

Six Monkeys Typing

Is anything possible, given enough time?

By Gerald McKibben



Is anything possible, given enough time – That’s what many believe today, especially in relation to biological evolution. Proponents (admittedly the majority of scientists included) believe in a system where random events occasionally—even rarely—produce organisms with more favorable survival ability, thereby preserving the desirable traits for subsequent generations. Then the cumulative changes over long periods then produce organisms that have changed so much that they hardly look like the parent organisms of a few millions of years ago.

Where is God in this paradigm? First there was something like perhaps an Amoeba, then in slow succession a fish, amphibian, reptile, and mammal, such as you and me. From a humanist worldview, this idea has vast appeal to many because it leaves God out of the equation. While many Christians believe that evolution occurred, they also believe that God created the matter from which the creatures were made, and even that God guided the evolutionary process. I used to believe that myself.

Atheistic to the core – What I didn’t realize was that a system built on intelligent design is not what is being taught to our children in the textbooks. Rather the system being taught is a humanist’s dream of a world that works on random events and does not require any intelligence at all, thus leaving any reference to God. In fact, many leading evolutionists are atheists.

Science and Religion - In defense of their godless position, cries of “Don’t mix science with religion” are common. The dishonest thing about this position is that evolution is in a very real sense a religion itself. And since there is no way to scientifically prove or disprove the evolutionary hypothesis, the evolutionist’s system is really a belief system.

Those of us who believe in Creationism recognize that our system is also a belief system. But I had rather believe that there is a God who created everything-out of nothing-than to believe that the universe just somehow created itself. No one has ever observed anything creating itself.

O time where art thou? A fundamental requirement of the evolutionary model is vast quantities of time-millions or billions of years. There is an almost universal misconception that anything is possible, given enough time. While there is a certain amount of mathematical truth in this statement, most never attempt to investigate just how much time might be required to produce the outcome put forth by ardent proponents of evolution. The purpose of this booklet is to shed some light on the subject. Nothing new is claimed; similar analyses are cited elsewhere in this booklet.

Disputing a fallacy - The question should be, are these proposed molecules-to-man changes possible in the time periods put forth by the very same people who believe they happened? I think many are deceived into believing they are.

The debate - One aspect of the time issue is best illustrated by an oft-quoted debate that occurred soon after the appearance of Charles Darwin's *On the Origin of Species*, in 1859. Thomas Huxley and Samuel Wilberforce, Anglican Bishop of Oxford, debated evolution. Wilberforce was considered one of the best public speakers of his day. Huxley coined the word 'agnostic' and is considered by some to have been more influential in promoting Darwin's beliefs than Darwin himself; for this reason he was called "Darwin's Bulldog".

Six monkeys - During the course of the debate, the flamboyant Huxley made his famous statement to the effect that six eternal monkeys (I think he said apes) with six eternal typewriters, given an endless supply of paper and ink, could, by random typing, eventually type out a Shakespearean sonnet, or even the entire Book of Psalms.

Of course this was stated in support of the contention that any required combinations of biological matter could, given enough time, result from random chance. There is some uncertainty about some details of Huxley's statement – some point out that typewriters were not generally available at the time of the debate, for example. Some have questioned why Wilberforce, who had training in mathematics, didn't question Huxley's claim. However, in his defense, the issue does require a certain amount of analysis.

Regardless, many still believe that the monkeys, given the constraints Huxley proposed, would eventually stumble upon the right combination of letters, punctuation marks and spaces to type out the mentioned documents—given enough time. And many people today believe Huxley's little monkey scenario to be reasonable. Yet several writers have shown it to be totally impossible^{1,2}. My analysis below is somewhat similar to that of others. (If you don't care for the math you can skip to the last paragraph).

Can they do it? I assumed that there are 50 keys on a typewriter keyboard, excluding capital letters, and I generously allowed one super-monkey to do 2 keystrokes/sec, 8 hrs/day, 365.25 days/ year. I started with the first word of the First Psalm; "Blessed", which has 8 characters if you include a following space. There is, on average, one chance in 50^8 attempts (an attempt being defined as a random typing of 8 characters), of typing this word. This is based on the Multiplication Rule of probability.

Converting 'attempts' to seconds, at 2 keystrokes/sec X 6 monkeys = 12 keystrokes/second. Multiplying 1 sec/12 keystrokes by 8 keystrokes/'attempt' gives 2/3 sec/attempt. Multiplying this by 50^8 gives 2.60×10^{13} seconds. Divide this by 1.05×10^7 seconds/year (using 8-hour days) = 2,480,000 years, on average, for six monkeys to type out, by chance, only the first word of Psalm 1.

Just the first phrase – I only went as far as the first phrase of this Psalm, "Blessed is the man who walks not in the council of the ungodly", 62 characters. Time required would be $(50^{62} * 62/12 \text{ seconds}) / 1.057 \times 10^7 \text{ sec/yr} = 1.07 \times 10^{99}$ years, or 107 followed by 97 zeros. There are not considered to be this many atoms in the entire universe. It is perhaps worth noting that the number 1 followed by 100 zeros is called a googol (not to be confused with Google, the internet search engine, that got its name from the term when Stanford students and Google founders Larry Page and Serget Brin started the company in 1998).

So just how big is it? One times 10^{99} years is a totally incomprehensible number. To put it into perspective, it is 1.5×10^{10} inches from the earth to the moon. And, besides, the evolutionists believe the earth to be only 4.6×10^9 years old.

A textbook analysis was provided by Kittel and Kroemer, in their book *Thermal Physics*³. (Dr. Kroemer is a Nobel Laureate in the field of Physics). On page 53 the authors were

discussing the meaning of “near” when they wrote: “It has been said that six monkeys, set to strum unintelligently on typewriters for millions of years, would be bound in time to write all the books in the British Museum. This statement is nonsense, for it gives a misleading conclusion about very, very, large numbers.”

Describing a numerical analysis on the probability of the monkeys eventually typing out Hamlet, the same authors state that the probability is “therefore zero in any operational sense.”

So an appropriate response to Huxley’s claim is – No they couldn’t. It’s not possible. Likewise the claims that an incredible variety of life inhabiting a planet could have happened by a series of random events is nonsense.

“There is a God shaped vacuum in the heart of every man which cannot be filled by any created thing, but only by God, the Creator, made known through Jesus.” Blaise Pascal.
“All things were made through Him, and without Him nothing was made that was made.” (John 1:3).

References:

1. Harub, Brad. 2003. Monkeys, Typewriters, and Shakespeare. 2003. Apologetics Press:<http://www.apologeticspress.org/articles/2340>.
2. Osselton, David. Making a Monkey of Shakespeare. 1984. New Scientist, 1 November 1984, p. 39.
3. Kittel, Charles and Herbert Kroemer (1980). Thermal Physics (2nd ed.). W. H. Freeman Company. p.. ISBN0-7167-1088-9.

Copyright 2012 by Gerald McKibben.

All scripture verses are from the New King James Bible, copyright 1979, 1980, 1982, 1985 by Thomas Nelson Publishing, Inc., Nashville, TN.