and the ribs.

断痕与割痕也是论据的另一来源。右撇子勇士一般都是左侧容易受伤。在内盖夫

的戈壁中被埋了 2000 多年的一个 40-50 岁之间的 Nabatean 勇士的骨架，在他的头部，左臂和肋骨上有多处已愈合的伤痕。

Tools themselves can be revealing. Long-handed Neolithic spoons of yew wood preserved in Alpine villages dating to 3000 B.C. have survived; the signs of rubbing on their left side indicate that their users were right-handed. The late Ice Age rope found in the French cave of Lascaux consists of fibers spiraling to the right, and was therefore tressed by a righthander.

工具的本身也会反映这一现象。长条型新石器时代的紫杉木质勺子从史前 3000

年一直完好的保存到现在。在它左侧的磨痕证明了他们的主人惯用右手。在法国的拉克斯岩洞艺术找到的晚石器时代的绳子是由向右旋转的纤维捆成的，当然也就证实了出自右撇子之手。

Occasionally one can determine whether stone tools were used in the right hand or the left, and it is even possible to assess how far back this feature can be traced. In stone toolmaking experiments, Nick Toth, a right-hander, held the core (the stone that would become the tool) in his left hand and the hammer stone in his right. As the tool was made, the core was rotated clockwise, and the flakes, removed in sequence, had a little crescent of cortex (the core's outer surface) on the side. Toth's knapping produced 56 percent flakes with the cortex on the right, and 44 percent left-oriented flakes. A left-handed toolmaker would produce the opposite pattern Toth has applied these criteria to the similarly made pebble tools from a number of early sites (before 1.5 million years) at Koobi For a, Kenya, probably made by Homo habilis. At seven sites he found that 57 percent of the flakes were right-oriented, and 43 percent left, a pattern almost identical to that produced today.

偶尔也能确定石器是左手适用还是右手使用，甚至可以查出这些特征是在多远的

过去被留下的。在石器制造试验中，Nick Toth,一个右撇子, 用左手拿着一个石胚（就是一块是要成为工具的石头）同时用右手抡锤。由于工具的作用，胚子顺时针的旋转的同时，小碎片一点点的去掉，在一侧留下月牙状的表层（石头胚子的表面）。Toth 的敲打产生的碎痕56% 留在了右侧的表面，44% 留在了左侧朝向的碎痕。一个左撇子工匠则会生产出相反的花纹，Toth 将这种标准对照到数个在 Kombi Fora（距今一百五十万年前）发现的类似卵石工具上，他在七个地点找到的57% 的碎痕是右侧朝向，而47% 是左侧朝向，就和今天我们所生产的花纹一样。

About 90 percent of modern humans are right-handed: we are the only mammal with a preferential use of one hand. The part of the brain responsible for fine control and movement is located in the left cerebral hemisphere, and the findings above suggest that the human brain was already asymmetrical in its structure and function not long after 2 million years ago. Among Neanderthalers of 70,000 – 35,000 years ago, Marcellin Boule noted that the La Chapelle-aux-Saints individual had a left hemisphere slightly bigger than the right, and the same was found for brains of specimens from Neanderthal, Gibraltar, and La Quina.

大约百分之九十的现代人是右撇子；我们都是只是优先使用一只手的哺乳动物。

大脑负责良好的控制行动的区域位于脑部的左半球，这也证明的人类大脑的机构

和功能上的不对称性在两百万年前就已经定型了。在距今 70000 到 35000 年的尼安德特人中，Marcellin Boule 发现 La Chapelle-aux-Saints（某人种吧）的个体的左脑半球稍微比右边大一点，与之类似的也被发现在尼安德特人，直布罗陀人和拉昆尼亚人种的脑型中。