2012


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The Voyage of La Pirata

Studying the Behavior of the Galapágos Marine Iguana

The Galapágos Islands are often described as “unearthly,” and the westernmost island of Fernandina even more so. Its only regular inhabitants are the unique species that live there—iguanas that swim, giant tortoises, fun-loving sea lions, and huge flightless cormorants. And last summer they were joined by four researchers in tents and an observation shelter built from a shipwrecked boat. James Hayward, research professor of biology, graduate assistants Brianna Payne and Libby Megna, and Susana Velazquez Chávez, an Ecuadorian science teacher from Colegio Adventista del Ecuador, spent three weeks on the island closely observing the habitat behavior of the marine iguanas.

Hayward, working with his wife Shandelle Henson, professor of mathematics, has long been interested in the habitat selection by animals and finding ways to predict their behavior. Hayward and Henson have had success with mathematical modeling of seal and gull habitat occupancy behavior in the past. After observing marine iguanas during a vacation to the Galapágos Islands in 2006, they wondered if they could apply similar techniques to understand and predict the behavior of these animals, which are members of an entirely different taxon than those they’d previously studied.

The marine iguana (Amblyrhynchus cristatus) leads a pretty predictable life. The only land in the world that feeds in the sea, the iguana spends most of its day running on the beach, warming itself. When it’s sufficiently warm, the iguana swims out into the water, dives, and eats algae. It’s not in the water very long; because the waters around the Galapágos stay relatively cool, thanks to the Humboldt Current. After about 30 minutes of meals-on-the-go, the now-chilled iguana crashes back onto the beach and plays down. “Sometimes they’ll stay there all night until the sun comes up the next morning, and as soon as they’re warm again, they turn around again and go back into the water,” says Hayward. They seemed like good subjects for testing the theories of mathematical behavior modeling. The entire Galapágos archipelago is a national park, and much of it is open for research. The Ecuadorian government requires tourism shelter built from a shipwrecked boat.

Research at Andrews

On reading this research report some will wonder what is the use of it all, and why does the University spend time and money on it? But researchers see things differently as they ask, “Why did we not know this before, and what can this new knowledge do for us?” At this point research becomes education, and that explains why good universities invest time and money on it. I hope you enjoy this brief sampling of recent research activities at Andrews.

James Hayward, an Andrews’ biologist, along with graduate students Brianna Payne and Libby Megna, revisited the Galapagos Islands to study its marine iguana. These animals seemingly from another age have survived in their isolation and present a fascinating study of animal behavior.

Karl Bailey, a young researcher in our behavioral sciences department, has produced a new biography of a well-known early Seventy-day Adventist pioneer and church leader, known to many by name, but not by much else. Thanks to this work we now know J.N. Loughborough as his denomination’s first historian.

Several of the other research activities reported here combine the old and the new in order to bring fresh understanding to important subjects or to find solutions to age-old problems. Brian Strayer in the history department has produced a new biography of a well-known early Seventy-day Adventist pioneer and church leader, known to many by name, but not by much else. Thanks to this work we now know J.N. Loughborough as his denomination’s first historian.

Two Andrews’ researchers have studied a worldwide epidemic, the cure of which has escaped scientists for decades: acute anxiety caused by mathematical processes of adaptation.”

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Involvement in real research is having measurable effects on students’ perceptions of self-efficacy and enjoyment of research.

When you look at the data, the only thing that doesn’t change is the perception of usefulness of research, and that’s because it was already at the ceiling,” says Bailey. “Everything else moves very significantly—in fact, by about half a standard deviation. We’re moving students’ perceptions of their skills by about a full standard deviation, and it appears that practical experience with research is what’s doing it.”

And practical research experience is liberally sprinkled throughout the behavioral sciences curriculum. Most students take two classes, Research Methods I & II, in their first or second year. Research Methods I introduces them to statistics and requires a small research project. In Research Methods II, behavioral scientists professors mentor smaller groups of students on their research. Then, students begin to develop their own projects. If faculty members have research grants, students will work on research with them. “Other students work on independent projects for credit; and some students are doing projects simply out of curiosity—without pay or credit,” says Bailey. “At any given time, we probably run about 30 student-led projects in the department.”

After two more Research Methods classes, students are required to attend or present at a regional or national conference, usually the
quite well when compared to students coming from students—our students are still able to perform well—says Bailey. “Even though we’re a relatively non-research oriented department, our approach remains the same.”

The department’s approach involves integrating research into the curriculum to distribute it among the students. Thus, students are transitioning from the first group to the last because it “gets in the way”; on the other end of the spectrum is the group that integrates Sabbath keeping into their everyday lives. “It looks like our subjects are transitioning from the first group to the last the longer they stay Adventist.”

Such a commitment to student research involvement can often be time- and resource-consuming, but the department’s approach inserts research into the curriculum to distribute it among the students. Bailey says, “Even though we’re relatively non-research oriented department—we don’t take just the best students—our students are still able to perform well when compared to students coming from other research-oriented schools.”

For example, 21 students recently attended the Midwestern Psychological Association Conference in Chicago. Fifty students applied to present their research, but only the department’s most motivated students were selected. “We have some students who really want to do research, but there are others who just want to do something else,” says Bailey. “I don’t want them to think about the polar bear, please proceed to read the rest of this article. You may find yourself not wanting to finish the article, perhaps due to something known as ego depletion.”

We think of self-control as a muscle,” says Arianna Lashley, senior behavioral sciences major. “In the short term, it can be depleted, but in the long-term, it can be strengthened. Ego depletion suggests that after completing one task, we deplete our finite resources of self-control enough, so that mustering the self-control to complete a second task is much harder.”

Arianna’s research draws on the principles of ego depletion, and “my own twist was how religion can affect restoration of self-control.” Working under a faculty research assistant for a multi-ethnic tracking task (MOTT) and selecting of theologian Jonathan Edward’s writing to measure ego restoration after positive and religious activities. Her first study tried to produce the effect of ego depletion by using the white bear task like you experienced above. “You’re thinking about the white bear again, aren’t you? But the results didn’t come out quite as expected. “The white bear should task have worked—all the literature said it should have—but it didn’t. We changed a lot of variables, but kept getting the same results. This may have been caused by the population we were testing—college students who are relatively self-controlled.”

Arianna then wondered if religion was actually motivating and restoring self-control. After asking her subjects to rate their emotions, she had them read one of two passages: one from Jonathan Edwards’ fire-and-brimstone sermon “Sinners in the Hands of an Angry God,” and a more hopeful one from Edwards’ “Resolutions.” Then she had them rate their emotions and respond to the passage they read, and do several MOTT tasks to measure their self-control score.

Surprisingly, the group that read “Sinners in the Hands of an Angry God”—a negative passage expected to deplete self-control—had higher visual attention scores. The “Angry God” group may have done better “perhaps because of emotional factors, but more likely because they felt increased autonomy.” In their responses, that group rejected the character of God depicted in the passage and wrote about their own beliefs. “Since the perception of greater autonomy generally produces more self-control, we think they may have performed better because they actively substituted their own ideas about God, instead of simply agreeing with the ones presented.”

On May 3, she presented her research at the Michigan Psychological Association Conference. Arianna’s research has garnered her two presentations—one at the MPA conference and the other her Senior Honors Thesis. “Although my research didn’t work at first—I actually got the opposite effect than the literature suggested—I’m learning how to do research,” she says. “When I took these surveys in my research methods classes, my efficacy was low. Going through the research methods classes really helped my anxiety. I realized that research wasn’t easy, and it was time consuming, but it was definitely doable. And I discovered that I really enjoy doing research.”

More than 50 Andrews University students and faculty attended the 118th annual Michigan Academy of Science, Arts & Letters Conference at Alma College in Alma, Mich. on March 2, 2012. Many students presented their own research at the conference, others presented jointly with their professors, and a few awarded simply to gain the experience.

The University annually brings students to the MSA conference, but according to Gary Burdick, associate dean of research, twice as many students presented than in previous years. In the past, the presentations were designated Earhart Emerging Scholars: Sarah (Gane) Burton and Kristina Penny. They sat down to talk about the scholarship, their research and future plans.

SF: What are Earhart Emerging Scholars, and how did you become one?
KP: My teachers nominated me, and at the time I didn’t really know it was a scholarship. For my job, I fill out and sign a lot of papers, so when they gave me the forms I signed them but didn’t realize until later that it was a scholarship.

SG: Last fall, I presented my research at a symposium where we communicated well with the Madaba Plains Project, and two months later I got the Michigan Academy notification. The award covers all our expenses registering for and traveling to the conference, as well as a $725 award, and requires that we attend and present our research.

SF: Describe the research you presented. Did you work with a professor or did you choose your own topic?
SG: My research, overseen by Kristin Witzel and Øystein Laflaiana, grew out of an undergraduate research assistantship to Dr. Laflaiana in the spring of 2011. I’m exploring national identity in Jordan, especially the effects of Palestinian immigrants on concepts of national identity. Jordan itself is a relatively new state, created in the early 1900s, and has quite successfully begun creating its own identity. Jordanian national identity celebrates tribalism, which is essentially finding one’s identity in a tribe rather than a nation or ethnicity. The problem they’re having now is that with the influx of Palestinians, a more agricultural people, what does it mean to be Jordanian? When I was in Jordan two summers ago, I conducted interviews with Jordanians and Palestinians—five Jordanians and three Palestinians, and interacted with many more that didn’t want to be interviewed. There hasn’t been much case-study research since 2003, which is surprising since a lot has happened in the Middle East since then.

KP: I also worked in Jordan, documenting the work of the Jordan Field School with Patrice Jones, assistant professor of communication. Our project was an exposé on what’s happening in the Jordan Field School. The Field School prides itself on involving many different departments—archaeology, anthropology—more students do good jobs or to avoid communicative gerrymandering. It was used for a website for the Jordan Field School, called “Digging Deep, Building Up, and Reaching Up” that highlighted the different departments and their work through the Field School.

The second part of my research, which is probably more what I’m getting the scholarship for is primarily the development of a website for the Jordan Field School (www.madabaaplains.org/hisbar). We were also working with Edwin Burke on an iPad app and a virtual tour of the site, which was what a lot of the footage was used for.

SF: What got you interested in these projects?
SG: I chose my project because of a conversation I’d once had with two Jordans. I asked them if there could be such a thing as a Palestinian Jordanian. One said no, and the other, who was younger and had more experience with the West, said yes. I was very interested in the difference of opinion.

KP: Sarah, what did you discover in your research?
SG: In general, the celebrations of Jordanian tribalism make the Palestinians feel excluded, since they are not natively tribal, but a more agricultural people. The Palestinians I interacted with feel that Jordanians are prejudiced and treat them as second-class, and don’t allow them to have real political voice in government. On the other hand, Jordanians feel that Palestinians, who actually hold some government positions, are usurping those positions. They believe that Palestinians only want a Jordanian passport and papers. But most importantly, Jordanians are afraid that the Palestinians, who have no state of their own and whose identity is now largely centered on displacement, will try to turn Jordan into a Palestinian state.
Focus on professional development with people, gain sources and do research. The key is, because it proves that you can interact with students and faculty from other universities with more experience, you can learn more. Doing the research itself has given me a chance to learn a lot more about my areas of interest. The topic comes up a lot in systematic theology, and I realize “other.” A lot of theologians are beginning to explore the assumptions about gender and sexuality embedded in Shakespeare’s playtext and engaged by McKnutt’s performance. However, queer theory’s limited use at Andrews made me look forward to the opportunity to talk to some students and faculty from other universities with more experience in this area. As I walked, I reflected on the sense of community offered by research. After all, thanks to this conference I already have one new friend who shares a passion for ethics and film. Though facing the challenges of coherent critical thinking and endless reading as solitary labors, once that prized kernel of insight appears, it demands to be shared and vetted by other, interested scholars. So, while research is pursued individually, it can only be of use when shared with a wider community, meaning that interacting and communicating with others is a key skill developed by any successful researcher. These traits grow along with the more individual virtues cultivated by research such as the initiative and responsibility required to set reasonable goals and follow through on those plans. And of course, one cannot forget the sense of pride and personal accomplishment gained from contributing to human understanding of a topic you feel is important.

Recent Andrews graduate Theron Calkins is currently teaching English at a public school in South Korea. He stays busy writing and exploring the country.

### Theron Calkins

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**The History of a Historian**

**Strayer Authors Biography of Loughborough**

Despite his prolific contributions to Adventist publications, his role as first historian for the church, and his decades as a missionary throughout the world, there has never been a scholarly biography of J.K. Loughborough. Brian Strayer, president of history, is championing that with his new biography of the early Adventist pioneer (Review and Herald Press, January 2013). The book, part of the Review and Herald’s Adventist Pioneer series, represents the first scholarly history of the first Adventist historian, and the authoritative book written on his life.

John Norton Loughborough was born in 1832 in upstate New York, and as a boy joined the Millerite movement. He encountered the newly formed group of Seventh-day Adventists in 1851. “He was Irish, not English as he liked to pretend himself,” says Strayer. “The Irish were much hated in America at the time, and it’s probable that his new wife wanted to change the name as quickly as possible.” Loughborough also outlived three wives, which is a known fact but unusual for the time, as most early Adventists only married once, and the women tended to outlive the men.

Loughborough’s diaries also reveal more personal sides of him: he wasn’t a good spell, for instance, often writing of going to “Calafornia” and “Great Britain.” Strayer was personally surprised by the fact that Loughborough was only 5’4”. “He often wrote about California and Great Britain.” Strayer was able to discover several eye and printed in denominational publications. “His legacy is in his writing of the histories, his articles about prophetic themes, and his organizational development. He established new churches, conferences and unions throughout North America, England, Australia and South Africa, as well as other satellite organizations,” says Strayer.

The book began as a request in 2009 from George Knight, general editor of the Adventist Pioneer Series, to write a biography on any one of “half a dozen different pioneers,” says Strayer. “But he tipped the scales a little when he said he’d like historian to deal with our first Adventist writer of history.” Preliminary research revealed to Strayer that Loughborough had been born only a few miles from Strayer’s hometown, “so that was a little emotional tie,” he says. “I agreed to do Loughborough. This was before I knew the huge amount of material we have on Andrews,” he jokes. “Sixty some diaries; over three hundred letters—I bit of a bit more than I thought I could chew.” With a manuscript deadline of January 2012, Strayer began his research by reading all available secondary literature on Loughborough. “It wasn’t much—a children’s book gave me the outline of his childhood. I checked every reference to him in the denominational history textbook, and any references in current literature.” Once he had the big picture of Loughborough’s life, Strays began reading all of Loughborough’s articles—and there are many—in denominational publications from across the country and spanning over 70 years. Then Strayer turned to Loughborough’s unpublished writings: more than 300 letters and 60 diaries, “little pocket-sized things in which he recorded his personal, private life.” Strayer spent more than two years sifting through articles, diaries and letters to find “the real Loughborough.” While much of Loughborough’s life was lived in the public eye and printed in denominational publications, Strayer was able to discover several previously unknown or obscure facts about Loughborough. To begin with, Loughborough wasn’t his real name: he was born John Loofober, and changed his name when he married in 1861. “He was Irish, not English as he liked to pretend himself,” says Strayer. “The Irish were much hated in America at the time, and it’s probable that his new wife wanted to change the name as quickly as possible.” Loughborough also outlived three wives, which is a known fact but unusual for the time, as most early Adventists only married once, and the women tended to outlive the men.

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Solving the Math Anxiety Problem

Determining Causes and Expressions May Lead to a New Teaching Methodology

Ask most elementary or high school kids what their least favorite subject is, and chances are they’ll say “math.” But the dislike often doesn’t stem from simply a dislike of calculations; rather, the emotional and sometimes physical responses to doing math are part of a phenomenon known as “math anxiety.” Rudi Bailey, professor of educational psychology, school psychology, and special education, and Jeannie Montagano, associate professor of school psychology, are exploring the manifestations and causes of math anxiety and are garnering renewed interest in the field of educational psychology in what Bailey calls, “in North America, a nearly universal condition.” Math anxiety, simply defined, is an emotional reaction to doing math. It pops up in children of about the third-grade age, but can be found in people of all ages. It can be manifested in many different ways, from a vague uneasiness to a physical feeling of sickness, and translates across genders and ethnic groups. The phenomenon was the subject of some research in the 1980s, but has largely fallen out of focus since then. “We’ve always known that kids are having problems with math, but never seemed to have enough evidence to do something about it,” says Bailey. “Now it’s becoming a renewed area of interest.” Bailey and Montagano have just finished data collection on a series of studies designed to explore manifestations of math anxiety in intermediate-level children. From the two studies they’ve conducted, they have made 19 presentations at regional, national, and international conferences—as well as six posters at Andrews University’s Celebration of Research in fall 2011. They took their research to the Midwestern Psychological Association in the spring of 2012, as well as the American Psychological Association conference in August, 2012. Since their research represents a resurgence of a relatively dormant interest, their studies have been drawing quite a bit of interest from other researchers. Along with a few other researchers, Bailey and Montagano’s studies are helping bring math anxiety research back into the spotlight.

Their first study was derived from Montagano’s doctoral research. A school psychologist in the Bristol-Goshen area for more than 20 years, Montagano minioned in math college research in the same vein when they portrayed the past “wars and all.” Strayer, who earned a doctorate in 17th and 18th century French history, says Adventist history is “more of an avocation” for him. He has published a number of books and articles on religious conflicts in 17th and 18th century France, but finds “there are fewer scholars in the field [of Adventist history] and you can discover new things more frequently.” He is already in the middle of his next project, a biography of Andrews alumna Bluye Owen, one of the first women in the United States to earn a PhD in music composition, which he is co-writing with Linda Mack, music librarian.

The first study drew upon several existing math anxiety questionnaires to determine how math anxiety is expressed when it first starts to appear in children. Bailey and Montagano found that no single math anxiety questionnaire was adequate to their research: “Some of them measure performance, while others measure calculation anxiety, while others measure physiological effects,” says Bailey. When creating a survey of their own, they made sure that all those components were included.

The first study was group-administered to 321 students in Grades 4 & 5 in the Middlebury-Shilohswana, Ind. school district. Teachers read the surveys aloud to students gathered in their homerooms, and the students individually marked their responses to statements and questions such as: “When I have to explain a math problem to my teacher, I feel...” “Playing games where numbers are involved makes me feel...”

Two years later, they conducted a follow-up study on 536 students from Grades 4-6 in Elkhart, Ind. This time, they also tested a range of minority children: “The first study was 99.8 percent Caucasian,” says Montagano. In their studies, math anxiety translated equally across ethnic groups: there was no difference in levels of anxiety. Between the genders, however, Bailey and Montagano found that more females were math anxious than males, although they expressed anxiety in the same way. (This may be partially influenced by the commonly held belief that math is not a “girl’s subject” because boys are “just better” at math.) Their studies showed that the umbrella heading “math anxiety” actually covers a wide range of anxiety types, any of which can combine depending on the situation the math-anxious child is in.

Why does math make us anxious? Perhaps the emphasis that there is only one right response and a number of wrong answers, says Montagano. When it’s taught to elementary and intermediate-level children, the emphasis is often put on getting the right result rather than understanding the fundamental process. Additionally, adds Bailey, there’s evidence that suggests we come to the world with a sort of “math sense.” When people, especially children, feel their innate “math sense” not being properly exploited, they experience the emotions traditionally associated with math anxiety. So a third grader who learns to view math as result-driven and finds himself consistently getting the wrong results begins to “hate” math, because it calls up a number of unpleasant emotions and feelings of inadequacy. While some anxiety is good and functions as a motivator, too much is debilitating, and uses up working memory, which could be used to solve the problem, says Montagano. Helping them overcome their feelings of anxiety or their fear of performance allows them to direct their energies to the math itself, and not the myths surrounding math.

So could we see the rise of the math counselor in schools? Perhaps in the future, although current research into math anxiety isn’t at the point where it begins to affect the curriculum. But the growing interest in math anxiety research shows a promising trend—determining the causes and expressions of math anxiety may lead to a new way of teaching math that stresses understanding and mastery of concepts rather than “getting it right,” as many kids fear. Bailey cites current literature that suggests the way to combat math anxiety is not to teach more math, but to help students relax and deal with the emotional issues. This research could have long-term effects on school psychologists as well—Montagano suggests that a child manifesting math anxiety should not immediately be considered to have a learning disability. Bailey and Montagano hope to pursue another possible influence on math anxiety, that of math-anxious teachers, who may be transmitting their own emotions to their students.
The Future of Archaeology: Using Modern Technology to Uncover the Past

Of all three sites in the Madaba Plains Project, perhaps nowhere do modern technology and ancient history meet so successfully as at Tall Jalul. Randy Younker, the site’s director, and his team of archaeologists have been using the most up-to-date equipment to reconstruct a more complete picture of the past. As the dig at Jalul enters its second phase, the Madaba Plains Project team has just published a book, Madaba Plains Project: 60 Years, detailing the first phase of excavations at all three sites.

When Siegfried Horn first visited Jalul, he thought it might be the site of the biblical Heshbon, a city of the Amorite king Sihon and perhaps the location of the "pools of Heshbon" mentioned in Song of Solomon. Horn had begun excavating Tell Hishabin in hopes of finding evidence of the biblical Heshbon, but after a few seasons didn’t discover the necessary evidence of a Late Bronze Age occupation from around 1400 BC.

Initial investigations and pottery analysis from Jalul revealed that the site contained sherds from the Late Bronze Age, from exactly the time Sihon would have occupied the city. By the time the digging permit came through in 1992, the archaeologists’ research objectives had broadened: they were interested in investigating not only the biblical history of the site, but also the history of the entire region. “Jalul is the biggest site in the region,” says Younker. “It’s even bigger than Hishabin—and so we knew it had to be some sort of important site,” says Younker.

Younker, who was the junior leader of the Madaba Plains Project at the time, “took some people and a bit of the budget and began digging, in just a couple small fields.” Excavations at Tall Jalul have since expanded to include some of our major research sites,” says Younker. “We’ve been digging there almost every year since 1992; it’s a full-time, multi-disciplinary project.”

Very early on, the team discovered that Jalul had been occupied “fairly continuously from about 3500 BC until the Ottoman period, up until just about World War II,” which is about 5,000 years of history. Most of their findings are from the Iron Age and the Persian Period (1200–350 BC), although they have pottery and other artifacts from the Late Bronze Age (1550–1200 BC). “We know from the pottery and some inscriptions that the site was probably an Ammonite site by the 7th century,” says Younker. “We’re also finding a bit of Moabite pottery from the 8th century, which could come either from trade or residence in our site.”

But perhaps the most interesting find at Jalul is a series of interconnected pools that Younker and his colleagues believe may be the “pools of Heshbon” likened to the Beloved’s eyes in Song of Solomon. Within the walls of the city, the archaeologists found a massive reservoir possibly fed by artesian springs. Running from the reservoir to the outside of the city is a half-meter-wide channel, which Younker thinks was “probably done in the 7th century, after the reservoir was dug.” The channel drains into a series of four ancient ponds at progressively lower elevations. The Madaba Plain, as well as the city of Jalul, sits on top of a large aquifer, and at times there was more water than the city could use or the reservoir could hold—"so they built this water channel. We think the water ran out of the city reservoir into the first pool, which is very large and today is being used as a soccer field." The team is now trying to determine if the pools existed in the 10th century BC, when Song of Solomon was written. “If that’s the case,” says Younker, “could these be the pools of Heshbon the Bible talks about?” Jalul continued to be an important site throughout the Middle Ages, when Muslim traders would stop and water their livestock at the pools or visit the site on pilgrimages.

Younker and his team are documenting their findings with innovative technology, and bringing the digital age to the Bronze Age. The entire site is mapped with geographical information systems (GIS) software, which lets the team create 3D topographical maps and movies of the site. Each artifact the team digs up is also recorded with GPS; Younker says, “We can get accurate 3D data of everything on the field. If we find even a coin, we can get its exact longitude and latitude down to a resolution of about one centimeter.”

The team has a 3D scanner they use to scan potsherds, which are crucial for the artifacts they find. With the new technology, they can get its exact longitude and latitude down to a resolution of about one centimeter. Each artifact is recorded digitally and more accurately than in the traditional paper form. The team hopes in the future to be able to use 3D technology to reconstruct the ancient buildings.

Where Culture and Theology Intersect

Stan Patterson once asked a group of church leaders assembled in Russia, “Which takes precedence in determining our leadership practices, our theology or our culture?” The answer unequivocally came back, “culture.” Patterson was shocked. “I looked around, how could major Adventist people make a statement like that, especially when we have such a strong history of making the Bible our standard?”

But then he kept listening. The issue was “unhealthy for the emotional, many of whom had grown up during the Soviet era. ‘Being Seventh-day Adventist in the Soviet Union generally meant you were from a minority group,’ Patterson says. ‘Students of history will recall the widespread marginalization of minority groups in favor of a unified Soviet state. ‘Their cultures were attacked by both the Soviet Union and the Orthodox Church to a degree where there was an attempt to obliterate their culture. The pain they experienced made it difficult for them to agree with the abstract statement, ‘My theology will determine my church culture,’ because their culture was precious to them.”

Case studies like these have been the basis for the second phase of a global study conducted by Erich Baumgartner, professor of leadership and international communication, and Stan Patterson, associate professor of church ministry. Baumgartner and Patterson are interested in understanding how denominational leaders around the world view the responsibilities of leadership—the Incan culture, then the Spaniards and the Roman Catholic Church—than in the Roman Catholic Church—than in the

Leadership Around the World

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"Many countries have a top-down hierarchical mentality," says Patterson, citing a few examples of South American and African nations, "and they don’t even think about the fact that dominating leadership is a violation of the standard established by Jesus Christ for his church. A lot of those things are innocently violated, I believe, because the expectation [of leaders in that country] is that you lead as a top-down leader.”

For example, leadership will be different in Peru, whose history includes a long tradition of more rigidly hierarchical leadership—the Incan culture, then the Spaniards and the Roman Catholic Church—than in the

Erich Baumgartner (seated) and Stan Patterson discuss the data compiled from studies of global church leadership.
northern European or North American countries. The way a leader is expected to lead in the United States, many of them at Andrews University, or trained by teachers who have been trained in the United States. However, the American concept of a leader is often very different from, say, the Persian concept of a leader. “The question becomes, how do we develop leaders so that they use their authority in appropriate ways for the good of the community and reflect principles of biblical leadership?”

Leadership is a social construction, says Baumgartner. “Philosophically, we would say that leadership should be primarily determined by our culture at large, then, often trickles down to the institutions to the world church, it has the potential to impose a predominantly Western view on other cultures. Can biblical leadership be enacted in different regions across the world?”

“With over 20 million Adventists distributed across the livable continents, that’s a lot of different leadership styles.”

Baumgartner. “That means that what it means to be a leader is a large degree already determined by the society to which a person belongs.” With over 20 million Adventists distributed across the livable continents, that’s a lot of different leadership styles. “We want to be aware of the whole spectrum of leadership styles,” says Baumgartner, “so we can then go back to our leaders who are responsible for leadership development.” Then, the church must determine what biblical leadership can incorporate principles of biblical leadership into their own cultures.

However, the Bible also advocates a specifically counter-cultural approach to church leadership. The example most commonly cited is found in Matthew 20:25–26, “the rulers of the Gentiles lord it over them...not with so you.” When should church leadership incorporate cultural influences, and when should it stand in opposition to cultural leadership styles? It’s a fine line to walk. “There is nothing wrong with some cultures being more oriented towards a hierarchical style,” says Baumgartner. Mandating an immediate switch to a more egalitarian and biblical leadership style “not necessarily in harmony with the culture’s approach to leadership creates confusion,” he says. “On the other hand, you have certain principles in Scripture, of them God entrusted to us with the power to choose, and no one should dominate over another. If there’s a gap between leadership in culture and leadership in the church, should the church say something about that and be counter-cultural to those kinds of things? I think so.”

Their study may help determine appropriate areas for cultural influence in church leadership, and lead to improved training for church leaders. “How the principles of servant leadership are expressed [world wide] is exactly the object of our study,” says Baumgartner. “We want to steer away from imposing a predominantly Western view on other cultures. Biblical leadership can be enacted in other ways, and can it be legitimate. I have a bunch Jesus would say yes.” While the study cannot as yet make recommendations to the world church, it has the potential to usher in a new era of diverse and cross-cultural leadership practices.
Erica Evans, junior biology major/chemistry minor, explains her research to a fellow student at the March 2012 Honors Poster Session.