



The Presbyterian Panel

Listening to Presbyterians



REPORT

SCIENCE, TECHNOLOGY, AND FAITH—THE NOVEMBER 1998 SURVEY

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Join Us in Celebrating 1998 as the 25th Anniversary of the Presbyterian Panel

RESEARCH SERVICES
A Ministry of the General Assembly Council
Presbyterian Church (U.S.A.)
100 Witherspoon Street
Louisville, KY 40202

HIGHLIGHTS

- ✓ Majorities of panelists believe that science and technology “do more good than harm” and “have changed human life for the better.”
- ✓ About half of panelists choose *excitement/wonder* as their general reaction to science; most of the rest choose *satisfaction/hope*.
- ✓ Few panelists see scientists or engineers themselves as culpable for problems caused by science and technology; instead, they are more likely to blame government or industry.
- ✓ Large majorities of panelists give scientifically-accurate responses when asked true-false questions about various science facts.
- ✓ Relatively few panelists are able to provide the age of the universe or a detailed definition of DNA.
- ✓ Few Presbyterians believe the earth was created just a few thousand years ago.
- ✓ Majorities of panelists are generally familiar with the concepts and theories of evolution, natural selection, cloning, and the big bang. Relatively few are at all familiar with other scientific concepts such as the anthropic principle or the second law of thermodynamics.
- ✓ Only minorities of panelists subscribe to science-related magazines or have read a book on a scientific topic in the last year.
- ✓ Most panelists have taken one or more college-level science courses, but few have a bachelor’s, master’s, or doctoral degree in a science field.
- ✓ Many panelists believe that theology and science need each other, influence each other constructively, and may potentially be integrated into a unified system.
- ✓ Majorities believe that science provides support for specific theological doctrines.
- ✓ Almost all panelists believe that God controls the fate of the universe, and smaller majorities believe that God can “suspend the laws of the universe to intervene in human affairs.”
- ✓ One in four pastors report a sermon on “science and society” and/or on “science and religion” in the last year.
- ✓ Most panelists agree that Christians need to stay current on developments in science and technology.
- ✓ Majorities of panelists believe that the act of cloning a human being would amount to usurping God’s role as Creator.
- ✓ Most panelists agree that each of us has “an eternal soul” and disagree that human consciousness will one day be understood entirely by scientific means.
- ✓ Panelists who strongly believe in God as Creator are less likely to view the big bang theory as *true*; panelists who strongly believe that evolution is compatible with the idea of God as Creator are more likely to agree that “humans developed from earlier species of animals.”

OVERVIEW

The Presbyterian Panel consists of three nationally-representative samples of groups affiliated with the Presbyterian Church (U.S.A.): members, elders (lay leaders), and ordained ministers (for analysis, split into two groups based on current call: *pastors*, serving in a congregation, and *specialized clergy*, serving elsewhere). New samples are drawn every three years.

These pages summarize major findings from the ninth survey completed by the 1997-1999 Panel, mailed in November 1998 (with returns accepted through mid-January 1999). The first half uses text and graphics to highlight important and useful findings. An appendix follows with comparative tables that display the percentage distribution of responses to every question for each of the four Panel groups.

Response rates for this survey are: members, 44%; elders, 54%; pastors, 62%. Results are subject to sampling and other errors. As a general rule, differences of less than 6% are not statistically meaningful.

In this report, the term *median* refers to the middle number in an ordered distribution. For example, the median age for a group of people aged 12, 21, 28, 35, and 64 years would be 28 years. The term *mean* refers to the mathematical average of values in a distribution; in the example, the mean age would be calculated as: $(12+21+28+35+64)/5$, or 32 years.

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Author Note: John P. Marcum, Administrator of the Presbyterian Panel, wrote this report and was assisted in this study by the other staff members of the office of Research Services.

Staff of Research Services: Keith M. Wulff, Coordinator; Louella Aker; Deborah Bruce; Charlene Briggs; Sarahjoy Crewe; Charisse LeMaster, John Marcum; Amy Noh; Ida Smith-Williams; Cynthia Woolever.

Sponsor: This survey was jointly requested by the office of Theology and Worship of the General Assembly Council, Presbyterian Church (U.S.A.), and the Presbyterian Association on Science, Technology, and the Christian Faith (PASTCF). For more information on Theology and Worship and its services and programs, contact the Reverend Charles Wiley at 502-569-5347 (e-mail: caw@ctr.pcusa.org). For more information on PASTCF, including membership opportunities, contact the Reverend Dr. James Miller, President, at 202-326-7044 (e-mail: jmiller@aaas.org).

Additional Copies: Additional copies of this *Report* may be purchased for \$5 from PDS—call 800-524-2612 and request item number 65100-98258. Copies of a four-page *Summary* of results are available for \$1.25 each directly from Research Services. Call for information on quantity discounts (800-469-6390).

Panel on the Web: A catalogue of Panel topics, and *Summaries* of recent surveys, are available on-line at the Presbyterian Church (U.S.A.) web site: <http://www.pcusa.org>. Use the pull-down quick menu to select *Presbyterian Panel*. Or select *Research Services* to learn more about our work.

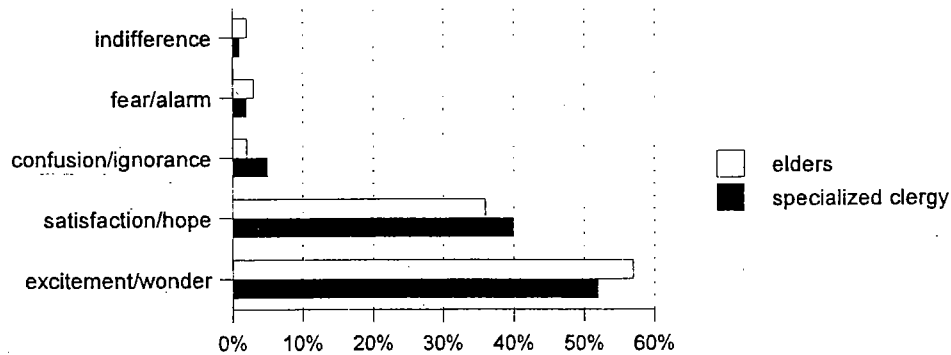
Panel by Fax: *Summaries* of recent surveys are also available through PresbyFax, the denomination's fax-on-demand service. Call 502-569-8850 from your fax machine and listen to the menu.

EVALUATING SCIENCE

Science: Good or Bad?

- ✓ Most panelists use terms like “excitement” and “wonder” (members 50%; pastors, 60%) or “satisfaction” and “hope” (members, 39%; pastors, 35%) to describe their “general reaction to science and technology.” Very few panelists (members, 3%; pastors, 1%) react with “fear” or “alarm.”

Figure 1
General Reactions to Science and Technology



- ✓ A majority of panelists in three samples and 46% of specialized clergy “believe that science and technology have changed human life for the better.” Around three-fourths in every sample (e.g., members, 74%; pastors, 79%) believe that “science and technology do more good than harm.”
- ✓ Only a handful of panelists (2% or less in every sample) believe that science and technology “have changed human life for the worse” or that science and technology “do more harm than good.”
- ✓ Majorities, ranging from 66% of elders to 54% of pastors, believe that “science and technology will eventually solve” some, but not most, of the problems that humans face (e.g., pollution, disease, drug abuse, crime). Only a few panelists (members, 3%; pastors, 8%) are complete pessimists on the ability of science to solve any such problems.
- ✓ In every sample, majorities *disagree* or *strongly disagree* that “one of the effects of science is that it breaks down people’s ideas of right and wrong.” Only about one in seven in each sample *agree* or *strongly agree* with this statement.

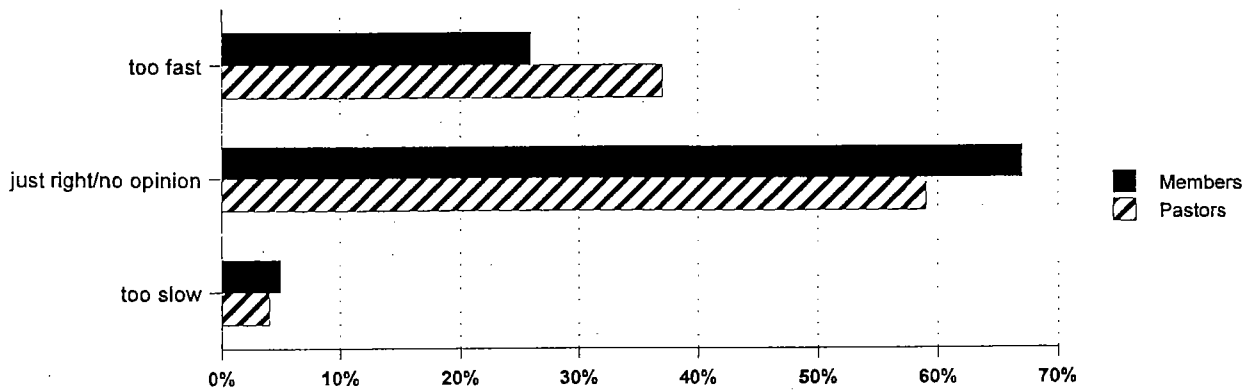
Regulating Science

- ✓ More panelists want “the degree of control that society has over science and technology” *increased* (members, 28%; pastors, 36%) than *decreased* (members, 6%; pastors, 6%), but even more want it to *remain as it is* (members, 53%; pastors, 47%).
- ✓ We asked panelists “when science and technology cause problems, who is most at fault?” Few (less than 10% in every sample) blamed scientists or engineers themselves; instead, responsibility was directed toward the government (elders, 28%; specialized clergy, 11%), business and industry (elders, 21%; specialized clergy, 39%), and a variety of other groups (elders, 16%; specialized clergy, 20%).

EVALUATING SCIENCE

- ✓ More panelists believe that science and technology change things *too fast* (members, 28%; pastors, 37%) than *too slowly* (members, 5%; pastors, 4%), but even more in every sample think the pace of scientifically-generated change is *about right* (members, 54%; pastors, 43%).

Figure 2
Opinions on the Pace of Science-Caused Change



Continuities & Change Since 1985, Part 1

Most of the questions asking panelists to evaluate science and technology were previously asked of Presbyterians in a 1985 Presbyterian Panel survey. An item-by-item comparison shows generally small changes. If anything, Presbyterians seem to be a bit less optimistic about the effects of science in 1998 than they were a decade earlier. For example, in 1985 65% of members reported that “science and technology have changed human life for the better,” a figure that had dropped to 56% in 1998. (Declines of lesser magnitude were found in the other three samples.) Of particular note is the change in the reported “general reaction to science and technology.” Despite the addition of a new option in 1998 (*confusion or ignorance*), panelists in 1998 were still more likely than in 1985 to choose *excitement or wonder* as their reaction, and less likely than in 1985 to choose *satisfaction or hope*.

Table 1
General Reaction to Science, 1985 and 1998

	Members		Elders		Pastors		Specialized Clergy	
	1985	1998	1985	1998	1985	1998	1985	1998
satisfaction or hope	50%	39%	50%	40%	41%	35%	39%	36%
excitement or wonder	43%	50%	46%	52%	51%	60%	48%	57%
confusion or ignorance*	—	6%	—	5%	—	2%	—	2%
fear or alarm	5%	3%	3%	2%	6%	1%	12%	3%
indifference or lack of interest .	2%	1%	1%	1%	2%	1%	1%	2%
total	100%	99%	100%	100%	100%	99%	100%	100%

*Asked only in 1998

Scientific Knowledge

Knowledge of Facts

- ✓ Most panelists gave scientifically-correct responses when asked whether certain generalizations were *true* or *false*. Large majorities in all samples indicated that the following statements are *true*:
 - the center of the earth is very hot (96% of elders and 96% of pastors responded *true*)
 - the oxygen we breath comes from plants (85% and 90%, respectively)
 - it is the father's chromosome [that] decides whether a baby is a boy or a girl (87% and 90%)
 - electrons are smaller than atoms (76% and 88%)
 - the continents on which we live have been moving their location for millions of years and will continue to move in the future (91% and 95%)
 - cigarette smoking causes lung cancer (96% and 96%)
- ✓ . . . and large majorities in all samples indicated that the following statements are *false*:
 - all radioactivity is man-made (96% of elders and 97% of pastors responded *false*)
 - lasers work by focusing sound waves (74% and 84%)
 - antibiotics kill viruses as well as bacteria (80% and 84%)
 - the earliest humans lived at the same time as dinosaurs (73% and 80%)
- ✓ Panelists, especially members and elders, tend to be divided on the truth or falsehood of two other scientific generalizations, both with implications for faith. A statement describing the scientific consensus on creation ("the universe began with a huge explosion") is seen as *true* by only 43% of members and 49% of elders (but by 69% of pastors and 72% of specialized clergy). A statement concerning human evolution ("human beings, as we know them today, developed from earlier species of animals") is seen as true by 47% of members, 49% of elders, 62% of pastors, and 74% of specialized clergy. (For further discussion, see box on p. 13.)
- ✓ Panelists in all samples correctly indicated that light travels faster than sound, ranging from 95% of elders to 98% of specialized clergy.
- ✓ At least eight in ten panelists in every sample correctly reported that it takes the Earth one year to revolve around the sun and that the cause of the seasons is "the tilt of the Earth's axis of rotation."
- ✓ Relatively few panelists in any sample (members, 9%; pastors, 28%) guessed the age of the universe within the broad scientific-consensus range of 10-20 billion years. A much more frequent response to this open-ended question was "don't know" or its equivalent (e.g., "no idea," "God only knows"), provided by 41% of members, 35% of elders, 29% of pastors, and 26% of specialized clergy. Another sizable group (19% of elders, 22% of pastors) responded vaguely with "billions."
- ✓ Creationists are fairly scarce among Presbyterians. Only 5% of members, 4% of elders, 3% of pastors, and 2% of specialized clergy estimated the age of the universe to be 10,000 or fewer years.
- ✓ Whether creationists or not, member panelists who believe the earth to be fewer than 10,000 years old have had relatively few college courses in science. Such members average 3.6 college science courses, as compared to the overall average of 5.8 courses.
- ✓ When asked to define "DNA," only around 10% of members and elders, and 16% of pastors and specialized clergy, responded with a thorough "textbook" definition. Many more in each sample gave partially accurate but incomplete responses, including 52% of members, 46% of elders, 50% of pastors, and 48% of specialized clergy. However, only around one in ten lay panelists and one in 20 clergy gave responses that were adjudged completely *inaccurate*.

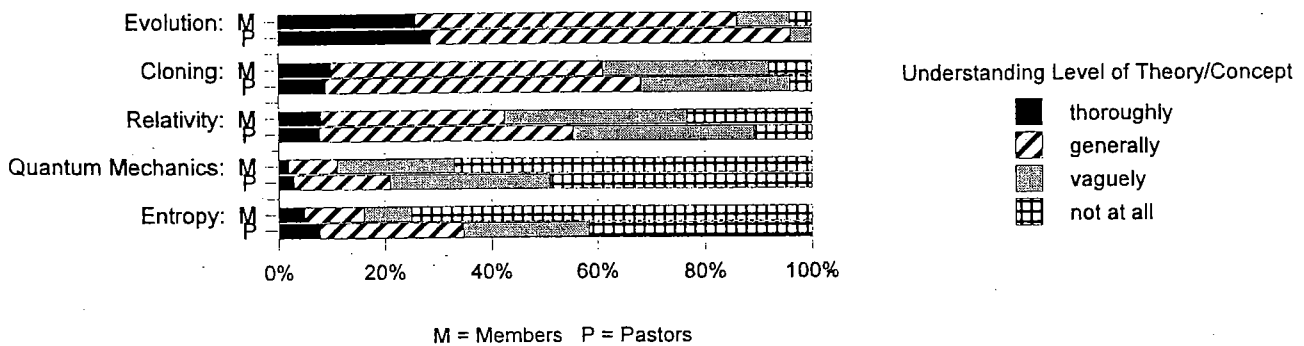
SCIENTIFIC KNOWLEDGE

Knowledge of Theories & Concepts

✓ A majority of panelists in every sample are at least *generally* familiar with the following scientific theories and concepts:

- evolution
- natural selection
- cloning
- big bang theory

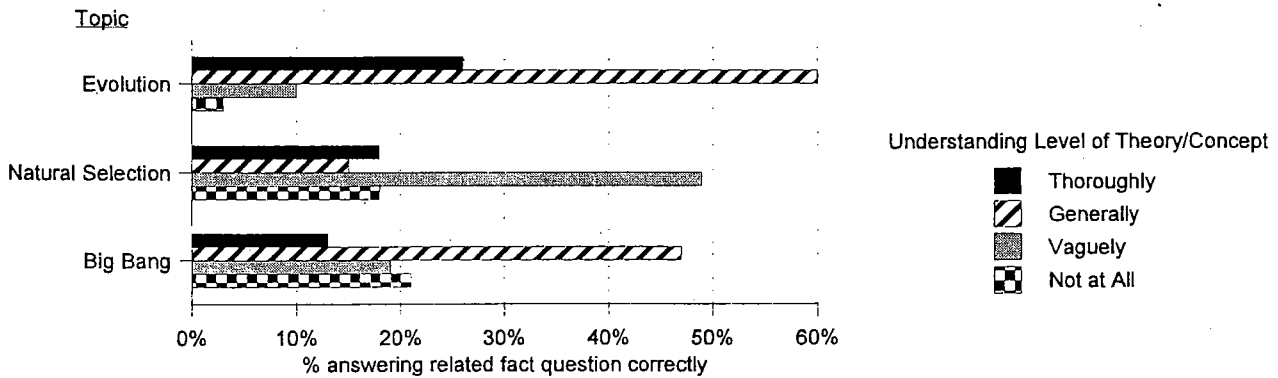
Figure 3
Familiarity with Scientific Theories/Concepts



- ✓ Few panelists in any sample, however, report that they *thoroughly understand* any particular scientific theory or concept, including the four just listed. The highest percentages are found for evolution, understood thoroughly by 26% of members and elders, 29% of pastors, and 30% of specialized clergy. The related concept of “natural selection” is understood thoroughly by around one in five lay panelists and one in four clerical ones.
- ✓ The *least-known* concept of the 11 listed on the survey is “The Anthropic Principle.” Majorities in every sample *have never heard of it*, and about one-half of the rest *have heard of it but don’t understand it*. In fact, only 1% of members and elders, 2% of pastors, and 3% of specialized clergy claim to *understand it thoroughly*.
- ✓ Other less-well-known concepts include the “Second Law of Thermodynamics” (75% of members and 42% of pastors have either *never heard of it* or *have heard of it but don’t understand it*); quantum mechanics (67% and 49%, respectively, have either not heard of it or don’t understand it); chaos theory (65%, 35%); and evolutionary psychology (50%, 32%).
- ✓ In general, accuracy in responses to questions on science facts is related positively to self-reported understanding of scientific concepts and theories, suggesting some validity to these self-reports. For example, among elders the number of fact questions answered correctly is correlated +.42 with a score measuring the overall reported degree of understanding of all scientific theories and concepts.
- ✓ In particular, panelists who report greater understanding of:
 - the theory of evolution are more likely to adjudge the statement “humans developed from earlier species of animals” as *true*
 - the principle of natural selection are more likely to adjudge the statement “human beings . . . developed from earlier species of animals” as *true*
 - the big bang theory are more likely to adjudge the statement “the universe began with a huge explosion” as *true*

SCIENTIFIC KNOWLEDGE

Figure 4
Percent of Members Who Responded Correctly to Fact Questions
by Reported Knowledge of Related Theories



- ✓ Lay and clerical panelists express broadly similar levels of familiarity with most theories and concepts. Where there are differences, pastors and specialized clergy are the most knowledgeable, followed by elders, then members. A good example is the Second Law of Thermodynamics: 14% of both clergy groups *have never heard of it*, compared to 39% of elders and 49% of members.

Formal Education and Scientific Understanding

With a few exceptions, lay panelists with more years of formal education are more likely than lay panelists with fewer years of formal education to report that they *understand thoroughly* the various scientific theories and concepts listed on the survey. The link between education and greater understanding is particularly clear for evolution, natural selection, and heredity. The exceptions are theories and concepts that are little-known among laity of any educational level, such as evolutionary psychology and quantum mechanics.

Table 2
Knowledge of Scientific Theories and Concepts by Formal Education: Members

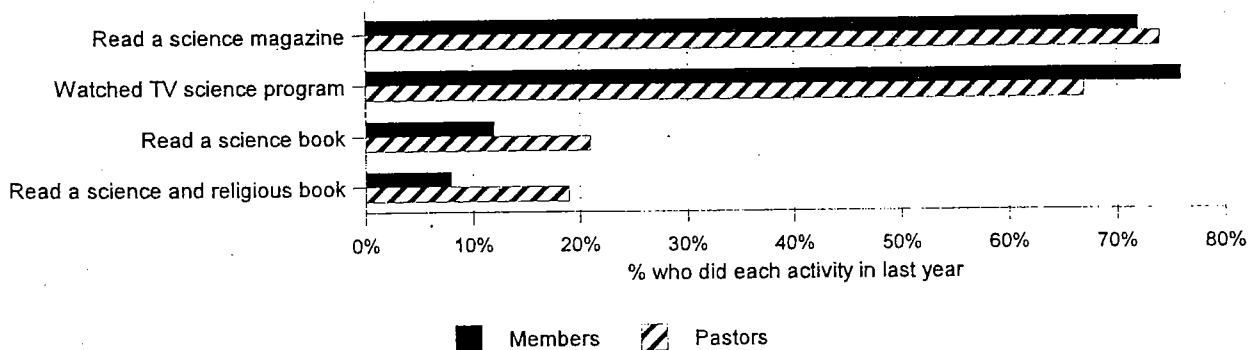
Theory/Concept	High School	Some	College	Graduate
	or less	College	Degree	Degree
% Who Respond <i>Understand Thoroughly</i>				
Evolution	12%	17%	28%	42%
Natural selection	5%	7%	20%	32%
Mendel's theory of heredity	2%	3%	11%	23%
Cloning	6%	7%	11%	16%
Evolutionary psychology	2%	3%	4%	5%
Big bang theory	11%	10%	15%	15%
Relativity	5%	4%	12%	9%
Quantum mechanics	2%	1%	2%	3%

SCIENTIFIC KNOWLEDGE

Scientific Reading and Viewing

- ✓ Less than a third of panelists in every sample, ranging from 26% of members to 30% of specialized clergy, report subscribing to one or more “science-related magazines.” Among those who subscribe, the magazine named the most is *Smithsonian*; in every sample, around two-thirds of those who subscribe to any scientific periodical list *Smithsonian*. *Psychology Today* is relatively popular among clergy, with around one in four of those who named any scientific periodical listing a subscription to it.
- ✓ Relatively few panelists report reading “any books on science or scientific topics in the last year.” In all, 12% of members, 14% of elders, 21% of pastors, and 30% of specialized clergy had read one or more scientific books in the prior year.
- ✓ Most panelists have watched science programs on television in the last year, including 76% of members, 70% of elders, 67% of pastors, and 65% of specialized clergy. Particularly popular among all samples is “The Discovery Channel,” viewed by three in every four panelists who had watched some science on television. About the same percentage in every sample except pastors (at 42%) had viewed “National Geographic Specials,” and around half of the total watchers in each sample had viewed “Nature” or “Nova” on PBS. Curiously, another PBS science program, “Bill Nye the Science Guy” was viewed by more than two-thirds of clergy who had watched a science program, but by only one in seven (14%) elders and members who had done so. The greater popularity of “Bill Nye” among pastors probably owes to their younger average ages and, hence, greater likelihood of having children in the household.
- ✓ On average, panelists with one or more college degrees in a scientific field are slightly *less* likely than other panelists to watch the popular science television programs or read popular science magazines, but slightly *more* likely to watch “Scientific American Frontiers” (14%, as compared to 8% overall).
- ✓ Panelists with one or more college degrees in a scientific field are much more likely than others to have read a book on a scientific topic in the last year (e.g., 26% of members with a science degree had done so, compared to 10% among the remaining members) or to have read a book on science and religion (16%, compared to 7%).

Figure 5*
Scientific Reading and Viewing



SCIENTIFIC KNOWLEDGE

Science Backgrounds

- ✓ Majorities of all panelists, ranging from 96% of pastors to 76% of members, have taken at least one college-level science course. Most of these, however, have taken relatively few science courses, with only 25% of members, 33% of elders, 25% of pastors, and 26% of specialized clergy reporting six or more such courses. The average (mean) number of courses taken by sample is: members, 5.8 courses; elders, 6.5 courses; pastors, 5.0 courses; and specialized clergy, 5.8 courses. . . .
- ✓ Similarly, relatively few Presbyterians have a college degree in a scientific field, and most who do have bachelor's degrees. Overall, 13% of members, 16% of elders, 7% of pastors, and 8% of specialized clergy have either a bachelor's, master's, or doctoral degree in science. Table 3 shows for members and pastors the specific fields of the science degrees.
- ✓ Around one in four members (24%), elders (29%), and specialized clergy (23%) report that their employing organizations "conduct or sponsor . . . scientific or technological research." Among pastors the corresponding figure is 5%.
- ✓ Of panelists who work in organizations that conduct scientific research, only a minority (ranging from 30% of elders to 16% of pastors) indicate that they themselves are "active participants" in the research. Another group (elders, 12%; pastors, 3%) exercise "managerial oversight" of scientific research through their jobs.

Table 3
Major Fields of Panelists with One or More Degrees in Science

Major Field	Members			Pastors		
	B.S.	M.S.	Ph.D./ M.D.	B.S.	M.S.	Ph.D./ M.D.
Agriculture	1%	—	1%	1%	*	*
Biology	3%	1%	—	2%	*	*
Chemistry	1%	—	1%	1%	—	—
Computer Science	*	1%	*	—	—	—
Engineering	4%	1%	—	1%	*	—
Mathematics	1%	*	*	1%	*	*
Medicine	*	1%	1%	*	*	—
Nursing	2%	—	—	*	*	—
Pharmacy	1%	*	—	—	—	—
Physics and Astronomy	*	—	—	*	—	—
Other	1%	*	—	*	—	—
Total	13%	3%	2%	7%	1%	*
n	73	18	14	55	7	2

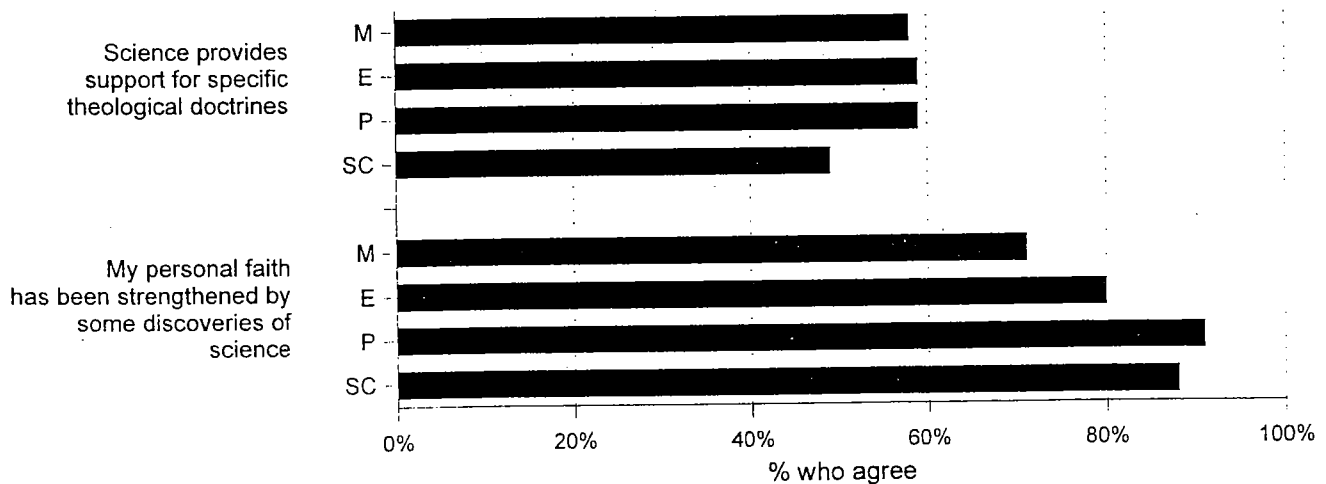
* = <0.5%

LINKING SCIENCE AND FAITH

Theology and Science

- ✓ In a series of 12 agree-disagree questions, we asked panelists for their opinions on the similarities and differences between theology and science. Few responses are of the *strongly agree* or *strongly disagree* variety; in fact, for many questions, the single most frequent response was either *tend to agree* or *tend to disagree*. In other words, few panelists have intensely-held opinions on these topics, although, interestingly, relatively few completely opted-out by choosing *not sure* as their response.
- ✓ Clearly, many panelists believe that science and theology differ in the approaches they take to what they study, and that they may even study different phenomena, but majorities are not convinced that, at core, science and theology are hostile or even incompatible. Rather, there are many panelists who believe that the two fields need each other, influence each other constructively, and potentially may be integrated to form a single unified system of understanding.
- ✓ In all samples, majorities agree (combined responses of *strongly agree*, *agree*, and *tend to agree*) that:
 - theology and science address fundamentally different types of knowledge
 - theology and science use fundamentally different methods and languages
 - theology and science use similar methods but focus on different objects
 - theology and science influence one another constructively
 - theology and science can be integrated to form a single unified system of understanding
- ✓ In three of four samples, majorities agree (specialized clergy the exception, at 49%) that “science provides support for specific theological doctrines,” and majorities disagree (members the exception, at 47%) that “theology can be derived from science or can be a science.”

Figure 6
Opinions on Science’s Support for Faith



M = Members E = Elders P = Pastors SC = Specialized Clergy

LINKING SCIENCE AND FAITH

- ✓ Majorities of members and elders agree, but majorities of pastors and other clergy disagree, that:
 - theology and science address fundamentally different realms
 - theology and science have fundamentally different objects of concern

- ✓ Majorities of pastors and specialized clergy agree, but members and elders are evenly split, that “theology and science depend upon one another.”

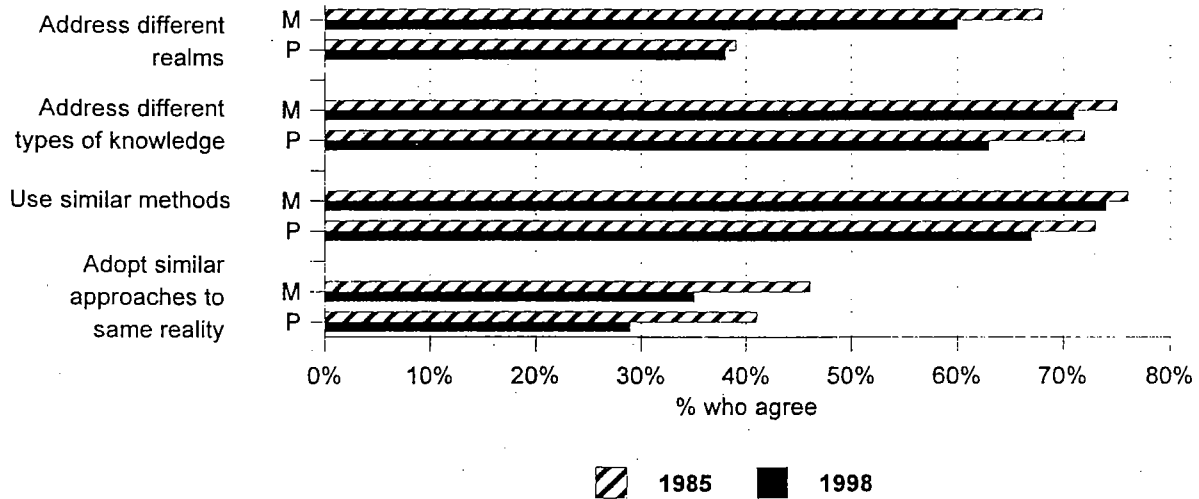
- ✓ Majorities of all samples disagree that:
 - theology and science adopt similar approaches to the same aspects of reality
 - theology and science are inevitably in conflict with one another

Continuities & Change, Part 2

Presbyterian opinions on science and theology show remarkable stability from 1985 to 1998. Of the dozen items in Q13, the four that show the most change are presented in Figure 7. These changes are generally small, however, or found in only one sample, with the exception of the statement “theology and science adopt similar approaches to the same aspects of reality.” There seems to be a genuine drop in the percentage of Presbyterians who believe that theology and science approach the same things in the same way.

Figure 7
Comparing Views of Theology and Science: 1985 and 1998

Theology and Science:

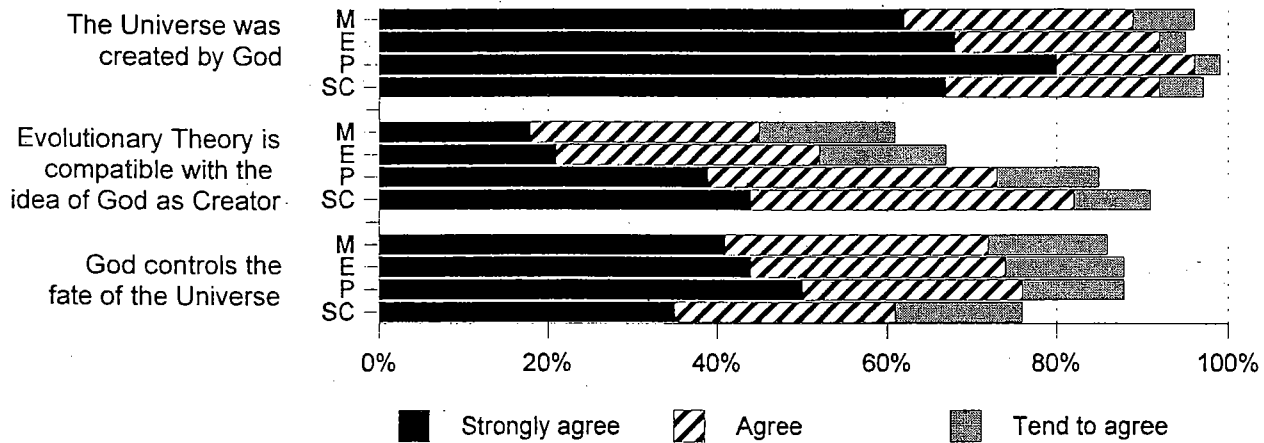


CREATION, EVOLUTION, AND INTELLIGENT LIFE

Alpha and Omega

- ✓ Majorities in every sample *strongly agree* that “the universe was created by God.” Almost everyone else responds *agree*. The total in agreement, including *tend to agree*, is 96% among members and elders, 97% among specialized clergy, and 99% among pastors.

Figure 8
Belief in God’s Ultimate Authority



M = Members E = Elders P = Pastors SC = Specialized Clergy

- ✓ Few panelists (15% of members, elders, and pastors, and 25% of specialized clergy) believe that “the world runs pretty much by itself,” but the majority who give God at least some power in the running of the world differ in the amount of control they think God has:
 - around a third think “the world is controlled by God” (range: specialized clergy, 27%; elders, 39%)
 - another fifth think “most of the things that happen are controlled by God”
 - another fifth think about “half of the things that happen are controlled by God”
- ✓ Around nine in every ten panelists, including many of those who earlier indicated that the “world runs pretty much by itself,” *agree* that “God controls the fate of the Universe.”
- ✓ Is it possible for “God [to] suspend the laws of the universe to intervene in human affairs”? Majorities in every sample think it is, but relatively few respond *strongly agree* (the range is from 17% among members to 28% among pastors). Overall, 59% of members, 62% of elders, 72% of pastors, and 58% of specialized clergy agree that such intervention by God is possible. Around one in four members, elders, and pastors, and 38% of specialized clergy, disagree.

LINKING SCIENCE AND FAITH

Encounters with Science and Faith

- ✓ Around one in four pastors indicate that, in the last year, there was at least one sermon, discussion, or presentation at their church on “the effect of science on religious belief.” A similar percentage indicates that during that same time period their church had a sermon, discussion, or presentation on “the effect of science on society.”
- ✓ Majorities of panelists agree that “my personal faith in God has been strengthened by some of the discoveries of science,” ranging from 71% of members to 80% of elders, 87% of specialized clergy, and 91% of pastors.
- ✓ Majorities in all samples agree that “to be a faithful Christian, I need to keep up with recent developments in science and technology,” ranging from 54% of members and 62% of elders to 77% of specialized clergy and 83% of pastors. Almost identical percentages also agree that “to be a faithful Christian I need to actively engage in theological discussion and reflection on developments in science and technology.”

Science Backgrounds and Opinions on Science and Faith Issues

Panelists who believe that science and faith belong together on average took more science courses in school. And this pattern holds for both members and pastors, with one interesting exception: pastors who believe that “human consciousness will one day be . . . explained by science” took fewer science courses than pastors who disagree with this statement, while the reverse is true for members.

Table 4
Average Number of College Science Courses Taken by Responses to Other Questions

	Members		Pastors	
	Agree	Disagree	Agree	Disagree
theology and science address				
fundamentally different realms	5.74	6.99	4.41	5.44
theology and science influence one				
another constructively	7.14	4.96	5.21	4.70
theology can be derived from science or				
can be a science	6.56	5.78	5.38	4.93
to be a faithful Christian I need to keep up with				
recent developments in science and				
technology	6.11	5.39	5.15	4.75
evolutionary theory is compatible with the idea				
of God as Creator	6.71	4.43	5.05	4.82
my personal faith in God has been strengthened				
by some of the discoveries of science	6.34	3.80	5.19	3.70
human consciousness will one day be entirely				
explained by science as the workings				
of natural processes	7.81	5.55	4.07	5.18
humans usurp God’s role as Creator when we				
try to clone a human being	3.88	10.64	4.65	5.86
God may suspend the laws of the universe to				
intervene in human affairs	5.80	5.91	5.28	4.22
God controls the fate of the universe	5.64	6.27	5.00	5.82

CREATION, EVOLUTION, AND INTELLIGENT LIFE

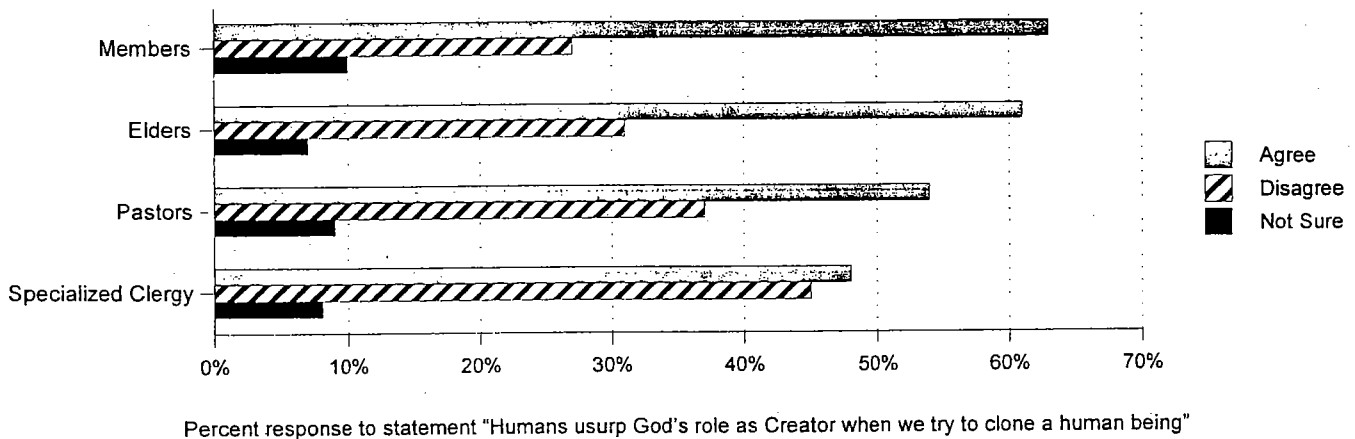
God and Life

- ✓ Most panelists, especially clergy, see no inherent contradiction between belief in God as Creator and the theory of evolution. Overall, 61% of members, 67% of elders, 85% of pastors, and 91% of specialized clergy agree (combined *strongly agree, agree, and tend to agree* responses) that “Evolutionary theory is compatible with the idea of God as Creator.”
- ✓ Consistently, similar percentages of panelists in every sample (e.g., elders, 81%; specialized clergy, 84%) agree that “life is so complex that it has to be the deliberate outcome of an intelligent design.”

Cloning and Genetic Therapy

- ✓ In every sample more panelists agree than disagree that “Humans usurp God’s role as Creator when we try to clone a human being,” but the plurality is relatively narrow among ministers, especially among specialized clergy:

Figure 9
Opinions on Cloning



- ✓ Sizable minorities in every sample are *not sure* of their opinion concerning gene therapy, ranging from 43% of members to 34% of specialized clergy. Of those with opinions, almost all view at least some gene therapy as *appropriate*, although many of these would restrict gene therapy to “cells that are not involved in producing the next generation.”

Mind, Soul, and Spirit

- ✓ Almost all panelists (83% or greater in every sample) both agree that “each human being has an eternal soul created by God” and disagree that “our minds can be understood entirely through biochemistry and other science, without reference to a soul.” Similarly, 78% of members, 79% of elders, 90% of pastors, and 84% of specialized clergy disagree that “human consciousness will one day be entirely explained by science as the workings of natural processes.”

CREATION, EVOLUTION, AND INTELLIGENT LIFE

God and Creation

Few panelists seem to hold a strict Creationist view, one that interprets the biblical timeline so literally as to place the date of creation just a few thousand years in the past. When asked the age of the universe, only a handful in each sample—members, 5%; elders, 4%; pastors, 3%; and specialized clergy, 2%—responded with a number under 10,000 years. But that doesn't mean that they reject any role for God. A direct question to that end, "The universe was created by God," received overwhelming assent; large majorities in every sample responded *strongly agree* to this statement, and almost everyone else responded *agree*. Only 1% or 2% responded with any form of disagreement, and most of those were of the *tend to disagree* variety.

This consensus on God's centrality in Creation helps us understand the pattern of responses to a couple of "fact" questions. In general, as previously discussed (p.3), large majorities correctly indicated the truth or falsehood of a series of brief statements that each summarized a widely-accepted scientific finding or conclusion. One exception, however, especially among laity, was this statement: "The universe began with a huge explosion." Only 43% of members and 49% of elders responded *true*. At first glance, this response pattern seems unlikely. The big bang theory is the primary, if not the only, scientific explanation for the origin of the Universe in general discussion. And the big bang theory has been around for several decades, plenty of time for it to be dispersed across the population. What's going on here?

The answer turns in large part on the lack of any reference to God in the "fact" statement on the big bang. It's not that majorities of members and elders are unfamiliar with the big bang theory or even that they reject its broad outlines. Rather, as Table 5 shows, their acceptance as fact of a statement about Creation that omits God is strongly, and negatively, related to their certainty of belief in God as Creator.

**Table 5
Comparing Member Responses on the Creation**

	The Universe Was Created by God					Total
	Strongly Agree	Tend to Agree	Agree	Disagree	Not Sure	
The universe began with a huge explosion						
true	32%	56%	62%	88%	85%	43%
false	68%	44%	38%	12%	15%	57%

A similar anomaly is found in responses to another "fact" question, this one on evolution: "Human beings, as we know them today, developed from earlier species of animals." A majority of both members (53%) and elders (51%) respond *false*, even though the argument that all life on earth, including humans, derives from a common ancestor is integral to evolutionary theory. As Table 6 shows, many panelists apparently responded not in terms of science per se but in terms of science *and* faith. In other words, the question was perceived by many as an assessment of their beliefs regarding God's role in the existence of human beings, rather than as a strict scientific knowledge question, and they answered accordingly.

**Table 6
Comparing Member Responses on Evolution**

	Evolutionary Theory Is Compatible with Idea of God as Creator					Total
	Strongly Agree	Tend to Agree	Agree	Disagree	Not Sure	
Humans developed from earlier species of animals						
true	81%	66%	58%	11%	39%	47%
false	19%	34%	42%	89%	61%	53%

Appendix

	Members	Elders	Ministers
Number of surveys mailed	1,202	1,243	1,805
Number of surveys returned	565	673	1,122
Percent of surveys returned	47%	54%	62% *

* Of the 1,122 minister surveys, 753 are pastors and 369 are specialized clergy.

Q-1. Do you believe that science and technology have changed human life for the better or for the worse? (✓ one □.)

	Members	Elders	Pastors	Specialized Clergy
better	56%	65%	51%	46%
worse	1%	1%	*	—
some of both	43%	35%	48%	54%
no effect	*	—	*	—
no opinion	*	*	—	—

Q-2. Which one of these items *best* describes your general reaction to science and technology? (✓ one □.)

satisfaction or hope	39%	40%	35%	36%
excitement or wonder	50%	52%	60%	57%
confusion or ignorance	6%	5%	2%	2%
fear or alarm	3%	2%	1%	3%
indifference or lack of interest	1%	1%	1%	2%

Q-3. Overall, would you say that science and technology do more good than harm, more harm than good, or about the same of each? (✓ one □.)

more good	74%	85%	79%	78%
more harm	1%	2%	2%	2%
about the same	24%	13%	18%	19%
no opinion	1%	*	1%	1%

Q-4. Do you feel that science and technology change things too fast, too slowly, or just about right? (✓ one □.)

too fast	28%	25%	37%	38%
too slowly	5%	5%	4%	3%
about right	54%	57%	43%	44%
no opinion	13%	12%	16%	15%

Q-5. Do you feel that the degree of control that society has over science and technology should be increased, decreased, or remain as it is now? (✓ one □.)

should be increased	28%	27%	36%	38%
should be decreased	6%	5%	6%	4%
remain as it is	53%	59%	47%	47%
no opinion	13%	8%	12%	10%

* = less than 0.5%; rounds to zero

— = zero (0.0); no cases in this category

+ = non-responses of 10% or more on this question (reported percentages for all questions omit non-responses)

n = number of respondents eligible to answer this question

◆ = percentages add to more than 100 because respondents could make more than one response

Q-6. Do you feel that science and technology will eventually solve most problems such as pollution, disease, drug abuse, and crime, some of these problems, or few if any of these problems? (✓ one □.)

most of these problems	17%	13%	8%	10%
some of these problems	58%	66%	54%	59%
a few of these problems	22%	17%	30%	26%
none of these problems	3%	3%	8%	6%
no opinion	*	1%	*	*

Q-7. Do you agree or disagree?: One of the effects of science is that it breaks down people's ideas of right and wrong. (✓ one □.)

strongly agree	2%	3%	2%	2%
agree	13%	10%	10%	11%
agree & disagree	28%	25%	31%	30%
disagree	38%	40%	40%	37%
strongly disagree	15%	16%	16%	17%
no opinion	5%	4%	2%	3%

Q-8. When science and technology cause problems, who is most at fault? (✓ one □.)

scientists	4%	4%	3%	2%
technologists and engineers	5%	5%	4%	3%
government decision makers	26%	28%	14%	11%
business and industry leaders	22%	21%	32%	39%
some other group (specify): _____	12%	16%	24%	20%
no opinion	30%	26%	23%	26%

Q-9. Do you think the things that happen in this world are fully determined by previous causes or do things happen by chance?

all things are determined	16%	20%	16%	10%
most things are determined	34%	32%	30%	30%
about half and half	35%	33%	35%	35%
most things happen by chance	7%	7%	7%	10%
all things happen by chance	1%	1%	1%	2%
no opinion	6%	7%	11%	13%

Q-10. Do you think the things that happen in this world are mostly controlled by God, or do you think the world runs pretty much by itself?

the world is controlled by God	36%	39%	35%	27%
most of the things that happen are controlled by God	18%	20%	19%	15%
about half and half	20%	14%	16%	18%
the world runs pretty much by itself	15%	15%	15%	25%
other (specify): _____	8%	10%	12%	13%
no opinion	2%	2%	3%	3%

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Q-11. Below is a list of contemporary scientific theories and principles. Please indicate your familiarity with each.

a. Theory of evolution				
understand it thoroughly	26%	26%	29%	30%
understand it generally	60%	65%	68%	67%
understand it vaguely	10%	8%	4%	2%
don't understand it but have heard of it	3%	1%	—	*
have never heard of it	*	—	—	*
b. The principle of natural selection				
understand it thoroughly	18%	21%	25%	28%
understand it generally	49%	49%	66%	65%
understand it vaguely	15%	15%	8%	5%
don't understand it but have heard of it	7%	8%	1%	1%
have never heard of it	11%	7%	—	1%
c. Mendel's theory of heredity				
understand it thoroughly	11%	12%	13%	14%
understand it generally	32%	37%	41%	46%
understand it vaguely	20%	20%	24%	21%
don't understand it but have heard of it	14%	14%	9%	8%
have never heard of it	22%	17%	12%	12%
d. Cloning				
understand it thoroughly	10%	8%	9%	10%
understand it generally	51%	57%	59%	55%
understand it vaguely	31%	28%	28%	32%
don't understand it but have heard of it	8%	7%	4%	3%
have never heard of it	—	*	*	*
e. Evolutionary psychology				
understand it thoroughly	3%	3%	5%	8%
understand it generally	20%	22%	32%	33%
understand it vaguely	27%	30%	30%	27%
don't understand it but have heard of it	18%	16%	12%	12%
have never heard of it	32%	29%	20%	20%
f. Big bang theory				
understand it thoroughly	13%	14%	19%	19%
understand it generally	47%	50%	67%	59%
understand it vaguely	19%	20%	12%	19%
don't understand it but have heard of it	12%	9%	2%	3%
have never heard of it	9%	7%	*	*
g. Theory of relativity				
understand it thoroughly	8%	8%	8%	9%
understand it generally	34%	41%	48%	44%
understand it vaguely	34%	33%	34%	37%
don't understand it but have heard of it	19%	17%	11%	11%
have never heard of it	4%	1%	—	—

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Q-11. Below is a list of contemporary scientific theories and principles. Please indicate your familiarity with each.
(cont.)

h. Quantum mechanics				
understand it thoroughly	2%	3%	3%	4%
understand it generally	9%	11%	18%	18%
understand it vaguely	22%	24%	30%	30%
don't understand it but have heard of it	45%	46%	45%	42%
have never heard of it	22%	16%	4%	6%
i. Chaos theory				
understand it thoroughly	3%	3%	4%	4%
understand it generally	12%	13%	24%	27%
understand it vaguely	21%	25%	36%	31%
don't understand it but have heard of it	31%	26%	23%	25%
have never heard of it	34%	33%	12%	13%
j. The Anthropic Principle				
understand it thoroughly	1%	1%	2%	3%
understand it generally	3%	4%	8%	10%
understand it vaguely	7%	9%	16%	13%
don't understand it but have heard of it	21%	18%	22%	21%
have never heard of it	69%	68%	53%	53%
k. Second law of thermodynamics (entropy)				
understand it thoroughly	5%	6%	8%	7%
understand it generally	11%	13%	27%	26%
understand it vaguely	9%	14%	24%	25%
don't understand it but have heard of it	26%	28%	28%	28%
have never heard of it	49%	39%	14%	14%

Q-12. Which statement comes closest to your opinions on gene therapy, that is, medical treatment which alters the genetic makeup of a cell?

gene therapy is appropriate on any cell in the body	23%	31%	32%	40%
gene therapy is appropriate only on cells that are not involved with producing the next generation	23%	24%	24%	23%
gene therapy is appropriate only on those cells involved in producing the next generation (i.e., sperm and egg cells)	3%	3%	2%	2%
gene therapy is not appropriate on any cells	8%	6%	3%	1%
not sure	43%	36%	39%	34%

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Q-13. These statements list possible ways to describe the relation between theology and science. For each statement, indicate your level of agreement or disagreement by putting a ✓ in one □.

a. Theology and science address fundamentally <i>different realms</i> (e.g., supernatural/natural, eternal/temporal, spiritual/physical)				
strongly agree	7%	4%	7%	9%
agree	22%	23%	14%	14%
tend to agree	26%	23%	17%	18%
tend to disagree	17%	19%	19%	17%
disagree	15%	16%	22%	22%
strongly disagree	5%	8%	21%	20%
not sure	10%	7%	1%	—
b. Theology and science address fundamentally <i>different types of knowledge</i> (e.g., values/facts, revelation/empirical observation)				
strongly agree	5%	6%	9%	12%
agree	28%	27%	26%	29%
tend to agree	32%	31%	27%	29%
tend to disagree	12%	14%	14%	14%
disagree	10%	11%	14%	8%
strongly disagree	2%	4%	9%	8%
not sure	11%	6%	1%	*
c. Theology and science use fundamentally <i>different methods and languages</i> (e.g., faith/reason, revelation/experiment, why/how)				
strongly agree	7%	8%	11%	13%
agree	34%	35%	31%	36%
tend to agree	36%	33%	34%	35%
tend to disagree	9%	11%	11%	8%
disagree	4%	6%	9%	6%
strongly disagree	2%	2%	4%	3%
not sure	8%	6%	1%	*
d. Theology and science have fundamentally <i>different objects of concern</i> (e.g., God/nature, the soul/the body)				
strongly agree	6%	6%	7%	8%
agree	25%	23%	15%	16%
tend to agree	28%	22%	19%	20%
tend to disagree	18%	23%	25%	24%
disagree	14%	17%	23%	21%
strongly disagree	4%	5%	11%	10%
not sure	6%	4%	1%	*

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Q-13. These statements list possible ways to describe the relation between theology and science. For each statement, (cont.) indicate your level of agreement or disagreement by putting a ✓ in one □.

e. Theology and science use *similar methods* but focus on *different objects* (e.g., both require faith, both require personal commitment, both use reason)

strongly agree	8%	6%	9%	10%
agree	31%	31%	26%	26%
tend to agree	30%	33%	31%	35%
tend to disagree	14%	13%	14%	13%
disagree	9%	9%	14%	12%
strongly disagree	2%	3%	3%	2%
not sure	7%	6%	2%	3%

f. Theology and science adopt *similar approaches* to the same aspects of reality (e.g., the Creation)

strongly agree	2%	1%	2%	3%
agree	9%	12%	8%	8%
tend to agree	19%	20%	18%	12%
tend to disagree	28%	27%	32%	33%
disagree	22%	24%	28%	32%
strongly disagree	7%	7%	8%	7%
not sure	12%	9%	4%	4%

g. Theology and science influence one another constructively

strongly agree	3%	4%	8%	12%
agree	17%	24%	29%	31%
tend to agree	40%	39%	42%	42%
tend to disagree	19%	16%	12%	9%
disagree	6%	6%	5%	4%
strongly disagree	2%	1%	1%	1%
not sure	12%	9%	4%	3%

h. Science provides support for specific theological doctrines (e.g., the Creation)

strongly agree	4%	4%	5%	4%
agree	20%	23%	19%	19%
tend to agree	34%	32%	36%	26%
tend to disagree	16%	16%	17%	22%
disagree	11%	10%	13%	17%
strongly disagree	4%	4%	6%	8%
not sure	11%	11%	3%	4%

i. Theology can be derived from science or can be a science

strongly agree	3%	2%	2%	2%
agree	11%	12%	10%	11%
tend to agree	22%	17%	19%	14%
tend to disagree	22%	23%	24%	22%
disagree	18%	21%	27%	31%
strongly disagree	7%	11%	12%	14%
not sure	17%	14%	6%	6%

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Q-13. These statements list possible ways to describe the relation between theology and science. For each statement, (cont.) indicate your level of agreement or disagreement by putting a ✓ in one □.

j. Theology and science are inevitably in conflict with one another				
strongly agree	2%	1%	*	1%
agree	6%	5%	2%	1%
tend to agree	20%	13%	4%	5%
tend to disagree	29%	32%	24%	24%
disagree	24%	27%	37%	39%
strongly disagree	12%	16%	32%	30%
not sure	7%	6%	1%	1%
k. Theology and science depend upon one another (e.g., without theology, science would be meaningless; without science, theology would be irrelevant)				
strongly agree	4%	4%	9%	10%
agree	12%	18%	23%	22%
tend to agree	28%	26%	33%	32%
tend to disagree	20%	20%	15%	15%
disagree	17%	16%	12%	13%
strongly disagree	6%	6%	5%	6%
not sure	12%	10%	4%	3%
l. Theology and science can be integrated to form a single unified system of understanding				
strongly agree	6%	8%	11%	12%
agree	18%	24%	22%	23%
tend to agree	29%	31%	30%	34%
tend to disagree	18%	15%	17%	13%
disagree	9%	8%	11%	11%
strongly disagree	3%	4%	4%	2%
not sure	16%	11%	5%	6%

Q-14. For each statement, please indicate whether you believe it is true or false. If you don't know, make your best guess.

a. The center of the earth is very hot				
true	96%	96%	96%	95%
false	4%	4%	4%	5%
b. All radioactivity is man-made				
true	6%	4%	3%	1%
false	94%	96%	97%	99%
c. The oxygen we breath comes from plants				
true	87%	85%	90%	90%
false	13%	15%	10%	10%

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Q-14. For each statement, please indicate whether you believe it is true or false. If you don't know, make your best guess.
(cont.)

d.	It is the father's chromosome which decides whether the baby is a boy or a girl				
	true	88%	87%	90%	87%
	false	12%	13%	10%	13%
e.	Lasers work by focusing sound waves				
	true	29%	26%	16%	17%
	false	71%	74%	84%	83%
f.	Electrons are smaller than atoms				
	true	74%	76%	88%	88%
	false	26%	24%	12%	12%
g.	Antibiotics kill viruses as well as bacteria				
	true	22%	20%	16%	17%
	false	78%	80%	84%	83%
h.	The universe began with a huge explosion				
	true	43%	49%	69%	72%
	false	57%	51%	31%	28%
i.	The continents on which we live have been moving their location for millions of years and will continue to move in the future				
	true	90%	91%	95%	96%
	false	10%	9%	5%	4%
j.	Human beings, as we know them today, developed from earlier species of animals				
	true	47%	49%	62%	74%
	false	53%	51%	38%	26%
k.	Cigarette smoking causes lung cancer				
	true	96%	96%	96%	95%
	false	4%	4%	4%	5%
l.	The earliest humans lived at the same time as dinosaurs				
	true	28%	27%	20%	19%
	false	72%	73%	80%	81%

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— = zero (0.0); no cases in this category

+ = non-responses of 10% or more on this question (reported percentages for all questions omit non-responses)

n = number of respondents eligible to answer this question

◆ = percentages add to more than 100 because respondents could make more than one response

	Members	Elders	Pastors	Specialized Clergy
Q-15. Do you agree or disagree with each statement below?				
a. To be a faithful Christian I need to keep up with recent developments in science and technology				
strongly agree	7%	9%	17%	20%
agree	21%	28%	34%	31%
tend to agree	26%	25%	32%	26%
tend to disagree	19%	13%	8%	8%
disagree	22%	16%	7%	12%
strongly disagree	4%	6%	2%	2%
not sure	3%	3%	1%	1%
b. To be a faithful Christian I need to actively engage in theological discussion and reflection on developments in science and technology				
strongly agree	5%	8%	21%	21%
agree	21%	29%	35%	32%
tend to agree	27%	26%	29%	24%
tend to disagree	20%	13%	7%	10%
disagree	19%	16%	6%	10%
strongly disagree	4%	4%	1%	1%
not sure	3%	3%	1%	1%
c. The Universe was created by God				
strongly agree	62%	68%	80%	67%
agree	27%	24%	16%	25%
tend to agree	7%	4%	3%	5%
tend to disagree	1%	1%	*	1%
disagree	*	1%	*	1%
strongly disagree	*	*	*	*
not sure	2%	2%	1%	1%
d. Evolutionary theory is compatible with the idea of God as Creator				
strongly agree	18%	21%	39%	44%
agree	27%	31%	34%	38%
tend to agree	16%	15%	12%	9%
tend to disagree	9%	9%	7%	2%
disagree	12%	11%	3%	4%
strongly disagree	11%	9%	4%	3%
not sure	7%	5%	1%	1%
e. My personal faith in God has been strengthened by some of the discoveries of science				
strongly agree	18%	19%	30%	31%
agree	36%	39%	45%	45%
tend to agree	17%	22%	16%	12%
tend to disagree	11%	5%	3%	5%
disagree	8%	7%	3%	3%
strongly disagree	2%	2%	1%	*
not sure	7%	5%	2%	3%

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+ = non-responses of 10% or more on this question (reported percentages for all questions omit non-responses)

n = number of respondents eligible to answer this question

◆ = percentages add to more than 100 because respondents could make more than one response

	Members	Elders	Pastors	Specialized Clergy
Q-15. Do you agree or disagree with each statement below? (cont.)				
f. Each human being has an eternal soul created by God				
strongly agree	54%	63%	60%	47%
agree	34%	27%	20%	27%
tend to agree	5%	4%	6%	9%
tend to disagree	1%	1%	4%	4%
disagree	*	1%	4%	6%
strongly disagree	*	*	3%	3%
not sure	4%	3%	3%	4%
g. Our minds can be understood entirely through biochemistry and other science, without reference to a soul				
strongly agree	1%	1%	1%	2%
agree	3%	3%	3%	3%
tend to agree	5%	4%	4%	5%
tend to disagree	24%	21%	14%	21%
disagree	34%	35%	31%	30%
strongly disagree	29%	32%	45%	38%
not sure	4%	4%	2%	1%
h. Human consciousness will one day be entirely explained by science as the workings of natural processes				
strongly agree	1%	1%	1%	3%
agree	3%	4%	1%	2%
tend to agree	8%	7%	4%	6%
tend to disagree	27%	21%	15%	20%
disagree	29%	31%	34%	34%
strongly disagree	22%	27%	41%	30%
not sure	11%	10%	3%	5%
i. Life is so complex that it has to be the deliberate outcome of an intelligent design				
strongly agree	30%	37%	44%	33%
agree	30%	25%	28%	28%
tend to agree	18%	19%	20%	23%
tend to disagree	6%	7%	4%	6%
disagree	6%	5%	2%	5%
strongly disagree	2%	2%	1%	1%
not sure	8%	5%	2%	3%
j. Humans usurp God's role as Creator when we try to clone a human being				
strongly agree	24%	22%	15%	11%
agree	20%	20%	16%	14%
tend to agree	19%	19%	23%	23%
tend to disagree	13%	14%	18%	22%
disagree	10%	12%	13%	15%
strongly disagree	4%	5%	6%	8%
not sure	10%	7%	9%	8%

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Q-15. Do you agree or disagree with each statement below?
(cont.)

k. God may suspend the laws of the universe
to intervene in human affairs

strongly agree	17%	20%	28%	19%
agree	22%	27%	25%	23%
tend to agree	20%	15%	19%	16%
tend to disagree	10%	10%	11%	15%
disagree	11%	11%	10%	13%
strongly disagree	4%	4%	3%	10%
not sure	16%	13%	4%	5%

l. God controls the fate of the universe

strongly agree	41%	44%	50%	35%
agree	31%	30%	26%	26%
tend to agree	14%	14%	12%	15%
tend to disagree	5%	5%	5%	10%
disagree	3%	2%	3%	7%
strongly disagree	1%	1%	1%	2%
not sure	5%	4%	2%	4%

Q-16. Which travels faster: light or sound?

light	96%	95%	97%	98%
sound	4%	5%	3%	2%

Q-17. What causes the seasons?

changes in the distance between the Earth and the Sun	19%	18%	14%	12%
the tilt of the Earth's axis of rotation	81%	82%	86%	87%

Q-18. How long does it take for the Earth to revolve around the Sun?

one day	16%	16%	9%	12%
one month	3%	4%	3%	2%
one year	81%	80%	88%	85%

Q-19. How old is the Universe? _____ years old

	+	+	+	+
less than 10,000 years	5%	4%	3%	2%
10,001 - 1 billion years	15%	16%	13%	11%
2 - 10 billion years	12%	11%	17%	18%
11 - 15 billion years	5%	7%	8%	9%
16 - 20 billion years	2%	2%	2%	4%
21 billion or more	5%	5%	6%	6%
billions/not otherwise specified	15%	19%	22%	24%
don't know	41%	35%	29%	26%

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Q-20. Use the space below to briefly describe, in your own words, what is DNA?

	+	+	+	+
textbook/dictionary definition	10%	12%	16%	16%
vague but accurate definition	52%	46%	50%	48%
too vague to be meaningful	24%	30%	30%	29%
inaccurate/wrong definition	13%	12%	4%	7%

Q-21. Please check any of the following TV science programs or channels that you have regularly watched in the last year.

checked none	24%	30%	33%	35%
checked one or more	76%	70%	67%	65%
	◆	◆	◆	◆
	n=430	n=471	n=505	n=241
Nature	51%	48%	50%	47%
Nova	50%	49%	46%	57%
National Geographic Specials	75%	74%	42%	69%
Bill Nye the Science Guy	14%	14%	72%	69%
Scientific American Frontiers	8%	8%	21%	14%
the Discovery Channel	74%	75%	77%	76%
other (specify): _____				
The Learning Channel	1%	1%	3%	3%
all other	4%	3%	4%	6%

Q-22. Please check any of the following science-related magazines to which you subscribe:

checked none	74%	72%	72%	70%
checked one or more	26%	28%	28%	20%
	◆	◆	◆	◆
	n=146	n=189	n=209	n=110
<i>Natural History</i>	12%	7%	8%	9%
<i>Scientific American</i>	12%	11%	14%	12%
<i>Nature</i>	8%	4%	7%	6%
<i>Science Digest</i>	2%	1%	2%	—
<i>Science News</i>	4%	4%	3%	2%
<i>Smithsonian</i>	65%	72%	67%	76%
<i>Discover</i>	13%	16%	14%	11%
<i>Psychology Today</i>	6%	6%	22%	24%
<i>Popular Mechanics</i>	21%	18%	11%	6%
<i>Science</i>	3%	4%	3%	4%
<i>Omni</i>	1%	1%	4%	4%
other (specify): _____				
<i>National Geographic</i>	4%	6%	5%	5%
<i>Popular Science</i>	1%	*	1%	—
all other	5%	6%	5%	7%

Q-23. Have you yourself read any books on *science or scientific topics* in the last year?

	+	+		
no	88%	86%	79%	70%
yes	12%	14%	21%	30%

Q-23a. [If "yes,"] Please list up to 3 science books that you have read in the last year.

[not tabulated]

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	Members	Elders	Pastors	Specialized Clergy
Q-24. Have you yourself read any books on <i>science and religion</i> in the last year?				
	+	+	+	
no	92%	88%	81%	80%
yes	8%	12%	19%	20%
Q-24a. [If "yes,"] please list up to 3 books on science and religion that you have read in the last year. [not tabulated]				
Q-25. Do you recall any sermons, studies, discussion groups, or presentations at your church in the last year which discussed:				
a. the effect of science on society?	+	+		+
yes	13%	19%	39%	25%
no	87%	81%	61%	75%
b. the effect of science on religious belief?	+	+		+
yes	20%	23%	44%	29%
no	80%	77%	56%	71%
Q-26. How many college-level science courses have you taken? Write the number on the line; if none, write 0. _____				
none	24%	18%	4%	5%
1 - 2 science courses	24%	24%	36%	31%
3 - 5 science courses	26%	26%	35%	38%
6 - 10 science courses	12%	17%	15%	14%
11 or more science courses	13%	16%	10%	12%
mean	5.8	6.5	5.0	5.8
median	3.0	3.0	3.0	3.0
Q-27. Do you have a college or graduate degree in science or engineering? (Check <i>all</i> that apply.)				
no	75%	70%	84%	82%
yes, a B.S. or other 4-year degree	22%	26%	15%	16%
	n=110	n=155	n=103	n=55
agriculture	4%	5%	4%	6%
biology	14%	7%	16%	17%
chemistry	4%	6%	11%	8%
computer science	2%	—	—	—
engineering	22%	33%	11%	4%
environmental studies	1%	1%	—	2%
geology	2%	1%	1%	4%
health education	1%	1%	—	—
mathematics	5%	5%	6%	6%
medicine	1%	4%	3%	—
nursing	11%	8%	3%	8%
pharmacy	3%	3%	—	—
physics/astronomy	1%	3%	2%	4%
science education	—	—	1%	—
social/behavioral science	3%	6%	17%	27%
other	—	—	—	—
non-science field	27%	18%	24%	15%

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n = number of respondents eligible to answer this question

◆ = percentages add to more than 100 because respondents could make more than one response

Q-24. Have you yourself read any books on *science and religion* in the last year?

	+	+	+	
no	92%	88%	81%	80%
yes	8%	12%	19%	20%

Q-24a. [If "yes,"] please list up to 3 books on science and religion that you have read in the last year.

[not tabulated]

Q-25. Do you recall any sermons, studies, discussion groups, or presentations at your church in the last year which discussed:

a. the effect of science on society?	+	+		+
yes	13%	19%	39%	25%
no	87%	81%	61%	75%
b. the effect of science on religious belief?	+	+		+
yes	20%	23%	44%	29%
no	80%	77%	56%	71%

Q-26. How many college-level science courses have you taken? Write the number on the line; if none, write 0. _____

none	24%	18%	4%	5%
1 - 2 science courses	24%	24%	36%	31%
3 - 5 science courses	26%	26%	35%	38%
6 - 10 science courses	12%	17%	15%	14%
11 or more science courses	13%	16%	10%	12%
mean	5.8	6.5	5.0	5.8
median	3.0	3.0	3.0	3.0

Q-27. Do you have a college or graduate degree in science or engineering? (Check *all* that apply.)

no	75%	70%	84%	82%
yes, a B.S. or other 4-year degree	22%	26%	15%	16%
	n=110	n=155	n=103	n=55
agriculture	4%	5%	4%	6%
biology	14%	7%	16%	17%
chemistry	4%	6%	11%	8%
computer science	2%	—	—	—
engineering	22%	33%	11%	4%
environmental studies	1%	1%	—	2%
geology	2%	1%	1%	4%
health education	1%	1%	—	—
mathematics	5%	5%	6%	6%
medicine	1%	4%	3%	—
nursing	11%	8%	3%	8%
pharmacy	3%	3%	—	—
physics/astronomy	1%	3%	2%	4%
science education	—	—	1%	—
social/behavioral science	3%	6%	17%	27%
other	—	—	—	—
non-science field	27%	18%	24%	15%

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	Members	Elders	Pastors	Specialized Clergy
Q-27. yes, an M.S. or other masters' degree	6%	10%	5%	6%
(cont.)	n=33	n=58	n=38	n=19
agriculture	—	—	3%	—
biology	10%	6%	6%	—
chemistry	—	2%	—	—
computer science	10%	2%	—	—
engineering	10%	26%	3%	—
environmental studies	3%	4%	—	—
geology	—	4%	—	6%
health education	—	—	—	—
mathematics	3%	—	3%	—
medicine	10%	—	3%	—
nursing	—	4%	3%	—
pharmacy	7%	—	—	—
physics/astronomy	—	2%	—	—
science education	3%	2%	—	—
social/behavioral science	10%	12%	9%	38%
other	3%	—	—	—
non-science field	28%	36%	70%	56%
yes, a PhD. or other doctoral degree	4%	5%	2%	3%
(cont.)	n=19	n=29	n=14	n=11
agriculture	21%	4%	—	—
biology	—	—	7%	—
chemistry	21%	17%	—	—
computer science	14%	8%	—	—
engineering	—	12%	—	—
environmental studies	—	—	—	—
geology	—	—	—	—
health education	—	—	—	—
mathematics	7%	—	7%	—
medicine	36%	12%	—	12%
nursing	—	—	—	—
pharmacy	—	4%	—	—
physics/astronomy	—	21%	—	—
science education	—	—	—	—
social/behavioral science	—	12%	14%	75%
other	—	—	—	—
non-science field	—	8%	71%	12%

Q-28. Does any organization, firm, or institution for which you work conduct or sponsor any scientific or technological research? (If retired or not employed, respond in terms of your most recent paid employment.)

no	76%	71%	95%	77%
yes	24%	29%	5%	23%

Q-28a [If "yes,"] to what extent are you associated with this research? (the *one* that best describes your involvement.)

	n=121	n=170	n=37	n=78
active participant	18%	30%	16%	23%
managerial oversight	13%	12%	3%	9%
some familiarity through colleagues	34%	45%	51%	49%
vague awareness	34%	13%	30%	18%

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