



THINK WRITE PUBLISH

SCIENCE & RELIGION

Reflections on Science & Spirituality



ARIZONA STATE UNIVERSITY

EXPLORING COMPELLING NEW STORIES
★ AND THOUGHT PROVOKING IDEAS ★



REFLECTIONS ON SCIENCE & SPIRITUALITY

Arizona State University

PROJECT BACKGROUND

This public program was developed as part of a three-year project, *Think Write Publish—Science & Religion*. Through a series of programs, fellowships, and a writing competition, the project sought to explore the relationship and intersections between science and religion. Rejecting a common narrative that the two are necessarily at odds, this project explored a different proposition: that science and religion can reinforce each other to allow a more nuanced, profound, and rewarding experience of our world and our place in it.

The project resulted in 12 creative nonfiction stories, as well as five experimental public programs designed to promote productive conversations about the relationship of science and religion in museums and other cultural spaces. Each program was inspired by one of the project's creative nonfiction stories, and was designed for a different audience using an appropriate programmatic format. The public programs were held in communities across the United States: Phoenix, Arizona (led by Arizona State University); San Francisco, California (Children's Creativity Museum); Durham, North Carolina (Museum of Life and Science); Boston, Massachusetts (Museum of Science); and Saint Paul, Minnesota (Science Museum of Minnesota). In addition to providing a safe space for multiple and diverse audiences to consider the relationship of science and religion, a larger goal of the programmatic effort was to explore techniques for addressing potentially polarizing topics in ways that are constructive and build bridges among different perspectives and experiences.

CONTENTS

This package contains:

- Program overview document and supporting materials
- Summary of program evaluation findings

PROGRAM DESCRIPTION

Title: *Reflections on Science & Spirituality*

Target audience: General public

Format: Videotaped and written reflections

Setting: Outdoor art festival

Length of program: 1 hour or longer (drop-in program)

Inspired by: *The Vale*, a creative nonfiction story by Jonathon Mosedale.

Program overview: We invited attendees to answer the question, "Do you think there is a scientific basis for spiritual experiences?" as a way to prompt reflection on the relationship between science and spirituality. We documented the responses with video and edited into a short video that is shared publicly. As an additional or alternative activity, participants were

invited to add to our “reflection tree” by writing a response to various questions printed on paper leaves.

Story summary: Jonathan Mosedale’s story, *The Vale*, recounts his personal journey living with a genetic disease. Mosedale was born with a mutation in his DNA that inhibits the production of glycogen debranching enzyme and results in symptoms referred to as Glycogen Storage Disease type IIIa. The condition made him susceptible to extended periods of hypoglycemia, or low blood sugar levels, exacerbated by exercise and even relatively short periods without food. Early in his life, Mosedale deliberately pushed his body beyond his physical ability to induce hypoglycaemia and experiences that he describes as “religious” in nature. As a scientist, Mosedale understands the medical basis for his experiences, yet as a priest and devout Christian he also feels they were genuinely spiritual.

Program key ideas: Participants were invited to reflect on and share any possible connections between science (or medicine) and spirituality (or religion) that they may have experienced or wondered about.

Program goals: Participants will:

- Find the program to be interesting and relevant;
- Consider conversations about the relationship of science and religion to be timely and important;
- Experience insight(s) or new ideas about the relationship between science and religion;
- Reflect on their own values and consider the relationship of science and religion in their own lives.

ADVANCE PLANNING

Developing good questions: For both the videotaped reflection and the written reflection, it’s essential to have a good question that prompts contemplation and inspires ideas people are interested in sharing. This format works best with a question that people don’t know in advance, and don’t need an extended amount of time to consider and rehearse a response to. Seeing people react to the question and think out loud is part of the appeal of the format.

The question should have no right or wrong answer, but be one that allows people to consider and share their own ideas and opinions in a productive and positive way. Find a question that people feel comfortable with, are interested in, and can speak to immediately without extended explanation or thought. Don’t use a question that people find hard or tricky, that needs a lot of explanation, or that participants can’t answer on the spot—it may be a good question, but it won’t work well for this activity.

At our event, we asked the following question for the videotaped reflection: *Do you think there could be a scientific basis for spiritual experiences?*

To develop this question, we tested a variety of different questions ahead of time. This question worked well because everyone had something to say about it. Some people said it was

something they had thought about before, while others said they hadn't thought about it but found it intriguing. We knew we had a winner when we brought it up at a party, and the question was discussed at length!

For the written reflections, we printed two questions directly on paper leaves. Each leaf had one of the following two closed-ended questions, which participants answered by circling a number on a scale from 1 to 5 (with 1 being "not at all important" and 5 being "very important"):

- *How important is it for people to think or talk about the relationship between science and religion/spirituality?*
- *How timely is it to think or talk about the relationship between science and religion?*

All of the leaves had the same open ended-prompt: *How does this topic make you feel? Does it bring a story to mind? Draw or write your thoughts on the other side.*

The questions on the leaves were chosen not only to provide a reflection opportunity for participants, but also to provide data on participants experience.

Videotaping: We were inspired by the *50 People, 1 Question* project, although we did not follow this model exactly. If you are not familiar with this format, consider watching some completed examples to get a sense of the the kind of question that works well and the kind of footage you're hoping to gather. (You can easily find examples on YouTube.) While you will likely include just a handful of responses in your final edited video, filming at least 30 participants will offer a range of responses to choose from in the video editing and production phase.

To have a high quality final product, you will need a professional videographer or someone with strong skills in videotaping, editing video footage, producing a final product, and posting it on an appropriate online site. During the filming, two additional people, one to host (facilitate) the activity and one to assist with recruiting participants, having them sign photo release forms, and generally managing participants while they're not being videotaped is helpful. In terms of equipment, it's useful to have two cameras to allow for different angles, one fixed and one handheld. It's best to use lavalier microphones, to ensure good sound quality without a large distracting microphone on camera.

The ideal filming location will be visible to passersby but set apart enough that people moving through the area won't disrupt filming. Keep in mind that a busy area may also present challenges to filming (especially sound quality). Try to find a location without a distracting background. Consider using a backdrop to create a neutral or themed background for the video.



Other people enjoy watching the filming, and are attracted to participate by watching others, so it is useful to make the filming visible. However, you'll want the camera and participants to be set apart or roped off from the general public, so that no one accidentally steps in front of the camera or appears in the background who hasn't signed a photo release. Arrange the traffic flow so you can easily recruit participants. Have them sign a photo release, and wait in an orderly line until it is their turn to be filmed.

At our outdoor event, we used a BizBox (a portable, pop-open building) as the location for filming. Any indoor or outdoor space with adequate space, lighting, and sound barriers will work. Be sure to scout out the location ahead of time with your team.

Written reflections: The written reflection activity requires less specialized skills than the videotaped reflection, and some participants may be more comfortable participating in this way. Ahead of time, decide what you'll use to gather written reflections and how to display them. An eye-catching display with a fun concept can encourage interest and participation in the activity.

For our event, we created a grove of small, pre-lit artificial trees. The tree motif connected to the vale in Mosedale's story, and the brightly lit trees attracted attention at a crowded night-time event. We printed our reflection questions on colorful cardstock inside a leaf shape, and cut out the leaves. We invited participants to choose a leaf, write or draw their response on it, and tape their leaf to a tree for others to read.



If artificial trees and paper leaf shapes don't work for your event or setting, there are many other options. For example, have participants write or draw on colorful notecards and pin them to clotheslines.

Finished products: Ahead of time, decide whether and how to share the products of the activity—both video and written reflections—and be sure that is clear to participants. We edited our video footage into a brief 4½-minute video (see below for more information on this process) and shared it on our project website. We sent an email message to participants that gave us an email address on the photo release form, giving them the link to the final product. We also promoted the video through social media.

The ideas captured on the leaves were available for others to read during the event. Later, they were used internally by the project team as part of the exploratory evaluation of the program.

MATERIALS & RESOURCES

Videotaped reflections:

- Professional videographer or someone with strong skills in videotaping and editing video footage
- Host to interact with participants during filming
- Assistant to recruit participants and manage photo releases and waiting area
- Audiovisual equipment for filming, including videocamera, memory sticks, lights, several lavalier microphones, extra battery packs, and extension cords
- Audiovisual equipment for editing, including computer and software
- Backdrop for filming (optional)
- Sign identifying the activity (but not giving away the actual question!)
- Photo release forms (include a space to capture an email address, so you can let participants know when the final video is completed)
- Pens
- Small table for participants to sign release forms and set down possessions during filming (if a table isn't possible, put the release forms on a clipboard)
- If your event is long, consider a way to block off the audiovisual equipment and signal that the filming is on break, to give the videographer and assistant time to take a rest or change battery packs

Written reflections:

- Table and chairs (for large events, you may want multiple tables)
- Sign stand and sign identifying the activity and question(s)
- Cards, sticky notes, or custom shapes (with or without questions printed directly on them)
- Markers and pens
- Way to attach cards to display (e.g. tape or clothespins)
- Display area (e.g. an artificial tree, clothesline, or large piece of paper) and any necessary materials to secure or operate the display area
- Optional: Scissors and recycle bin for paper scraps (if participants are cutting out the shapes themselves)

SET UP

Videotaped reflections:

- Set up a small space for 1-3 participants to stand, ideally with a backdrop
- Set up necessary audiovisual equipment for filming
- Test the equipment in the space and ensure everything is working properly and results in a high-quality video recording
- Set up side table, release forms, and pens in a convenient space near the entry to the filming area
- Set up signage identifying the activity in a spot that will attract attention

Written reflections:

- Set up one table (more if you are planning a large event)
- Place reflection cards, pens, markers, scissors, and tape on the table (questions can be printed directly on the cards or on a table sign)
- Place the sign near or on the table
- Set up the display for reflection cards (e.g. tree, clothesline, large piece of paper)
- Prepare 1-2 reflection cards and put them on the display as an example

PROGRAM LENGTH

The program can run for one or more hours. Our event lasted 6 hours. Exactly 100 people participated in the filming portion. We received 110 responses via the reflection cards. Some participants only did one of the reflection activities, while others participated in both.

Videotaped reflections:

- Each participant is on camera for 2-4 minutes. Plan for at least 10 minutes per person/group, to allow time to sign photo releases, attach the mics, and explain the procedure.

Written reflections:

- Time varies, but participants often spend 5-10 minutes writing their reflections and reading other responses.

DELIVERY & TALKING POINTS**Videotaped reflections:**

- Recruiting: The assistant explains to potential participants that you are asking a question about (the general topic), but they don't get to hear the exact question until they are in front of the camera. Explain that it is a question with no right or wrong answers—you are interested in their personal thoughts and ideas, and will listen to their response with no judgement. They can participate as individuals or in a small group (up to 4 people). Explain that the final product will be a video that might be published online and other locations. If they agree to participate, ask them to fill out a photo release form and show them where they can wait for their turn. If they decline the opportunity to be filmed, offer the option to participate in the written reflection and indicate where that is located.
- Preparing for filming: The videographer and host introduce themselves to the participant(s). The videographer attaches a lavalier microphone to each participant. The host indicates where the participant(s) should stand, and then moves to stand next to the videographer and camera. The host explains the basic procedure: the host will ask a question, and the participant will answer, looking at and talking to the host while the camera is running. The host reiterates that there is no right or wrong answer to this question.
- Filming: On the signal from the videographer that everything is ready and recording, the host asks the question. It is important to ask the question with the camera filming, so that you capture the full response to the question. When the participants have finished their

thoughts, the videographer will stop the camera and remove the mic. The host will thank them for their time and escort them out of the filming area. The host can suggest that they might also like to participate in the written reflection, if they haven't already. The host will also let them know how they can view the final edited video.

- Participants who change their minds: It's rare, but occasionally a participant may decide they don't want to participate after they hear the question, or don't want their footage used after they are filmed. Assure them that this is not a problem. Erase their footage immediately. Thank them for participating.

Written reflections:

- Invite participants to choose a leaf and reflect on the question (printed on the card or on the sign). Explain that there is no right or wrong answer to the question, but that you're interested in their thoughts and ideas.
- Ask them to write or draw their response, and explain how to put it up on the display area for others to see.
- Thank participants. Suggest they might consider participating in the videotaping, if they haven't already.

TIPS & TROUBLESHOOTING

- For younger participants, it may be necessary to simplify or rephrase the questions.
- For participants under age 18, ensure a parent or guardian signs the photo release form.

COMMON VISITOR QUESTIONS

When will the video be finished?

(Answer according to your plan)

Where will the finished video be posted?

(Answer according to your plan)

Can I hear the question ahead of time?

No. Part of the fun of the activity is to answer on the spot. The question isn't tricky or hard to understand—it just gives you a chance to think about something interesting and offer your own perspective on it. To be fair to everyone, we won't let you know ahead of time, but it is ok if you happen to overhear it while you wait.

What if I decide I don't want to be taped after I hear the question or don't want my footage to be used?

No problem. Just let us know and we'll erase the footage right away.

SAFETY

Videotaped reflections:

- Be sure no equipment blocks passageways or exits.
- Tape down all loose cords.

- If lights get hot, be sure they are placed where people will not touch them.
- Advise participants to be cautious around audiovisual equipment so they don't trip or knock anything over.

Written reflections:

- Supervise materials so that young children do not place marker caps or any other small objects in their mouths.
- As needed, remind participants to use caution with scissors and other materials.

CLEAN UP

Videotaped reflections:

- Pack up the audiovisual equipment.
- Put away table, signage, and any other furniture.
- Take down optional backdrop.

Written reflections:

- Put away table, signage, and any other furniture.
- Clean up and put away other materials.
- Remove cards if not displaying after completion of event. Save them if you want to read participants' ideas or have a few on hand for future events.

VIDEO EDITING & POSTPRODUCTION

Instructions: The videographer might watch some completed examples of *50 People, 1 Question* videos to get a sense of the overall format your final product might take, the length, and the kinds of responses that work. Some suggestions include:

- Keep it brief: 3 minutes or less
- Start with the question being stated on camera. If it's difficult to hear, you might start with text that states the question.
- It can be effective to show several participants reacting to the question before they start talking.
- Choose a variety of responses to the question, shared by diverse participants.
- Be sure your last response has impact.
- For accessibility, caption the video. (Many universities and other educational organizations provide guidance on what is required by law and how you can comply.)

Example: See the [Science and Spirituality video](https://www.youtube.com/watch?v=RYrEqJUpRXw&feature=youtu.be), which is the final product from our event: <https://www.youtube.com/watch?v=RYrEqJUpRXw&feature=youtu.be>

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Inspired by an original creative nonfiction story, *The Vale*, by Jonathon Mosedale.

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Museum Liaison for the project is Rae Ostman at Arizona State University.

Director of the project and programming is Michael Zirulnik at Arizona State University.

Program evaluation conducted by the University Office of Evaluation and Educational Effectiveness at Arizona State University.



STORIES OF SCIENCE & RELIGION

We asked: Can we bring new, compelling and true stories about harmonies between science and religion into public discourse?

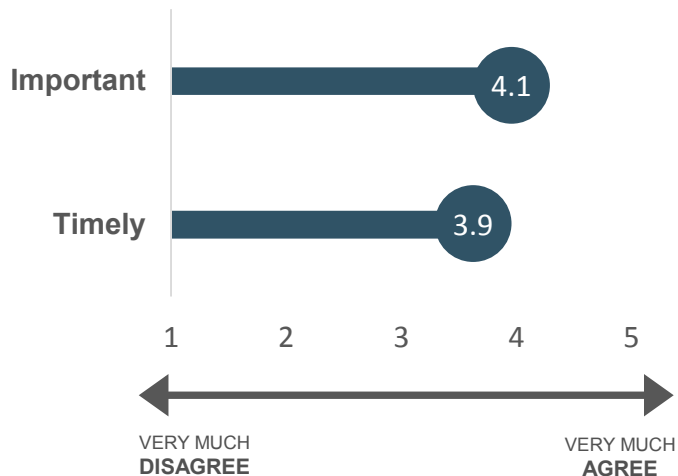
REFLECTIONS ON SCIENCE & SPIRITUALITY: ARIZONA STATE UNIVERSITY

This program was held as part of the monthly art work held in Phoenix. We invited attendees to answer the question, “Do you think there is a scientific basis for spiritual experiences?”. The event included two opportunities for reflection: a videotaped activity modeled on the “50 People, 1 Question” format; and a written activity where participants contributed paper leaves to artificial trees. Hundreds of individuals participated in this outdoor evening event. This event was inspired by the narrative, *The Vale* by Think Write Publish Fellow Jonathan Mosedale.

“I think it's important to discuss the topic to bring light to both perspectives. I believe many have such a different viewpoint on whether or not the two should be in the [same] sentence. It's a topic I feel is controversial and needs to be discussed.”
- Event Attendee

PARTICIPANT OUTCOMES AND IMPACT

Below we illustrate average agreement from attendees (n=109) on statements about conversations about science and religion. Most participants agreed that these ideas are **important**.



We thematically analyzed participants' written responses. The word cloud below illustrates the themes that emerged from those responses. The **size** of the word is related to the **frequency** of the theme.





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