**Role of Play in Development**

**玩耍在发展中的角色**

Play is easier to define with examples than with concepts. In any case, in animals it consists of leaping, running, climbing, throwing, wrestling, and other movements, either along with objects, or with other animals. Depending on the species, play may be primarily for social interaction, exercise, or exploration. One of the problems in providing a clear definition of play is that it involves the same behaviors that take place in other circumstance—dominance, predation, competition, and real fighting. Thus, whether play occurs or not depends on the intention of the animals, and the intentions are not always clear from behaviors alone.

比起单独定义玩耍的概念，用例子去解释玩耍要更容易一些。 在任何情况下，在动物间玩耍都包括了跳跃，奔跑，攀登，投掷，格斗和另外的一些动作，随之一起的也会有其他的物品或者动物。 根据物种的不同，玩耍的目的主要包括社会交往，锻炼，或者探索。 定义“玩耍”的难点之一是，玩耍过程中常常会包含一些与其他情况下相似的行为，例如在统治，捕食，竞争和搏斗中。因此，判断其是否在玩耍，要根据动物的目的来确认，常常通过行为本身很难分析其目的。

Play appears to be a developmental characteristic of animals with fairly sophisticated nervous systems, mainly birds and mammals. Play has been studied most extensively in primates and canids (dogs). Exactly why animals play is still a matter debated in the research literature, and the reasons may not be the same for every species that plays. Determining the functions of play is difficult because the functions may be long-term, with beneficial effects not showing up until the animal’s adulthood.

玩耍似乎是那些有着相对复杂的神经系统的动物的一个发育，发展的特征，主要包括了鸟类和哺乳类动物。 玩耍的研究主要在灵长类和犬类之间大范围进行。 动物到底为什么要玩耍仍然在文献研究中存在争议，并且每种物种玩耍的原因也不尽相同。 确定玩耍的功能很难，因为它的功能是长期的，伴随着一些直到动物成年才会显现出来的有利影响。

Play is not without **considerable** costs to the individual animal. Play is usually very active, involving movement in space and, at times, noisemaking. Therefore, it results in the loss of fuel or energy that might better be used for growth or for building up fat stores in a young animal. Another potential cost of this activity is greater exposure to predators since play is attention-getting behavior. Great activities also increase the risk of injury in slipping or falling.

玩耍对于动物个体并非没有一定的损失。玩耍通常是非常活跃的，涉及了一些空间动作，有时也会发出声音。所以，这些都会导致一些年幼的动物的本来可以用来生长或者储存脂肪的能量流失。另一个潜在的损失，这些活动是吸引注意的行为，因此通常都会使动物暴露在捕食者的视野内。大量的运动也会增加摔倒滑倒导致受伤的危险。

The benefits of play must outweigh costs, or play would not have evolved, according to Darwin’s theory. Some of the potential benefits relate directly to the healthy development of the brain and nervous system. In one research study, two groups of young rats were raised under different conditions. One group developed in an “enriched” environment, which allowed the rats to interact with other rats, play with toys, and receive maze training. The other group lived in an “impoverished” environment in individual cages in a dimly lit room with little stimulation. At the end of the experiments, the results showed that the actual weight of the brains of the impoverished rats was less than that of those raised in the enriched environment (though they were fed the same diets). Other studies have shown that greater stimulation not only affects the size of the brain but also increase the number of connections between the nerve cells. Thus, active play may provide necessary stimulation to the growth of synaptic connections in the brain, especially the cerebellum, which is responsible for motor functioning and movements.

根据达尔文理论，玩耍的好处一定能抵消其损失，不然玩耍就不会一直存在并进化。其中一些潜在的好处就是直接关于动物的大脑和神经系统的健康发展。在一个研究学习中，两组小老鼠被养在不同的环境中。第一组成长在一个比较“富裕”的环境中，这样的环境使其可以与其他老鼠接触，和玩具玩儿，并且接受迷宫训练。另一组生活在“穷困” 的环境中， 它们被养在独立笼子里，只有微弱的光照和极少的刺激。最后，结果表明生活在单一环境中的老鼠的大脑重量要比生活在复杂情况下的老鼠的大脑轻（即使它们被喂养的食物一样的）。 另外一些研究表明，较大的刺激不仅会影响大脑的大小，而且也会增加神经细胞间的通道数量。因此，活跃的玩耍可以为大脑中的突触连接提供必要的刺激，特别是负责运动机能的小脑。

Play also stimulates the development of the muscle tissues themselves and may provide the opportunities to practice those movements needed for survival. Prey species, like young deer or goats, for example, typically play by performing sudden flight movements and turns, whereas predator species, such as cats, practice stalking, pouncing, and biting.

玩儿也会刺激肌肉组织的生长，并且能提供一些练习生存技能的机会。 被捕食的种群， 比如小鹿或者山羊，比如说，其代表动作就是突然快速逃生动作和转弯，相反捕食种群，比如猫科动物，练习潜行追踪，猛扑和撕咬。

Play allows a young animal to explore its environment and practice skill in **comparative** safety since the surrounding adults generally do not expect the young to deal with threats or predators. Play can also provide practice in social behaviors needed for courtship and mating. Learning appropriate social behaviors is especially important and species that live in groups, like young monkeys that needed to learn to control selfishness and aggression and to understand the give-and-take involved in social groups. They need to learn how to be dominant and submissive because each monkey might have to play either role in the future. Most of these things are learned in the long developmental periods that primates have, during which they engage in countless play experiences with their peers.

玩耍使得年幼的动物暴漏在环境中，并且由于周围的成年动物一般不期望孩子去处理威胁和捕食者，所以它们可以在相对安全的环境中练习技能，玩耍也可以为求爱和交配的社交行为提供练习。学习适当的社交行为特别重要，尤其是对于群居动物，比如猴子，它们需要学会控制自己的自私和攻击性，学着去懂得妥协以融入群体。它们要学习怎么去统治和顺从因为每只猴子都会在将来扮演某个角色。 大部分这类事情都在灵长类的长期的发展过程中被学习，期间它们有数不清的玩耍经验。

There is a danger, of course, that play may be misinterpreted or not recognized as play by others, **potentially** leading to aggression. This is especially true when play consists of practicing normal aggressive or predator behaviors. Thus, many species have evolved clear signals to delineate playfulness. Dogs, for example, will wag their tails, get down their front legs, and stick their behinds in the air to indicate “what follows is just for play.”

当然，也有危险，就是玩耍可能会被别的动物误会，或者不被当做玩耍，潜在地造成进攻。这个情况尤其在扮演包含练习正常的侵略性或者是捕食者行为。因此，许多物种都尤其明确的信号去表明玩耍。比如狗，它们用会摇尾巴，前腿趴下，撅着屁股来表示“以下行为都是逗你玩儿的！”