

The Incomparable Carl Sagan: Scientist, Presenter¹

Garr Reynolds

Kansai Gaidai University, Japan
E-mail: info@garreynolds.com

Key Words

Visual Communication
Presentations
Communicating Scientists



Figure 1. Carl Sagan. Credit: NASA/JPL.

Carl Sagan² (1934–96) was a famous and brilliant astronomer who was also a great speaker and presenter (Figure 1). If Carl Sagan had spoken at the Technology Entertainment Design Conference Series (TED)³ — the annual series of conferences that brings together the world's most fascinating thinkers and doers, who are challenged to give the talk of their lives — I am sure he would have been one of the best presenters ever. I was a huge fan of Carl Sagan back in the 1980s and learned a lot from his famous TV series, *Cosmos*.⁴ Sagan always spoke of complex issues in ways that were easy

to understand and made you excited about science. He did not dumb down the issues, but he had an engaging and unique way of putting an issue in context, illuminating and illustrating his points in a way that listeners could comprehend. He was a scientist-presenter who cared about being clear and about being understood.

When Carl Sagan used statistics he usually followed the numbers with an illustration or comparison to put them in context. In Episode 13, “Who Speaks for Earth?”, of *Cosmos* (Figure 2) you can watch Sagan using words to create the visuals in your head — a technique that is sometimes even more effective than the most graphic image or animation. How much is 20 tons of TNT? Enough for a single bomb to destroy an entire block. All the bombs used in World War II, Sagan says, amounted to two megatons of TNT or the equivalent of a hundred thousand “blockbuster” bombs. So now we can visualise the explosive, deadly destruction that took place in WWII (1939–45). We can “see” the horrible impact of two megatons of TNT. Two megatons of TNT is no longer an abstraction. Then Sagan drops a bomb of his own: “Today, two megatons is the equivalent of a single thermonuclear bomb — one bomb with the destructive force of the Second World War.”

Perspective

It is always hard to see the wood for the trees. Good presenters will ask us to step back and examine the problem from another

perspective to see what is true and what is not. In the clip above (Figure 2) Sagan asks, “How would we explain all this to a dispassionate extraterrestrial observer? What account would we give of our stewardship of the planet Earth?”

By asking the viewer to look at the problem from the point of view of an “extraterrestrial” (i.e. a dispassionate outside observer) the problem is freed from abstractions such as nation, political party, religion, etc. Sagan says: “From the extraterrestrial perspective, our global civilisation is clearly on the edge of failure and the most important task it faces is preserving the lives and well-being of its citizens and the future habitability of the planet.”

Sagan's well-chosen words tell us that we, as a species, are the most remarkably intelligent, creative and innovative species on the planet, yet paradoxically and incomprehen-



Figure 2. Carl Sagan in *Cosmos* episode 13, “Who Speaks for Earth?”. Credit: PBS.



Figure 3. Saturn and the Earth (marked) as seen from the Cassini spacecraft. Credit: NASA/JPL/Space Science Institute.

sibly, we can also be the stupidest. Nonetheless, there is hope. Sagan says there is a new consciousness emerging that sees the Earth as a single organism and understands that an organism at war with itself is doomed. We know who speaks for the nations, Sagan says, but who speaks for the Earth? The answer, of course, is, we do. In the final chapter of *Cosmos*, available online,⁵ Sagan makes the concluding comment: "Our loyalties are to the species and to the planet. We speak for Earth. Our obligation to survive and flourish is owed not just to ourselves, but also to that cosmos ancient and vast from which we spring!"

Pale Blue Dot

Below is a quote from Carl Sagan's *Cosmos* that goes very well with *Cassini's* photo of Earth (Figure 3): "Fanatic ethnic or religious or national identifications are a little difficult to support when we see our planet as a fragile, blue crescent fading to become an inconspicuous point of light against the bastion and citadel of the stars."

Figure 4 shows an excerpt from a slideshow set to Carl Sagan's narration. The message is wonderful and the simple photographic images amplify the message well. I think this

is beautiful and puts "it" — our lives, our responsibilities, worries and our dreams — in perspective. It is this distant image of our tiny world — the only one we have — that underscores, says Sagan, "our responsibility to deal more kindly with one another", and to preserve and cherish our home, the planet Earth.



Figure 4. Excerpt of a slideshow set to Carl Sagan's narration. From <http://www.youtube.com/watch?v=p86BPM1GV8M>. Credit: PBS.

Metaphor

Some of the graphics in *Cosmos* will seem a bit dated (see, for instance, Figure 5), but the video clip is a good example of using a metaphor and simple graphics to help illuminate a complex issue. You can argue that it is too simple, but remember that this kind of calendar metaphor to explain the history of the Universe is not meant to be the end, but the beginning of the conversation. We have a choice, says Sagan, but what happens in the first second of the next cosmic year (i.e. now) depends on what we do with our intelligence and knowledge.

Notes

1. Reproduced, with minor editorial changes, from Presentationzen.com, courtesy of the author.
2. <http://www.carlsagan.com/>
3. <http://www.ted.com/>
4. <http://us.imdb.com/title/tt0081846/>
5. http://www.cooperativeindividualism.org/sagan_cosmos_who_speaks_for_earth.html

January	February	March	April	May	June	July	August	September	October	November
December										
1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31		
									10:15am Apes appear 9:24pm First human ancestors to walk upright 10:48pm Homo erectus appears 11:54pm Anatomically modern humans appear 11:59:45pm Invention of writing 11:59:50pm Pyramids built in Egypt 1 second before midnight: Voyage of Christopher Columbus	

Figure 5. December of Sagan's Cosmic Calendar. From <http://www.youtube.com/watch?v=FxoQ7T-UiJw&feature=related>. Credit: PBS.

Biography

Garr Reynolds is currently Associate Professor of Management at Kansai Gaidai University where he teaches Marketing, Global Marketing and Multimedia Presentation Design. Garr is active in the Japanese community and can often be found presenting on subjects concerning design, branding and effective corporate communications. His websites can be viewed at www.garreynolds.com and www.presentationzen.com.