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*The art of
language in
the service
of science*

Communicating Science to Religious Leaders

Alternate title: Communicating Science in a World Reacting to Change

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Point 1:



SCIENCE



RELIGION

System of investigation
Study of material world
Independent, discriminate thought
Evolving understanding
Proof through testing
Observable, repeatable phenomena
Natural law
Truth approached but not reached

System of beliefs
Contemplation of spiritual life
Conscience, received wisdom and rules
It is written
Acceptance through faith
That which cannot be observed or named
Morality, social law
Truths may be fixed

Point 2: Why fundamentalists get political about science

- A. Life events (changes) provoke fears
- B. Fixed ideas and rigid rules appear to be a solution to fears
- C. Political opportunists take advantage of fears to gain power
- D. Science is the study of change, and that challenges fixed ideas and rules
- E. Science becomes a target for jihad

Point 3: The solution to conflict begins with communication. How do we communicate with people who see us as a threat?

- 1. Respectfully decline to debate religious beliefs vs. scientific understanding
- 2. Cultivate understanding of and compassion for audience
- 3. Speak from common ground (consensus), even if it's the size of a postage stamp

4. Do not push or try to persuade
5. Tell the story of scientific inquiry with heart and clarity of thought, it's infectious
6. Provide education, leadership toward higher understanding

Point 4: Everyone is born ignorant. Good teachers fully perceive their students.

Human think and learn in a variety of ways, and that influences everything. In order to communicate successfully, it's important to understand the variations in the ways people acquire understanding.

In the following model, the typical concrete random thinker (geologists tend to group here) has trouble communicating ambiguity to others, and prefers to recite data but shrinks from the perceived responsibilities of being authoritative. Typical concrete sequential thinkers (most engineers) and abstract sequential thinkers (i.e., mathematicians) need strong rules in order to operate. Abstract random thinkers tend to become politicians. Good politicians feed society, but bad ones feed on it.

	RANDOM	SEQUENTIAL
CONCRETE	<ul style="list-style-type: none"> • Data can be acquired in random sequence • Data need not be complete, can be discontinuous or ambiguous • Arrives at multiple working answers intuitively, questions results • Ambiguities pervade perception • Questions all authority, even own • Takes responsibility so seriously that it's difficult to become authority • Results oriented 	<ul style="list-style-type: none"> • Data must be given in sequence • Data must be complete, will fill in gaps with assumptions • Uses formula to arrive at an answer, process complete • Ambiguities do not exist • Authority must be in place to operate • Is responsible to process • Uses process to get result
ABSTRACT	<ul style="list-style-type: none"> • Can acquire data randomly • Takes control of process • Leaps to THE answer, changes as suits agenda • Ambiguities discarded • IS the authority • Responsibility subservient to authority • Uses process to achieve agenda 	<ul style="list-style-type: none"> • Applies data sequentially to process • Data are subservient to process • Arrives methodically at the answer • May perceive ambiguities • Process = authority • We are all responsible to the process • Process more important than result

Point 5: The oldest form of teaching is storytelling.

1. Geologists must tell the story of science in public and with heart.
2. To overcome negative stereotypes, we must be willing to be the hero of the story.
3. The story of scientific exploration becomes the hero's journey.
4. The hero's learning becomes the audience's learning.
5. The audience comes to understand science and scientists.
6. We thus communicate the value of science and build and maintain our mandate of service to society.