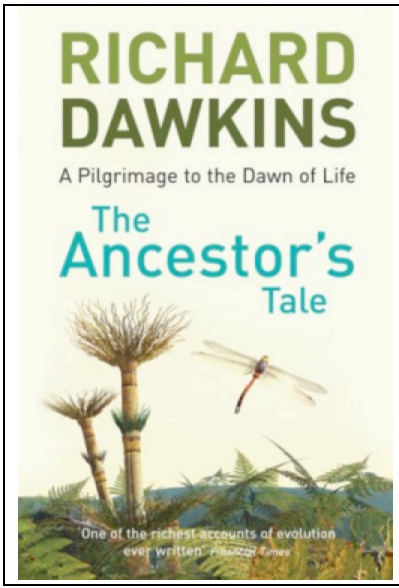

"We Are All Cousins"

An Evolutionary Journey Through Deep Time

a blend of SCIENCE, SONG, and DRAMATIC SCRIPTS

downloadable in slide show and pdf formats

by **Connie Barlow**, TheGreatStory.org

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based on *Ancestor's Tale* by Richard Dawkins (2004)

OBJECTIVE: to offer the most entertaining, memorable, and meaningful way to learn and feel the depth of our (evolutionary) relatedness to all life.

RECOMMENDED AGES: Ages 5 and up. Mixed-aged children (upper elementary are ideal script readers), families during multi-day church camps, or adults. Whatever the group, it must never be composed of children entirely under the age of 8, as some higher-level thinkers and adept readers are essential. The basic requirement is that at least a half dozen participants are able to read well enough to take turns reciting the scripts. Because the scripts include guessing games, even nonreaders will feel deeply involved. For small groups of children, you will find that even the beginning readers raise their hand to participate; they desperately want to be able to perform the scripts, too. So choose the easiest scripts for them, and stand alongside, prepared to whisper into their ear the difficult words and phrases.

TIME: Full version (all **40 scripts** read by participants) requires **4–6 hours**, so it must be presented in segments over multiple days (or a full year: one meeting point per week!). Shorter versions (e.g., aim to move back in time only to the reptilian ancestor slide, rather than all the way to the origin of life) are easily adapted to take **45-75 minutes**, which was the standard time available when the curriculum developer, Connie Barlow, was testing this program in Sunday morning religious education classes around the USA. Also, Connie sped up the program considerably by presenting some of the slide material without using scripts, rather than calling for script readers at each and every slide. Listen **Connie's audio instructions** for more guidance on how to prune the program to suit your time constraints. Find them at http://thegreatstory.org/ancestors-tale.html

EQUIPMENT: INDOORS. Laptop equipped with latest version Powerpoint (for PC) or Apple Keynote 09 (for Mac), with digital projector, and screen (or blank, pastel wall). Carpet or cushions for kids to sit on floor.

PREPARATION: Visit this webpage, http://thegreatstory.org/ancestors-tale.html, where you can:

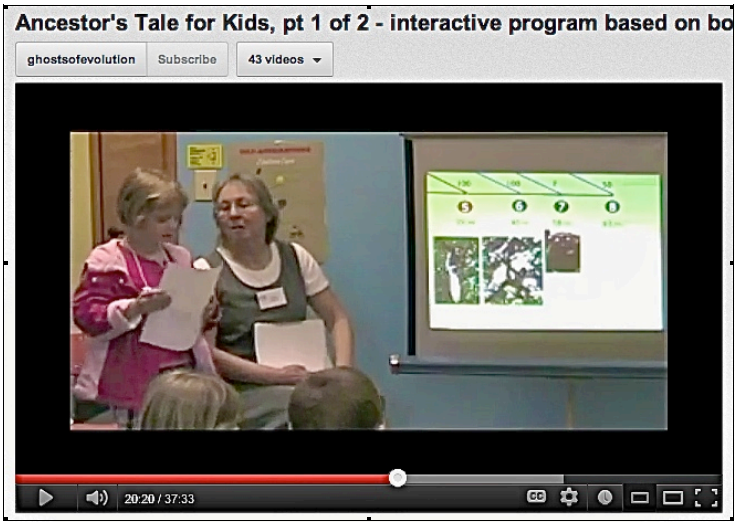
(1) DOWNLOAD the Powerpoint (PC) or Keynote (Mac) **DIGITAL SLIDE SHOW**.

(2) DOWNLOAD and print out a set of **SCRIPTS for participants** to use and the special set of **TEACHER SCRIPTS for the leader/teacher**. Note: The teacher scripts show a blue symbol every time another "click" in the slide show needs to be executed.

(3) LISTEN ONLINE to Connie's **audios of instructions**.

(4) LISTEN ONLINE to learn the **melody of the simple SONG** that is used in this program, in 23 verses.

(5) DOWNLOAD the **Powerpoint** (PC) or **Keynote** (Mac) **digital slide show** of just the **23 verses of the song** (to be used as a fun review of the entire journey, after you finish the program). You might also want the kids to form a choir and perform it for other age groups or adults. If so, download the **song script in PDF.**



(6) WATCH ON YOUTUBE Connie lead this program for elementary age children in a Unitarian church in 2011. Go to: http://youtu.be/ueWvjUn5GiE
Click on the "Show More" part of the caption, then click on time codes of topics.

• **DECIDE HOW MUCH TIME** you wish to take for this program, **ranging from 45 minutes to a full school year**. For any program over 45 minutes, and especially if young children are participating, you will want to introduce **movement/dance** during some of the song verses. (See below, "Abbreviating the Slide Show." For movement/dance, see the above YouTube video, part 2.)

Note: Once the 40-stage journey is begun, and if you use the full, long version (meaning every meeting point has a volunteer script reader), **the only things the leader/teacher needs to do** are:

- choose volunteers to read each script (asterisks indicate level of difficulty)
- advance the slides as indicated by blue marks in the Teacher Script
- dialogue/query as suggested in the Teacher Script, or as students create
- lead in the singing (and optional movement/dancing).

• **ABBREVIATING THE SLIDE SHOW**: If the entire journey needs to be completed in less than **4 hours of total time**, the leader must **skip some of the scripts** and simply click through those the slides while speaking aloud the main points. The author, Connie Barlow,

often conducted this program in 45 minutes, aiming to advance only so far as the REPTILES SLIDE in that time block. *You do not need to get through the entire program.* (You will find, however, that some kids linger and ask to see the rest of the slides, so you can do that for them after the class has officially ended.)

• **RECAPPING A MULTIPLE-DAY OR WEEK PROGRAM, USING THE SONG:** If you plan to present this program over several days or multiple weeks, DOWNLOAD the additional slide program that places together just the **SLIDES OF ALL 23 VERSES**, so that each new class time begins with **singing all the prior verses**, and then resuming the program from that point.

• **FOLLOW-UP PROJECTS:** To conclude a multi-day program, or as a follow-up to a single day program . . . Connie knows of one public school teacher who introduces each of the 40 confluences over a **40-week period**, then culminates with mask-making and a **"Council of All Beings Ritual"** . Here are other ways to conclude a multi-day or –week program:

(1) Ask the children to **DRAW the creatures** that they are **most happy to be related to**, and then copy onto the front or back of the drawing the **song verse(s)** that pertain to those creatures; then display all on the wall. Perhaps hand out to each of the kids a paper that includes all 23 verses, and have them guess the meeting place number as you point to each of the pictures — just have them call it out all together until you hear them converging on a single meeting place number.

(2) Some children might want to work together to create a **SONG and DANCE Performance**: selecting their favorite song verses. Each child in this choir could sing solo the verse he or she picked, while the whole chorus comes in on the last 3rd and 4th lines, encouraging fellow students (or parents in the audience!) to join in on the 4th line. The choir could rehearse dancing the "ball and chain" dance step to always do while the soloist steps forward to sing her or his verse.

FURTHER GUIDANCE: The curriculum developer, Connie Barlow, has conducted this interactive program upwards of 45 occasions between 2005 and 2012, improving it all along the way. The largest group settings have entailed 60 elementary age students in a Montessori school, 80 adults and kids at a Unitarian Universalist summer camp, 100 adults at another church camp, and about 80 kids and adults in a homeschool gathering held at a church. The smallest group was 4 children at a UCC church. The **ideal group size** for full participation is between 12 and 25 — with kids seated on a carpeted floor, or with cushions.

Connie highly recommends that there be ***no pressure*** for any child to come forward and read a script, nor any indication that the kids will be **tested** on what they learn. Give the children this experience for the sheer joy of it! You may be surprised that, toward the end of the program, even **the most reserved children** and **limited readers** finally volunteer to come forward and read a script. Connie reports that in one multi-age setting a 4-year-old boy volunteered to read one of the later scripts. Connie called him forward, he held the script proudly, and then Connie pointed to each word as she whispered in his ear one phrase at a time. It is remarkable how the older students will hush and remain quiet during such a time; they sense that something important is going on. (The boy's mother told Connie later in amazement that this was the first time her son had shown any interest in learning to read!) Note: Click here to watch on YouTube how Connie helps a nonreader to "read" a script: http://youtu.be/ueWvjUn5GiE?t=22m33s

Please keep in mind that, so long as no testing is anticipated, kids are quite happy to participate in programs where **they will not understand everything**, so long as it is visually rich and fun. Younger kids will enjoy the pictures and are fascinated to watch older kids call out answers. *Please don't "overteach" the slides.* Don't turn it into a class lesson. Consider this as a drama class or music class! Most kids will begin the program with a vague notion that their grandparents had grandparents and so on. Many will know that life began long ago as simple forms. But not until this program may they grasp that their own,

personal ancestry goes back that far too! Crucial is that kids be given the freedom to have their own **emotional responses** each time the question is asked, "Who is happy/proud to be related to a [creature name]? Connie's experience is that the kids who start out being challenged (or even horrified) to think they have an ancestor who looked like a tree shrew, end up being influenced by their classmates who are very excited to claim that they are related to a wolf, or a shark! Thus, the kids are transformed during this program to develop a deep affection for all of life, as part of **one big family** — their own family. The participating children will also be inclined to always want to feel themselves as part of the grand **evolutionary** process — no matter what they may hear later from anti-evolution friends or adults.

BACKGROUND FOR THE LEADER ON THE SCIENTIFIC GROUNDING:

Evolutionary biologist Richard Dawkins characterizes his book, *Ancestor's Tale,* as **"an epic pilgrimage from the present to the past."** He suggests that in this journey "We shall be pilgrims, then, sharing fellowship ever more inclusively with other pilgrim bands, which also have been swelling on their own way to their rendezvous with us."

1-minute VIDEO PREVIEW of the book by the author, Richard Dawkins.

What a gift Richard Dawkins has given us! He (and a legion of his graduate students) have sifted through the vast discoveries of biologists, paleontologists, and geneticists to reconstruct the lineages of life for a uniquely wonderful purpose:

To celebrate the relatively small number of evolutionary bifurcations — just 40 — that, in nearly 4 billion years, separate us from horses, frogs, jellyfish, bacteria, and all other creatures.

IMAGINE THIS: **An ambassador representing each species alive today begins a pilgrimage back through time**, journeying back through the generations, deeper and deeper into its ancestry. With perhaps 20 million species alive today, **20 million ambassadors begin this immense journey** back into deep time, each initially on its own isolated path. But as millions of years tick by, **the journeys converge at the points of shared ancestry**.

For example, red oaks converge with white oaks and later with beech trees and pines and mosses. Robins converge with other thrushes and back to all birds and even all reptiles before joining the stream that humans have been traveling with other mammals. At each node where the lineages converge, the pilgrims thenceforth journey together — all the way to the origin of life.

Tracing the human journey back through time, *Homo sapiens* encounters its closest cousins at 6 million years ago, as we share a common ancestor with the chimpanzee and the bonobo. We carry on as a threesome (3 species represented), merging next with the two living species of gorilla, and so on back through time. Amazingly, **our own line of ancestry is enlarged during its 3.8 billion year journey by separate feeder streams (tributaries) on only 40 occasions.**

This small number of MEETING POINTS is, on second glance, not surprising. Consider: All 7,770 species of living reptiles join up with one another, and also merge with the bird group, well before our own lineage of mammals merges with theirs. (And that rendezvous point, which occurs about 310 million years ago, is counted as #16 in the total of 40.)

In the **original version of this program** that Connie wrote, **"Greet the Concestors"**, our curiosity focused on the actual ancestor who lived at each of the 40 mergers: What did it look like — more like us, or more like the strange pilgrims then joining us, or perhaps like

neither? What body part or function did our lineage lose or gain at that juncture, as expressed in that particular ancestor? Richard Dawkins called this special ancestor a **concestor**, meaning an ancestor shared in common with another great stream of life. For example, although some 170 million generations of ancestors separate us today from the concestor we share with reptiles and birds, only 15 of those 170 million generational passages could be called "concestors", rather than just regular ancestors. Concestor #1, for example, (the ancestor we share with chimpanzees), is estimated by Dawkins to be our 250 thousandths great-grandparents!

But in this slide adaptation, we drop the focus on the concestor in order to turn our entire attention to **greeting the living ambassadors of all the species of our cousins alive today** as we all journey back through time.

If you use this program, please offer **suggestions for improvement**. If the kids really light up in this program, let Connie know your stories of success, too.

Email connie@thegreatstory.org

The 40 Meeting Points in the "We Are All Cousins" journey

(1)	6 mya	chimpanzees/bonobos	
(2)	7 mya	gorillas	
(3)	14 mya	orangutans	
(4)	18 mya	gibbons	SONG verse #1
(5)	25 mya	monkeys of Africa and Asia	
(6)	40 mya	monkeys of South America	
(7)	58 mya	tarsiers	
(8)	59 mya	lemurs and lorises	SONG verse #2
(9)	60 mya	tree shrews	
(10)	61 mya	rodents & rabbits	SONG verse #3
(11)	62 mya	Laurasiathere mammals	SONG verse #4
(12)	63 mya	Xenarthran mammals	SONG verse #5
(13)	64 mya	Afrothere mammals	SONG verse #6
(14)	140 mya	Marsupial mammals	SONG verse #7
(15)	180 mya	Monotremes	SONG verse #8
(16)	310 mya	reptiles & birds	SONG verse #9
(17)	340 mya	amphibians	SONG verse #10
(18)	417 mya	lungfish	
(19)	425 mya	coelacanth	
(20)	450 mya	ray-finned fishes	SONG verse #11
(21)	460 mya	sharks and rays	SONG verse #12
(22)	530 mya	lampreys	
(23)	560 mya	lancelets	
(24)	565 mya	sea squirts	SONG verse #13
(25)	570 mya	echinoderms (starfish & kin)	SONG verse #14
(26)	590 mya	mollusks, worms, insects, spiders	#15
(27)	630 mya	primitive flatworms	
(28)	700 mya	jellyfish, sea anemones, and corals	#16
(29)	740 mya	comb jellies	
(30)	780 mya	placozoans	
(31)	800 mya	sponges	
(32)	900 mya	single-cell choanoflagellates	SONG verse #17
(33)	950 mya	drips	
(34)	1 billion	fungi	
(35)	1.2 bya	amoebozoans	SONG verse #18
(36)	1.5 bya	plants & algae	SONG verse #19
(37)	2 billion	Giardia, diatoms, forams, & brown algae	#20
(38)	3 billion	Archaea	SONG verse #21
(39)	3.5 bya	Eubacteria	SONG verse #22
(40)	3.8 bya	Ocean of Origin	SONG verse #23