

English Composition Reading Anthology

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Lumen Learning



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CONTENTS

Reading Anthology: Level 1	1
• A Beginner's Guide to the History of Western Culture.....	1
• The Yellow Wallpaper.....	6
• 5 Ways to Avoid Fighting over Frozen Embryos.....	17
• The Aztec Calendar	18
• The Adventure of the Abbey Grange	21
• Daily Life in Ancient China.....	33
• Against Inspiration	39
• Beyond the Door.....	43
• What Is Cultural Heritage?.....	47
• U.S. and China May Take Biggest Hit from Invasive Species	50
• Why You Forget What You Came for When You Enter a Room	51
Reading Anthology: Level 2	53
• Who Needs to Be In an ICU? It's Hard for Doctors to Tell.....	53
• Buddhist Art	55
• Fears Predict Views About Police Reform.....	65
• Why Make-Believe Play Is an Important Part of Childhood Development.....	67
• Straight A Students May Not Be the Best Innovators	69
• The Middle Toe of the Right Foot	71
• Where Does Anti-LGBT Bias Come from—and How Does It Translate into Violence?	76
• The Nice People	81
• Rodeos, Wild West Shows, and the Mythic American West.....	86
• Progress and Controversy Arrive with New Rules for Fracking on Public Lands	89
Reading Anthology: Level 3	92
• Out of the Classroom and Into the City: The Use of Field Trips As an Experiential Learning Tool in Teacher Education	92
• Everyday Life As a Text: Soft Control, Television, and Twitter.....	109
• Declines in American Adults' Religious Participation and Beliefs, 1972–2014	123
• On Like Donkey Kong: How a Dubious Super PAC Boosted a Questionable Penny Stock.....	139
• The Production of Comedy: The Joke in the Age of Social Media	143
• Teaching Diversity: The Science You Need to Know to Explain Why Race Is Not Biological	151
• Predictors of English Health Literacy among U.S. Hispanic Immigrants: The Importance of Language, Bilingualism, and Sociolinguistic Environment.....	172
• The Great Republican Crack-up	184
• Trust in Scientists on Climate Change and Vaccines	203
• The Female Executive's Perspective on Career Planning and Advancement in Organizations.....	222

READING ANTHOLOGY: LEVEL 1

A BEGINNER'S GUIDE TO THE HISTORY OF WESTERN CULTURE

Introduction

History has no natural divisions. A woman living in Florence in the 15th Century did not think of herself as a woman of the Renaissance. Historians divide history into large and small units in order to make characteristics and changes clear to themselves and to students. It's important to remember that any historical period is a construction and a simplification. Below are some important basics to get you started.

As you read the timeline below, please keep in mind that equally momentous developments have occurred in Africa, Asia, the Americas and in the Pacific.



Prehistoric (before c. 3000 B.C.E.)

The term “prehistoric” refers to the time before written history. In the West, writing was invented in ancient Mesopotamia just before 3000 B.C.E., so this period includes visual culture (paintings, sculpture, and architecture) made before that date. The oldest decorative forms we can recognize as art come from Africa and may date back to 100,000 B.C.E. In contrast, the oldest cave paintings known are about 40,800 years old, and although we used to think that only our species, *Homo Sapiens Sapiens*, made art—anthropologists now speculate that Neanderthals may have made at least some of these very early images.

The Neolithic revolution, one of the most profound developments in all of human history, occurs during the Prehistoric Era. This is when our ancestors learned to farm and domesticate animals, allowing them to give up their nomadic ways, and settle down to build cities and civilizations.

Ancient (c. 3000 B.C.E. to c. 400 C.E.)

This period includes the great early civilizations of the ancient Near East (think Babylonia), ancient Egypt, ancient Greece, the Etruscans, and the Romans—everything that comes after the invention of writing and before the fall of the Roman Empire. Keep in mind the disintegration of the Roman Empire took centuries, but to simplify, c. 400 will do.

It was during this period that the ancient Greeks first applied human reason to their observations of the natural world and created some of the earliest naturalistic images of human beings. This period is often credited with the birth of Western philosophy, mathematics, theater, science, and democracy. The Romans in turn created an empire that extended across most of Europe, and all the lands that surround the Mediterranean Sea. They were expert administrators and engineers and they saw themselves as the inheritors of the great civilizations that came before them, particularly, Greece and Egypt (which they conquered).

It's important to remember that although history is often presented as a series of discrete stories, in reality narratives often overlap making history both more complex and more interesting. For example, it was also during the Roman Empire that the historical figure we now call Jesus Christ lived. Jesus and his apostles were Jewish men living in what is today Israel, but which was then part of the Roman Empire.



Middle Ages (c. 400 C.E. to c. 1400 C.E.)

The first half of this thousand-year period witnessed terrible political and economic upheaval in Western Europe, as waves of invasions by migrating peoples destabilized the Roman Empire. The Roman emperor Constantine established Constantinople (now Istanbul, Turkey) as a new capital in the East in 330 C.E. and the Western Roman Empire broke apart soon after. In the Eastern Mediterranean, the Byzantine Empire (with Constantinople as its capital), flourished.

Christianity spread across what had been the Roman Empire, even among the migrating invaders (Vandals, Visigoths, etc.), and the Christian Church, headed by the Pope, emerged as the most powerful institution in Western Europe, the Orthodox Church dominated in the East.

It was during this period that Islam, one of the three great monotheistic religions, was born. Within little more than a century of the death of the Prophet Muhammad in 632 C.E., Islam had become an empire that stretched from Spain across North Africa, the Middle and Near East, to India. Medieval Islam was a leader in science and technology and established some of world's great centers of learning (i.e. Cordoba). Islamic culture played an important role in preserving and translating ancient Greek texts at a time when much of the knowledge created during the ancient world was lost.



Petrarch (a writer who lived in the 1300s) described the early Medieval period as the “Dark Ages” because to him it seemed to be a period of declining human achievement, especially when he compared it to the Ancient Greeks and Romans. The “Middle Ages” got its name because Renaissance scholars saw it as a long barbaric period that separated them from the great civilizations of ancient Greece and Rome that they both celebrated and emulated.



Medieval society was organized into clearly defined strata. At the top was the king. Below were lesser nobles. These lords in turn, ruled over peasants and serfs (the vast majority of the population). Serfs were laborers who were permanently bound to work the land owned by their lord. The basic unit of this system, known as Feudalism, was the lord/vassal relationship. The vassal would provide labor (in the fields or in battle) to the lord in exchange for land and protection. Mobility between strata was very rare.

Of course, the thousand years of the Middle Ages saw the creation of many great works of art and literature, but they were different from what Petrarch valued. The works of art created in the Middle Ages were largely focused on the teachings of the Church.

It is important to remember that during the Middle Ages it was rare that anyone except members of the clergy (monks, priests, etc.) could read and write. Despite expectations that the world would end in the year 1,000, Western Europe became increasingly stable, and this period is sometimes referred to as the Late (or High) Middle Ages. This period saw the renewal of large scale building and the re-establishment of sizable towns. Monasteries, such as Cluny, became wealthy and important centers of learning.

Within the Middle Ages, there are subdivisions in art history, including Early Christian, Byzantine, Carolingian, Ottonian, Romanesque and Gothic. When we look closely at much of the art and politics of the 1,000 years of the Middle Ages, we find a complex and ongoing relationship with the memory and legacy the ancient Roman empire and this is the foundation for the Renaissance.

Renaissance (c. 1400 to 1600)

In part, the Renaissance was a rebirth of interest in ancient Greek and Roman culture. It was also a period of economic prosperity in Europe—particularly in Italy and in Northern Europe. In art history, we study both the Italian Renaissance and the Northern Renaissance. We talk about a way of looking at the world called Humanism, which—at its most basic—placed renewed value on human knowledge, and the experience of this world (as opposed to focusing largely on the heavenly realm), using ancient Greek and Roman literature and art as a model.



There are only a handful of moments in history that we can point to that changed everything. The invention and adoption of the printing press was certainly one. As a result of the wider availability of books, literacy rates in Europe dramatically increased. Readers were empowered and in many ways we can trace the origin of our own information revolution to 15th-Century Germany and Gutenberg's first printing press.

In 1517 a German theologian and monk, Martin Luther, challenged the authority of the Pope and sparked the Protestant Reformation. His ideas spread quickly, thanks in part to the printing press. By challenging the power of the Church, and asserting the authority of individual conscience (it was increasingly possible for people to read the bible in the language that they spoke), the Reformation laid the foundation for the value that modern culture places on the individual.

It is also during this period that the Scientific Revolution began and observation replaced religious doctrine as the source of our understanding of the universe and our place in it. Copernicus up-ended the ancient Greek model of the heavens by suggesting that the sun was at the center of the solar system and that the planets orbited in circles around it. However, there were still problems with getting this theory to match observation. At the beginning of the 17th century, Kepler theorized (correctly!) that the planets moved in elliptical orbits (not circular

ones) and that the speed of the orbits varied according to the planets' distance from the sun. So much for the ideal geometries of the Greeks!

Early Modern (c. 1600 to 1800)

It might seem strange to date the beginning of the “modern era” to so long ago, but in many ways it was the scientific, political and economic revolutions of the 16th, 17th and 18th centuries that have most shaped our own society.

Art historians study the Baroque style of the 17th Century. This was a time of extended and often violent conflict between Catholics and Protestants made all the more complex because of the growing power of the Europe's great monarchies. It was a time when nations grew in size, wealth and autonomy and when national boundaries were hardened, prefiguring the countries we know today (France, Spain and England for example). This was also a period of colonization, when European powers divided and exploited the world's people and natural resources for their own benefit.

The 1700s is often called the Enlightenment. In many ways, it furthers the interest in the individual seen in the Italian Renaissance and more widely during the Protestant Reformation. Thinkers such as Rousseau, Voltaire and Diderot asserted our ability to reason for ourselves instead of relying on the teachings of established institutions, such as the Church. In art history we study the Rococo and Neoclassical styles.

The American and French Revolutions date to this period. The emerging middle classes (and later the working-classes) began a centuries-long campaign to gain political power, challenging the control of the aristocracy and monarchy. Successive reform movements (in this period and the 19th Century) and revolutions gradually extended the franchise (the right to vote). Previously suffrage had been limited to males who owned land or who paid a certain amount in taxes. It was only in the second half of the 19th and the 20th Centuries that universal suffrage became the norm in Europe and North America.



Isidore-Stanislas Helman's print after Charles Monnet's drawing of the execution of Louis XVI, 1793

Modern (after c. 1800)

Capitalism became the dominant economic system during this period (though it had its roots in the Renaissance). Individuals risked capital to produce goods in a currency-based market which depended on inexpensive, waged labor. Labor eventually organized into unions (latter-day guilds) and in this way, asserted considerable influence.

More broadly shared political power was bolstered by overall increases in the standard of living and the first experiments in public education.

Steam-powered machines and unskilled laborers in factories began to replace skilled artisans. London, Paris, and New York led the unprecedented population growth of cities during this period, as people moved from the countryside or emigrated to find a higher standard of living.



The 20th Century was the most violent in history. It included two world wars, the Cold War, the dismantling of colonialism and the invention of the Totalitarian state. Dictators (Mussolini, Hitler, Stalin, Idi Amin, Pol Pot, the successive leaders of North Korea, etc.) imposed extreme political systems that caused mass starvation, mass dislocations and genocide. At the same time, the 20th Century was marked by the struggle for human rights and the rise of global capitalism.

Where artists had previously worked under the instructions of wealthy patrons associated with the church or state, in this period, art became part of the market economy, and art itself came to be seen as personal self-expression. The high value placed on the individual, which emerged in ancient Greece and Rome and then again in the Renaissance,

became the primary value of Western culture. Where artistic styles (for example, Baroque) had once covered numerous artists working over broad regions and periods of time, in the late Nineteenth and through the 20th Century, successive styles of art change with increasing speed and fracture into a kaleidoscope of individual artistic practices.

Where do we fit in?

We are immersed in our own time and it can be difficult to see the world around us objectively. One of the modern definitions of an artist, in fact, is someone who is particularly insightful about their own cultural moment. Thanks to global capitalism, social media and the internet, we are more interconnected and interdependent than at any other time in history. Some see this as a utopian moment. With internet access, we can all contribute to and benefit from what is being called the Information Revolution. For others, the prevalence of technology in our lives threatens our individuality and privacy, and reduces us to a data point that can be monetized by corporations like Facebook, Google, and Apple. One thing is certain, throughout the time periods sketched above, art has meant different things, and it is likely to be differently defined in the future.

The history of humanity is recorded in our visual culture. Like the fate of previous civilizations, time will eventually destroy much of the visual culture that we are familiar with today. Future art historians will seek to reconstruct the world we now live in, to better understand the nuanced meanings that are so familiar to us. Perhaps someday an art historian will puzzle over an Internet meme, a Torqued Ellipse by Richard Serra, or school-yard graffiti.



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THE YELLOW WALLPAPER

by Charlotte Perkins Gilman
Originally published January 1892, in *The New England Magazine*

It is very seldom that mere ordinary people like John and myself secure ancestral halls for the summer.

A colonial mansion, a hereditary estate, I would say a haunted house, and reach the height of romantic felicity—but that would be asking too much of fate!

Still I will proudly declare that there is something queer about it.

Else, why should it be let so cheaply? And why have stood so long untenanted?

John laughs at me, of course, but one expects that in marriage.

John is practical in the extreme. He has no patience with faith, an intense horror of superstition, and he scoffs openly at any talk of things not to be felt and seen and put down in figures.

John is a physician, and PERHAPS—I would not say it to a living soul, of course, but this is dead paper and a great relief to my mind)—PERHAPS that is one reason I do not get well faster.

You see he does not believe I am sick!

And what can one do?

If a physician of high standing, and one's own husband, assures friends and relatives that there is really nothing the matter with one but temporary nervous depression—a slight hysterical tendency—what is one to do?

My brother is also a physician, and also of high standing, and he says the same thing.

So I take phosphates or phosphites—whichever it is, and tonics, and journeys, and air, and exercise, and am absolutely forbidden to “work” until I am well again.

Personally, I disagree with their ideas.

Personally, I believe that congenial work, with excitement and change, would do me good.

But what is one to do?

I did write for a while in spite of them; but it DOES exhaust me a good deal—having to be so sly about it, or else meet with heavy opposition.

I sometimes fancy that in my condition if I had less opposition and more society and stimulus—but John says the very worst thing I can do is to think about my condition, and I confess it always makes me feel bad.

So I will let it alone and talk about the house.

The most beautiful place! It is quite alone, standing well back from the road, quite three miles from the village. It makes me think of English places that you read about, for there are hedges and walls and gates that lock, and lots of separate little houses for the gardeners and people.

There is a DELICIOUS garden! I never saw such a garden—large and shady, full of box-bordered paths, and lined with long grape-covered arbors with seats under them.

There were greenhouses, too, but they are all broken now.

There was some legal trouble, I believe, something about the heirs and coheirs; anyhow, the place has been empty for years.

That spoils my ghostliness, I am afraid, but I don't care—there is something strange about the house—I can feel it.

I even said so to John one moonlight evening, but he said what I felt was a DRAUGHT, and shut the window.

I get unreasonably angry with John sometimes. I'm sure I never used to be so sensitive. I think it is due to this nervous condition.

But John says if I feel so, I shall neglect proper self-control; so I take pains to control myself—before him, at least, and that makes me very tired.

I don't like our room a bit. I wanted one downstairs that opened on the piazza and had roses all over the window, and such pretty old-fashioned chintz hangings! but John would not hear of it.

He said there was only one window and not room for two beds, and no near room for him if he took another.

He is very careful and loving, and hardly lets me stir without special direction.

I have a schedule prescription for each hour in the day; he takes all care from me, and so I feel basely ungrateful not to value it more.

He said we came here solely on my account, that I was to have perfect rest and all the air I could get. "Your exercise depends on your strength, my dear," said he, "and your food somewhat on your appetite; but air you can absorb all the time." So we took the nursery at the top of the house.

It is a big, airy room, the whole floor nearly, with windows that look all ways, and air and sunshine galore. It was nursery first and then playroom and gymnasium, I should judge; for the windows are barred for little children, and there are rings and things in the walls.

The paint and paper look as if a boys' school had used it. It is stripped off—the paper—in great patches all around the head of my bed, about as far as I can reach, and in a great place on the other side of the room low down. I never saw a worse paper in my life.

One of those sprawling flamboyant patterns committing every artistic sin.

It is dull enough to confuse the eye in following, pronounced enough to constantly irritate and provoke study, and when you follow the lame uncertain curves for a little distance they suddenly commit suicide—plunge off at outrageous angles, destroy themselves in unheard of contradictions.

The color is repellent, almost revolting; a smouldering unclean yellow, strangely faded by the slow-turning sunlight.

It is a dull yet lurid orange in some places, a sickly sulphur tint in others.

No wonder the children hated it! I should hate it myself if I had to live in this room long.

There comes John, and I must put this away,—he hates to have me write a word.

We have been here two weeks, and I haven't felt like writing before, since that first day.

I am sitting by the window now, up in this atrocious nursery, and there is nothing to hinder my writing as much as I please, save lack of strength.

John is away all day, and even some nights when his cases are serious.

I am glad my case is not serious!

But these nervous troubles are dreadfully depressing.

John does not know how much I really suffer. He knows there is no REASON to suffer, and that satisfies him.

Of course it is only nervousness. It does weigh on me so not to do my duty in any way!

I meant to be such a help to John, such a real rest and comfort, and here I am a comparative burden already!

Nobody would believe what an effort it is to do what little I am able,—to dress and entertain, and order things.

It is fortunate Mary is so good with the baby. Such a dear baby!

And yet I CANNOT be with him, it makes me so nervous.

I suppose John never was nervous in his life. He laughs at me so about this wall-paper!

At first he meant to repaper the room, but afterwards he said that I was letting it get the better of me, and that nothing was worse for a nervous patient than to give way to such fancies.

He said that after the wall-paper was changed it would be the heavy bedstead, and then the barred windows, and then that gate at the head of the stairs, and so on.

“You know the place is doing you good,” he said, “and really, dear, I don’t care to renovate the house just for a three months’ rental.”

“Then do let us go downstairs,” I said, “there are such pretty rooms there.”

Then he took me in his arms and called me a blessed little goose, and said he would go down to the cellar, if I wished, and have it whitewashed into the bargain.

But he is right enough about the beds and windows and things.

It is an airy and comfortable room as any one need wish, and, of course, I would not be so silly as to make him uncomfortable just for a whim.

I’m really getting quite fond of the big room, all but that horrid paper.

Out of one window I can see the garden, those mysterious deepshaded arbors, the riotous old-fashioned flowers, and bushes and gnarly trees.

Out of another I get a lovely view of the bay and a little private wharf belonging to the estate. There is a beautiful shaded lane that runs down there from the house. I always fancy I see people walking in these numerous paths and arbors, but John has cautioned me not to give way to fancy in the least. He says that with my imaginative power and habit of story-making, a nervous weakness like mine is sure to lead to all manner of excited fancies, and that I ought to use my will and good sense to check the tendency. So I try.

I think sometimes that if I were only well enough to write a little it would relieve the press of ideas and rest me.

But I find I get pretty tired when I try.

It is so discouraging not to have any advice and companionship about my work. When I get really well, John says we will ask Cousin Henry and Julia down for a long visit; but he says he would as soon put fireworks in my pillow-case as to let me have those stimulating people about now.

I wish I could get well faster.

But I must not think about that. This paper looks to me as if it KNEW what a vicious influence it had!

There is a recurrent spot where the pattern lolls like a broken neck and two bulbous eyes stare at you upside down.

I get positively angry with the impertinence of it and the everlastingness. Up and down and sideways they crawl, and those absurd, unblinking eyes are everywhere. There is one place where two breadths didn’t match, and the eyes go all up and down the line, one a little higher than the other.

I never saw so much expression in an inanimate thing before, and we all know how much expression they have! I used to lie awake as a child and get more entertainment and terror out of blank walls and plain furniture than most children could find in a toy store.

I remember what a kindly wink the knobs of our big, old bureau used to have, and there was one chair that always seemed like a strong friend.

I used to feel that if any of the other things looked too fierce I could always hop into that chair and be safe.

The furniture in this room is no worse than inharmonious, however, for we had to bring it all from downstairs. I suppose when this was used as a playroom they had to take the nursery things out, and no wonder! I never saw such ravages as the children have made here.

The wall-paper, as I said before, is torn off in spots, and it sticketh closer than a brother—they must have had perseverance as well as hatred.

Then the floor is scratched and gouged and splintered, the plaster itself is dug out here and there, and this great heavy bed which is all we found in the room, looks as if it had been through the wars.

But I don't mind it a bit—only the paper.

There comes John's sister. Such a dear girl as she is, and so careful of me! I must not let her find me writing.

She is a perfect and enthusiastic housekeeper, and hopes for no better profession. I verily believe she thinks it is the writing which made me sick!

But I can write when she is out, and see her a long way off from these windows.

There is one that commands the road, a lovely shaded winding road, and one that just looks off over the country. A lovely country, too, full of great elms and velvet meadows.

This wall-paper has a kind of sub-pattern in a different shade, a particularly irritating one, for you can only see it in certain lights, and not clearly then.

But in the places where it isn't faded and where the sun is just so—I can see a strange, provoking, formless sort of figure, that seems to skulk about behind that silly and conspicuous front design.

There's sister on the stairs!

Well, the Fourth of July is over! The people are gone and I am tired out. John thought it might do me good to see a little company, so we just had mother and Nellie and the children down for a week.

Of course I didn't do a thing. Jennie sees to everything now.

But it tired me all the same.

John says if I don't pick up faster he shall send me to Weir Mitchell in the fall.

But I don't want to go there at all. I had a friend who was in his hands once, and she says he is just like John and my brother, only more so!

Besides, it is such an undertaking to go so far.

I don't feel as if it was worth while to turn my hand over for anything, and I'm getting dreadfully fretful and querulous.

I cry at nothing, and cry most of the time.

Of course I don't when John is here, or anybody else, but when I am alone.

And I am alone a good deal just now. John is kept in town very often by serious cases, and Jennie is good and lets me alone when I want her to.

So I walk a little in the garden or down that lovely lane, sit on the porch under the roses, and lie down up here a good deal.

I'm getting really fond of the room in spite of the wall-paper. Perhaps BECAUSE of the wall-paper.

It dwells in my mind so!

I lie here on this great immovable bed—it is nailed down, I believe—and follow that pattern about by the hour. It is as good as gymnastics, I assure you. I start, we'll say, at the bottom, down in the corner over there where it has not been touched, and I determine for the thousandth time that I WILL follow that pointless pattern to some sort of a conclusion.

I know a little of the principle of design, and I know this thing was not arranged on any laws of radiation, or alternation, or repetition, or symmetry, or anything else that I ever heard of.

It is repeated, of course, by the breadths, but not otherwise.

Looked at in one way each breadth stands alone, the bloated curves and flourishes—a kind of "debased Romanesque" with delirium tremens—go waddling up and down in isolated columns of fatuity.

But, on the other hand, they connect diagonally, and the sprawling outlines run off in great slanting waves of optic horror, like a lot of wallowing seaweeds in full chase.

The whole thing goes horizontally, too, at least it seems so, and I exhaust myself in trying to distinguish the order of its going in that direction.

They have used a horizontal breadth for a frieze, and that adds wonderfully to the confusion.

There is one end of the room where it is almost intact, and there, when the crosslights fade and the low sun shines directly upon it, I can almost fancy radiation after all,—the interminable grotesques seem to form around a common centre and rush off in headlong plunges of equal distraction.

It makes me tired to follow it. I will take a nap I guess.

I don't know why I should write this.

I don't want to.

I don't feel able.

And I know John would think it absurd. But I MUST say what I feel and think in some way—it is such a relief!

But the effort is getting to be greater than the relief.

Half the time now I am awfully lazy, and lie down ever so much.

John says I musn't lose my strength, and has me take cod liver oil and lots of tonics and things, to say nothing of ale and wine and rare meat.

Dear John! He loves me very dearly, and hates to have me sick. I tried to have a real earnest reasonable talk with him the other day, and tell him how I wish he would let me go and make a visit to Cousin Henry and Julia.

But he said I wasn't able to go, nor able to stand it after I got there; and I did not make out a very good case for myself, for I was crying before I had finished.

It is getting to be a great effort for me to think straight. Just this nervous weakness I suppose.

And dear John gathered me up in his arms, and just carried me upstairs and laid me on the bed, and sat by me and read to me till it tired my head.

He said I was his darling and his comfort and all he had, and that I must take care of myself for his sake, and keep well.

He says no one but myself can help me out of it, that I must use my will and self-control and not let any silly fancies run away with me.

There's one comfort, the baby is well and happy, and does not have to occupy this nursery with the horrid wall-paper.

If we had not used it, that blessed child would have! What a fortunate escape! Why, I wouldn't have a child of mine, an impressionable little thing, live in such a room for worlds.

I never thought of it before, but it is lucky that John kept me here after all, I can stand it so much easier than a baby, you see.

Of course I never mention it to them any more—I am too wise,—but I keep watch of it all the same.

There are things in that paper that nobody knows but me, or ever will.

Behind that outside pattern the dim shapes get clearer every day.

It is always the same shape, only very numerous.

And it is like a woman stooping down and creeping about behind that pattern. I don't like it a bit. I wonder—I begin to think—I wish John would take me away from here!

It is so hard to talk with John about my case, because he is so wise, and because he loves me so.

But I tried it last night.

It was moonlight. The moon shines in all around just as the sun does.

I hate to see it sometimes, it creeps so slowly, and always comes in by one window or another.

John was asleep and I hated to waken him, so I kept still and watched the moonlight on that undulating wall-paper till I felt creepy.

The faint figure behind seemed to shake the pattern, just as if she wanted to get out.

I got up softly and went to feel and see if the paper DID move, and when I came back John was awake.

"What is it, little girl?" he said. "Don't go walking about like that—you'll get cold."

I thought it was a good time to talk, so I told him that I really was not gaining here, and that I wished he would take me away.

"Why darling!" said he, "our lease will be up in three weeks, and I can't see how to leave before.

"The repairs are not done at home, and I cannot possibly leave town just now. Of course if you were in any danger, I could and would, but you really are better, dear, whether you can see it or not. I am a doctor, dear, and I know. You are gaining flesh and color, your appetite is better, I feel really much easier about you."

"I don't weigh a bit more," said I, "nor as much; and my appetite may be better in the evening when you are here, but it is worse in the morning when you are away!"

"Bless her little heart!" said he with a big hug, "she shall be as sick as she pleases! But now let's improve the shining hours by going to sleep, and talk about it in the morning!"

"And you won't go away?" I asked gloomily.

"Why, how can I, dear? It is only three weeks more and then we will take a nice little trip of a few days while Jennie is getting the house ready. Really dear you are better!"

"Better in body perhaps—" I began, and stopped short, for he sat up straight and looked at me with such a stern, reproachful look that I could not say another word.

“My darling,” said he, “I beg of you, for my sake and for our child’s sake, as well as for your own, that you will never for one instant let that idea enter your mind! There is nothing so dangerous, so fascinating, to a temperament like yours. It is a false and foolish fancy. Can you not trust me as a physician when I tell you so?”

So of course I said no more on that score, and we went to sleep before long. He thought I was asleep first, but I wasn’t, and lay there for hours trying to decide whether that front pattern and the back pattern really did move together or separately.

On a pattern like this, by daylight, there is a lack of sequence, a defiance of law, that is a constant irritant to a normal mind.

The color is hideous enough, and unreliable enough, and infuriating enough, but the pattern is torturing.

You think you have mastered it, but just as you get well underway in following, it turns a back-somersault and there you are. It slaps you in the face, knocks you down, and tramples upon you. It is like a bad dream.

The outside pattern is a florid arabesque, reminding one of a fungus. If you can imagine a toadstool in joints, an interminable string of toadstools, budding and sprouting in endless convolutions—why, that is something like it.

That is, sometimes!

There is one marked peculiarity about this paper, a thing nobody seems to notice but myself, and that is that it changes as the light changes.

When the sun shoots in through the east window—I always watch for that first long, straight ray—it changes so quickly that I never can quite believe it.

That is why I watch it always.

By moonlight—the moon shines in all night when there is a moon—I wouldn’t know it was the same paper.

At night in any kind of light, in twilight, candle light, lamplight, and worst of all by moonlight, it becomes bars! The outside pattern I mean, and the woman behind it is as plain as can be.

I didn’t realize for a long time what the thing was that showed behind, that dim sub-pattern, but now I am quite sure it is a woman.

By daylight she is subdued, quiet. I fancy it is the pattern that keeps her so still. It is so puzzling. It keeps me quiet by the hour.

I lie down ever so much now. John says it is good for me, and to sleep all I can.

Indeed he started the habit by making me lie down for an hour after each meal.

It is a very bad habit I am convinced, for you see I don’t sleep.

And that cultivates deceit, for I don’t tell them I’m awake—O no!

The fact is I am getting a little afraid of John.

He seems very queer sometimes, and even Jennie has an inexplicable look.

It strikes me occasionally, just as a scientific hypothesis,—that perhaps it is the paper!

I have watched John when he did not know I was looking, and come into the room suddenly on the most innocent excuses, and I’ve caught him several times LOOKING AT THE PAPER! And Jennie too. I caught Jennie with her hand on it once.

She didn’t know I was in the room, and when I asked her in a quiet, a very quiet voice, with the most restrained manner possible, what she was doing with the paper—she turned around as if she had been caught stealing, and looked quite angry—asked me why I should frighten her so!

Then she said that the paper stained everything it touched, that she had found yellow smooches on all my clothes and John's, and she wished we would be more careful!

Did not that sound innocent? But I know she was studying that pattern, and I am determined that nobody shall find it out but myself!

Life is very much more exciting now than it used to be. You see I have something more to expect, to look forward to, to watch. I really do eat better, and am more quiet than I was.

John is so pleased to see me improve! He laughed a little the other day, and said I seemed to be flourishing in spite of my wall-paper.

I turned it off with a laugh. I had no intention of telling him it was BECAUSE of the wall-paper—he would make fun of me. He might even want to take me away.

I don't want to leave now until I have found it out. There is a week more, and I think that will be enough.

I'm feeling ever so much better! I don't sleep much at night, for it is so interesting to watch developments; but I sleep a good deal in the daytime.

In the daytime it is tiresome and perplexing.

There are always new shoots on the fungus, and new shades of yellow all over it. I cannot keep count of them, though I have tried conscientiously.

It is the strangest yellow, that wall-paper! It makes me think of all the yellow things I ever saw—not beautiful ones like buttercups, but old foul, bad yellow things.

But there is something else about that paper—the smell! I noticed it the moment we came into the room, but with so much air and sun it was not bad. Now we have had a week of fog and rain, and whether the windows are open or not, the smell is here.

It creeps all over the house.

I find it hovering in the dining-room, skulking in the parlor, hiding in the hall, lying in wait for me on the stairs.

It gets into my hair.

Even when I go to ride, if I turn my head suddenly and surprise it—there is that smell!

Such a peculiar odor, too! I have spent hours in trying to analyze it, to find what it smelled like.

It is not bad—at first, and very gentle, but quite the subtlest, most enduring odor I ever met.

In this damp weather it is awful, I wake up in the night and find it hanging over me.

It used to disturb me at first. I thought seriously of burning the house—to reach the smell.

But now I am used to it. The only thing I can think of that it is like is the COLOR of the paper! A yellow smell.

There is a very funny mark on this wall, low down, near the mopboard. A streak that runs round the room. It goes behind every piece of furniture, except the bed, a long, straight, even SMOOCH, as if it had been rubbed over and over.

I wonder how it was done and who did it, and what they did it for. Round and round and round—round and round and round—it makes me dizzy!

I really have discovered something at last.

Through watching so much at night, when it changes so, I have finally found out.

The front pattern DOES move—and no wonder! The woman behind shakes it!

Sometimes I think there are a great many women behind, and sometimes only one, and she crawls around fast, and her crawling shakes it all over.

Then in the very bright spots she keeps still, and in the very shady spots she just takes hold of the bars and shakes them hard.

And she is all the time trying to climb through. But nobody could climb through that pattern—it strangles so; I think that is why it has so many heads.

They get through, and then the pattern strangles them off and turns them upside down, and makes their eyes white!

If those heads were covered or taken off it would not be half so bad.

I think that woman gets out in the daytime!

And I'll tell you why—privately—I've seen her!

I can see her out of every one of my windows!

It is the same woman, I know, for she is always creeping, and most women do not creep by daylight.

I see her on that long road under the trees, creeping along, and when a carriage comes she hides under the blackberry vines.

I don't blame her a bit. It must be very humiliating to be caught creeping by daylight!

I always lock the door when I creep by daylight. I can't do it at night, for I know John would suspect something at once.

And John is so queer now, that I don't want to irritate him. I wish he would take another room! Besides, I don't want anybody to get that woman out at night but myself.

I often wonder if I could see her out of all the windows at once.

But, turn as fast as I can, I can only see out of one at one time.

And though I always see her, she MAY be able to creep faster than I can turn!

I have watched her sometimes away off in the open country, creeping as fast as a cloud shadow in a high wind.

If only that top pattern could be gotten off from the under one! I mean to try it, little by little.

I have found out another funny thing, but I shan't tell it this time! It does not do to trust people too much.

There are only two more days to get this paper off, and I believe John is beginning to notice. I don't like the look in his eyes.

And I heard him ask Jennie a lot of professional questions about me. She had a very good report to give.

She said I slept a good deal in the daytime.

John knows I don't sleep very well at night, for all I'm so quiet!

He asked me all sorts of questions, too, and pretended to be very loving and kind.

As if I couldn't see through him!

Still, I don't wonder he acts so, sleeping under this paper for three months.

It only interests me, but I feel sure John and Jennie are secretly affected by it.

Hurrah! This is the last day, but it is enough. John is to stay in town over night, and won't be out until this evening.

Jennie wanted to sleep with me—the sly thing! but I told her I should undoubtedly rest better for a night all alone.

That was clever, for really I wasn't alone a bit! As soon as it was moonlight and that poor thing began to crawl and shake the pattern, I got up and ran to help her.

I pulled and she shook, I shook and she pulled, and before morning we had peeled off yards of that paper.

A strip about as high as my head and half around the room.

And then when the sun came and that awful pattern began to laugh at me, I declared I would finish it to-day!

We go away to-morrow, and they are moving all my furniture down again to leave things as they were before.

Jennie looked at the wall in amazement, but I told her merrily that I did it out of pure spite at the vicious thing.

She laughed and said she wouldn't mind doing it herself, but I must not get tired.

How she betrayed herself that time!

But I am here, and no person touches this paper but me—not ALIVE!

She tried to get me out of the room—it was too patent! But I said it was so quiet and empty and clean now that I believed I would lie down again and sleep all I could; and not to wake me even for dinner—I would call when I woke.

So now she is gone, and the servants are gone, and the things are gone, and there is nothing left but that great bedstead nailed down, with the canvas mattress we found on it.

We shall sleep downstairs to-night, and take the boat home to-morrow.

I quite enjoy the room, now it is bare again.

How those children did tear about here!

This bedstead is fairly gnawed!

But I must get to work.

I have locked the door and thrown the key down into the front path.

I don't want to go out, and I don't want to have anybody come in, till John comes.

I want to astonish him.

I've got a rope up here that even Jennie did not find. If that woman does get out, and tries to get away, I can tie her!

But I forgot I could not reach far without anything to stand on!

This bed will NOT move!

I tried to lift and push it until I was lame, and then I got so angry I bit off a little piece at one corner—but it hurt my teeth.

Then I peeled off all the paper I could reach standing on the floor. It sticks horribly and the pattern just enjoys it! All those strangled heads and bulbous eyes and waddling fungus growths just shriek with derision!

I am getting angry enough to do something desperate. To jump out of the window would be admirable exercise, but the bars are too strong even to try.

Besides I wouldn't do it. Of course not. I know well enough that a step like that is improper and might be misconstrued.

I don't like to LOOK out of the windows even—there are so many of those creeping women, and they creep so fast.

I wonder if they all come out of that wall-paper as I did?

But I am securely fastened now by my well-hidden rope—you don't get ME out in the road there!

I suppose I shall have to get back behind the pattern when it comes night, and that is hard!

It is so pleasant to be out in this great room and creep around as I please!

I don't want to go outside. I won't, even if Jennie asks me to.

For outside you have to creep on the ground, and everything is green instead of yellow.

But here I can creep smoothly on the floor, and my shoulder just fits in that long smooch around the wall, so I cannot lose my way.

Why there's John at the door!

It is no use, young man, you can't open it!

How he does call and pound!

Now he's crying for an axe.

It would be a shame to break down that beautiful door!

"John dear!" said I in the gentlest voice, "the key is down by the front steps, under a plantain leaf!"

That silenced him for a few moments.

Then he said—very quietly indeed, "Open the door, my darling!"

"I can't," said I. "The key is down by the front door under a plantain leaf!"

And then I said it again, several times, very gently and slowly, and said it so often that he had to go and see, and he got it of course, and came in. He stopped short by the door.

"What is the matter?" he cried. "For God's sake, what are you doing!"

I kept on creeping just the same, but I looked at him over my shoulder.

"I've got out at last," said I, "in spite of you and Jane. And I've pulled off most of the paper, so you can't put me back!"

Now why should that man have fainted? But he did, and right across my path by the wall, so that I had to creep over him every time!

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5 WAYS TO AVOID FIGHTING OVER FROZEN EMBRYOS

By David Orenstein-Brown
Published July 18, 2016 in *Futurity*

In at least 11 cases over the last 24 years, including the appeal of a Missouri case heard in June, United States courts have grappled with difficult arguments between men and women who fertilized and froze embryos together, but then disagreed about whether they should be gestated and born.

The scattered case law has resolved little, creating a need for common ground rules that could prevent such disputes.

In a new paper, two experts review this history and propose five specific guidelines. The results could offer clarity for disputes over any of the estimated million or so frozen embryos in the US.

“All of these ad hoc, individually tackled cases aren’t taking us anywhere or pointing us in a common direction,” says Eli Adashi, professor and former dean of medicine and biological sciences at Brown University. “But a lot of these issues are preventable.”

“Learning from Our Mistakes”

The cases typically arise because it’s unclear, once a couple has split up, whether one can oblige the other to become a parent. In four of the 11 cases Adashi reviewed with coauthor I. Glenn Cohen, professor at Harvard Law School, there was no valid contract between the parties.

Meanwhile, courts have applied various legal tests to considering the cases. Often—but not always—they have arrived at rulings that favored the party who did not want the outcome to be a child.

In a case resolved in Illinois last year, *Szafanski v. Dunston*, the parties had an oral contract only. The court considered the case as both a contract dispute and one in which the parties’ interests should be balanced. Ultimately it allowed the woman to gestate an embryo, despite the father’s objection, because cancer had left her unable to reproduce otherwise.

[Are we 20 years away from designer babies?](#)

In the Missouri case heard on appeal in June, *McQueen v. Gadberry*, the original decision favored the man who did not want an embryo used by his ex-wife. The case gained particular notice when, in an unprecedented twist, the Thomas More Law Center interjected the argument that an embryo should be considered a child and that the court should therefore consider the child’s best interests.

In reviewing the 11 prior cases, the experts discerned five things that couples and fertility clinics could use to prevent disputes from arising. The authors argue that these practices could become standard procedure at the time of embryo creation either because the parties simply agree, because they become adopted as clinic policy, or because they’ve become enshrined as federal law.

“There are a finite number of cases now,” Adashi says. “We’re trying here to learn from the mistakes. Really our proposal is all about avoiding mistakes that were already committed.”

Five recommendations:

- Don't blend contracts into other forms: When clinics have combined informed consent language together with the text meant to direct the disposition of embryos, they have created confusion. Clear, standardized contract language regarding what to do with the embryos should be presented separately.
- Require a contract: Clinics shouldn't freeze any embryos for later possible use without the parties fully executing a binding legal agreement.
- The original agreement stands: What the parties agree to at the time they sign the contract should serve as the rules from then on. If one party unilaterally changes his or her mind later, for instance because of divorce, that shouldn't matter.
- "Legal parenting" not compulsory: As soon as the embryo exists, the man and woman are "genetic" parents, but if one party later uses an embryo against the other's desires, that non-consenting person should not have to be the resulting child's legal parent.
- Anticipate tragedy: No one expects to suddenly lose fertility—because of injury or disease, for instance—but the parties should plan for the possibility. Contract language that anticipates circumstances in which one party may want to use an embryo can ensure both parties pre-agree on what to do.

"Individuals who cryopreserve embryos face an uncertain and shifting terrain of varying state laws, with varying degrees of respect for contract, and case law that might generate different outcomes depending on changes in the underlying fact pattern," Cohen and Adashi write in their conclusion. "A uniform approach throughout the country seems desirable."

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THE AZTEC CALENDAR

By Mark Cartwright

Originally published April 215, 2016 in *Ancient History Encyclopedia*

The Aztecs of ancient Mexico measured time with a sophisticated and interconnected triple calendar system which adhered to movements of the celestial bodies, provided a comprehensive list of important religious festivals and sacred dates, and gave each day a unique combination of a name and a number. In addition, both individual days and periods of days were given their own gods, highlighting the Aztec view that time and daily life was inseparable from religious beliefs. The date, every 52 years, when the calendars coincided exactly was regarded as particularly significant and auspicious.



Aztec Sun Stone

THE AZTEC VIEW OF TIME

In the modern world, time is often imagined as a straight line running from a distant past to an infinite future but not so for the Aztecs. As the historian R.F. Townsend describes,

Time for the Aztecs was full of energy and motion, the harbinger of change, and always charged with a potent sense of miraculous happening. The cosmogenic myths reveal a preoccupation with the process of creation, destruction and recreation, and the calendrical system reflected these notions about the character of time. (127)

For the Aztecs, specific times, dates and periods, such as one's birthday for example, could have an auspicious (or opposite) effect on one's personality, the success of harvests, the prosperity of a ruler's reign, and so on. Time was to be kept, measured, and recorded. It is significant that most major Aztec monuments and artworks conspicuously carry a date of some kind.

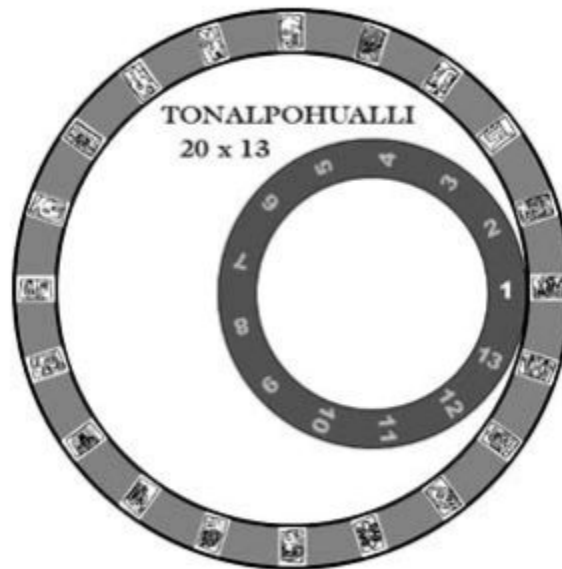
TONALPOHUALLI – "COUNTING OF THE DAYS"

The Aztecs used a sacred calendar known as the *tonalpohualli* or "counting of the days." This went back to great antiquity in Mesoamerica, perhaps to the Olmec civilization of the 1st millennium BCE. It formed a 260-day cycle, in all probability originally based on astronomical observations. The calendar was broken down into units (sometimes referred to as *trecenas*) of 20 days with each day having its own name and symbol:

- *cipactli* – crocodile
- *ehecatli* – wind
- *calli* – house
- *cuetzpalin* – lizard
- *coatli* – snake
- *miquiztli* – death
- *mazatl* – deer
- *tochtli* – rabbit
- *atl* – water
- *itzcuintli* – dog
- *ozomatli* – monkey
- *malinalli* – dead grass
- *acatl* – reed
- *ocelotl* – ocelot
- *quauhtli* – eagle
- *cozcaquauhtli* – vulture
- *ollin* – earthquake
- *tecpatl* – flint
- *quiauitl* – rain

- *xochitl* – flower

The 20-day group ran simultaneously with another group of 13 numbered days (perhaps not coincidentally the Aztec heaven had 13 layers). This meant that each day had both a name and a number (e.g.: 4-Rabbit), with the latter changing as the calendar rotated. After all possible combinations of names and numbers had been achieved, 260 days had passed. The number 260 has multiple significances: it is the approximate human gestation period, the period between the appearance of Venus, and the length of the Mesoamerican agricultural cycle.



Tonalpohualli Mesoamerican Calendar

In addition to names and numbers, each day was also given its own deity – one of thirteen day-lords (the levels of heaven) and one from nine night-lords (the levels of the underworld). These were taken from the Aztec pantheon and included Tezcatlipoca, Quetzalcoatl, Tlaloc, Xiuhtecuhtli, and Mictlantecuhtli. Daylight hours also had their own patron birds such as the hummingbird, owl, turkey, and quetzal, and one day had a butterfly patron. On top of that, each group of 13 days was ascribed its own god too. Finally, in yet another layer of meaning, the 20 days were divided into four groups based on the cardinal points: *acatl* (east), *tecpatl* (north), *calli* (west), and *tochtli* (south).

This all seems rather complicated compared to a modern 7-day week of repeating names but it did have the advantage that every single day of the year had its own unique name and number combination and so could not be confused with any other. For this reason, it was possible for Aztec children to be given the name of the day on which they were born. Records were kept of the days in a book made of bark paper, called a *tonalamatl*. There was also a class of official diviners who interpreted which dates were the most auspicious for certain events such as marriages, and agricultural chores such as planting particular crops, and which days should be avoided.

EVERY SINGLE DAY OF THE YEAR HAD ITS OWN UNIQUE NAME AND NUMBER COMBINATION AND SO COULD NOT BE CONFUSED WITH ANY OTHER.

XIUHPOHUALLI – “COUNTING OF THE YEARS”

The second Aztec calendar was the *xiuhpohualli* or ‘counting of the years’ which was based on a 365-day solar cycle. It was this calendar which signified when particular religious ceremonies and festivals should be held. This calendar was divided into 18 groups of 20 days (each with its own festival). These were:

- *Atl caualo* – stopping of the water
- *Tlacaxipeualiztli* – flaying of men
- *Tozoztontli* – lesser vigil

- *Uey tozoztli* – great vigil
- *Toxcatl* – drought
- *Etzalqualiztli* – eating maize and beans
- *Tecuilhuitontli* – lesser feast of the lords
- *Uey tecuilhuitl* – great feast of the lords
- *Tlaxochimaco* – offering of flowers
- *Xocotl uetzi* – the fruit falls
- *Ochpaniztli* – sweeping
- *Teotleco* – return of the gods
- *Tepuilhuitl* – feast of the mountains
- *Quecholli* – a bird
- *Panquetzaliztli* – raising of the quetzal-feather banners
- *Atemoztli* – falling of water
- *Tititl* – unknown significance
- *Izcalli* – growth

There was also an extra period, the *nemontemi* (literally, ‘nameless’ days) tagged onto the end of the year which lasted 5 days. These still did not ensure a complete solar accuracy (achieved by our leap-year) and so the calendar did eventually slip out of synch with the seasons, which necessitated the moving of festivals and even re-naming of days. The *nemontemi* was a strange period of limbo when nobody dared do anything significant but waited for the renewal of the calendar proper. The whole year had a name, one of four possibilities in sequence: Rabbit, Reed, Flint Knife, and House. To distinguish between repeating years they were each given one of 13 numbers, e.g. 1-House was followed by 2-Rabbit. Thus, when all four names had been used 13 times, one full 52-year cycle had passed.

THE CALENDARS IN UNISON

The *tonalpohualli* and *xiuhpohualli* calendars ran simultaneously, as Townsend describes:

They have often been explained as two engaged, rotating gears, in which the beginning day of the larger 365-day wheel would align with the beginning day of the smaller 260-day cycle every 52 years. This 52-year period constituted a Mesoamerican “century.” (127)

The passing of one 52-year cycle (*xiuhmolpilli*) to another was marked by the most important religious event of the Aztec world, the New Fire Ceremony, also known, appropriately enough, as the “Binding of the Years” ceremony. This was when a human sacrifice was made to ensure the renewal of the sun. If the gods were displeased, then there would be no new sun and the world would end.

Every second 52-year cycle was even more important to the Aztecs as this was when the *tonalpohualli* and the 52-year cycle coincided exactly. Curiously, although the 52-year periods were important blocks in Aztec history, they were never given an individual name and all dates started afresh at the beginning of a new cycle. This, no doubt, reflected the Aztec cosmos mythology where the world and humanity were being constantly renewed in perpetual cycles of change.

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THE ADVENTURE OF THE ABBEY GRANGE

by Arthur Conan Doyle
Originally published December, 1904 in *The Strand Magazine*

It was on a bitterly cold and frosty morning during the winter of '97 that I was awakened by a tugging at my shoulder. It was Holmes. The candle in his hand shone upon his eager, stooping face and told me at a glance that something was amiss.

"Come, Watson, come!" he cried. "The game is afoot. Not a word! Into your clothes and come!"

Ten minutes later we were both in a cab and rattling through the silent streets on our way to Charing Cross Station. The first faint winter's dawn was beginning to appear, and we could dimly see the occasional figure of an early workman as he passed us, blurred and indistinct in the opalescent London reek. Holmes nestled in silence into his heavy coat, and I was glad to do the same, for the air was most bitter and neither of us had broken our fast. It was not until we had consumed some hot tea at the station, and taken our places in the Kentish train, that we were sufficiently thawed, he to speak and I to listen. Holmes drew a note from his pocket and read it aloud:—

"Abbey Grange, Marsham, Kent,

"3.30 a.m.

"MY DEAR MR. HOLMES,—I should be very glad of your immediate assistance in what promises to be a most remarkable case.

It is something quite in your line. Except for releasing the lady I will see that everything is kept exactly as I have found it, but I beg you not to lose an instant, as it is difficult to leave Sir Eustace there.

"Yours faithfully, STANLEY HOPKINS."

"Hopkins has called me in seven times, and on each occasion his summons has been entirely justified," said Holmes. "I fancy that every one of his cases has found its way into your collection, and I must admit, Watson, that you have some power of selection which atones for much which I deplore in your narratives. Your fatal habit of looking at everything from the point of view of a story instead of as a scientific exercise has ruined what might have been an instructive and even classical series of demonstrations. You slur over work of the utmost finesse and delicacy in order to dwell upon sensational details which may excite, but cannot possibly instruct, the reader."

"Why do you not write them yourself?" I said, with some bitterness.

"I will, my dear Watson, I will. At present I am, as you know, fairly busy, but I propose to devote my declining years to the composition of a text-book which shall focus the whole art of detection into one volume. Our present research appears to be a case of murder."

"You think this Sir Eustace is dead, then?"

"I should say so. Hopkins's writing shows considerable agitation, and he is not an emotional man. Yes, I gather there has been violence, and that the body is left for our inspection. A mere suicide would not have caused him to send for me. As to the release of the lady, it would appear that she has been locked in her room during the tragedy. We are moving in high life, Watson; crackling paper, 'E.B.' monogram, coat-of-arms, picturesque address. I think that friend Hopkins will live up to his reputation and that we shall have an interesting morning. The crime was committed before twelve last night."

"How can you possibly tell?"

"By an inspection of the trains and by reckoning the time. The local police had to be called in, they had to communicate with Scotland Yard, Hopkins had to go out, and he in turn had to send for me. All that makes a fair night's work. Well, here we are at Chislehurst Station, and we shall soon set our doubts at rest."

A drive of a couple of miles through narrow country lanes brought us to a park gate, which was opened for us by an old lodge-keeper, whose haggard face bore the reflection of some great disaster. The avenue ran through a

noble park, between lines of ancient elms, and ended in a low, widespread house, pillared in front after the fashion of Palladio. The central part was evidently of a great age and shrouded in ivy, but the large windows showed that modern changes had been carried out, and one wing of the house appeared to be entirely new. The youthful figure and alert, eager face of Inspector Stanley Hopkins confronted us in the open doorway.

"I'm very glad you have come, Mr. Holmes. And you too, Dr. Watson! But, indeed, if I had my time over again I should not have troubled you, for since the lady has come to herself she has given so clear an account of the affair that there is not much left for us to do. You remember that Lewisham gang of burglars?"

"What, the three Randalls?"

"Exactly; the father and two sons. It's their work. I have not a doubt of it. They did a job at Sydenham a fortnight ago, and were seen and described. Rather cool to do another so soon and so near, but it is they, beyond all doubt. It's a hanging matter this time."

"Sir Eustace is dead, then?"

"Yes; his head was knocked in with his own poker."

"Sir Eustace Brackenstall, the driver tells me."

"Exactly—one of the richest men in Kent. Lady Brackenstall is in the morning-room. Poor lady, she has had a most dreadful experience. She seemed half dead when I saw her first. I think you had best see her and hear her account of the facts. Then we will examine the dining-room together."

Lady Brackenstall was no ordinary person. Seldom have I seen so graceful a figure, so womanly a presence, and so beautiful a face. She was a blonde, golden-haired, blue-eyed, and would, no doubt, have had the perfect complexion which goes with such colouring had not her recent experience left her drawn and haggard. Her sufferings were physical as well as mental, for over one eye rose a hideous, plum-coloured swelling, which her maid, a tall, austere woman, was bathing assiduously with vinegar and water. The lady lay back exhausted upon a couch, but her quick, observant gaze as we entered the room, and the alert expression of her beautiful features, showed that neither her wits nor her courage had been shaken by her terrible experience. She was enveloped in a loose dressing-gown of blue and silver, but a black sequin-covered dinner-dress was hung upon the couch beside her.

"I have told you all that happened, Mr. Hopkins," she said, wearily; "could you not repeat it for me? Well, if you think it necessary, I will tell these gentlemen what occurred. Have they been in the dining-room yet?"

"I thought they had better hear your ladyship's story first."

"I shall be glad when you can arrange matters. It is horrible to me to think of him still lying there." She shuddered and buried her face in her hands. As she did so the loose gown fell back from her forearms. Holmes uttered an exclamation.

"You have other injuries, madam! What is this?" Two vivid red spots stood out on one of the white, round limbs. She hastily covered it.

"It is nothing. It has no connection with the hideous business of last night. If you and your friend will sit down I will tell you all I can.

"I am the wife of Sir Eustace Brackenstall. I have been married about a year. I suppose that it is no use my attempting to conceal that our marriage has not been a happy one. I fear that all our neighbours would tell you that, even if I were to attempt to deny it. Perhaps the fault may be partly mine. I was brought up in the freer, less conventional atmosphere of South Australia, and this English life, with its proprieties and its primness, is not congenial to me. But the main reason lies in the one fact which is notorious to everyone, and that is that Sir Eustace was a confirmed drunkard. To be with such a man for an hour is unpleasant. Can you imagine what it means for a sensitive and high-spirited woman to be tied to him for day and night? It is a sacrilege, a crime, a villainy to hold that such a marriage is binding. I say that these monstrous laws of yours will bring a curse upon the land—Heaven will not let such wickedness endure." For an instant she sat up, her cheeks flushed, and her eyes blazing from under the terrible mark upon her brow. Then the strong, soothing hand of the austere maid drew her head down on to the cushion, and the wild anger died away into passionate sobbing. At last she continued:—

"I will tell you about last night. You are aware, perhaps, that in this house all servants sleep in the modern wing. This central block is made up of the dwelling-rooms, with the kitchen behind and our bedroom above. My maid Theresa sleeps above my room. There is no one else, and no sound could alarm those who are in the farther wing. This must have been well known to the robbers, or they would not have acted as they did.

"Sir Eustace retired about half-past ten. The servants had already gone to their quarters. Only my maid was up, and she had remained in her room at the top of the house until I needed her services. I sat until after eleven in this room, absorbed in a book. Then I walked round to see that all was right before I went upstairs. It was my custom to do this myself, for, as I have explained, Sir Eustace was not always to be trusted. I went into the kitchen, the butler's pantry, the gun-room, the billiard-room, the drawing-room, and finally the dining-room. As I approached the window, which is covered with thick curtains, I suddenly felt the wind blow upon my face and realized that it was open. I flung the curtain aside and found myself face to face with a broad-shouldered, elderly man who had just stepped into the room. The window is a long French one, which really forms a door leading to the lawn. I held my bedroom candle lit in my hand, and, by its light, behind the first man I saw two others, who were in the act of entering. I stepped back, but the fellow was on me in an instant. He caught me first by the wrist and then by the throat. I opened my mouth to scream, but he struck me a savage blow with his fist over the eye, and felled me to the ground. I must have been unconscious for a few minutes, for when I came to myself I found that they had torn down the bell-rope and had secured me tightly to the oaken chair which stands at the head of the dining-room table. I was so firmly bound that I could not move, and a handkerchief round my mouth prevented me from uttering any sound. It was at this instant that my unfortunate husband entered the room. He had evidently heard some suspicious sounds, and he came prepared for such a scene as he found. He was dressed in his shirt and trousers, with his favourite blackthorn cudgel in his hand. He rushed at one of the burglars, but another—it was the elderly man—stooped, picked the poker out of the grate, and struck him a horrible blow as he passed. He fell without a groan, and never moved again. I fainted once more, but again it could only have been a very few minutes during which I was insensible. When I opened my eyes I found that they had collected the silver from the sideboard, and they had drawn a bottle of wine which stood there. Each of them had a glass in his hand. I have already told you, have I not, that one was elderly, with a beard, and the others young, hairless lads. They might have been a father with his two sons. They talked together in whispers. Then they came over and made sure that I was still securely bound. Finally they withdrew, closing the window after them. It was quite a quarter of an hour before I got my mouth free. When I did so my screams brought the maid to my assistance. The other servants were soon alarmed, and we sent for the local police, who instantly communicated with London. That is really all that I can tell you, gentlemen, and I trust that it will not be necessary for me to go over so painful a story again."

"Any questions, Mr. Holmes?" asked Hopkins.

"I will not impose any further tax upon Lady Brackenstall's patience and time," said Holmes. "Before I go into the dining-room I should like to hear your experience." He looked at the maid.

"I saw the men before ever they came into the house," said she. "As I sat by my bedroom window I saw three men in the moonlight down by the lodge gate yonder, but I thought nothing of it at the time. It was more than an hour after that I heard my mistress scream, and down I ran, to find her, poor lamb, just as she says, and him on the floor with his blood and brains over the room. It was enough to drive a woman out of her wits, tied there, and her very dress spotted with him; but she never wanted courage, did Miss Mary Fraser of Adelaide, and Lady Brackenstall of Abbey Grange hasn't learned new ways. You've questioned her long enough, you gentlemen, and now she is coming to her own room, just with her old Theresa, to get the rest that she badly needs."

With a motherly tenderness the gaunt woman put her arm round her mistress and led her from the room.

"She has been with her all her life," said Hopkins. "Nursed her as a baby, and came with her to England when they first left Australia eighteen months ago. Theresa Wright is her name, and the kind of maid you don't pick up nowadays. This way, Mr. Holmes, if you please!"

The keen interest had passed out of Holmes's expressive face, and I knew that with the mystery all the charm of the case had departed. There still remained an arrest to be effected, but what were these commonplace rogues that he should soil his hands with them? An abstruse and learned specialist who finds that he has been called in for a case of measles would experience something of the annoyance which I read in my friend's eyes. Yet the scene in the dining-room of the Abbey Grange was sufficiently strange to arrest his attention and to recall his waning interest.

It was a very large and high chamber, with carved oak ceiling, oaken panelling, and a fine array of deer's heads and ancient weapons around the walls. At the farther end from the door was the high French window of which we had heard. Three smaller windows on the right-hand side filled the apartment with cold winter sunshine. On the left was a large, deep fireplace, with a massive, over-hanging oak mantelpiece. Beside the fireplace was a heavy oaken chair with arms and cross-bars at the bottom. In and out through the open woodwork was woven a crimson cord, which was secured at each side to the crosspiece below. In releasing the lady the cord had been slipped off her, but the knots with which it had been secured still remained. These details only struck our attention afterwards, for our thoughts were entirely absorbed by the terrible object which lay upon the tiger-skin hearthrug in front of the fire.

It was the body of a tall, well-made man, about forty years of age. He lay upon his back, his face upturned, with his white teeth grinning through his short black beard. His two clenched hands were raised above his head, and a heavy blackthorn stick lay across them. His dark, handsome, aquiline features were convulsed into a spasm of vindictive hatred, which had set his dead face in a terribly fiendish expression. He had evidently been in his bed when the alarm had broken out, for he wore a foppish embroidered night-shirt, and his bare feet projected from his trousers. His head was horribly injured, and the whole room bore witness to the savage ferocity of the blow which had struck him down. Beside him lay the heavy poker, bent into a curve by the concussion. Holmes examined both it and the indescribable wreck which it had wrought.

"He must be a powerful man, this elder Randall," he remarked.

"Yes," said Hopkins. "I have some record of the fellow, and he is a rough customer."

"You should have no difficulty in getting him."

"Not the slightest. We have been on the look-out for him, and there was some idea that he had got away to America. Now that we know the gang are here I don't see how they can escape. We have the news at every seaport already, and a reward will be offered before evening. What beats me is how they could have done so mad a thing, knowing that the lady could describe them, and that we could not fail to recognise the description."

"Exactly. One would have expected that they would have silenced Lady Brackenstall as well."

"They may not have realized," I suggested, "that she had recovered from her faint."

"That is likely enough. If she seemed to be senseless they would not take her life. What about this poor fellow, Hopkins? I seem to have heard some queer stories about him."

"He was a good-hearted man when he was sober, but a perfect fiend when he was drunk, or rather when he was half drunk, for he seldom really went the whole way. The devil seemed to be in him at such times, and he was capable of anything. From what I hear, in spite of all his wealth and his title, he very nearly came our way once or twice. There was a scandal about his drenching a dog with petroleum and setting it on fire—her ladyship's dog, to make the matter worse—and that was only hushed up with difficulty. Then he threw a decanter at that maid, Theresa Wright; there was trouble about that. On the whole, and between ourselves, it will be a brighter house without him. What are you looking at now?"

Holmes was down on his knees examining with great attention the knots upon the red cord with which the lady had been secured. Then he carefully scrutinized the broken and frayed end where it had snapped off when the burglar had dragged it down.

"When this was pulled down the bell in the kitchen must have rung loudly," he remarked.

"No one could hear it. The kitchen stands right at the back of the house."

"How did the burglar know no one would hear it? How dared he pull at a bell-rope in that reckless fashion?"

"Exactly, Mr. Holmes, exactly. You put the very question which I have asked myself again and again. There can be no doubt that this fellow must have known the house and its habits. He must have perfectly understood that the servants would all be in bed at that comparatively early hour, and that no one could possibly hear a bell ring in the kitchen. Therefore he must have been in close league with one of the servants. Surely that is evident. But there are eight servants, and all of good character."

"Other things being equal," said Holmes, "one would suspect the one at whose head the master threw a decanter. And yet that would involve treachery towards the mistress to whom this woman seems devoted. Well, well, the point is a minor one, and when you have Randall you will probably find no difficulty in securing his accomplice. The lady's story certainly seems to be corroborated, if it needed corroboration, by every detail which we see before us." He walked to the French window and threw it open. "There are no signs here, but the ground is iron hard, and one would not expect them. I see that these candles on the mantelpiece have been lighted."

"Yes; it was by their light and that of the lady's bedroom candle that the burglars saw their way about."

"And what did they take?"

"Well, they did not take much—only half-a-dozen articles of plate off the sideboard. Lady Brackenstall thinks that they were themselves so disturbed by the death of Sir Eustace that they did not ransack the house as they would otherwise have done."

"No doubt that is true. And yet they drank some wine, I understand."

"To steady their own nerves."

"Exactly. These three glasses upon the sideboard have been untouched, I suppose?"

"Yes; and the bottle stands as they left it."

"Let us look at it. Halloo! halloo! what is this?"

The three glasses were grouped together, all of them tinged with wine, and one of them containing some dregs of bees-wing. The bottle stood near them, two-thirds full, and beside it lay a long, deeply-stained cork. Its appearance and the dust upon the bottle showed that it was no common vintage which the murderers had enjoyed.

A change had come over Holmes's manner. He had lost his listless expression, and again I saw an alert light of interest in his keen, deep-set eyes. He raised the cork and examined it minutely.

"How did they draw it?" he asked.

Hopkins pointed to a half-opened drawer. In it lay some table linen and a large cork-screw.

"Did Lady Brackenstall say that screw was used?"

"No; you remember that she was senseless at the moment when the bottle was opened."

"Quite so. As a matter of fact that screw was NOT used. This bottle was opened by a pocket-screw, probably contained in a knife, and not more than an inch and a half long. If you examine the top of the cork you will observe that the screw was driven in three times before the cork was extracted. It has never been transfixed. This long screw would have transfixed it and drawn it with a single pull. When you catch this fellow you will find that he has one of these multiplex knives in his possession."

"Excellent!" said Hopkins.

"But these glasses do puzzle me, I confess. Lady Brackenstall actually SAW the three men drinking, did she not?"

"Yes; she was clear about that."

"Then there is an end of it. What more is to be said? And yet you must admit that the three glasses are very remarkable, Hopkins. What, you see nothing remarkable! Well, well, let it pass. Perhaps when a man has special knowledge and special powers like my own it rather encourages him to seek a complex explanation when a simpler one is at hand. Of course, it must be a mere chance about the glasses. Well, good morning, Hopkins. I don't see that I can be of any use to you, and you appear to have your case very clear. You will let me know when Randall is arrested, and any further developments which may occur. I trust that I shall soon have to congratulate you upon a successful conclusion. Come, Watson, I fancy that we may employ ourselves more profitably at home."

During our return journey I could see by Holmes's face that he was much puzzled by something which he had observed. Every now and then, by an effort, he would throw off the impression and talk as if the matter were clear, but then his doubts would settle down upon him again, and his knitted brows and abstracted eyes would show that his thoughts had gone back once more to the great dining-room of the Abbey Grange in which this midnight tragedy had been enacted. At last, by a sudden impulse, just as our train was crawling out of a suburban station, he sprang on to the platform and pulled me out after him.

"Excuse me, my dear fellow," said he, as we watched the rear carriages of our train disappearing round a curve; "I am sorry to make you the victim of what may seem a mere whim, but on my life, Watson, I simply CAN'T leave that case in this condition. Every instinct that I possess cries out against it. It's wrong—it's all wrong—I'll swear that it's wrong. And yet the lady's story was complete, the maid's corroboration was sufficient, the detail was fairly exact. What have I to put against that? Three wine-glasses, that is all. But if I had not taken things for granted, if I had examined everything with the care which I would have shown had we approached the case DE NOVO and had no cut-and-dried story to warp my mind, would I not then have found something more definite to go upon? Of course I should. Sit down on this bench, Watson, until a train for Chislehurst arrives, and allow me to lay the evidence before you, imploring you in the first instance to dismiss from your mind the idea that anything which the maid or her mistress may have said must necessarily be true. The lady's charming personality must not be permitted to warp our judgment.

"Surely there are details in her story which, if we looked at it in cold blood, would excite our suspicion. These burglars made a considerable haul at Sydenham a fortnight ago. Some account of them and of their appearance was in the papers, and would naturally occur to anyone who wished to invent a story in which imaginary robbers should play a part. As a matter of fact, burglars who have done a good stroke of business are, as a rule, only too glad to enjoy the proceeds in peace and quiet without embarking on another perilous undertaking. Again, it is unusual for burglars to operate at so early an hour; it is unusual for burglars to strike a lady to prevent her screaming, since one would imagine that was the sure way to make her scream; it is unusual for them to commit murder when their numbers are sufficient to overpower one man; it is unusual for them to be content with a limited plunder when there is much more within their reach; and finally I should say that it was very unusual for such men to leave a bottle half empty. How do all these unusuals strike you, Watson?"

"Their cumulative effect is certainly considerable, and yet each of them is quite possible in itself. The most unusual thing of all, as it seems to me, is that the lady should be tied to the chair."

"Well, I am not so clear about that, Watson; for it is evident that they must either kill her or else secure her in such a way that she could not give immediate notice of their escape. But at any rate I have shown, have I not, that there is a certain element of improbability about the lady's story? And now on the top of this comes the incident of the wine-glasses."

"What about the wine-glasses?"

"Can you see them in your mind's eye?"

"I see them clearly."

"We are told that three men drank from them. Does that strike you as likely?"

"Why not? There was wine in each glass."

"Exactly; but there was bees-wing only in one glass. You must have noticed that fact. What does that suggest to your mind?"

"The last glass filled would be most likely to contain bees-wing."

"Not at all. The bottle was full of it, and it is inconceivable that the first two glasses were clear and the third heavily charged with it. There are two possible explanations, and only two. One is that after the second glass was filled the bottle was violently agitated, and so the third glass received the bees-wing. That does not appear probable. No, no; I am sure that I am right."

"What, then, do you suppose?"

"That only two glasses were used, and that the dregs of both were poured into a third glass, so as to give the false impression that three people had been here. In that way all the bees-wing would be in the last glass, would it

not? Yes, I am convinced that this is so. But if I have hit upon the true explanation of this one small phenomenon, then in an instant the case rises from the commonplace to the exceedingly remarkable, for it can only mean that Lady Brackenstall and her maid have deliberately lied to us, that not one word of their story is to be believed, that they have some very strong reason for covering the real criminal, and that we must construct our case for ourselves without any help from them. That is the mission which now lies before us, and here, Watson, is the Chislehurst train.”

The household of the Abbey Grange were much surprised at our return, but Sherlock Holmes, finding that Stanley Hopkins had gone off to report to head-quarters, took possession of the dining-room, locked the door upon the inside, and devoted himself for two hours to one of those minute and laborious investigations which formed the solid basis on which his brilliant edifices of deduction were reared. Seated in a corner like an interested student who observes the demonstration of his professor, I followed every step of that remarkable research. The window, the curtains, the carpet, the chair, the rope—each in turn was minutely examined and duly pondered. The body of the unfortunate baronet had been removed, but all else remained as we had seen it in the morning. Then, to my astonishment, Holmes climbed up on to the massive mantelpiece. Far above his head hung the few inches of red cord which were still attached to the wire. For a long time he gazed upward at it, and then in an attempt to get nearer to it he rested his knee upon a wooden bracket on the wall. This brought his hand within a few inches of the broken end of the rope, but it was not this so much as the bracket itself which seemed to engage his attention. Finally he sprang down with an ejaculation of satisfaction.

“It’s all right, Watson,” said he. “We have got our case—one of the most remarkable in our collection. But, dear me, how slow-witted I have been, and how nearly I have committed the blunder of my lifetime! Now, I think that with a few missing links my chain is almost complete.”

“You have got your men?”

“Man, Watson, man. Only one, but a very formidable person. Strong as a lion—witness the blow that bent that poker. Six foot three in height, active as a squirrel, dexterous with his fingers; finally, remarkably quick-witted, for this whole ingenious story is of his concoction. Yes, Watson, we have come upon the handiwork of a very remarkable individual. And yet in that bell-rope he has given us a clue which should not have left us a doubt.”

“Where was the clue?”

“Well, if you were to pull down a bell-rope, Watson, where would you expect it to break? Surely at the spot where it is attached to the wire. Why should it break three inches from the top as this one has done?”

“Because it is frayed there?”

“Exactly. This end, which we can examine, is frayed. He was cunning enough to do that with his knife. But the other end is not frayed. You could not observe that from here, but if you were on the mantelpiece you would see that it is cut clean off without any mark of fraying whatever. You can reconstruct what occurred. The man needed the rope. He would not tear it down for fear of giving the alarm by ringing the bell. What did he do? He sprang up on the mantelpiece, could not quite reach it, put his knee on the bracket—you will see the impression in the dust—and so got his knife to bear upon the cord. I could not reach the place by at least three inches, from which I infer that he is at least three inches a bigger man than I. Look at that mark upon the seat of the oaken chair! What is it?”

“Blood.”

“Undoubtedly it is blood. This alone puts the lady’s story out of court. If she were seated on the chair when the crime was done, how comes that mark? No, no; she was placed in the chair AFTER the death of her husband. I’ll wager that the black dress shows a corresponding mark to this. We have not yet met our Waterloo, Watson, but this is our Marengo, for it begins in defeat and ends in victory. I should like now to have a few words with the nurse Theresa. We must be wary for awhile, if we are to get the information which we want.”

She was an interesting person, this stern Australian nurse. Taciturn, suspicious, ungracious, it took some time before Holmes’s pleasant manner and frank acceptance of all that she said thawed her into a corresponding amiability. She did not attempt to conceal her hatred for her late employer.

“Yes, sir, it is true that he threw the decanter at me. I heard him call my mistress a name, and I told him that he would not dare to speak so if her brother had been there. Then it was that he threw it at me. He might have thrown a dozen if he had but left my bonny bird alone. He was for ever ill-treating her, and she too proud to

complain. She will not even tell me all that he has done to her. She never told me of those marks on her arm that you saw this morning, but I know very well that they come from a stab with a hat-pin. The sly fiend—Heaven forgive me that I should speak of him so, now that he is dead, but a fiend he was if ever one walked the earth. He was all honey when first we met him, only eighteen months ago, and we both feel as if it were eighteen years. She had only just arrived in London. Yes, it was her first voyage—she had never been from home before. He won her with his title and his money and his false London ways. If she made a mistake she has paid for it, if ever a woman did. What month did we meet him? Well, I tell you it was just after we arrived. We arrived in June, and it was July. They were married in January of last year. Yes, she is down in the morning-room again, and I have no doubt she will see you, but you must not ask too much of her, for she has gone through all that flesh and blood will stand.”

Lady Brackenstall was reclining on the same couch, but looked brighter than before. The maid had entered with us, and began once more to foment the bruise upon her mistress’s brow.

“I hope,” said the lady, “that you have not come to cross-examine me again?”

“No,” Holmes answered, in his gentlest voice, “I will not cause you any unnecessary trouble, Lady Brackenstall, and my whole desire is to make things easy for you, for I am convinced that you are a much-tried woman. If you will treat me as a friend and trust me you may find that I will justify your trust.”

“What do you want me to do?”

“To tell me the truth.”

“Mr. Holmes!”

“No, no, Lady Brackenstall, it is no use. You may have heard of any little reputation which I possess. I will stake it all on the fact that your story is an absolute fabrication.”

Mistress and maid were both staring at Holmes with pale faces and frightened eyes.

“You are an impudent fellow!” cried Theresa. “Do you mean to say that my mistress has told a lie?”

Holmes rose from his chair.

“Have you nothing to tell me?”

“I have told you everything.”

“Think once more, Lady Brackenstall. Would it not be better to be frank?”

For an instant there was hesitation in her beautiful face. Then some new strong thought caused it to set like a mask.

“I have told you all I know.”

Holmes took his hat and shrugged his shoulders. “I am sorry,” he said, and without another word we left the room and the house. There was a pond in the park, and to this my friend led the way. It was frozen over, but a single hole was left for the convenience of a solitary swan. Holmes gazed at it and then passed on to the lodge gate. There he scribbled a short note for Stanley Hopkins and left it with the lodge-keeper.

“It may be a hit or it may be a miss, but we are bound to do something for friend Hopkins, just to justify this second visit,” said he. “I will not quite take him into my confidence yet. I think our next scene of operations must be the shipping office of the Adelaide-Southampton line, which stands at the end of Pall Mall, if I remember right. There is a second line of steamers which connect South Australia with England, but we will draw the larger cover first.”

Holmes’s card sent in to the manager ensured instant attention, and he was not long in acquiring all the information which he needed. In June of ’95 only one of their line had reached a home port. It was the ROCK OF GIBRALTAR, their largest and best boat. A reference to the passenger list showed that Miss Fraser of Adelaide, with her maid, had made the voyage in her. The boat was now on her way to Australia, somewhere to the south of the Suez Canal. Her officers were the same as in ’95, with one exception. The first officer, Mr. Jack Croker, had

been made a captain and was to take charge of their new ship, the BASS ROCK, sailing in two days' time from Southampton. He lived at Sydenham, but he was likely to be in that morning for instructions, if we cared to wait for him.

No; Mr. Holmes had no desire to see him, but would be glad to know more about his record and character.

His record was magnificent. There was not an officer in the fleet to touch him. As to his character, he was reliable on duty, but a wild, desperate fellow off the deck of his ship, hot-headed, excitable, but loyal, honest, and kind-hearted. That was the pith of the information with which Holmes left the office of the Adelaide-Southampton company. Thence he drove to Scotland Yard, but instead of entering he sat in his cab with his brows drawn down, lost in profound thought. Finally he drove round to the Charing Cross telegraph office, sent off a message, and then, at last, we made for Baker Street once more.

"No, I couldn't do it, Watson," said he, as we re-entered our room. "Once that warrant was made out nothing on earth would save him. Once or twice in my career I feel that I have done more real harm by my discovery of the criminal than ever he had done by his crime. I have learned caution now, and I had rather play tricks with the law of England than with my own conscience. Let us know a little more before we act."

Before evening we had a visit from Inspector Stanley Hopkins. Things were not going very well with him.

"I believe that you are a wizard, Mr. Holmes. I really do sometimes think that you have powers that are not human. Now, how on earth could you know that the stolen silver was at the bottom of that pond?"

"I didn't know it."

"But you told me to examine it."

"You got it, then?"

"Yes, I got it."

"I am very glad if I have helped you."

"But you haven't helped me. You have made the affair far more difficult. What sort of burglars are they who steal silver and then throw it into the nearest pond?"

"It was certainly rather eccentric behaviour. I was merely going on the idea that if the silver had been taken by persons who did not want it, who merely took it for a blind as it were, then they would naturally be anxious to get rid of it."

"But why should such an idea cross your mind?"

"Well, I thought it was possible. When they came out through the French window there was the pond, with one tempting little hole in the ice, right in front of their noses. Could there be a better hiding-place?"

"Ah, a hiding-place—that is better!" cried Stanley Hopkins. "Yes, yes, I see it all now! It was early, there were folk upon the roads, they were afraid of being seen with the silver, so they sank it in the pond, intending to return for it when the coast was clear. Excellent, Mr. Holmes—that is better than your idea of a blind."

"Quite so; you have got an admirable theory. I have no doubt that my own ideas were quite wild, but you must admit that they have ended in discovering the silver."

"Yes, sir, yes. It was all your doing. But I have had a bad set-back."

"A set-back?"

"Yes, Mr. Holmes. The Randall gang were arrested in New York this morning."

"Dear me, Hopkins! That is certainly rather against your theory that they committed a murder in Kent last night."

"It is fatal, Mr. Holmes, absolutely fatal. Still, there are other gangs of three besides the Randalls, or it may be some new gang of which the police have never heard."

"Quite so; it is perfectly possible. What, are you off?"

"Yes, Mr. Holmes; there is no rest for me until I have got to the bottom of the business. I suppose you have no hint to give me?"

"I have given you one."

"Which?"

"Well, I suggested a blind."

"But why, Mr. Holmes, why?"

"Ah, that's the question, of course. But I commend the idea to your mind. You might possibly find that there was something in it. You won't stop for dinner? Well, good-bye, and let us know how you get on."

Dinner was over and the table cleared before Holmes alluded to the matter again. He had lit his pipe and held his slippered feet to the cheerful blaze of the fire. Suddenly he looked at his watch.

"I expect developments, Watson."

"When?"

"Now—within a few minutes. I dare say you thought I acted rather badly to Stanley Hopkins just now?"

"I trust your judgment."

"A very sensible reply, Watson. You must look at it this way: what I know is unofficial; what he knows is official. I have the right to private judgment, but he has none. He must disclose all, or he is a traitor to his service. In a doubtful case I would not put him in so painful a position, and so I reserve my information until my own mind is clear upon the matter."

"But when will that be?"

"The time has come. You will now be present at the last scene of a remarkable little drama."

There was a sound upon the stairs, and our door was opened to admit as fine a specimen of manhood as ever passed through it. He was a very tall young man, golden-moustached, blue-eyed, with a skin which had been burned by tropical suns, and a springy step which showed that the huge frame was as active as it was strong. He closed the door behind him, and then he stood with clenched hands and heaving breast, choking down some overmastering emotion.

"Sit down, Captain Croker. You got my telegram?"

Our visitor sank into an arm-chair and looked from one to the other of us with questioning eyes.

"I got your telegram, and I came at the hour you said. I heard that you had been down to the office. There was no getting away from you. Let's hear the worst. What are you going to do with me? Arrest me? Speak out, man! You can't sit there and play with me like a cat with a mouse."

"Give him a cigar," said Holmes. "Bite on that, Captain Croker, and don't let your nerves run away with you. I should not sit here smoking with you if I thought that you were a common criminal, you may be sure of that. Be frank with me, and we may do some good. Play tricks with me, and I'll crush you."

"What do you wish me to do?"

"To give me a true account of all that happened at the Abbey Grange last night—a TRUE account, mind you, with nothing added and nothing taken off. I know so much already that if you go one inch off the straight I'll blow this police whistle from my window and the affair goes out of my hands for ever."

The sailor thought for a little. Then he struck his leg with his great, sun-burned hand.

"I'll chance it," he cried. "I believe you are a man of your word, and a white man, and I'll tell you the whole story. But one thing I will say first. So far as I am concerned I regret nothing and I fear nothing, and I would do it all again and be proud of the job. Curse the beast, if he had as many lives as a cat he would owe them all to me! But it's the lady, Mary—Mary Fraser—for never will I call her by that accursed name. When I think of getting her into trouble, I who would give my life just to bring one smile to her dear face, it's that that turns my soul into water. And yet—and yet—what less could I do? I'll tell you my story, gentlemen, and then I'll ask you as man to man what less could I do.

"I must go back a bit. You seem to know everything, so I expect that you know that I met her when she was a passenger and I was first officer of the ROCK OF GIBRALTAR. From the first day I met her she was the only woman to me. Every day of that voyage I loved her more, and many a time since have I kneeled down in the darkness of the night watch and kissed the deck of that ship because I knew her dear feet had trod it. She was never engaged to me. She treated me as fairly as ever a woman treated a man. I have no complaint to make. It was all love on my side, and all good comradeship and friendship on hers. When we parted she was a free woman, but I could never again be a free man.

"Next time I came back from sea I heard of her marriage. Well, why shouldn't she marry whom she liked? Title and money—who could carry them better than she? She was born for all that is beautiful and dainty. I didn't grieve over her marriage. I was not such a selfish hound as that. I just rejoiced that good luck had come her way, and that she had not thrown herself away on a penniless sailor. That's how I loved Mary Fraser.

"Well, I never thought to see her again; but last voyage I was promoted, and the new boat was not yet launched, so I had to wait for a couple of months with my people at Sydenham. One day out in a country lane I met Theresa Wright, her old maid. She told me about her, about him, about everything. I tell you, gentlemen, it nearly drove me mad. This drunken hound, that he should dare to raise his hand to her whose boots he was not worthy to lick! I met Theresa again. Then I met Mary herself—and met her again. Then she would meet me no more. But the other day I had a notice that I was to start on my voyage within a week, and I determined that I would see her once before I left. Theresa was always my friend, for she loved Mary and hated this villain almost as much as I did. From her I learned the ways of the house. Mary used to sit up reading in her own little room downstairs. I crept round there last night and scratched at the window. At first she would not open to me, but in her heart I know that now she loves me, and she could not leave me in the frosty night. She whispered to me to come round to the big front window, and I found it open before me so as to let me into the dining-room. Again I heard from her own lips things that made my blood boil, and again I cursed this brute who mishandled the woman that I loved. Well, gentlemen, I was standing with her just inside the window, in all innocence, as Heaven is my judge, when he rushed like a madman into the room, called her the vilest name that a man could use to a woman, and welted her across the face with the stick he had in his hand. I had sprung for the poker, and it was a fair fight between us. See here on my arm where his first blow fell. Then it was my turn, and I went through him as if he had been a rotten pumpkin. Do you think I was sorry? Not!! It was his life or mine, but far more than that it was his life or hers, for how could I leave her in the power of this madman? That was how I killed him. Was I wrong? Well, then, what would either of you gentlemen have done if you had been in my position?"

"She had screamed when he struck her, and that brought old Theresa down from the room above. There was a bottle of wine on the sideboard, and I opened it and poured a little between Mary's lips, for she was half dead with the shock. Then I took a drop myself. Theresa was as cool as ice, and it was her plot as much as mine. We must make it appear that burglars had done the thing. Theresa kept on repeating our story to her mistress, while I swarmed up and cut the rope of the bell. Then I lashed her in her chair, and frayed out the end of the rope to make it look natural, else they would wonder how in the world a burglar could have got up there to cut it. Then I gathered up a few plates and pots of silver, to carry out the idea of a robbery, and there I left them with orders to give the alarm when I had a quarter of an hour's start. I dropped the silver into the pond and made off for Sydenham, feeling that for once in my life I had done a real good night's work. And that's the truth and the whole truth, Mr. Holmes, if it costs me my neck."

Holmes smoked for some time in silence. Then he crossed the room and shook our visitor by the hand.

"That's what I think," said he. "I know that every word is true, for you have hardly said a word which I did not know. No one but an acrobat or a sailor could have got up to that bell-rope from the bracket, and no one but a sailor could have made the knots with which the cord was fastened to the chair. Only once had this lady been brought into contact with sailors, and that was on her voyage, and it was someone of her own class of life, since she was trying hard to shield him and so showing that she loved him. You see how easy it was for me to lay my hands upon you when once I had started upon the right trail."

“I thought the police never could have seen through our dodge.”

“And the police haven’t; nor will they, to the best of my belief. Now, look here, Captain Croker, this is a very serious matter, though I am willing to admit that you acted under the most extreme provocation to which any man could be subjected. I am not sure that in defence of your own life your action will not be pronounced legitimate. However, that is for a British jury to decide. Meanwhile I have so much sympathy for you that if you choose to disappear in the next twenty-four hours I will promise you that no one will hinder you.”

“And then it will all come out?”

“Certainly it will come out.”

The sailor flushed with anger.

“What sort of proposal is that to make a man? I know enough of law to understand that Mary would be had as accomplice. Do you think I would leave her alone to face the music while I slunk away? No, sir; let them do their worst upon me, but for Heaven’s sake, Mr. Holmes, find some way of keeping my poor Mary out of the courts.”

Holmes for a second time held out his hand to the sailor.

“I was only testing you, and you ring true every time. Well, it is a great responsibility that I take upon myself, but I have given Hopkins an excellent hint, and if he can’t avail himself of it I can do no more. See here, Captain Croker, we’ll do this in due form of law. You are the prisoner. Watson, you are a British jury, and I never met a man who was more eminently fitted to represent one. I am the judge. Now, gentleman of the jury, you have heard the evidence. Do you find the prisoner guilty or not guilty?”

“Not guilty, my lord,” said I.

“Vox populi, vox Dei. You are acquitted, Captain Croker. So long as the law does not find some other victim you are safe from me. Come back to this lady in a year, and may her future and yours justify us in the judgment which we have pronounced this night.”

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DAILY LIFE IN ANCIENT CHINA

by Emily Mark

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Chinese culture is one of the oldest in the world today. Over 6,000 years ago this culture began to develop in the Yellow River Valley and many of those ancient practices are still observed in the present. The Chinese developed a society based on respect for the spirits of the earth, one’s ancestors, the gods, and other people. It was believed that the world was governed by spirits and deities and so people should behave as though they were in the presence of these spirits at all times.

Daily life in ancient China changed through the centuries but reflected these values of the presence of the gods and one's ancestors in almost every time period. In the prehistoric age (c. 5000 BCE) people lived in small villages in the Yellow River Valley. Villages like Banpo show evidence of a matriarchal society, where there was a priestly class dominated by women who governed and were the religious authorities. The people lived in small, round homes built into the ground, wore the skins of animals, and practiced an animistic form of religion. Small villages like Banpo grew into larger communities and then into cities. The Xia Dynasty (2070-1600 BCE) is the first form of government in China which established large cities. It was thought to be mostly mythological until archaeological evidence was discovered which, according to some scholars, proves its existence (although this evidence continues to be debated). After the Xia came the Shang Dynasty (1600-1046 BCE), when writing was developed and the first written evidence appears of what life was like for people in ancient China.



Banpo Village, Xi'an, China

SOCIAL CLASS, CLOTHING & ADORNMENTS

Silk is thought to have been invented c. 2696 BCE, when the goddess Leizu, wife of the supreme god Shangti, was having tea and a cocoon fell into her cup. As the cocoon unraveled, she saw it was all one thread and so planted mulberry trees for silkworms to spin their webs in to make silk. The nobles and royalty were the only people who could wear silk. Those who processed the silk into clothing, and even the merchants who sold it, were not allowed to wear it. Most of the population of China wore clothing made of hemp. Women wore long tunics which went to their ankles with a tie around their waists; men's tunics were shorter, only to their knees, and sometimes they wore pants with cloth boots or sandals. In the colder seasons they would wear a thick jacket made of hemp, which was padded for additional warmth. Chinese women would sew an image of a tiger onto the clothing of their children as a sign of protection. The tiger was thought to be the king of the beasts and its image would ward off evil. Sometimes mothers sewed images of toads or snakes onto clothing along with the tiger to add more protection against danger. This practice spread to the upper classes where dragons and tigers were embroidered on silk gowns for the same purpose. In the Sui Dynasty (589-618 CE), the emperor decreed that there was too much similarity between what the peasants and the upper classes wore (even though the wealthy nobles were still the only ones who could wear silk) and passed a law that all peasants had to wear either blue or black clothing; only the wealthy were allowed to wear colors.

One's social class was determined, more or less, by birth. If one's father was a peasant, one would also be a peasant. The social division between a ruling class, nobles, merchants (business owners), and the working class peasants deepened further with the invention of writing; people became divided between an upper class who could read and an illiterate peasant population. From the Shang Dynasty on, though, a person could improve their station in life by passing the Imperial Examinations and working for the government. These exams were very hard to pass. Not only did one need to be literate but one had to almost memorize nine books (known as The Five Classics and The Four Books) to be able to answer questions concerning them. The wealthy and middle class were either nobility, merchants, politicians, or civil servants while the poor were the peasant farmers and laborers. Taverns and pubs were popular gathering places for men of all classes, but they each had their own type of tavern, the upper classes would not go to lower class pubs, and the lower class was not allowed into the higher class ones. Scholar Charles Benn writes:

In Changan westerners operated taverns favored by poets, in the wards along the southeast wall of the city. They employed white-skinned, green-eyed, blond women from Central Asia to sing and dance so that patrons would spend more money on ale. Aside from the taverns inside Changan's walls, there were pubs where villagers living along some nineteen miles of the eastern road outside the city sold ale to travelers (57).

The urban taverns catered to the middle class and the rural to the lower. In the city of Changan during the Tang Dynasty (618-907 CE) there was an area in the district of North Hamlet known as The Gay Quarters, which catered to the wealthy. The word 'gay' should be understood as "light of heart," and the quarters were staffed by

high-class and very expensive courtesans. Benn writes, "Prized more, or at least as much as, for their talents as entertainers at feasts than for their sexual services, they resembled Japanese geishas" (64). None of the lower class could enter The Gay Quarters, and if they did, they would not have been able to afford to visit any of the houses. Taverns were often operated by women but The Gay Quarters were run by men accountable to the mayor of the city. This was the standard arrangement throughout China where courtesans were strictly under the control of the government.

Distinctions between the classes in ancient times were also seen in hair styles and other personal choices. Men and women of all classes wore their hair long because it was thought that one's hair came from one's ancestors and it was disrespectful to cut it. In daily life, one would put one's hair up in a bun, but it was never supposed to be cut. Wealthy women wore their hair up with elaborate pins made of ivory, gold, or silver while poorer women kept theirs up by knotting it or binding the bun with a piece of twine. Just like the hair, the body was thought to be a gift from one's ancestors and should not be abused. One's body was not one's own to do with as one liked; it had to be treated with respect. For this reason, most people looked down on those with tattoos and also because marking the body with ink was associated with barbarian customs. Tattoos were used as a brand for criminals, though, and those branded had to carry the mark with them for the rest of their lives. Even if they had the actual brand burned off, the scar would remain.

There are records, though, of quite a few who chose to tattoo themselves as an artistic expression. Charles Benn writes about one man who "spent 5,000 cash to have an artist prick his chest and stomach so that he could sport a landscape replete with gazebos nestled in the mountains, pavillions soaring over rivers, trees, birds, and animals" and another who "had a snake tattooed all over his body in his youth. The image of the serpent began in his right hand, where the jaws of the beast drawn on his thumb and index finger gaped. The body of the snake wound around his wrist, arm, and neck. Then it slithered down his chest, stomach, thigh, and shin, where it terminated with a tail" (112-113). For the most part, though, tattoos were only worn by convicts or gang members. Benn cites an example of a street gang, who had shaved heads and tattoos, who would beat and rob people in the marketplace of Changan. After they were arrested, the mayor had them publicly beaten to death in the town square, and afterwards, many people in the city with tattoos had them burned off so as not to be associated with the gang.

Along with tattoos, body odor was also associated with barbarians and criminals, and the Chinese were very meticulous about perfuming themselves thoroughly. Benn writes, "Women and men perfumed themselves. Palace ladies applied scents so lavishly that when they went out on an excursion, the redolence of their cortege permeated the air for miles" (113). They also wore deodorant made of lime, frankincense, cloves, sweet gum, and birthwort. Benn writes, "The compound was packed into small bags that were slung under the armpits. The authorities also recommended washing the armpits with urine on New Year's Day" (114). Bathing every day was thought to invite sickness, and the custom was to bathe only once every five days. For bad breath, the Chinese sucked on cloves, and it was mandated that anyone appearing in the emperor's presence had to do so before speaking to him. Foot odor was another concern, which was controlled through perfumes or camphor.

The shoes of the wealthy were soft and made of silk, with upturned toes, while those of the peasant class were coarse boots or sandals made of straw, hemp, or wood. Inside the home, everyone wore slippers made either of straw, hemp thread, or silk. Both men and women of the upper classes grew their fingernails long to show that they did not have to work. They had servants do everything for them, even feed them, so they would not damage their nails. Rich women wore jewelry like earrings, bracelets, necklaces, amulets, and rings. Some women pinned the wings of a green beetle to their clothes to make them more attractive to men.

During the period known as the Five Dynasties and Ten Kingdoms (907-960 CE) the practice of foot binding began. It probably started earlier but became a custom after the reign of the emperor Li Yu (937-978 CE) who had his consort Yia Niang bind her feet to resemble a crescent moon and perform a special dance for guests at one of his parties. Li Yu had erected a large golden statue of a lotus flower in his garden, and Yia Niang's dance was to honor its unveiling. Her dance was so beautiful it made the other women there want feet as tiny and graceful as Yia Niang's were, and soon the idea developed that a beautiful woman should have tiny feet.

Girls as young as toddlers would have their feet wrapped in bandages so tightly it broke their toes and curled them under the foot. Girls had to walk around stepping on their own toes and were in constant pain for years until they grew used to it. Although this practice started among the upper classes, it soon became common for all women in China. This made working in the rice fields or doing any kind of manual labor, very difficult. Women are shown in ancient paintings crawling in the rice paddies because they could not walk. Foot binding continued for centuries until it was outlawed in 1911 CE. Many women were interviewed in the late 19th early 20th centuries CE

on footbinding and talked about crying from the pain for years and how it never made them feel any more beautiful.

FARMING, FOOD & DRINK

The principal crop of China was rice. Rice grew best in the southern part of China in flooded fields, and so canals were dug to flood more fields throughout the country. Rice was so important that it was used to pay one's tax. Rice was eaten at every meal in some form and was even brewed to make wine. Wheat and other grains were also grown but were never as important as rice. The Chinese diet was (and still is) mostly vegetarian. The Chinese temples and monasteries taught people that a healthy diet led to a long life and emphasized vegetarianism as a humane and healthy way of eating. The Chinese did eat meat but it was rare, and one would never kill a chicken which was still laying eggs. Fish was the most popular dish served with rice and vegetables.

Food was cooked over a low fire in the home in a three-legged pot called a *ding*. The *ding* could be placed directly over the fire and ingredients added to slow cook all day so the family would have their dinner ready when they came in from the fields. The wealthy people had servants cook for them who also used the *ding* but might also use pans and cook with ovens. The most important drink was tea which was first brewed c. 100 BCE from powdered leaves. Different leaves were blended for different tastes or to produce different effects. Tea was considered a powerful medicine but was also just a popular drink people enjoyed and relaxed with. The popularity of tea gave rise to the Tea Culture in China which is best known through the Tea Ceremony.

A legend claims that an ancient ruler named Yan Di would go out searching for medicinal herbs to help his people. One day he tasted a herb which poisoned him but, as he was dying, water from a tea tree dripped onto his tongue and cured him. He began planting tea trees after that and gave tea to his people. People would eat tea leaves with their meals as a vegetable, and tea was considered an acceptable religious offering at temples. Tea gardens became popular among the wealthy, and the Tea Ceremony developed, which is an elaborate ritual of respect in which people take tea together. The person who prepares the tea honors her guests through her preparations and presentation, and the guests pay her respect by participating properly.



Chinese Tea Ceremony

HOME LIFE, GAMES, & SPORTS

The Tea Ceremony was performed in one's home or garden where one would welcome guests. The home, just like today, was the center of the family's life. Women took care of the home while men worked outside of the house. Women, men, and children of the peasant classes all worked in the fields. Chinese homes differed, like anything else, depending on one's social class and how much money one had. Peasants lived in huts while merchants and other middle-class people lived in houses made of wood, which were built around a rectangular courtyard where a garden would be planted. The garden was usually a border around a patio which had trees and bushes in it.

There were sleeping quarters inside the home, a kitchen, and a hall (sometimes very large) which was a dining room and entertainment area. Families would eat in the hall and talk and listen to music or read in the company of their pet cat. Cats were the most popular pet in ancient China, and almost every home had one. Dogs were kept more for security and as a source of food, although there is some evidence that the ancient Chinese played with their dogs as pets. They would also play games like mahjonn, go (a kind of Chinese Chess) or checkers. The Chinese also enjoyed playing kickball, football (as defined everywhere in the world except America), wrestling, and archery. Swimming was not a popular sport in China because of the belief in the type of ghost known as the *Shui Gui*, the spirit of a person who had drowned who waited in the water to drown someone else in order to be set free. The Chinese did practice swimming but it was not a popular past-time.

In every home, there was a shrine to the ancestors of the family, the local *Tudi Gong*, and the gods the family followed. In the kitchen, there was always the paper image of the kitchen god known as Zao Shen. Zao Shen was

probably the most important god of the home because his job was to keep watch over the family, keep them safe, but also report on their daily conduct to the other gods. He was like a little spy for the gods in the home, who also protected those he spied on. Once a month, Zao Shen would leave the house to report to the local gods on how the people were doing, and during this time the family was very careful not to do anything to invite evil spirits into the house because they had no protection. Once a year, on New Year's Eve, Zao Shen left to make his full report to Shangti and the other gods in heaven. His image would be offered food and drink, and then his mouth would be smeared with honey so only a good report would come out when he reached the heavens. The paper image would then be burned to send him on his way, and firecrackers would be lit to make him go faster and give only the best report of how the family was conducting themselves. The next morning, on New Year's Day, the eldest and most honored woman of the house would make a new image of Zao Shen to place over the stove and keep watch over the family for the next year.

RELIGION

Chinese religion began in the prehistoric age when people practiced a form of animism. This practice evolved into ancestor worship and the development of gods and goddesses who personified natural forces. The Tudi Gong were earth spirits one needed to respect and honor at all times. They were the spirits of a certain place, sometimes the spirit of a great person who had once lived there, who blessed those who honored them and cursed those who did not. Veneration of the earth spirits was probably the oldest form of religion but ancestor worship began shortly after or maybe even before it.

People who died were thought to live with the gods and had powerful influence in the world of the living. The practice of divination became popular during the Shang Dynasty where people would go to mystics who could tell the future through oracle bones. The belief that those who died lived on also gave rise to a belief in ghosts. Ghosts were (and still are) a very important concept in Chinese culture. The Ghost Festival is still observed each year in China during which people prepare special meals for the departed, burn incense to please the ghosts or drive away evil spirits, and even close their shops so that the ghosts can browse in peace without being disturbed by the living. Tomb Sweeping Day is observed during the Festival of Qingming, (held 4 or 5 April), and is a very old practice. During Qingming, one visits the graves of one's relatives and shows them proper respect by caring for the grave and leaving gifts including food. If one neglects the graves of one's ancestors, one risks being haunted by them.

The land of the afterlife which souls went to (or, as ghosts, were prevented from reaching) and the heavens and the earth were presided over by gods and goddesses the people worshipped. A very popular goddess was Xi Wang Mu, The Queen Mother of the West, goddess of immortality who lived in a great golden palace in the Kunlun Mountains and had a peach orchard of immortality she walked in. People would wear amulets and build shrines to the Queen Mother to be considered worthy of her protection and the long life she rewarded followers with. Shangti was the supreme god of creation, law, and justice. He was also known as the Yellow Emperor and was thought to have given the people culture and language. Cai Shen was the god of wealth who rewarded those who behaved with a happy life and the Menshen were gods of peaceful sleep who watched over people and warded off evil spirits and bad dreams.

Some of these gods and goddesses were worshipped in shrines and temples and others were acknowledged only through charms and bracelets or statues and wall paintings. The Menshen, for example, are still painted on either side of doorways to protect against ghosts and evil spirits. Lei Shen, god of thunder, and Dian Mu, goddess of lightning, were feared while Zhong Kui, the god of healing, was regularly prayed to and worshipped probably as much as Cai Shen. Among the most popular deities were Guanyin, goddess of mercy and compassion who helped everyone and became the patron goddess of sailors, and Niu Lang and Zhi Nu, god and goddess of love who inspired one of the most popular festivals in China, The Seventh Night of the Seventh Moon (also, the Double Seventh Festival), where women would pray for skill in weaving and sewing officially but unofficially was a romantic night for lovers. People would gaze at the stars and tell the story of Niu Lang (the star Altair) and Zhi Nu (the star Vega) who were separated by the Milky Way all year long except on that one night. Astronomers and astrologers both regarded the stars as expressions of embodiments of deities. Astronomers were always male while astrologers could be male or female.

EDUCATION & HEALTHCARE

Only males received an education in ancient China; which is why astronomers, who were highly educated, were always men. Girls were expected to stay home and learn how to be housewives and mothers. In the early days, young boys stayed home as well and helped with outdoor work, and only young men in their teens attended school and only those of the upper classes. Confucius began teaching young men the principles of how to be the best person they could be, and this set the standard for the basics of Chinese education. Everyone was expected to know the Five Virtues of Confucius by heart. These were Li (manners) considered the most important; Ren (kindness); Xin (loyalty); Yi (honesty) and Zhi (knowing the difference between right and wrong, moral knowledge). In the early days of schools, the students would write on wooden sticks and then on wood scrolls bound together. In 105 BCE paper was invented, and during the Tang Dynasty (618-907 CE) the process of woodblock printing made it possible to mass-produce books of paper, which were then used in schools. The books which were required reading were the texts known as The Five Classics and The Four Books: The I-Ching, The Classics of Poetry, The Classics of Rites, The Classics of History, The Spring and Autumn Annals, The Analects of Confucius, The Works of Mencius, The Doctrine of the Mean, and The Great Book of Learning, most of which were based on the writings of Confucius.

Since only men were taught to read and write, and one needed to be literate to read medical texts, doctors were also all males by the time of the Tang Dynasty. Herbalists in rural areas could be women but the medical profession was dominated by men. Most doctors were priests or had a background in religious practices. Prior to the Tang Dynasty, doctors were essentially shamans who cured the sick through herbal remedies and exorcisms. They believed

EVERYONE WAS EXPECTED TO KNOW THE FIVE VIRTUES OF CONFUCIUS BY HEART. THESE WERE *LI* (MANNERS); *REN* (KINDNESS); *XIN* (LOYALTY); *YI* (HONESTY) AND *ZHI* (KNOWING THE DIFFERENCE BETWEEN RIGHT AND WRONG, MORAL KNOWLEDGE).

illness was caused by evil spirits or ghosts. After Buddhism arrived in China, Buddhist priests presided over establishments known as Fields of Compassion which were hospitals, clinics, orphanages, retirement homes, and counseling centers all at the same time. These were usually operated out of or adjoining a monastery. The second emperor of the Tang Dynasty, Taizong (626-649 CE) established medical schools and added the medical profession to the list of occupations one needed to pass the Imperial Examinations for. These doctors were more secular than the earlier shamans and were held to a high standard of conduct.

A long and healthy life was greatly valued by the Chinese. Priests, monks, shamans, and secular doctors all emphasized diet as the most important factor in a person's health. A vegetarian diet was considered the most healthy and also the most humane in that one was not killing animals to sustain one's self. People did eat meat and often sacrificed animals to the gods and spirits, but doctors, especially secular physicians, discouraged this. The prevailing belief in the Tang Dynasty was that a long and harmonious life of balance could only be achieved by refraining from meat dishes and living off the gifts of agriculture which the gods had given to people. In gratitude for these gifts and all the others the Chinese honored their gods, and to celebrate life they held a number of festivals throughout the year.

FESTIVALS

There were national festivals, which everyone observed, regional festivals, and local festivals. A local festival might be a celebration of the birthday of some famous citizen who had done good works for the town or a poet or artist. Regional and local festivals could also be held to honor the *Tudi Gong*. Taoist festivals were observed to cleanse a village, town, or city of evil spirits, to appease the restless dead, or honor the ancestors and invite their blessings.

The most important national festival was New Year's Day, which was observed between the 1st and the 15th days of the first lunar month. Firecrackers and fireworks were set off to welcome the new year and to speed Zao Shen on his journey to the heavens. These fireworks also served to drive away evil spirits. The firecrackers were dried bamboo, which were thrown into fires early in the morning and popped loudly when they burned. Every home would set off firecrackers and, if they could afford them, fireworks but each municipality had some kind of public fireworks display. New Year's Day allowed for people to slaughter chickens and sheep on a large scale to ensure fertility of the land for the coming year. Government officials were given a seven-day vacation, and shops closed or operated on limited hours. The focus of the festival was to give thanks for the past year and make

provision for the new one. This provision emphasized protection against evil spirits and ghosts. Slaughtered chicken and sheep skins were hung up outside of homes as offerings, incense was burned, and a special ale was brewed called Killing Ghosts and Reviving Souls. Drinking this ale in large amounts was thought to protect one from illness caused by evil spirits or restless ghosts.

The Lantern Festival was held on the 15th day of the first lunar month to conclude the New Year's celebration. This was a festival of light honoring the full moon when people would float lighted lanterns on ponds, lakes, or streams, watch the full moon, play games, dance, and hold feasts. According to their status and wealth, some people would erect huge displays for the celebration. Charles Benn writes:

Patricians sought to outdo each other in providing the grandest lamps. An aristocratic lady of the mid-eighth century had a lamp tree with several hundred branches that was eighty feet tall. When she lit it on Lantern Festival, its light was visible for miles. It could not compare, however, with that of Emperor Ruizong. He had a lantern wheel 200 feet tall erected outside a gate of Changan in 713 CE. The apparatus was clothed in brocades and silk gauze, and adorned with gold and jade. When he had its 50,000 oil cups lit, the radiance burst forth like the blooms on a flowering tree (151).



Lantern Festival

If one could afford it, no expense was spared in celebrating the Lantern Festival. A good festival would mean prosperity for the coming year.

There was also the Lustration Festival which took place on the third day of the third moon when the people drove away evil spirits by drinking enormous quantities of ale. The entire day was devoted to feasting and drinking to excess. The Qingming Festival was observed in April honoring the ancestors, and the Fifth Day of the Fifth Moon Festival (Dragon Boat Festival) was held in July to honor a respectable statesman who chose a dignified death over a life of dishonor. The Hungry Ghosts Festival, in August, recognizes the spiritual dimension of life and honors those who have passed on.

The Seventh Night of the Seventh Moon Festival honored the god and goddess of love, and the Mid-Autumn Festival paid tribute to the moon. The Last Day of the Twelfth Moon Festival was the ritual of sending Zao Shen on his way to the gods on New Year's Eve and corresponds to many New Year's Eve parties in the present day. People began drinking the Killing Ghosts and Reviving Souls Ale, had feasts, and lit off fireworks. Festivals kept the people in touch with their past, grounded them in their cultural values, and were a very important aspect of the lives of those in ancient China. In the present day, many of these same celebrations are observed every year. The rituals involved go back hundreds or even thousands of years and continue to be performed in very similar, or exactly the same, ways.

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AGAINST INSPIRATION

By Hailey Hughes
Published April 15, 2016

I stand in the shower, hand grasping the grab bar to keep from slipping on the sudsy floor. My left leg is spastic tonight and the hamstring feels like a violin string pulled taut over the instrument with the bow scraping mercilessly over it, back and forth. I let go of the bar and sit on the floor of the shower to give my leg a break. I sit with my knees pulled up by my chest. My hands rhythmically rub sweet mint shampoo into my scalp while my toes on my left foot splay and contract involuntarily. The warm water beads down my back and I can feel the tension slowly release from the back of my leg down to my toes; the spasm is over.

With a disability, there's a certain vernacular that people use, words like: "suffer," "inspiration," "special needs," in addition to all the acronyms like "IEP," "PT," and "OT." I know most people mean well when they suggest that I'm an "inspiration" for living my life in a certain way despite "suffering" from my disability, but it's hard not to be a little taken aback by being put on an "inspiration pedestal." When placed on a pedestal, one can't move away from that; there is nowhere to grow. I have suffered and faced tragedy like anyone else trying to make it through life, but I am not suffering—I am living my life.

One day at church, our song leader mentioned a person who had suffered greatly during his lifetime, Horatio Spafford, a bespectacled nineteenth-century lawyer with salt and pepper hair. Spafford had a law practice based in Chicago and spent time with his wife, Anna, and their four daughters helping others in need after a fire ravaged the city in 1871. The Spafford family decided that they needed a vacation and so they decided to go with another family to Europe. Horatio Spafford packed up his family and set them to sea to Europe ahead of him. While he finished attending to business, his family boarded the *Ville du Havre*, which sank three miles to the sandy depths of the Atlantic Ocean when another ship slammed into it. Twelve minutes passed from when the ship was struck to the moment it drifted to the bottom of the ocean.

One can accomplish a lot in twelve minutes: take a decent nap, have sex, take a shower, talk with your mother on the telephone. Twelve minutes, however, was not enough time for the many passengers to seek refuge from the sinking ship, and in fact, only 27 of the many people on that ship survived, and Anna was among them. Her telegram sent to Horatio stated simply: *Saved alone*. Having read the telegram, Spafford boarded another ship to Europe to retrieve his love, and while his ship was crossing the Atlantic Ocean, the captain pointed out the location where his daughters likely drowned, cold and alone.

In the nights that I lie awake staring up at the drop-ceiling of my bedroom, questions roll down from the attic of my mind. "What does it mean to actually suffer?" Surely, one cannot define suffering because it's subjective—it carries different connotations for different people.

Surely, *this* is suffering and Spafford's resilience in the face of the death of his four children is an inspiration to those of us who sing the hymn he penned, "It is Well," after being so moved by the sight of his daughters' watery graves. Every time I hear the strains of the melody of Spafford's hymn, I am reminded that although this man suffered unspeakable tragedies in his life, he created a poem that touches and soothes the tears of the weary and heartbroken.

In the shower, my fingers search for the silver grab bar again. I clutch it and pull myself to a standing position. I rest my head on the wall after turning the water off. My head thrums from the warmth and energy left behind by the spray of the water. My brain is like a film strip with microscopic splices that, although miniscule, alter the functions of my everyday life. Words. I have problems remembering words, names, and encoding long-term memories.

Spafford took this horrific trauma and transformed it into art, so that others can understand and relate to his hardship, but more specifically, he used words to participate in a type of expression in which the sinking ship becomes an abstraction on the page, hinted at in ambiguous diction and religious metaphors. The song becomes a blanket under which Spafford can tuck his children into their final resting place. With this blanket hymn, others too can be carried along by the hopeful strains and verses to heal their own raw wounds.

* * *

At Physical Therapy, I worked tirelessly on walking up and down the steps properly and balancing on a balance beam. When I was a toddler up until around five years old, I learned to "bear crawl," which is crawling up or down stairs on one's hands and knees. My therapist, Elaine, was young and perky, with short brown hair and golden hoop earrings dangling from her ears. A white balance belt was cinched around my waist and her hand was on my back as I stepped up on one step with my right foot and tried to gain enough balance to try another step.

“Okay, now the left one. It’s okay, I’ve got you, and I won’t let you fall.”

With white knuckles clutching the railing on the small set of wooden stairs, I almost made it up another step until my toe caught the lip. I wobbled and started to fall forward. She grabbed the belt and pulled me to a standing position once more. This time, Elaine grabbed my left ankle and maneuvered it up to the next step. I practiced and practiced and practiced. One day, I made it to the top and now I had to learn how to return to the bottom. With one hand on the railing and one hand holding onto Elaine’s hand, I started down one stair and began wobbling like a newborn colt. I whimpered and sat down on the step. There was no way I could descend the stairs without falling. I wouldn’t do it.

“Come on, girl, you’re almost there! You made it up, now you just have to make it to the bottom. I have you and I will not let you fall. Trust me,” she said, smiling. I grabbed her hand and tried once more.

Many years have passed since those physical and occupational therapy appointments where I learned to navigate stairs successfully and write my name in a sprawling form of cursive. I would take on many other challenges in the years to come.

My sister, Paige, and her boyfriend, Chris, have taken to rock climbing during their free time. They invited me and I was nervous but I went along anyway for their company. Once my sister helped me put my harness on and tied the orange rope to my harness, she fastened her clip to my rope to belay for me. I examined the wall. It was going to be a challenge, but I was determined to at least try. I decided to place my feet on the yellow and green “rocks” that looked like a good foothold. I pulled myself up and grabbed on to a green rock that looked like a piece of broccoli.

“Give me some slack,” I called below to my sister and I felt the rope attached to me slacken a bit. I pulled on the wall with my arms and placed my hands on a purple hand-hold above me. I was literally stretched too thin.

“Use your legs, too, don’t let your arms do all the work. It’ll be easier to maintain yourself!” my sister advised. I tried to pull my right leg onto the ledge above me, but I kept barely missing it and fingers were red and irritated from holding on too long.

“Okay, I’m coming down.”

“Let go of the wall and don’t grab the rope!” Paige said, as she released her clip.

I let go of the wall and panicked. I grabbed onto the rope and my back slammed against the rock wall and I twisted around the rope. It was like a production of *Peter Pan* gone terribly wrong. I was able to untwine myself and bounced down the rest of the way with the balls of my feet. I sat on the floor and untied the rope from my harness.

“You don’t need to grab onto the rope! You’re attached to my harness, too, and I won’t let you fall. It’s pretty much impossible for me to let you fall. You have to trust me.”

She extended her hand and I grabbed it, and stood up. The next day, I looked in the bathroom mirror at an angry purple bruise from colliding with the rock wall. I ran my fingers over it and a dull pain radiated from my back. A different day, another bruise.

* * *

Last summer, I boarded the Amtrak for a 10-hour train ride to Washington D.C. to spend some time with a friend I’d met on a Cerebral Palsy support group online forum. He had visited me earlier in the year, driving seven hours to get to know me a little better. This time, it was my turn. The train chugged through the heart of the Appalachian Mountains, and I felt small and insignificant, but it was comforting because my problems suddenly seemed small and insignificant as well. The foliage nestled and tucked around the mountains exploding with color; purple and blue flowers and cattails dotted the landscape. As a child, I picked cattails from our yard and placed the end between my lips. I felt like a farmer, except I was without a straw hat. The leaves on trees were already changing in some areas, with patches of red and orange, a taste of the autumn that would come rapidly. I cracked open a book to read after journaling about the train ride.

I disembarked in D.C. no worse for wear and a few days later, boarded the Virginia Railway Express with the friend I’d come 10 hours to see, Blake. We made small talk on the train about college and summer jobs, and I tried not to stare at his hand. Blake’s hand looks like a pottery piece that misfired in the kiln. The fingers on his

right hand are rigid with spasticity and clenched in a perpetual fist from CP. His hand didn't bother me; on the contrary, it is beautiful. His knuckles are perfectly sculpted, round scoops of French vanilla ice cream. The green veins that spider web the back of his hand become more pronounced when his hand is clenched. I imagine all the blood and oxygen traveling through those veins from his heart, and I marvel at the ingenuity of the human body for its vulnerability.

We disembarked from the Virginia Railway Express, missed a step, and tumbled to the concrete. Everyone stared as Blake struggled to help me up. Everyone always stares. My knee was gushing with blood, and little shards of gravel and of dirt added some nice decorum to my gash. Blake found a first aid kit and together we bandaged my knee. I held the cotton and ace bandage in place while he wrapped it around my knee. He held the excess strip of bandage out, and I grabbed scissors to cut. We made a good team.

Over the next few days we began to know each other a little better, and Blake decided to show me around the city of Fredericksburg, VA. He kept going on about this pizza that I had to try at a pizza parlor called Benny's. The greasy slice of cheese pizza was half the length of my arm, and we both laughed as stringy cheese hung from our lips. The formality of trying to be proper and well-mannered when eating was over. We sat outside on cast iron chairs, while people passed by, marveling at our large slices of cheese pizza.

"I want to take you to Frazier's, once you finish."

"What's Frazier's?" I asked, wiping my mouth.

"It's a woodworking craftsmanship shop. It's so cool."

"I'm not really into woodworking. The last time I used a really sharp kitchen knife, I almost amputated my ring finger."

"Just come with me, you'll like it."

We walked down the street to Frazier's and Blake held the door open for me. I inhaled the deep scent of oak and other musky woods. Wooden rocking chairs and Curio cabinets littered the store. Little knickknacks caught my eye, like the shaving kit brushes and candles handcrafted using old champagne bottles. I picked up the rose-scented candle and inhaled; the aroma made my stomach tingle. I could imagine myself lighting this champagne candle and reading a novel on a cold, winter night.

"Come on, you haven't seen the best part, yet," Blake whispered.

"Why are we whispering all of a sudden?" I hissed.

He grabbed my hand and we walked nonchalantly through the back door of the store. Blake turned the knob with his good hand and pushed open the door. It was like what the Garden of Eden must have looked like. A sprawling green courtyard spread out before me with birdbaths and cast-iron furniture scattered around. Strings of bubble lights hung from the picket fences on either side of the courtyard. A rickety set of stairs led to the top, from which you could look out over the building of Frazier's and to the rest of Fredericksburg.

"Let's climb the stairs. The view is great. Do you think you can manage it?"

"Yes, but I might need to use your arm for stability," I said, looking at the viney overgrowth on the stairs.

"I'd be happy to offer my arm in your time of need." He presented me with his left arm, his hand slightly unclenched.

I slid my arm through the crook of his elbow and we ascended the stairs slowly, like trapeze artists holding on to each other's ankles, determined to stay in the air. Once we reached the top, I breathed heavily and looked out over the landscape before me. The sun was beginning to set and brilliant purples and oranges streaked the sky. Someone had turned the bubble lights on and from this elevation, they looked like blinking fireflies.

"Thank you for showing me this. It's wonderful," I said, squeezing his shoulder.

"You're welcome, I'm glad you could make it."

We had spent the day at the National United Cerebral Palsy organization office, where we discussed how accessibility could be improved in public places. While there, I had noted the necessity of handrails for every set of stairs. I'd fallen too many times. This time, though, I was glad for the absence of a handrail and the presence of this understanding friend. I would have gladly taken his arm any day.

So many times, my body and brain betray me—falling down steps not equipped with a handrail, misunderstanding the concept of multiplying two-digit numbers together, confusing the syntax of conversational speech. It is difficult for me to trust other people when I can't trust my own body to complete simple tasks. Every day, though, I become a little more adept than I was before, and continue to educate others about the disability rights movement. Mostly, I am trying to survive in a world that is not conducive to my survival.

When not writing or reading, Hailey Hughes enjoys spending time with her family, friends, and cats. At two years old, Hailey was diagnosed with Mild Spastic Diplegia Cerebral Palsy, a neurological disorder that affects her leg functions and fine motor skills. She and her siblings, Caitlyn, Paige, and Joshua, have the distinction of being the first surviving set of quadruplets in West Virginia, and the CP diagnosis is the result of their premature birth at 27 ½ weeks. Hailey will graduate with a BA in Creative Writing in May 2017 from Marshall University, where she also works as a Writing Center tutor. Her academic and creative publications include Praxis: A Writing Center Journal and Marshall University's Literary Magazine, Et Cetera. She was recently awarded a second place distinction at the Maier Awards at Marshall University for her video essay, "A Braided Exegesis of African American Hair." Hailey is a staff writer for The Odyssey and a contributor to The Mighty, a writing platform in which people can share their stories about disability. One of her major aspirations in life besides becoming a professor and essayist, is to finally wear heels without falling over.

BEYOND THE DOOR

By Philip K. Dick
Published in 1954

That night at the dinner table he brought it out and set it down beside her plate. Doris stared at it, her hand to her mouth. "My God, what is it?" She looked up at him, bright-eyed.

"Well, open it."

Doris tore the ribbon and paper from the square package with her sharp nails, her bosom rising and falling. Larry stood watching her as she lifted the lid. He lit a cigarette and leaned against the wall.

"A cuckoo clock!" Doris cried. "A real old cuckoo clock like my mother had." She turned the clock over and over. "Just like my mother had, when Pete was still alive." Her eyes sparkled with tears.

"It's made in Germany," Larry said. After a moment he added, "Carl got it for me wholesale. He knows some guy in the clock business. Otherwise I wouldn't have—" He stopped.

Doris made a funny little sound.

"I mean, otherwise I wouldn't have been able to afford it." He scowled. "What's the matter with you? You've got your clock, haven't you? Isn't that what you want?"

Doris sat holding onto the clock, her fingers pressed against the brown wood.

"Well," Larry said, "what's the matter?"

He watched in amazement as she leaped up and ran from the room, still clutching the clock. He shook his head. "Never satisfied. They're all that way. Never get enough."

He sat down at the table and finished his meal.

The cuckoo clock was not very large. It was hand-made, however, and there were countless frets on it, little indentations and ornaments scored in the soft wood. Doris sat on the bed drying her eyes and winding the clock. She set the hands by her wristwatch. Presently she carefully moved the hands to two minutes of ten. She carried the clock over to the dresser and propped it up.

Then she sat waiting, her hands twisted together in her lap—waiting for the cuckoo to come out, for the hour to strike.

As she sat she thought about Larry and what he had said. And what she had said, too, for that matter—not that she could be blamed for any of it. After all, she couldn't keep listening to him forever without defending herself; you had to blow your own trumpet in the world.

She touched her handkerchief to her eyes suddenly. Why did he have to say that, about getting it wholesale? Why did he have to spoil it all? If he felt that way he needn't have got it in the first place. She clenched her fists. He was so mean, so damn mean.

But she was glad of the little clock sitting there ticking to itself, with its funny grilled edges and the door. Inside the door was the cuckoo, waiting to come out. Was he listening, his head cocked on one side, listening to hear the clock strike so that he would know to come out?

Did he sleep between hours? Well, she would soon see him: she could ask him. And she would show the clock to Bob. He would love it; Bob loved old things, even old stamps and buttons. He liked to go with her to the stores. Of course, it was a little *awkward*, but Larry had been staying at the office so much, and that helped. If only Larry didn't call up sometimes to—

There was a whirr. The clock shuddered and all at once the door opened. The cuckoo came out, sliding swiftly. He paused and looked around solemnly, scrutinizing her, the room, the furniture.

It was the first time he had seen her, she realized, smiling to herself in pleasure. She stood up, coming toward him shyly. "Go on," she said. "I'm waiting."

The cuckoo opened his bill. He whirred and chirped, quickly, rhythmically. Then, after a moment of contemplation, he retired. And the door snapped shut.

She was delighted. She clapped her hands and spun in a little circle. He was marvelous, perfect! And the way he had looked around, studying her, sizing her up. He liked her; she was certain of it. And she, of course, loved him at once, completely. He was just what she had hoped would come out of the little door.

Doris went to the clock. She bent over the little door, her lips close to the wood. "Do you hear me?" she whispered. "I think you're the most wonderful cuckoo in the world." She paused, embarrassed. "I hope you'll like it here."

Then she went downstairs again, slowly, her head high.

Larry and the cuckoo clock really never got along well from the start. Doris said it was because he didn't wind it right, and it didn't like being only half-wound all the time. Larry turned the job of winding over to her; the cuckoo came out every quarter hour and ran the spring down without remorse, and someone had to be ever after it, winding it up again.

Doris did her best, but she forgot a good deal of the time. Then Larry would throw his newspaper down with an elaborate weary motion and stand up. He would go into the dining-room where the clock was mounted on the wall over the fireplace. He would take the clock down and making sure that he had his thumb over the little door, he would wind it up.

"Why do you put your thumb over the door?" Doris asked once.

"You're supposed to."

She raised an eyebrow. "Are you sure? I wonder if it isn't that you don't want him to come out while you're standing so close."

“Why not?”

“Maybe you’re afraid of him.”

Larry laughed. He put the clock back on the wall and gingerly removed his thumb. When Doris wasn’t looking he examined his thumb.

There was still a trace of the nick cut out of the soft part of it. Who—or what—had pecked at him?

One Saturday morning, when Larry was down at the office working over some important special accounts, Bob Chambers came to the front porch and rang the bell.

Doris was taking a quick shower. She dried herself and slipped into her robe. When she opened the door Bob stepped inside, grinning.

“Hi,” he said, looking around.

“It’s all right. Larry’s at the office.”

“Fine.” Bob gazed at her slim legs below the hem of the robe. “How nice you look today.”

She laughed. “Be careful! Maybe I shouldn’t let you in after all.”

They looked at one another, half amused half frightened. Presently Bob said, “If you want, I’ll—”

“No, for God’s sake.” She caught hold of his sleeve. “Just get out of the doorway so I can close it. Mrs. Peters across the street, you know.”

She closed the door. “And I want to show you something,” she said. “You haven’t seen it.”

He was interested. “An antique? Or what?”

She took his arm, leading him toward the dining-room. “You’ll love it, Bobby.” She stopped, wide-eyed. “I hope you will. You must; you must love it. It means so much to me—*he* means so much.”

“He?” Bob frowned. “Who is he?”

Doris laughed. “You’re jealous! Come on.” A moment later they stood before the clock, looking up at it. “He’ll come out in a few minutes. Wait until you see him. I know you two will get along just fine.”

“What does Larry think of him?”

“They don’t like each other. Sometimes when Larry’s here he won’t come out. Larry gets mad if he doesn’t come out on time. He says—”

“Says what?”

Doris looked down. “He always says he’s been robbed, even if he did get it wholesale.” She brightened. “But I know he won’t come out because he doesn’t like Larry. When I’m here alone he comes right out for me, every fifteen minutes, even though he really only has to come out on the hour.”

She gazed up at the clock. “He comes out for me because he wants to. We talk; I tell him things. Of course, I’d like to have him upstairs in my room, but it wouldn’t be right.”

There was the sound of footsteps on the front porch. They looked at each other, horrified.

Larry pushed the front door open, grunting. He set his briefcase down and took off his hat. Then he saw Bob for the first time.

“Chambers. I’ll be damned.” His eyes narrowed. “What are you doing here?” He came into the dining-room. Doris drew her robe about her helplessly, backing away.

"I—" Bob began. "That is, we—" He broke off, glancing at Doris. Suddenly the clock began to whirr. The cuckoo came rushing out, bursting into sound. Larry moved toward him.

"Shut that din off," he said. He raised his fist toward the clock. The cuckoo snapped into silence and retreated. The door closed. "That's better." Larry studied Doris and Bob, standing mutely together.

"I came over to look at the clock," Bob said. "Doris told me that it's a rare antique and that—"

"Nuts. I bought it myself." Larry walked up to him. "Get out of here." He turned to Doris. "You too. And take that damn clock with you."

He paused, rubbing his chin. "No. Leave the clock here. It's mine; I bought it and paid for it."

In the weeks that followed after Doris left, Larry and the cuckoo clock got along even worse than before. For one thing, the cuckoo stayed inside most of the time, sometimes even at twelve o'clock when he should have been busiest. And if he did come out at all he usually spoke only once or twice, never the correct number of times. And there was a sullen, uncooperative note in his voice, a jarring sound that made Larry uneasy and a little angry.

But he kept the clock wound, because the house was very still and quiet and it got on his nerves not to hear someone running around, talking and dropping things. And even the whirring of a clock sounded good to him.

But he didn't like the cuckoo at all. And sometimes he spoke to him.

"Listen," he said late one night to the closed little door. "I know you can hear me. I ought to give you back to the Germans—back to the Black Forest." He paced back and forth. "I wonder what they're doing now, the two of them. That young punk with his books and his antiques. A man shouldn't be interested in antiques; that's for women."

He set his jaw. "Isn't that right?"

The clock said nothing. Larry walked up in front of it. "Isn't that right?" he demanded. "Don't you have anything to say?"

He looked at the face of the clock. It was almost eleven, just a few seconds before the hour. "All right. I'll wait until eleven. Then I want to hear what you have to say. You've been pretty quiet the last few weeks since she left."

He grinned wryly. "Maybe you don't like it here since she's gone." He scowled. "Well, I paid for you, and you're coming out whether you like it or not. You hear me?"

Eleven o'clock came. Far off, at the end of town, the great tower clock boomed sleepily to itself. But the little door remained shut. Nothing moved. The minute hand passed on and the cuckoo did not stir. He was someplace inside the clock, beyond the door, silent and remote.

"All right, if that's the way you feel," Larry murmured, his lips twisting. "But it isn't fair. It's your job to come out. We all have to do things we don't like."

He went unhappily into the kitchen and opened the great gleaming refrigerator. As he poured himself a drink he thought about the clock.

There was no doubt about it—the cuckoo should come out, Doris or no Doris. He had always liked her, from the very start. They had got along well, the two of them. Probably he liked Bob too—probably he had seen enough of Bob to get to know him. They would be quite happy together, Bob and Doris and the cuckoo.

Larry finished his drink. He opened the drawer at the sink and took out the hammer. He carried it carefully into the dining-room. The clock was ticking gently to itself on the wall.

"Look," he said, waving the hammer. "You know what I have here? You know what I'm going to do with it? I'm going to start on you—first." He smiled. "Birds of a feather, that's what you are—the three of you."

The room was silent.

"Are you coming out? Or do I have to come in and get you?"

The clock whirred a little.

“I hear you in there. You’ve got a lot of talking to do, enough for the last three weeks. As I figure it, you owe me—”

The door opened. The cuckoo came out fast, straight at him. Larry was looking down, his brow wrinkled in thought. He glanced up, and the cuckoo caught him squarely in the eye.

Down he went, hammer and chair and everything, hitting the floor with a tremendous crash. For a moment the cuckoo paused, its small body poised rigidly. Then it went back inside its house. The door snapped tight-shut after it.

The man lay on the floor, stretched out grotesquely, his head bent over to one side. Nothing moved or stirred. The room was completely silent, except, of course, for the ticking of the clock.

“I see,” Doris said, her face tight. Bob put his arm around her, steadying her.

“Doctor,” Bob said, “can I ask you something?”

“Of course,” the doctor said.

“Is it very easy to break your neck, falling from so low a chair? It wasn’t very far to fall. I wonder if it might not have been an accident. Is there any chance it might have been—”

“Suicide?” the doctor rubbed his jaw. “I never heard of anyone committing suicide that way. It was an accident; I’m positive.”

“I don’t mean suicide,” Bob murmured under his breath, looking up at the clock on the wall. “I meant *something else*.”

But no one heard him.

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WHAT IS CULTURAL HERITAGE?

By Elena Franchi

Published in 2014 in *smarthistory*

Cultural Heritage: A Shared Bond

We often hear about the importance of cultural heritage. But what is cultural heritage? And whose heritage is it? Whose national heritage, for example, does the *Mona Lisa* by Leonardo da Vinci belong to? Is it French or Italian? First of all, let's have a look at the meaning of the words. "Heritage" is a property, something that is inherited, passed down from previous generations. In the case of "cultural heritage," the heritage doesn't consist of money or property, but of culture, values and traditions. Cultural heritage implies a shared bond, our belonging to a community. It represents our history and our identity; our bond to the past, to our present, and the future.

Tangible and Intangible Cultural Heritage

Cultural heritage often brings to mind artifacts (paintings, drawings, prints, mosaics, sculptures), historical monuments and buildings, as well as archaeological sites. But the concept of cultural heritage is even wider than that, and has gradually grown to include all evidence of human creativity and expression: photographs, documents, books and manuscripts, and instruments, etc. either as individual objects or as collections. Today, towns, underwater heritage, and the natural environment are also considered part of cultural heritage since communities identify themselves with the natural landscape.

Moreover, cultural heritage is not only limited to material objects that we can see and touch. It also consists of immaterial elements: traditions, oral history, performing arts, social practices, traditional craftsmanship, representations, rituals, knowledge and skills transmitted from generation to generation within a community.

Intangible heritage therefore includes a dizzying array of traditions, music and dances such as tango and flamenco, holy processions, carnivals, falconry, Viennese coffee house culture, the Azerbaijani carpet and its weaving traditions, Chinese shadow puppetry, the Mediterranean diet, Vedic Chanting, Kabuki theatre, the polyphonic singing of the Aka of Central Africa (to name a few examples).

The Importance of Protecting Cultural Heritage

But cultural heritage is not just a set of cultural objects or traditions from the past. It is also the result of a selection process: a process of memory and oblivion that characterizes every human society constantly engaged in choosing—for both cultural and political reasons—what is worthy of being preserved for future generations and what is not.

All peoples make their contribution to the culture of the world. That's why it's important to respect and safeguard all cultural heritage, through national laws and international treaties. Illicit trafficking of artifacts and cultural objects, pillaging of archaeological sites, and destruction of historical buildings and monuments cause irreparable damage to the cultural heritage of a country. UNESCO (United Nations Educational, Scientific and Cultural Organization), founded in 1954, has adopted international conventions on the protection of cultural heritage, to foster intercultural understanding while stressing the importance of international cooperation.

The protection of cultural property is an old problem. One of the most frequently recurring issues in protecting cultural heritage is the difficult relationship between the interests of the individual and the community, the balance between private and public rights.



Leonardo da Vinci, Mona Lisa, c. 1503–05, oil on panel 30-1/4 x 21 inches (Musée du Louvre)

Ancient Romans established that a work of art could be considered part of the patrimony of the whole community, even if privately owned. For example, sculptures decorating the façade of a private building were recognized as having a common value and couldn't be removed, since they stood in a public site, where they could be seen by all citizens.

In his *Naturalis Historia* the Roman author Pliny the Elder (23–79 A.D.) reported that the statesman and general Agrippa placed the *Apoxyomenos*, a masterpiece by the very famous Greek sculptor Lysippos, in front of his thermal baths. The statue represented an athlete scraping dust, sweat and oil from his body with a particular instrument called "strigil." Emperor Tiberius deeply admired the sculpture and ordered it be removed from public view and placed in his private palace. The Roman people rose up and obliged him to return the *Apoxyomenos* to its previous location, where everyone could admire it.

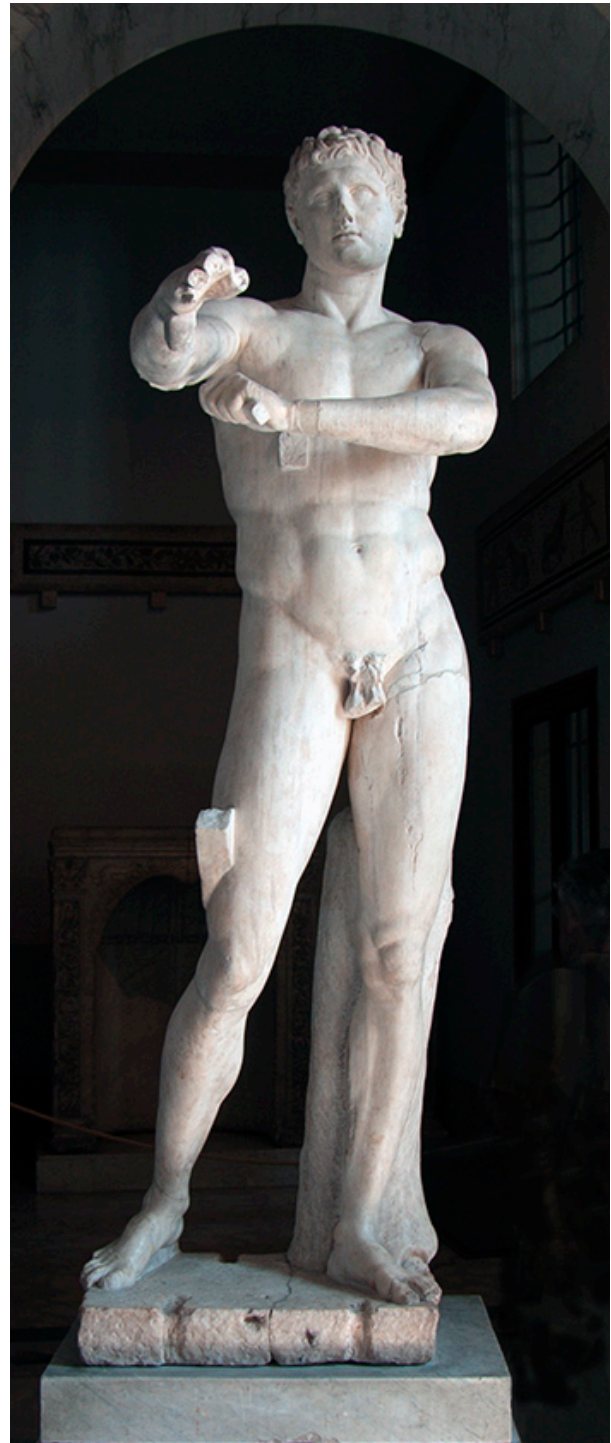
Our right to enjoy the arts, and to participate in the cultural life of the community is included in the United Nation's 1948 *Universal Declaration of Human Rights*.

Whose Cultural Heritage?

The term "cultural heritage" typically conjures up the idea of a single society and the communication between its members. But cultural boundaries are not necessarily well-defined. Artists, writers, scientists, craftsmen and musicians learn from each other, even if they belong to different cultures, far removed in space or time. Just think about the influence of Japanese prints on Paul Gauguin's paintings; or of African masks on Pablo Picasso's works. Or you could also think of western architecture in Liberian homes in Africa. When the freed African-American slaves went back to their homeland, they built homes inspired by the neoclassical style of mansions on American plantations. American neoclassical style was in turn influenced by the Renaissance architect Andrea Palladio, who had been influenced by Roman and Greek architecture.

Let's take another example, that of the *Mona Lisa* painted in the early sixteenth century by Leonardo da Vinci, and displayed at the Musée du Louvre in Paris. From a modern point of view, whose national heritage does the *Mona Lisa* belong to?

Leonardo was a very famous Italian painter, that's why the *Mona Lisa* is obviously part of the Italian cultural heritage. When Leonardo went to France, to work at King Francis I's court, he probably brought the *Mona Lisa* with him. It seems that in 1518 King Francis I acquired the *Mona Lisa*, which therefore ended up in the royal collections: that's why it is obviously part of the French national heritage, too. This painting has been defined as the best known, the most visited, the most written about and the most parodied work of art in the world: as such, it belongs to the cultural heritage of all mankind.



Lysippos, *Apoxyomenos (Scraper)*, Hellenistic or Roman copy after the original, c. 390–306 B.C.E. (Museo Pio-Clementino, Vaticana)

Cultural heritage passed down to us from our parents must be preserved for the benefit of all. In an era of globalization, cultural heritage helps us to remember our cultural diversity, and its understanding develops mutual respect and renewed dialogue amongst different cultures.

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U.S. AND CHINA MAY TAKE BIGGEST HIT FROM INVASIVE SPECIES

By Matt Swayne

Published June 21, 2016 in *Futurity*

A recent study that examines the global problem of invasive species finds the US and China are the most likely sources—and face the biggest potential losses—along with Brazil and India.

Globally, those losses could reach billions of dollars, experts warn.

“Invasive pests and diseases are a major threat to agriculture, natural ecosystems, and society in general,” says Matthew Thomas, a professor and a researcher in the Center for Infectious Disease Dynamics at Penn State. “In the US, you only need to think about current problems such as Emerald Ash Borer or the Asian Tiger Mosquito and the potential threat of Zika virus to appreciate this.

“One of the challenges we face is predicting the next threat and where it will come from. This study explores some of these issues at a global scale.”

The researchers, who report their findings in the [Proceedings of the National Academy of Sciences](#), analyzed the impact of 1,297 known invasive insect pests and pathogens on 124 countries. They also determined which countries posed the biggest threats based on their trading partners and numbers of invasive species.

The United States, China, India, and Brazil, all large agricultural producers, would have the highest potential cost from invasive species, according to the researchers. China and the United States ranked one and two, respectively, as the highest potential source countries for the pests.

[Invasive plants can roam the world via Ebay](#)

“China and the US are large and have diverse cropping systems ranging from subtropical to temperate environments and this diversity of cropping systems supports a wide range of potential pest and disease species,” says Thomas. “Also, China and the US have very active trading relationships with many countries worldwide and these provide potential links for transport of pest and disease organisms to novel areas.”

While big agricultural countries, such as the United States and China, may take the biggest monetary hit, smaller developing countries may suffer proportionately higher damage.

Dean Paini, senior research scientist for the Commonwealth Scientific and Industrial Research Organization and Plant Biosecurity Cooperative Research Centre, who worked with Thomas, says the most vulnerable countries were located in sub-Saharan Africa.

“These countries generally do not have diverse economies making them disproportionately more dependent on agriculture,” Paini says. “As a result any threat from invasive species can potentially have a greater relative impact on these countries.”

To estimate the relative cost of species invasion, the researchers divided a country's total invasion cost by its mean domestic product from 2000 to 2009.

Human history tells us we're an invasive species

As trade increases and more connections are made between countries, the researchers suggest that the problems associated with invasive species will mount.

"Dealing with this problem is a major challenge," says Thomas. "We hope that by identifying the countries and regions that are most vulnerable, our study can help governments make informed decisions regarding the deployment of resources necessary to protect their borders and agriculture industries by limiting the further spread of invasive species."

The Australian government's Cooperative Research Centres Program supported this work.

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WHY YOU FORGET WHAT YOU CAME FOR WHEN YOU ENTER A ROOM

By Tom Stafford
Posted March 11, 2016 at *Mind Hacks*

Forgetting why you entered a room is called the "Doorway Effect", and it may reveal as much about the strengths of human memory, as it does the weaknesses, says psychologist Tom Stafford.

We've all done it. Run upstairs to get your keys, but forget that it is them you're looking for once you get to the bedroom. Open the fridge door and reach for the middle shelf only to realize that we can't remember why we opened the fridge in the first place. Or wait for a moment to interrupt a friend to find that the burning issue that made us want to interrupt has now vanished from our minds just as we come to speak: "What did I want to say again?" we ask a confused audience, who all think "how should we know?!"

Although these errors can be embarrassing, they are also common. It's known as the "Doorway Effect", and it reveals some important features of how our minds are organized. Understanding this might help us appreciate those temporary moments of forgetfulness as more than just an annoyance (although they will still be annoying).

These features of our minds are perhaps best illustrated by a story about a woman who meets three builders on their lunch break. "What are you doing today?" she asks the first. "I'm putting brick after sodding brick on top of another," sighs the first. "What are you doing today?" she asks the second. "I'm building a wall," is the simple reply. But the third builder swells with pride when asked, and replies: "I'm building a cathedral!"

Maybe you heard that story as encouragement to think of the big picture, but to the psychologist in you the important moral is that any action has to be thought of at multiple levels if you are going to carry it out successfully. The third builder might have the most inspiring view of their day-job, but nobody can build a cathedral without figuring out how to successfully put one brick on top of another like the first builder.

As we move through our days our attention shifts between these levels – from our goals and ambitions, to plans and strategies, and to the lowest levels, our concrete actions. When things are going well, often in familiar situations, we keep our attention on what we want and how we do it seems to take care of itself. If you're a skilled driver then you manage the gears, indicators and wheel automatically, and your attention is probably caught up in the less routine business of navigating the traffic or talking to your passengers. When things are less routine we

have to shift our attention to the details of what we're doing, taking our minds off the bigger picture for a moment. Hence the pause in conversation as the driver gets to a tricky junction, or the engine starts to make a funny sound.

The way our attention moves up and down the hierarchy of action is what allows us to carry out complex behaviors, stitching together a coherent plan over multiple moments, in multiple places or requiring multiple actions.

The Doorway Effect occurs when our attention moves between levels, and it reflects the reliance of our memories – even memories for what we were about to do – on the environment we're in.

Imagine that we're going upstairs to get our keys and forget that it is the keys we came for as soon as we enter the bedroom. Psychologically, what has happened is that the plan ("Keys!") has been forgotten even in the middle of implementing a necessary part of the strategy ("Go to bedroom!"). Probably the plan itself is part of a larger plan ("Get ready to leave the house!"), which is part of plans on a wider and wider scale ("Go to work!", "Keep my job!", "Be a productive and responsible citizen", or whatever). Each scale requires attention at some point. Somewhere in navigating this complex hierarchy the need for keys popped into mind, and like a circus performer setting plates spinning on poles, your attention focussed on it long enough to construct a plan, but then moved on to the next plate (this time, either walking to the bedroom, or wondering who left their clothes on the stairs again, or what you're going to do when you get to work or one of a million other things that it takes to build a life).

And sometimes spinning plates fall. Our memories, even for our goals, are embedded in webs of associations. That can be the physical environment in which we form them, which is why revisiting our childhood home can bring back a flood of previously forgotten memories, or it can be the mental environment – the set of things we were just thinking about when that thing popped into mind.

The Doorway Effect occurs because [we change both the physical and mental environments](#), moving to a different room and thinking about different things. That hastily thought up goal, which was probably only one plate among the many we're trying to spin, gets forgotten when the context changes.

It's a window into how we manage to coordinate complex actions, matching plans with actions in a way that – most of the time – allows us to put the right bricks in the right place to build the cathedral of our lives.

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READING ANTHOLOGY: LEVEL 2

WHO NEEDS TO BE IN AN ICU? IT'S HARD FOR DOCTORS TO TELL

By Thomas Valley Fellow, Pulmonary and Critical Care Medicine, University of Michigan, & Colin Cooke, Assistant Professor of Internal Medicine, Intensivist, University of Michigan
Originally published April 1, 2016 at [The Conversation](#)

You might think the only people who wind up in a hospital's intensive care unit (ICU) are at the brink of death and in dire need of specialized care. ICUs are designed to look after patients who need [ventilators](#), medications to support blood pressure, high-tech treatments and close monitoring from doctors and nurses trained in critical care in order to survive.

In practice, that's not what actually happens. One study suggests that more than half the patients admitted to the ICU have an [exceedingly low risk of dying](#) during their hospital stay.

For patients healthy enough to be treated in general hospital wards, going to the ICU can be bothersome, painful and [potentially dangerous](#). Patients in the ICU are more likely to undergo possibly harmful procedures and may be exposed to dangerous infections. In addition, using the ICU for people who don't need to be there is a key source of [excess and inefficiency](#) in our health care system.

Obviously, hospitals and physicians want to make sure that ICU care is reserved for the people who truly need it. Conventional wisdom suggests that the best way to prevent ICU overuse is to [limit the number of ICU beds](#) in a hospital. Having fewer available ICU beds would force doctors to be more selective about whom they admit to the ICU – in theory, using ICU beds for the sickest patients, while keeping others in the general wards. But that assumes that if the number of ICU beds were restricted, doctors would always know exactly which patients to send there. It also presumes that the only factor that determines if a patient goes to the ICU is how sick he or she is.

Based on our analysis of over a million patient records, it's just not that simple.

Winding up in the ICU – or not

We [looked at the health records of over one million Americans](#) aged 65 years or older hospitalized with pneumonia.

We decided to look at people with pneumonia because it is the [second-most common cause of hospitalization](#) in the U.S., landing [1.1 million](#) people in the hospital each year, and as many as [one in five](#) patients hospitalized with pneumonia will require a stay in the intensive care unit.

Prior studies show that hospitals vary a lot in how many pneumonia patients go to the ICU. Some hospitals admit only [2 percent of patients](#) with pneumonia to the ICU, while others admit nearly 86 percent of similar patients. This means that ICU admission isn't just about how sick a person is; sometimes it's much more about what facilities are available – or not – at your hospital.

Indeed, in our study, almost 13 percent of patients hospitalized with pneumonia were admitted to the ICU solely because they happened to live near a hospital that used the ICU frequently. These patients had a moderate risk of death and did not have obvious ICU needs. Our results suggest that, when it's not a straightforward decision, doctors have trouble identifying who might benefit from the ICU.

These borderline patients with pneumonia who went to the ICU were 6 percent more likely to survive than similar patients admitted to the general ward.

This suggests that there may be some patients who might not look like they need to be in the ICU, but would really benefit from being there.

Even though ICU care is notoriously expensive, borderline patients in the ICU had comparable hospital costs to similar patients admitted to the general ward. That could be because for these patients with pneumonia, aggressive ICU care early in the hospitalization could prevent complications that might lead to longer, more complex, and costly hospital stays.

It could also mean that hospitals are being forced to utilize the ICU as a safety net, in response to [poor-quality](#) emergency room or general floor care.

Since many factors play into why some hospitals send lots of pneumonia patients to the ICU and why other hospitals send fewer, blanket reductions in the number of ICU beds might not do a good enough job of ensuring that only the patients who need ICU care get it and may not save as much money as we had thought.

Curing ICU inefficiency

We clearly need to find better ways to help doctors identify the patients who need different care than the general ward can provide.

Rather than transferring all sick patients to the ICU, we could move certain treatments to those in need. Many of the therapies provided to lower-risk patients in the ICU, such as closer nursing attention, can be delivered at any level of the hospital. And specific locations in the hospital such as [intermediate care](#), a place equipped to take care of patients who might be too sick for general care but not sick enough for the ICU, could also be better utilized.

Finally, no conversation about improving the use of the ICU is complete without considering the [ICU's role in end-of-life care](#), since [nearly one in five](#) Americans will die during or shortly after a stay in an ICU. [Aligning treatment with patient desires](#) at the end of life improves satisfaction with care while also reducing health care costs.

While doctors typically make the decision to admit a patient to the ICU, patients and families can play a [key role](#) in advocating for high-quality care during a hospitalization. The ICU is not the best place for all patients, but patients and families should feel comfortable asking their doctors if it might be.

We must find ways to use the ICU more efficiently, while also ensuring that patients who need this kind of advanced care are not overlooked. Even though too much ICU use may promote waste, too little ICU use may harm a substantial number of people. For patients with pneumonia, at least, more aggressive use of the ICU may be a way to save lives without breaking the bank.

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- Who needs to be in an ICU? It's 2019 and it's hard for doctors to tell. **Authored by:** Thomas Valley and Colin Cooke. **Provided by:** The Conversation. **Located at:** <http://theconversation.com/who-needs-to-be-in-an-icu-its-hard-for-doctors-to-tell-56728>. **License:** [CC BY-NC-ND: Attribution-NonCommercial-NoDerivatives](#)

BUDDHIST ART

By Dr. Jennifer N. McIntire and Dr. Karen Shelby
Published in smarthistory, 2014

The Historical Buddha

A Human Endeavor

Among the founders of the world's major religions, the Buddha was the only teacher who did not claim to be other than an ordinary human being. Other teachers were either God or directly inspired by God. The Buddha was simply a human being and he claimed no inspiration from any God or external power. He attributed all his realization, attainments and achievements to human endeavor and human intelligence. A man and only a man can become a Buddha. Every man has within himself the potential of becoming a Buddha if he so wills it and works at it. Nevertheless, the Buddha was such a perfect human that he came to be regarded in popular religion as super-human.

Man's position, according to Buddhism, is supreme. Man is his own master and there is no higher being or power that sits in judgment over his destiny. If the Buddha is to be called a "savior" at all, it is only in the sense that he discovered and showed the path to liberation, to Nirvana, the path we are invited to follow ourselves.

It is with this principle of individual responsibility that the Buddha offers freedom to his disciples. This freedom of thought is unique in the history of religion and is necessary because, according to the Buddha, man's emancipation depends on his own realization of Truth, and not on the benevolent grace of a God or any external power as a reward for his obedient behavior.



Buddha Preaching the First Sermon, Sarnath, c. 465–85, tan sandstone (Archaeological Museum, Sarnath, India)

The Life of Buddha

The main events of the Buddha's life are well known. He was born Siddhartha Gautama of the Shaka clan. He is said to have had a miraculous birth, precocious childhood, and a princely upbringing. He married and had a son.



Fasting Buddha Shakyamuni, 3rd-5th century (Metropolitan Museum of Art)

He encountered an old man, a sick man, a corpse, and a religious ascetic. He became aware of suffering and became convinced that his mission was to seek liberation for himself and others.

He renounced his princely life, spent six years studying doctrines and undergoing yogic austerities. He then gave up ascetic practices for normal life. He spent seven weeks in the shade of a Bodhi tree until, finally, one night toward dawn, enlightenment came.

Then he preached sermons and embarked on missionary travels for 45 years. He affected the lives of thousands—high and low. At the age of 80 he experienced his *parinirvana*—extinction itself.

This is the most basic outline of his life and mission. The literature inspired by the Buddha's story is as various as those who have told it in the last 2500 years. To the first of his followers, and the tradition associated with Theravada Buddhism and figures like the great Emperor Ashoka, the Buddha was a man, not a God. He was a teacher, not a savior. To this day the Theravada tradition prevails in parts of India, Sri Lanka, Myanmar, Cambodia, and Thailand.

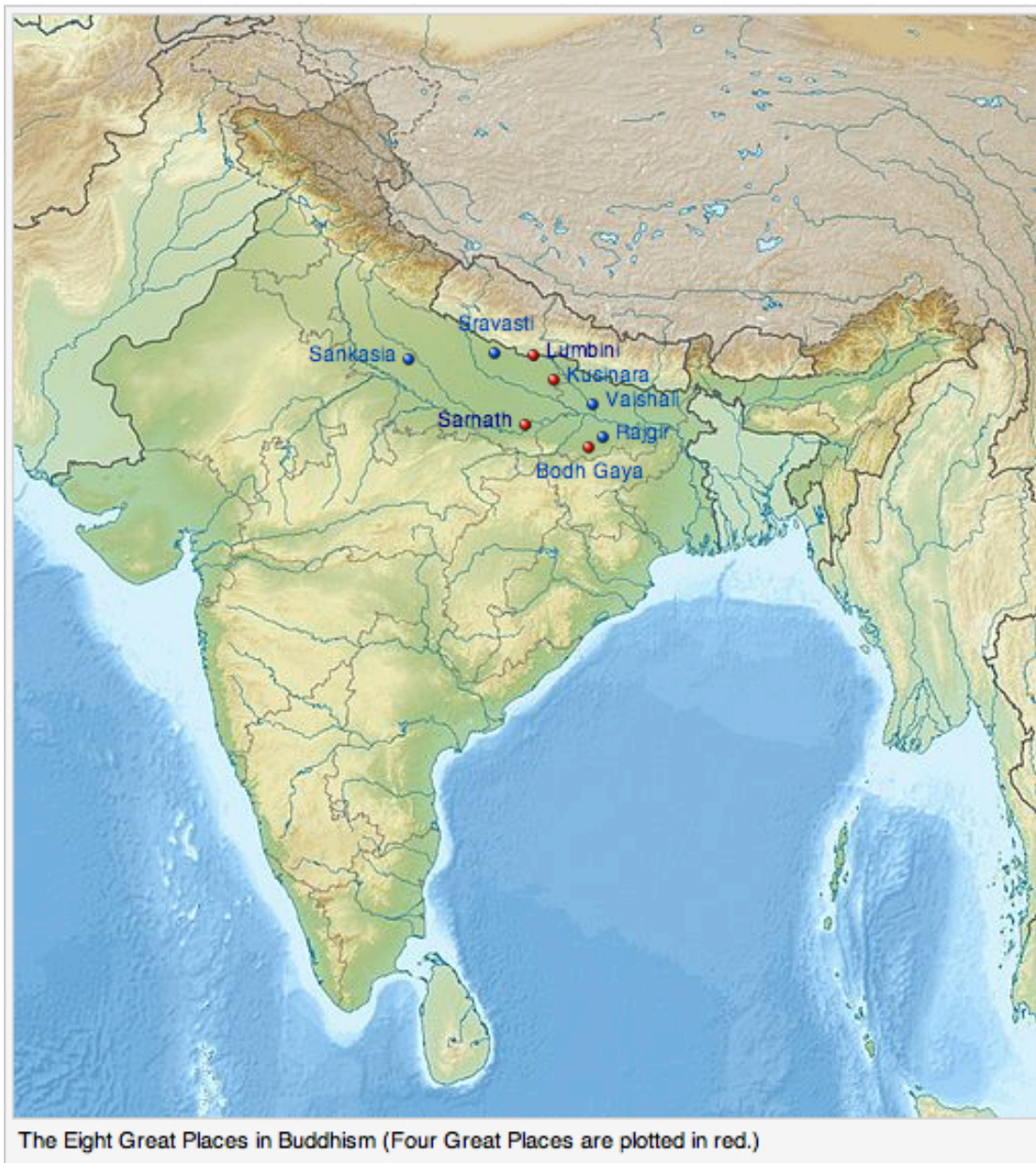
To those who, a few hundred years later, formed the Mahayana School, Buddha was a savior and often a God—a God concerned with man's sorrows above all else. The Mahayana form of Buddhism is in Tibet, Mongolia, Vietnam, Korea, China, and Japan. The historical Buddha (Siddhartha Gautama) is also known as Shakyamuni.

Introduction to Buddhism

Origins

What is your world view? Most of us have a tendency to judge the actions of historical individuals and people through the lens of our own contemporary values. To attempt to understand the ideas, philosophies, and beliefs of another culture, we need to grasp that culture's world view. We need to be able to put ourselves in someone else's shoes.

To understand Buddhism and its origins, we need to learn about the outlook of the Ganges and Indus Valley inhabitants and society in the 5th and 6th centuries B.C.E. Their knowledge and point-of-view inform the environment in which Buddhism came into being. We need to know something of the Buddha's life and his early followers' world view.



Buddhisms

When we talk about the religion that worships the Buddha, we refer to it as singular: Buddhism. However, it may be more accurate to talk about “Buddhisms.” The religion that originated in India took on so many different forms and adapted in such a variety of ways that it is often difficult to see how the various sects of Buddhism are related. What do they all have in common? The worship of the Buddha, of course! But who was Buddha? Was Buddha a man or a god? In early forms of Buddhism, Buddha is most definitely a man. As the religion changes and adapts, the Buddha is deified.

Buddhism originated in what is today modern India, where it grew into an organized religion practiced by monks, nuns, and lay people. Its beliefs were written down forming a large canon. Buddhist images were also devised to be worshiped in sacred spaces. From India, Buddhism spread throughout Asia.

In order to appreciate the magnitude of the Buddha’s achievement, we should try to imagine what life was like in early India, particularly in towns and villages of the Ganges Valley like Kapilavastu in the foothills of the Himalayan mountains in what is now the country of Nepal. This is the area in which the Buddha was likely born, in

about 560 B.C.E. Every year the river flooded the valley destroying crops. Monsoons came every year too, creating famine. There were also severe droughts and disease such as dysentery and cholera.

The Brahmanas (the Hindu priests) chanted the Vedic hymns and offered fire sacrifices to Brahma. However, they did not improve conditions for the common man. From the earliest times, Hindu society was stratified. Castes were firmly established in the economy with the Brahmanas the creators and perpetuators of a social order highly favorable to themselves.

The Middle Way

One of the Buddha's greatest spiritual accomplishments was the doctrine of the Middle Way. He discovered the doctrine of the Middle Way only after he renounced the extreme practices of the forest dwellers. The Buddha lived among the forest dwellers as an ascetic for some time. This experience convinced him that one should shun extremes. One should avoid the pursuit of worldly desires on the one hand and severe, ascetic discipline on the other. Despite his doubts about existing religious practices, and his strong sense of mission, he did not think of himself as the creator of a new religion. Rather, he felt the need to purify the religion of his day.

Buddha took for granted the truth of cosmological perspectives indigenous to the Indus valley—the worldview that is often associated with Hindu conceptions. One must understand what time and space look like in the Buddhist framework of ancient India. This framework was shared by all, whether one was an adherent of Brahmanism, Jainism, or Buddhism.

Samsara and Time

Samsara (a Sanskrit word) literally means a “round” or a “cycle.” In the ancient Indian worldview this means the endless cycle of rebirth and death—there is no beginning and no end. This endless cycle is governed by karma (causality).

In ancient India, time is measured in kalpa. There is an unending cycle of Destruction, Rubble, Renovation, and Duration. Each period is 20 kalpa long and they are thought of as a circle.

Destruction: Has a great beginning, but gets progressively worse. There are scourges of fire, water, wind.

Rubble: Space is dark and empty, only wind exists in this stage, with seeds of karma.

Renovation: This is the phase when things build up from the bottom:

4. Earth
3. Metal
2. Water
1. Wind

Whirling wind forms a disk of water. Impurities float to the top and form a disk of metal. This disk breaks down and forms the earth.

Duration: This is the phase of preservation, and at the end of this phase, sentient beings appear.



Standing Buddha, Gandhara, 1st-2nd century C.E. (Tokyo National Museum)

Mt. Meru and the Buddhist Universe, Thangka, c. 19th century, possibly Trongsa Dzong, Trongsa, Bhutan

Space

Mount Sumeru (or Meru) is the cosmic axis—that is, the link between heaven and earth. The Mountain is the center of the world in this cosmological conception, both physically and in terms of importance. On top of Mount Sumeru are the palaces of the Gods. Mount Sumeru is surrounded by seven chains of mountains and an ocean that has four continents: North = rectangle; West = circle; South = trapezoid (Jambudvipa, where humans live); East = crescent moon.

The Universe is vertically structured. At the top is the realm of “no form.” This realm has no qualities that can be perceived by the senses. It is impossible to have a conception of it. Next are the realms of form that can be perceived in various states of meditation. One can see pleasant sights, bright light, and perceive coolness.

Below is the realm of desire. This realm has six levels. This is our realm. The six levels are the six paths of rebirth. The highest realm is that of the gods (deva). Halfway between gods and humans are demi-gods (asura). Humans and animals dwell on the surface of Jambudvipa. Hungry ghosts inhabit the shadow world below the animals. This level has much pain and suffering. Beings here are always hungry and never satiated. Hell beings occupy the lowest level. There are 8 levels within this level. At the eighth and lowest level there is no rest between tortures.



Mt. Meru and the Buddhist Universe, Thangka, c. 19th century, possibly Trongsa Dzong, Trongsa, Bhutan

How do people (beings) move about in this world? The answer is karma. Karma is the law that regulates all life in samsara. Existence in time and space is ruled by karma. Karma means action or deed. Every action has a result. Every deed has an effect. Karma is a built-in universe scale for good and evil—good leads to good result and vice versa. Karma governs the long-term and the short-term. Karma is never destroyed. In the short term good deeds lead to a good result and bad deeds lead to a bad result. Karma transgresses from one life to another. It determines how a being will be reborn (higher or lower). Karma is not predestination because the concept of predestination does not take into account free will. Your current circumstances are determined by deed in your previous life, but between the present and the future there is free will. Upward mobility is possible.

What are the implications of the Buddhist world view? Being reborn a human is rare and important—rare especially in the time of Buddha. Buddha is born only in a small time period within the phase of destruction. We are fortunate to have access to his teachings since there is limited time and place to be given the chance to encounter Buddha. A being can only encounter Buddha and benefit in the human realm.

How does one achieve salvation? All is impermanent. All is cyclical. All is painful. Even Gods suffer. They are only gods for one lifetime and then they are reborn lower down. Also Gods do not have access to Buddha. Beings need to find a way out of the endless cycle of rebirth. The goal is Nirvana. Nirvana is extinction. Nirvana is the traditional name for that which is not samsara. Where is Nirvana? Nowhere. Nirvana is outside the vertical concept of the universe.

Buddhist Monasteries

Why Monasteries?

So what is a monastery exactly? A monastery is a community of men or women (monks or nuns), who have chosen to withdraw from society, forming a new community devoted to religious practice. The word monk comes from the Greek word *monos*, which means alone.

It can be difficult to focus a lot of time on prayers and religious ritual when time needs to be spent on everyday activities that insure one's survival (such as food and shelter). Think of the ancient Sumerian Votive Statues from Tell Asmar, for example (image, right – *Standing Male Worshipper*, c. 2900-2600 B.C.E., Metropolitan Museum of Art). These statues were placed in a temple high above the village. Each statue represented an individual in continual prayer as a stand-in for the actual individual who was busy living, tending to crops, cooking food, and raising children. The person was depicted with hands clasped in prayer (at the heart center) with eyes wide open in perpetual engagement with the gods.



The Work of the Monastery

In Buddhism and Christianity, however, instead of statues, monks or nuns pray on behalf of the people. The monastery typically becomes the spiritual focus of the nearest town or village. In Christianity the monks pray for the salvation of the souls of the living.

But in Buddhism, there is no concept of the soul. The goal is not heaven; rather it is cessation from the endless cycle of rebirth (*samsara*), to achieve *moksha*, which is freedom or release from attachment to ego or the material world and an end to *samsara*, and to realize *nirvana* (or liberation), which is to be released into the infinite state of oneness with everything.

The Four Noble Truths or *Dharma*

It is difficult to achieve *moksha*, which is why the Buddha's teaching focuses on achieving Enlightenment or knowledge that helps the practitioner. This is described succinctly in his Four Noble Truths, also referred to as the *dharma* (the law):

- Life is suffering (suffering = rebirth)
- The cause of suffering is desire
- The cause of desire must be overcome
- When desire is overcome, there is no more suffering (suffering = rebirth)

Adept practitioners of Buddhism understood that not everyone was ready to perform the necessary rites to obtain the ultimate goals of ending *samsara* (rebirth). The common person could, however, improve their *karma* (an action or deed that enacts a cycle of cause and effect) by everyday charitable acts that were mostly directed toward the monastic community.

The Buddhist monks and nuns meditated and prayed on behalf of the lay community (or laity—basically everyone who is not a priest or monk), those without specialized knowledge of the faith, assisting them in the goal of realizing The Four Noble Truths. Monks and nuns also instructed the lay practitioner on how to conduct the rituals, how to meditate, and advised them about which Buddhist deity to focus on (this depended on the issue or obstacle in the practitioner's path to Enlightenment). The laity, in turn, supported the monks with donations of food and other necessary items. It was a mutually beneficial relationship.

The Beginnings of Monasteries

In the early years of Buddhism, following the practices of contemporary religions such as Hinduism and Jainism (and other faiths that no longer exist), monks dedicated themselves to an ascetic life (a practice of self-denial particular to the pursuit of religious or spiritual goals) wandering the country with no permanent living quarters. They were fed, clothed, and housed in inclement weather by people wishing to gain merit, which is a spiritual credit earned through virtuous acts. Eventually monastic complexes were created for the monks close enough to a town in order to receive alms or charity from the villagers, but far enough away so as not to be disturbed during meditation.

Three Types of Architecture: *Stupa*, *Vihara*, and the *Chaitya*

Buddhism, the first Indian religion to require large communal and monastic spaces, inspired three types of architecture.

The first was the *stupa*, a significant object in Buddhist art and architecture. On a very basic level it is a burial mound for the Buddha. The original *stupas* contained the Buddha's ashes. Relics are objects associated with an esteemed person, including that person's bones (or ashes in the case of the Buddha), or things the person used or had worn. The veneration, or respect, for relics is prevalent in many religious faiths, particularly in Christianity. By the time the Buddhist monasteries gained importance, the stupas were empty of these relics and simply became symbols of the Buddha and the Buddhist ideology.

Second was the construction of the *vihara*, a Buddhist monastery that also contained a residence hall for the monks.

Third was the *chaitya*, an assembly hall that contained a *stupa* (though one empty of relics). This became an important feature for the monasteries that were cut into cliffs in central India. The central hall of the *chaitya* was arranged to allow for circumambulation of the *stupa*.



Chaitya at Karle near Lonavala, Maharashtra, first century B.C.E.. The stupa is at the end of the nave (the main central aisle), as seen in the photo above. On either side of the columns are side aisles to help people walk through the space—around to the stupa, and back out. This is similar to the architecture of Early Christianity (for

example, the side aisles at the Early Christian Church in Rome, Santa Sabina, which help the flow of people who come to worship at the altar at the end of the nave).

Buddhist Monasteries in India

In India, by the 1st century, many monasteries were founded as learning centers on sites already associated with Buddha and Buddhism. These sites include Lumbini where the Buddha was born, Bodh Gaya where he achieved enlightenment and the knowledge of the *dharm*a (the Four Noble Truths), Sarnath (Deer Park) where he preached his first sermon sharing the *dharm*a, and Kushingara where he died.



Great Stupa, Sanchi, India, 3rd century B.C.E. to first century C.E.

Ashoka: the first King to embrace Buddhism

Sites special to King Ashoka (304–232 B.C.E.), the first king (of northern India) to embrace Buddhism, were also integral to the building of monasteries. For example, the complex at Sanchi, where the original Great Stupa (*Mahastupa*) of Sanchi was created as a reliquary for the Buddha's ashes after his death, became the largest of many stupas that were created later when a monastery was built at the site. Ashoka added one of his famous pillars at this location—pillars that not only proclaimed his acceptance of Buddhism, but also served as instructional objects on Buddhist ideology.

Monastic center at Vaishali

An example of the monastic center at Vaishali. One can still see the remains of one of several stupas, the Ashokan pillar and the later addition of the monks' cells and the administrative center.

Soon these types of monasteries were replaced by rock-cut accommodations due to their durability.

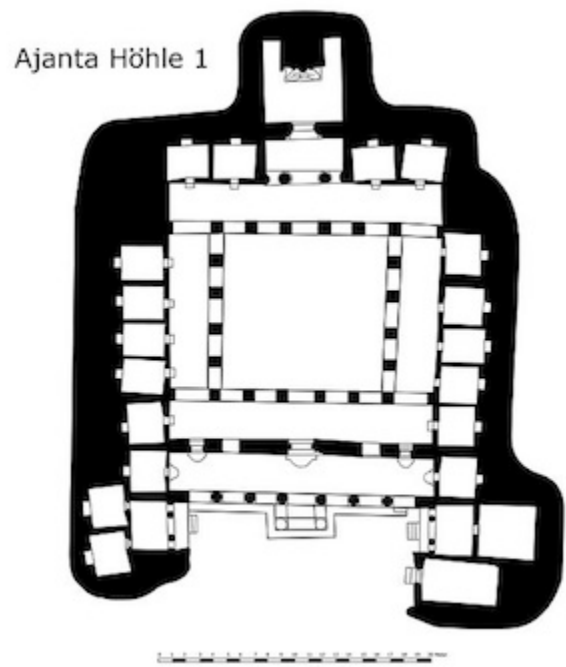
Between 120 BCE and 200 CE over 1000 *viharas* (a monastery with residence hall for the monks), and *chaityas* (a stupa monument hall), were established along ancient and prosperous trade routes. The monasteries required large living areas.

A *vihara* was a dwelling of one or two stories, fronted by a pillared veranda. The monks' or nuns' cells were arranged around a central meeting hall as in the plan of the Ajanta vihara. Each cell contained a stone bed, a pillow, and a niche for a lamp.

The monastery quickly became important and had a three-fold purpose: as a residence for monks, as a center for religious work (on behalf of the laity) and as a center for Buddhist learning. During Ashoka's reign in the 3rd century B.C.E., the Mahabodhi Temple (the Great Temple of Enlightenment where Buddha achieved his knowledge of the dharma—the Four Noble Truths) was built in Bodh Gaya, currently in the Indian state of Bihar in northern India. It contained a monastery and shrine. In order to acknowledge the exact site where the Buddha attained Enlightenment, Ashoka built a diamond throne (*vajrasana* – literally diamond seat) underscoring the indestructible path of the dharma.

Rock-Cut Caves

The rock-cut caves were established in the 3rd century B.C.E. in the western Deccan Plateau, which makes up most of the southern portion of India. The earliest rock-cut monastic centers include the Bhaja Caves, the Karle Caves and the Ajanta Caves.



A vihara was a dwelling of one or two stories, fronted by a pillared veranda. The monks' or nuns' cells were arranged around a central meeting hall as in the plan of the Ajanta vihara. Each cell contained a stone bed, a pillow, and a niche for a lamp.



Bhaja Caves, c. 3rd century B.C.E. to 2nd century B.C.E. Twenty-two caves are located at the site.

The objects found in the caves suggest a profitable relationship existed between the monks and wealthy traders. The Bhaja caves were located on a major trade route from the Arabian Sea eastward toward the Deccan region linking north and south India. Merchants, wealthy from the trade between the Roman Empire and southeast Asia, often sponsored architectural additions including pillars, arches, reliefs and façades to the caves. Buddhist monks, serving as missionaries, often accompanied traders throughout India, up into Nepal and Tibet, spreading the dharma as they travelled.



Chaitya (monastic monument hall) at Bhaja, India, 1st century B.C.E.

Bhaja

At Bhaja there are no representations of the Buddha other than the *stupa* since Bhaja was an active monastery during the earliest phase of Buddhism, Hinayana (lesser vehicle), when no images of the Buddha were created. In Hinayana, the memory of the historical Buddha and his teachings were still a very real part of the practice. The Buddha himself did not encourage worship of him (something images would encourage), but desired that the practitioner focus on the dharma (the law, the Four Noble Truths).

The main *chaitya* hall (which contained a memorial *stupa*, empty of relics) at Bhaja contains a solid stone *stupa* in the nave flanked by two side aisles. It is the earliest example of this type of rock-cut cave and closely resembles the wooden structures that preceded it. The columns slope inwards, which would have been necessary in the early wooden structures in the north of India in order to support the outward thrust from the top of the vault. In similar stone caves, sometimes the columns are placed in stone pots, which mimic the stone pots the wooden columns were positioned in, in order to thwart termites. This is an example of a practical architectural practice being adopted as the standard.

Ajanta

At Ajanta, the earliest phase of construction also belongs to the Hinayana (lesser vehicle) phase of Buddhism (in which no human image of the Buddha was created). The caves are very similar to those at Bhaja. During the second phase of construction, Buddhism was in the Mahayana (greater vehicle) phase and images of the Buddha, predominantly drawn from the jataka stories—the life stories of the Buddha—were painted throughout. In Mahayana, which was more distant in time from the life of the Buddha, there was a need for physical reminders of the Buddha and his teachings. Thus images of the Buddha performing his Enlightenment and his first sermon (when he shared the Four Noble Truths with the laity) proliferated. The paintings at Ajanta provide some of the earliest and finest examples of Buddhist painting from the period. The images also provide documentation of contemporary events and social custom under Gupta reign (320-550 C.E.).

Rock-Cut Monasteries Become More Complex

Eventually, the rock-cut monasteries became quite complex. They consisted of several stories with inner courtyards and veranda. Some facades had reliefs, images projecting from the stone, of the Buddha and other deities. A *stupa* was still placed in the central hall, but now an image of the Buddha was carved into it, underscoring that the Buddha is the *stupa*. Stories from the Buddha's life were also, at times, added to the interior in both paintings and reliefs.



Ajanta, cave 19

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FEARS PREDICT VIEWS ABOUT POLICE REFORM

By Deborah Bach-UW
Published July 19, 2016

At a time of intense national attention on law enforcement and race, a new study suggests that racially based fear plays a role in public support for policing reforms.

The research used a series of experiments to gauge participants' level of support for policing reforms in relation to whether they felt threatened by police officers or black men.

The study found that the degree to which participants viewed police as threatening was linked to their tendency to support reformed policing practices, such as limiting the use of lethal force and requiring police force demographics to match those of the community. By contrast, when they perceived black men as threatening, participants were less likely to support policing reforms.

“This speaks to the potential influence of racial biases in attitudes about policing policy reform,” says coauthor Allison Skinner, a postdoctoral researcher at the University of Washington and its Institute for Learning & Brain Sciences. “Racial attitudes are tied up into people’s policy positions and how they feel about these seemingly unrelated topics.”

Calls for change

The findings come a week after the nation was roiled by the killings of two black men by police in Baton Rouge and Minnesota and the murders of police officers in Dallas and Baton Rouge. Skinner and coauthor Ingrid Haas, an assistant professor at the University of Nebraska-Lincoln, launched the study about eight weeks after unarmed black teenager Michael Brown was fatally shot in August 2014 by a white police officer in Ferguson, Missouri.

Brown’s killing prompted widespread calls for policing reform, and the two researchers sought to investigate the role that perceived threat might play in support for such reforms.

Who’s a threat?

For the first experiment, they asked 216 mostly white university students to rate the extent to which they felt threatened by police officers and black men as a result of Brown’s shooting. They also asked participants about their support for specific policing reform measures and whether they thought lethal force was justified under particular circumstances.

The same experiment was then repeated with a more demographically representative—though still largely white—sample, with similar results. Respondents in both experiments were “significantly” more threatened by police officers than by black men. In both groups, those who saw police officers as threatening were more likely to support policing reforms, while a higher threat association with black men predicted less support for reforms.

Their responses about lethal force were also similar, though the second group deemed lethal force less acceptable in some circumstances—for example, while almost 25 percent of respondents in the student sample thought it was appropriate for police to use deadly force when someone is committing a crime, just 11 percent in the community sample did.

The researchers then took the experiment a step further. Since the findings from the first two studies could not prove a causal relationship, they sought to determine if showing participants threatening images of police officers and black men would actually influence their support for policing reforms. They showed a new set of participants threatening images of police officers or of black men, then asked participants the same reform questions asked in the previous experiments. Control groups were shown images of the officers or black men with neutral facial expressions.

The researchers tried to account for racial bias by asking participants a series of questions about their racial attitudes and factoring that information into the model. Overall, they found that respondents with low levels of racial bias were most supportive of policing policy reforms, but that exposure to threatening images of black men reduced support for reform. By contrast, participants with high bias levels were equally supportive of policing reforms regardless of whether they saw black men as threatening.

“That suggests that people with high racial bias have a tendency to oppose policing reform and support less restrictive policing policies,” Skinner says.

Can images change minds?

A final experiment involving alternating images of threatening items—ferocious dogs, snakes—with neutral images of police officers and black men to determine whether participants could be conditioned to associate

threat with either group. Participants were also asked about their fear of crime and whether they would be willing to sign a petition supporting policing reform.

Although the images did not impact attitudes toward policing reforms, Skinner says, the experiment showed that respondents who saw black men as threatening were more fearful about crime.

“As you might expect, the more threatened participants felt by police, the more willing they were to sign a petition in support of police reform, and the more threatened participants felt by black men, the less willing they were to sign the petition,” she says.

But the researchers also found evidence that the images influenced willingness to sign the petition. Participants in a control group agreed to sign the petition (58 percent) at rates higher than chance (50 percent), while among participants who were conditioned to associate black men with threat, willingness to sign the petition was at chance (49 percent).

The studies have limitations, the researchers acknowledged. Intensive media coverage and debate about race and policing policy reform could influence public opinion, they note, and the study participants were primarily white—making it unclear whether the findings can be generalized across minority groups.

But overall, Skinner says, the research provides strong evidence that the notion of threat is related to public support of policing reforms.

“It speaks to the relationship between racial attitudes and attitudes about policing,” she says. “By knowing that relationship exists, we can then start thinking about how to address it.”

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WHY MAKE-BELIEVE PLAY IS AN IMPORTANT PART OF CHILDHOOD DEVELOPMENT

By Tracy Gleason, Professor of Psychology, Wellesley College
Originally published April 6, 2016 by *The Conversation*

Visit any preschool classroom during free play and you will likely see a child pretending to be someone else. Make-believe play is a ubiquitous part of early childhood. And beyond being fun for kids, pretending and other kinds of imaginative play are also believed by some to be critical to healthy child development.

Research has found a relationship between pretend play and a child's developing creativity, understanding of others and social competence with peers.

As a psychologist who studies imaginary play and childhood development and is no stranger to the preschool classroom, I have met many children for whom an imaginary friend or impersonation of a character is more than just an amusing pastime. Such activities often reflect what children have on their minds.

So how might imaginary play lead to benefits for kids? And does imaginary play make for more socially astute kids? Or is that that kids who more socially adept tend to engage in this kind of play more?

Learning to think from different perspectives

Imaginary play could encourage social development because children are simultaneously behaving as themselves and as someone else. This gives them a change to explore the world from different perspectives, and is a feat that requires thinking about two ways of being at once, something that children may have difficulty doing in other circumstances.

You can imagine how this could be a part of a child's developing social abilities.

For instance, if a child is pretending to be a mother, he or she must imagine what it would feel like if the baby cries or doesn't behave. If a child is pretending to be the family dog, he or she needs to figure out how to communicate with the "owner" without speaking.

The child who creates an imaginary friend has the opportunity to explore all the nuances of friendship – without having to manage the unpredictability of another person's behavior or risking the friendship ending.

The child who impersonates a superhero can play out and achieve goals such as helping others and performing daring rescues. This kind of power is not easily found in early childhood. Getting to be the hero and taking care of others must be a nice change from being taken care of and ordered around.

Learning the delicate art of negotiation

When children play these make-believe games with other kids, they must constantly consider their own behaviors and signals to send clear messages about what they are doing. And they also have to pay attention to signals coming from other participants in the game and learn how to decipher them.

This kind of communication also happens in real-world interactions. But within the world of fantasy play, successful coordination requires extra attention to all of these details. Children must engage in sophisticated levels of communication, negotiation, compromise, cooperation and coordination to keep the play moving forward.

In fact some research suggests that children engaging in social pretend play spend almost as much time negotiating the terms and context of the play as they do enacting it. This might come in handy as they grow up and manage the rules of neighborhood games of Capture the Flag, the division of labor on group projects in high school and the benefits associated with a first job offer.

Are the benefits of play correlational or causative?

The studies that connect pretend play to all of those positive outcomes are correlational. In other words, a socially astute, competent child might be more interested in pretend play, rather than pretend play making a child more



socially astute. Alternatively, some other variable, like parenting, might be responsible for connections between engagement in fantasy and getting along well with others.

In fact, Angeline Lillard, a prominent scholar in the field, looked at dozens of studies with her colleagues, and found little evidence to support the idea that pretend play causes positive developmental outcomes.



Instead, these authors assert, pretending might be one route to these outcomes. Or both pretend play and positive outcomes might be supported by other factors, such as the presence of supportive, encouraging adults, play that focuses on positive, pro-social themes, and the characteristics of the children themselves, such as their intelligence and sociability.

At the same time, the researchers are also quick to point out that children love to play and are motivated to do so. Adults who want to foster perspective-taking, empathy, negotiation skills and cooperation would do well to think about how lessons related to these skills could be embedded in the materials, themes and general content of children's imaginative play.

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STRAIGHT A STUDENTS MAY NOT BE THE BEST INNOVATORS

by Matthew Mayhew, Associate Professor of Higher Education, New York University, and Benjamin S. Selznick, Ph.D. Candidate, New York University
Originally published February 19, 2016 in *The Conversation*

Demand for innovation is at an all-time high. Innovation is now recognized as being key to economic growth strategies in the United States, Canada and countries in the European Union.

As a result, there is an increased need to understand what drives innovation. Certainly traditional research and development, funded by both the private and public sectors, continues to remain a primary source of new ideas and products. But innovation demands innovators.

So where do innovators come from? And how do they acquire their skills?

One place – perhaps among the best – is college. Over the past seven years, my research has explored the influence of college on preparing students with the capacity, desire and intention to innovate.

In this time we've learned that many academic and social experiences matter quite a bit; grades, however, do not matter as much.

What influences student innovation?

Our ongoing research, an example of which can be found here, has surveyed over 10,000 full-time undergraduate and graduate students in four countries – the United States, Canada, Germany and Qatar.

Our sample includes a wide diversity of students: those in fields of study often associated with innovation and entrepreneurship (e.g., business, engineering) as well as more traditional majors (e.g., arts, humanities, education); those from differing races/ethnicities and gender identifications; those from different socioeconomic and political backgrounds; and those from families that already include, or do not include, entrepreneurs.

To learn more, we asked students about their innovation intentions and capacities, their higher education experiences, and their background characteristics. We also administered a “personality inventory” to address the question of whether innovators are born or made.

We conducted a series of statistical analyses that allowed us to isolate the influence of any one individual attribute (e.g., classroom experiences, GPA, personality, gender, etc.) on our innovation outcomes.

Here is what our analyses have revealed so far:

- Classroom practices make a difference: students who indicated that their college assessments encouraged problem-solving and argument development were more likely to want to innovate. Such an assessment frequently involves evaluating students in their abilities to create and answer their own questions; to develop case studies based on readings as opposed to responding to hypothetical cases; and/or to make and defend arguments. Creating a classroom conducive to innovation was particularly important for undergraduate students when compared to graduate students.
- Faculty matters – a lot: students who formed a close relationship with a faculty member or had meaningful interactions (i.e., experiences that had a positive influence on one's personal growth, attitudes and values) with faculty outside of class demonstrated a higher likelihood to be innovative. When a faculty member is able to serve as a mentor and sounding board for student ideas, exciting innovations may follow.

Interestingly, we saw the influence of faculty on innovation outcomes in our analyses even after accounting for a student's field of study, suggesting that promoting innovation can happen across disciplines and curricula. Additionally, when we ran our statistical models using a sample of students from outside the United States, we found that faculty relationships were still very important. So, getting to know a faculty member might be a key factor for promoting innovation among college students, regardless of where the education takes place or how it is delivered.

- Peer networking is effective: outside the classroom, students who connected course learning with social issues and career plans were also more innovative. For example, students who initiated informal discussions about how to combine the ideas they were learning in their classes to solve common problems and address global concerns were the ones who most likely recognized opportunities for creating new businesses or nonprofit social ventures.

Being innovative was consistently associated with the college providing students with space and opportunities for networking, even after considering personality type, such as being extroverted.

Networking remained salient when we analyzed a sample of graduate students – in this instance, those pursuing M.B.A. degrees in the United States. We take these findings as a positive indication that students are spending their “out-of-class” time learning to recognize opportunities and discussing new ideas with peers.

Who are the innovators?

On the basis of our findings, we believe that colleges might be uniquely positioned to cultivate a new generation of diverse innovators.

Counter to the Thiel Fellowship, an initiative that pays individuals to step out of college in order to become entrepreneurs, our work supports efforts by colleges and universities to combine classroom learning with entrepreneurial opportunities and to integrate education with innovation.

One of our most interesting findings was that as GPAs went down, innovation tended to go up. Even after considering a student's major, personality traits and features of the learning environment, students with lower GPAs reported innovation intentions that were, on average, greater than their higher-GPA counterparts.

In short: GPA was associated with innovation, but maybe not in the direction you'd think.

Why might this be the case?

From our findings, we speculate that this relationship may have to do with what innovators prioritize in their college environment: taking on new challenges, developing strategies in response to new opportunities and brainstorming new ideas with classmates.

Time spent in these areas might really benefit innovation, but not necessarily GPA.

Additionally, findings elsewhere strongly suggest that innovators tend to be intrinsically motivated – that is, they are interested in engaging pursuits that are personally meaningful, but might not be immediately rewarded by others.

We see this work as confirmation of our findings – grades, by their very nature, tend to reflect the abilities of individuals motivated by receiving external validation for the quality of their efforts.

Perhaps, for these reasons, the head of people operations at Google has noted:

GPAs are worthless as a criteria for hiring.

Somewhat troubling, though in line with concerns that plague the entrepreneurship community, women were less likely to demonstrate innovation intentions than men, all else being equal.

This is a problem, especially given jarring statistics that venture capitalists are funding males – specifically white males – more than any other group.

Such findings also speak to the need for higher education to intervene and actively introduce the broadest range of individuals to educational experiences and environments that spur the generation and implementation of new ideas. Fresh and creative ideas, after all, are not restricted to any one gender, race or family background.

As we say in our forthcoming paper's finding on gender:

Imagine the explosion of new processes and products that would emerge in a world where half the population was socialized to believe that it could and should innovate.

Imagine indeed.

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THE MIDDLE TOE OF THE RIGHT FOOT

By Ambrose Bierce
Originally published in *Can Such Things Be?*

It is well known that the old Manton house is haunted. In all the rural district near about, and even in the town of Marshall, a mile away, not one person of unbiased mind entertains a doubt of it; incredulity is confined to those opinionated persons who will be called “cranks” as soon as the useful word shall have penetrated the intellectual demesne of the Marshall *Advance*. The evidence that the house is haunted is of two kinds; the testimony of disinterested witnesses who have had ocular proof, and that of the house itself. The former may be disregarded and ruled out on any of the various grounds of objection which may be urged against it by the ingenious; but facts within the observation of all are material and controlling.

In the first place the Manton house has been unoccupied by mortals for more than ten years, and with its outbuildings is slowly falling into decay—a circumstance which in itself the judicious will hardly venture to ignore. It stands a little way off the loneliest reach of the Marshall and Harriston road, in an opening which was once a farm and is still disfigured with strips of rotting fence and half covered with brambles overrunning a stony and sterile soil long unacquainted with the plow. The house itself is in tolerably good condition, though badly weather-stained and in dire need of attention from the glazier, the smaller male population of the region having attested in the manner of its kind its disapproval of dwelling without dwellers. It is two stories in height, nearly square, its front pierced by a single doorway flanked on each side by a window boarded up to the very top. Corresponding windows above, not protected, serve to admit light and rain to the rooms of the upper floor. Grass and weeds grow pretty rankly all about, and a few shade trees, somewhat the worse for wind, and leaning all in one direction, seem to be making a concerted effort to run away. In short, as the Marshall town humorist explained in the columns of the *Advance*, “the proposition that the Manton house is badly haunted is the only logical conclusion from the premises.” The fact that in this dwelling Mr. Manton thought it expedient one night some ten years ago to rise and cut the throats of his wife and two small children, removing at once to another part of the country, has no doubt done its share in directing public attention to the fitness of the place for supernatural phenomena.

To this house, one summer evening, came four men in a wagon. Three of them promptly alighted, and the one who had been driving hitched the team to the only remaining post of what had been a fence. The fourth remained seated in the wagon. “Come,” said one of his companions, approaching him, while the others moved away in the direction of the dwelling—“this is the place.”

The man addressed did not move. “By God!” he said harshly, “this is a trick, and it looks to me as if you were in it.”

“Perhaps I am,” the other said, looking him straight in the face and speaking in a tone which had something of contempt in it. “You will remember, however, that the choice of place was with your own assent left to the other side. Of course if you are afraid of spooks—”

“I am afraid of nothing,” the man interrupted with another oath, and sprang to the ground. The two then joined the others at the door, which one of them had already opened with some difficulty, caused by rust of lock and hinge. All entered. Inside it was dark, but the man who had unlocked the door produced a candle and matches and made a light. He then unlocked a door on their right as they stood in the passage. This gave them entrance to a large, square room that the candle but dimly lighted. The floor had a thick carpeting of dust, which partly muffled their footfalls. Cobwebs were in the angles of the walls and depended from the ceiling like strips of rotting lace making undulatory movements in the disturbed air. The room had two windows in adjoining sides, but from neither could anything be seen except the rough inner surfaces of boards a few inches from the glass. There was no fireplace, no furniture; there was nothing: besides the cobwebs and the dust, the four men were the only objects there which were not a part of the structure.

Strange enough they looked in the yellow light of the candle. The one who had so reluctantly alighted was especially spectacular—he might have been called sensational. He was of middle age, heavily built, deep chested, and broad shouldered. Looking at his figure, one would have said that he had a giant’s strength; at his features, that he would use it like a giant. He was clean shaven, his hair rather closely cropped and gray. His low forehead was seamed with wrinkles above the eyes, and over the nose these became vertical. The heavy black brows followed the same law, saved from meeting only by an upward turn at what would otherwise have been the point of contact. Deeply sunken beneath these, glowed in the obscure light a pair of eyes of uncertain color, but obviously enough too small. There was something forbidding in their expression, which was not bettered by the cruel mouth and wide jaw. The nose was well enough, as noses go; one does not expect much of noses. All that was sinister in the man’s face seemed accentuated by an unnatural pallor—he appeared altogether bloodless.

The appearance of the other men was sufficiently commonplace; they were such persons as one meets and forgets that he met. All were younger than the man described, between whom and the eldest of the others, who stood apart, there was apparently no kindly feeling. They avoided looking at each other.

“Gentlemen,” said the man holding the candle and keys, “I believe everything is right. Are you ready, Mr. Rosser?”

The man standing apart from the group bowed and smiled.

“And you, Mr. Grossmith?”

The heavy man bowed and scowled.

“You will be pleased to remove your outer clothing.”

Their hats, coats, waistcoats, and neckwear were soon removed and thrown outside the door, in the passage. The man with the candle now nodded, and the fourth man—he who had urged Grossmith to leave the wagon—produced from the pocket of his overcoat two long, murderous-looking bowie-knives, which he drew now from their leather scabbards.

“They are exactly alike,” he said, presenting one to each of the two principals—for by this time the dullest observer would have understood the nature of this meeting. It was to be a duel to the death.

Each combatant took a knife, examined it critically near the candle and tested the strength of the blade and handle across his lifted knee. Their persons were then searched in turn, each by the second of the other.

“If it is agreeable to you, Mr. Grossmith,” said the man holding the light, “you will place yourself in that corner.”

He indicated the angle of the room farthest from the door, whither Grossmith retired, his second parting from him with a grasp of the hand which had nothing of cordiality in it. In the angle nearest the door Mr. Rosser stationed himself, and after a whispered consultation his second left him, joining the other near the door. At that moment the candle was suddenly extinguished, leaving all in profound darkness. This may have been done by a draught from the opened door; whatever the cause, the effect was startling.

“Gentlemen,” said a voice which sounded strangely unfamiliar in the altered condition affecting the relations of the senses—“gentlemen, you will not move until you hear the closing of the outer door.”

A sound of trampling ensued, then the closing of the inner door; and finally the outer one closed with a concussion which shook the entire building.

A few minutes afterward a belated farmer’s boy met a light wagon which was being driven furiously toward the town of Marshall. He declared that behind the two figures on the front seat stood a third, with its hands upon the bowed shoulders of the others, who appeared to struggle vainly to free themselves from its grasp. This figure, unlike the others, was clad in white, and had undoubtedly boarded the wagon as it passed the haunted house. As the lad could boast a considerable former experience with the supernatural thereabouts his word had the weight justly due to the testimony of an expert. The story (in connection with the next day’s events) eventually appeared in the *Advance*, with some slight literary embellishments and a concluding intimation that the gentlemen referred to would be allowed the use of the paper’s columns for their version of the night’s adventure. But the privilege remained without a claimant.

II

The events that led up to this “duel in the dark” were simple enough. One evening three young men of the town of Marshall were sitting in a quiet corner of the porch of the village hotel, smoking and discussing such matters as three educated young men of a Southern village would naturally find interesting. Their names were King, Sancher, and Rosser. At a little distance, within easy hearing, but taking no part in the conversation, sat a fourth. He was a stranger to the others. They merely knew that on his arrival by the stage-coach that afternoon he had written in the hotel register the name of Robert Grossmith. He had not been observed to speak to anyone except the hotel clerk. He seemed, indeed, singularly fond of his own company—or, as the *personnel* of the *Advance* expressed it, “grossly addicted to evil associations.” But then it should be said in justice to the stranger that the

personnel was himself of a too convivial disposition fairly to judge one differently gifted, and had, moreover, experienced a slight rebuff in an effort at an "interview."

"I hate any kind of deformity in a woman," said King, "whether natural or—acquired. I have a theory that any physical defect has its correlative mental and moral defect."

"I infer, then," said Rosser, gravely, "that a lady lacking the moral advantage of a nose would find the struggle to become Mrs. King an arduous enterprise."

"Of course you may put it that way," was the reply; "but, seriously, I once threw over a most charming girl on learning quite accidentally that she had suffered amputation of a toe. My conduct was brutal if you like, but if I had married that girl I should have been miserable for life and should have made her so."

"Whereas," said Sancher, with a light laugh, "by marrying a gentleman of more liberal view she escaped with a parted throat."

"Ah, you know to whom I refer. Yes, she married Manton, but I don't know about his liberality; I'm not sure but he cut her throat because he discovered that she lacked that excellent thing in woman, the middle toe of the right foot."

"Look at that chap!" said Rosser in a low voice, his eyes fixed upon the stranger.

That chap was obviously listening intently to the conversation.

"Damn his impudence!" muttered King—"what ought we to do?"

"That's an easy one," Rosser replied, rising. "Sir," he continued, addressing the stranger, "I think it would be better if you would remove your chair to the other end of the veranda. The presence of gentlemen is evidently an unfamiliar situation to you."

The man sprang to his feet and strode forward with clenched hands, his face white with rage. All were now standing. Sancher stepped between the belligerents.

"You are hasty and unjust," he said to Rosser; "this gentleman has done nothing to deserve such language."

But Rosser would not withdraw a word. By the custom of the country and the time there could be but one outcome to the quarrel.

"I demand the satisfaction due to a gentleman," said the stranger, who had become more calm. "I have not an acquaintance in this region. Perhaps you, sir," bowing to Sancher, "will be kind enough to represent me in this matter."

Sancher accepted the trust—somewhat reluctantly it must be confessed, for the man's appearance and manner were not at all to his liking. King, who during the colloquy had hardly removed his eyes from the stranger's face and had not spoken a word, consented with a nod to act for Rosser, and the upshot of it was that, the principals having retired, a meeting was arranged for the next evening. The nature of the arrangements has been already disclosed. The duel with knives in a dark room was once a commoner feature of Southwestern life than it is likely to be again. How thin a veneering of "chivalry" covered the essential brutality of the code under which such encounters were possible we shall see.

III

In the blaze of a midsummer noonday the old Manton house was hardly true to its traditions. It was of the earth, earthy. The sunshine caressed it warmly and affectionately, with evident disregard of its bad reputation. The grass greening all the expanse in its front seemed to grow, not rankly, but with a natural and joyous exuberance, and the weeds blossomed quite like plants. Full of charming lights and shadows and populous with pleasant-voiced birds, the neglected shade trees no longer struggled to run away, but bent reverently beneath their burdens of sun and song. Even in the glassless upper windows was an expression of peace and contentment, due to the light within. Over the stony fields the visible heat danced with a lively tremor incompatible with the gravity which is an attribute of the supernatural.

Such was the aspect under which the place presented itself to Sheriff Adams and two other men who had come out from Marshall to look at it. One of these men was Mr. King, the sheriff's deputy; the other, whose name was Brewer, was a brother of the late Mrs. Manton. Under a beneficent law of the State relating to property which has been for a certain period abandoned by an owner whose residence cannot be ascertained, the sheriff was legal custodian of the Manton farm and appurtenances thereunto belonging. His present visit was in mere perfunctory compliance with some order of a court in which Mr. Brewer had an action to get possession of the property as heir to his deceased sister. By a mere coincidence, the visit was made on the day after the night that Deputy King had unlocked the house for another and very different purpose. His presence now was not of his own choosing: he had been ordered to accompany his superior, and at the moment could think of nothing more prudent than simulated alacrity in obedience to the command.

Carelessly opening the front door, which to his surprise was not locked, the sheriff was amazed to see, lying on the floor of the passage into which it opened, a confused heap of men's apparel. Examination showed it to consist of two hats, and the same number of coats, waistcoats, and scarves all in a remarkably good state of preservation, albeit somewhat defiled by the dust in which they lay. Mr. Brewer was equally astonished, but Mr. King's emotion is not of record. With a new and lively interest in his own actions the sheriff now unlatched and pushed open a door on the right, and the three entered. The room was apparently vacant—no; as their eyes became accustomed to the dimmer light something was visible in the farthest angle of the wall. It was a human figure—that of a man crouching close in the corner. Something in the attitude made the intruders halt when they had barely passed the threshold. The figure more and more clearly defined itself. The man was upon one knee, his back in the angle of the wall, his shoulders elevated to the level of his ears, his hands before his face, palms outward, the fingers spread and crooked like claws; the white face turned upward on the retracted neck had an expression of unutterable fright, the mouth half open, the eyes incredibly expanded. He was stone dead. Yet with the exception of a bowie-knife, which had evidently fallen from his own hand, not another object was in the room.

In thick dust that covered the floor were some confused footprints near the door and along the wall through which it opened. Along one of the adjoining walls, too, past the boarded-up windows was the trail made by the man himself in reaching his corner. Instinctively in approaching the body the three men followed that trail. The sheriff grasped one of the outthrown arms; it was as rigid as iron, and the application of a gentle force rocked the entire body without altering the relation of its parts. Brewer, pale with excitement, gazed intently into the distorted face. "God of mercy!" he suddenly cried, "it is Manton!"

"You are right," said King, with an evident attempt at calmness: "I knew Manton. He then wore a full beard and his hair long, but this is he."

He might have added: "I recognized him when he challenged Rosser. I told Rosser and Sancher who he was before we played him this horrible trick. When Rosser left this dark room at our heels, forgetting his outer clothing in the excitement, and driving away with us in his shirt sleeves—all through the discreditable proceedings we knew with whom we were dealing, murderer and coward that he was!"

But nothing of this did Mr. King say. With his better light he was trying to penetrate the mystery of the man's death. That he had not once moved from the corner where he had been stationed; that his posture was that of neither attack nor defense; that he had dropped his weapon; that he had obviously perished of sheer horror of something that he *saw*—these were circumstances which Mr. King's disturbed intelligence could not rightly comprehend.

Groping in intellectual darkness for a clew to his maze of doubt, his gaze, directed mechanically downward in the way of one who ponders momentous matters, fell upon something which, there, in the light of day and in the presence of living companions, affected him with terror. In the dust of years that lay thick upon the floor—leading from the door by which they had entered, straight across the room to within a yard of Manton's crouching corpse—were three parallel lines of footprints—light but definite impressions of bare feet, the outer ones those of small children, the inner a woman's. From the point at which they ended they did not return; they pointed all one way. Brewer, who had observed them at the same moment, was leaning forward in an attitude of rapt attention, horribly pale.

"Look at that!" he cried, pointing with both hands at the nearest print of the woman's right foot, where she had apparently stopped and stood. "The middle toe is missing—it was Gertrude!"

Gertrude was the late Mrs. Manton, sister to Mr. Brewer.

WHERE DOES ANTI-LGBT BIAS COME FROM—AND HOW DOES IT TRANSLATE INTO VIOLENCE?

By Dominic Parrott, Professor of Psychology, Georgia State University
Published June 16, 2016 in *The Conversation*

In the United States, public support of the lesbian, gay, bisexual and transgender (LGBT) community has [increased in recent years](#). These changes are associated with increased visibility of openly gay characters on television, the repeal of “[don’t ask, don’t tell](#)” and the Supreme Court decision that [legalized same-sex marriage](#).

Nevertheless, violence against sexual minorities remains a [major public health problem in the U.S.](#) and [internationally](#). A recent study concluded that approximately 50 percent of LGBT adults [experience bias-motivated aggression](#) at some point.

For every highly publicized act of violence toward sexual minorities, such as the recent [mass shooting at a gay nightclub in Orlando](#), there are many more physical and verbal assaults, attempted assaults, acts of property damage or intimidations which are [never reported to authorities](#), let alone publicized by the media.

What spurs on these acts of violence? Can we do anything to prevent them? Fortunately, an extensive body of social science research exists that identifies perpetrators’ motivations and suggests ways we can reduce the likelihood of these acts of aggression toward sexual minorities.



Anti-LGBT bias feels normal if everyone around you seems to support it. Maxim Shemetov/Reuters

Reinforcing the Roots of Antigay Bias

Prejudice toward sexual minorities is rooted in what psychologists call sexual stigma. This is an attitude that reflects “the [negative regard, inferior status and relative powerlessness](#) that society collectively accords to any nonheterosexual behavior, identity, relationship or community.”

Sexual stigma exists and operates at both individual and society-wide levels.

At the societal level, sexual stigma is referred to as heterosexism. The conviction that heterosexuals and their behaviors and relationships are superior to those of sexual minorities is built into various social ideologies and institutions – including religion, language, laws and norms about gender roles. For example, religious views that homosexual behavior is immoral support heteronormative norms, which ultimately stigmatize sexual minorities.

On an individual level, heterosexuals can internalize sexual stigma as sexual prejudice. They buy into what they see around them in their culture that indicates sexual minorities are inferior. Consider the [Defense of Marriage Act](#). This legislation, which defined marriage as a union between one man and one woman, denied homosexuals the rights held by heterosexuals. Heterosexuals can incorporate that stigmatizing view into their own belief system.

Sexual minorities themselves can internalize sexual stigma, too – [a process called self-stigma](#). Aligning their own self-concept with society’s negative regard for homosexuality results in myriad negative health outcomes.

The heterosexism of our society and the sexual prejudice of individuals are interrelated, reinforcing each other. When cultural ideologies and institutions espouse heterosexism, they provide the basis for individuals’ sexual prejudice – and perpetration of violence based on it. Conversely, researchers theorize that pro-gay attitudes reduce heterosexism that exists within these same institutions.

Beyond Prejudice: a Masculinity Problem

Many people believe that antigay violence is caused by prejudice. To a certain extent, they're correct. But when we back up and think about this aggression within the framework of sexual stigma, we can see that the causes of antigay violence run deeper and are more complex than a simple "prejudice" explanation.

Perpetrators of anti-LGBT aggression may or may not hold prejudiced attitudes, but they carry out their violence within a heterosexist society that implicitly sanctions it. It's these society-level heterosexist attitudes that provide the foundation for three well-established [motivations and risk factors](#) for [aggression toward sexual minorities](#).

Heterosexual masculinity is a fundamental factor that starts to explain anti-LGBT violence. To be masculine, one must be heterosexual, so the thinking goes. The logic continues that any man who's not heterosexual is therefore feminine. In essence, a man's aggression toward sexual minorities serves to enforce traditional gender norms and demonstrate his own heterosexual masculinity to other men.

Researchers have identified two major aspects of this [masculinity-based motivation](#).

The first is adherence to norms about status – the belief that men must gain the respect of others. The status norm reflects the view that men should sit atop the social hierarchy, be successful, and garner respect and admiration from others.

The second is a strong conviction in antifemininity – that is, believing men should [not engage in stereotypically feminine activities](#). Men who endorse this norm would not engage in behaviors that are "traditionally" reserved for women – for instance, showing vulnerable emotions, wearing makeup or working in childcare.



A narrow definition of what constitutes 'masculinity' is at the root of anti-LGBT violence. [Tea party image via www.shutterstock.com.](#)

Other norms can also lead to violence under certain circumstances. For instance, recent data indicate that [alcohol intoxication may trigger](#) thoughts that men need to be tough and aggressive. Being drunk and having toughness in mind may influence men to act in line with this version of masculinity and attack gay men.

In the most common aggression scenario, an assailant is in a group when he becomes violent toward a member of a sexual minority. The attacker has the support of his group, which can act as a motivator. Indeed, the male peer group is the ideal context for proving one's masculinity via aggression because other males are present to witness the macho display.

Studies also indicate that perpetrators of hate crimes, including violence toward sexual minorities, seek to alleviate boredom and have fun – termed thrill-seeking. It's important to note that for thrill-seeking assailants, the selection of sexual minority targets is not random. Given that sexual stigma devalues homosexuality, it sanctions these perpetrators' strategic choice of a socially devalued target.

Translating Motivations into Violence

How does a given perpetrator get to the point where he decides to attack a sexual minority? Research suggests it's a long process.

Through personal experience and from social institutions, people learn that LGBT people are “threats” and heterosexuals are “normal.” For example, throughout adolescence, boys consistently have it drilled into them by peers that they need to be masculine and antifeminine. So when a young boy teases a gay person, verbally intimidates that person or hits him, he gets positive reinforcement from his peers.

As a result of these processes, we learn over time to almost automatically view sexual minorities with lower social regard and as a threatening group.

Recent research suggests two types of threats – **realistic and symbolic** – may lead to sexual prejudice and a heightened risk for anti-LGBT aggression. It doesn't matter whether an actual threat exists – it's one's *perception* of threat that is critical.

A group experiences realistic threat when it perceives sexual minorities as threats to its existence, political and economic power or physical well-being. For example, heterosexuals may fear that pro-gay policies such as the legalization of same-sex marriage will make it harder to advance their own alternative political agendas. In this way, they should perceive a gay man as a direct threat to their own political power.

Symbolic threat reflects a heterosexual's perception that sexual minorities' beliefs, attitudes, morals, standards and values will lead to unwanted changes in his or her own worldview. For instance, a highly religious heterosexual may fear that a same-sex relationship or marriage **poses a threat to his or her own values and beliefs**.



Getting to know LGBT people can decrease heterosexuals' prejudice. Francois Lenoir/Reuters

Can We Prevent Anti-LGBT Violence?

Sexual stigma may be reduced by targeting the processes that lead to sexual prejudice. For example, studies indicate that heterosexuals who have a close relationship with an LGBT individual [report lower levels of sexual prejudice](#). That's probably because positive feelings regarding the friend are generalized to all sexual minorities.

These kinds of experiences may help lessen heterosexism within various social contexts. But given the widespread nature of bias-motivated aggression and the ubiquity of heterosexism, these individual-level approaches are likely insufficient on their own.

If we're serious about tackling the public health issue of anti-LGBT violence, we need to try to reduce heterosexism at the societal level. Succeeding at that should lead to corresponding reductions in sexual prejudice and antigay violence.

There are a few prongs to a societal level approach. Changing public policies – things like hate crime legislation, repealing “don't ask, don't tell,” legalizing same-sex marriage – can work to reduce heterosexism. Likewise, positive portrayals of sexual minorities in the media and popular culture can contribute to changing views. Social norms interventions that work to correct misperceptions of LGBT people can help, too.

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THE NICE PEOPLE

By Henry Cuyler Bunner
Published in *Puck* on July 30, 1890

"They certainly are nice people," I assented to my wife's observation, using the colloquial phrase with a consciousness that it was anything but "nice" English, "and I'll bet that their three children are better brought up than most of—"

"Two children," corrected my wife.

"Three, he told me."

"My dear, she said there were *two*."

"He said three."

"You've simply forgotten. I'm *sure* she told me they had only two—a boy and a girl."

"Well, I didn't enter into particulars."

"No, dear, and you couldn't have understood him. Two children."

"All right," I said; but I did not think it was all right. As a near-sighted man learns by enforced observation to recognize persons at a distance when the face is not visible to the normal eye, so the man with a bad memory learns, almost unconsciously, to listen carefully and report accurately. My memory is bad; but I had not had time to forget that Mr. Brewster Brede had told me that afternoon that he had three children, at present left in the care of his mother-in-law, while he and Mrs. Brede took their summer vacation.

"Two children," repeated my wife; "and they are staying with his aunt Jenny."

"He told me with his mother-in-law," I put in. My wife looked at me with a serious expression. Men may not remember much of what they are told about children; but any man knows the difference between an aunt and a mother-in-law.

"But don't you think they're nice people?" asked my wife.

"Oh, certainly," I replied. "Only they seem to be a little mixed up about their children."

"That isn't a nice thing to say," returned my wife. I could not deny it.

* * * * *

And yet, the next morning, when the Bredes came down and seated themselves opposite us at table, beaming and smiling in their natural, pleasant, well-bred fashion, I knew, to a social certainty, that they were "nice" people. He was a fine-looking fellow in his neat tennis-flannels, slim, graceful, twenty-eight or thirty years old, with a Frenchy pointed beard. She was "nice" in all her pretty clothes, and she herself was pretty with that type of prettiness which outwears most other types—the prettiness that lies in a rounded figure, a dusky skin, plump, rosy cheeks, white teeth and black eyes. She might have been twenty-five; you guessed that she was prettier than she was at twenty, and that she would be prettier still at forty.

And nice people were all we wanted to make us happy in Mr. Jacobus's summer boarding-house on top of Orange Mountain. For a week we had come down to breakfast each morning, wondering why we wasted the precious days of idleness with the company gathered around the Jacobus board. What joy of human companionship was to be had out of Mrs. Tabb and Miss Hoogencamp, the two middle-aged gossips from

Scranton, Pa.—out of Mr. and Mrs. Biggle, an indurated head-bookkeeper and his prim and censorious wife—out of old Major Halkit, a retired business man, who, having once sold a few shares on commission, wrote for circulars of every stock company that was started, and tried to induce every one to invest who would listen to him? We looked around at those dull faces, the truthful indices of mean and barren minds, and decided that we would leave that morning. Then we ate Mrs. Jacobus's biscuit, light as Aurora's cloudlets, drank her honest coffee, inhaled the perfume of the late azaleas with which she decked her table, and decided to postpone our departure one more day. And then we wandered out to take our morning glance at what we called "our view"; and it seemed to us as if Tabb and Hoogencamp and Halkit and the Biggleses could not drive us away in a year.

I was not surprised when, after breakfast, my wife invited the Bredes to walk with us to "our view." The Hoogencamp-Biggle-Tabb-Halkit contingent never stirred off Jacobus's veranda; but we both felt that the Bredes would not profane that sacred scene. We strolled slowly across the fields, passed through the little belt of woods and, as I heard Mrs. Brede's little cry of startled rapture, I motioned to Brede to look up.

"By Jove!" he cried, "heavenly!"

We looked off from the brow of the mountain over fifteen miles of billowing green, to where, far across a far stretch of pale blue lay a dim purple line that we knew was Staten Island. Towns and villages lay before us and under us; there were ridges and hills, uplands and lowlands, woods and plains, all massed and mingled in that great silent sea of sunlit green. For silent it was to us, standing in the silence of a high place—silent with a Sunday stillness that made us listen, without taking thought, for the sound of bells coming up from the spires that rose above the tree-tops—the tree-tops that lay as far beneath us as the light clouds were above us that dropped great shadows upon our heads and faint specks of shade upon the broad sweep of land at the mountain's foot.

"And so that is *your* view?" asked Mrs. Brede, after a moment; "you are very generous to make it ours, too."

Then we lay down on the grass, and Brede began to talk, in a gentle voice, as if he felt the influence of the place. He had paddled a canoe, in his earlier days, he said, and he knew every river and creek in that vast stretch of landscape. He found his landmarks, and pointed out to us where the Passaic and the Hackensack flowed, invisible to us, hidden behind great ridges that in our sight were but combings of the green waves upon which we looked down. And yet, on the further side of those broad ridges and rises were scores of villages—a little world of country life, lying unseen under our eyes.

"A good deal like looking at humanity," he said; "there is such a thing as getting so far above our fellow men that we see only one side of them."

Ah, how much better was this sort of talk than the chatter and gossip of the Tabb and the Hoogencamp—than the Major's dissertations upon his everlasting circulars! My wife and I exchanged glances.

"Now, when I went up the Matterhorn" Mr. Brede began.

"Why, dear," interrupted his wife, "I didn't know you ever went up the Matterhorn."

"It—it was five years ago," said Mr. Brede, hurriedly. "I—I didn't tell you—when I was on the other side, you know—it was rather dangerous—well, as I was saying—it looked—oh, it didn't look at all like this."

A cloud floated overhead, throwing its great shadow over the field where we lay. The shadow passed over the mountain's brow and reappeared far below, a rapidly decreasing blot, flying eastward over the golden green. My wife and I exchanged glances once more.

Somehow, the shadow lingered over us all. As we went home, the Bredes went side by side along the narrow path, and my wife and I walked together.

"*Should you think,*" she asked me, "that a man would climb the Matterhorn the very first year he was married?"

"I don't know, my dear," I answered, evasively; "this isn't the first year I have been married, not by a good many, and I wouldn't climb it—for a farm."

"You know what I mean," she said.

I did.

* * * * *

When we reached the boarding-house, Mr. Jacobus took me aside.

"You know," he began his discourse, "my wife she uset to live in N' York!"

I didn't know, but I said "Yes."

"She says the numbers on the streets runs criss-cross-like. Thirty-four's on one side o' the street an' thirty-five on t'other. How's that?"

"That is the invariable rule, I believe."

"Then—I say—these here new folk that you 'n' your wife seem so mighty taken up with—d'ye know anything about 'em?"

"I know nothing about the character of your boarders, Mr. Jacobus," I replied, conscious of some irritability. "If I choose to associate with any of them—"

"Jess so—jess so!" broke in Jacobus. "I hain't nothin' to say ag'inst yer soshersbil'ty. But do ye *know* them?"

"Why, certainly not," I replied.

"Well—that was all I wuz askin' ye. Ye see, when *he* come here to take the rooms—you wasn't here then—he told my wife that he lived at number thirty-four in his street. An' yistiddy *she* told her that they lived at number thirty-five. He said he lived in an apartment-house. Now there can't be no apartment-house on two sides of the same street, kin they?"

"What street was it?" I inquired, wearily.

"Hundred 'n' twenty-first street."

"May be," I replied, still more wearily. "That's Harlem. Nobody knows what people will do in Harlem."

I went up to my wife's room.

"Don't you think it's queer?" she asked me.

"I think I'll have a talk with that young man to-night," I said, "and see if he can give some account of himself."

"But, my dear," my wife said, gravely, "*she* doesn't know whether they've had the measles or not."

"Why, Great Scott!" I exclaimed, "they must have had them when they were children."

"Please don't be stupid," said my wife. "I meant *their* children."

After dinner that night—or rather, after supper, for we had dinner in the middle of the day at Jacobus's—I walked down the long verandah to ask Brede, who was placidly smoking at the other end, to accompany me on a twilight stroll. Half way down I met Major Halkit.

"That friend of yours," he said, indicating the unconscious figure at the further end of the house, "seems to be a queer sort of a Dick. He told me that he was out of business, and just looking round for a chance to invest his capital. And I've been telling him what an everlasting big show he had to take stock in the Capitoline Trust Company—starts next month—four million capital—I told you all about it. 'Oh, well,' he says, 'let's wait and think about it.' 'Wait!' says I, 'the Capitoline Trust Company won't wait for *you*, my boy. This is letting you in on the ground floor,' says I, 'and it's now or never.' 'Oh, let it wait,' says he. I don't know what's in-*to* the man."

"I don't know how well he knows his own business, Major," I said as I started again for Brede's end of the veranda. But I was troubled none the less. The Major could not have influenced the sale of one share of stock in the Capitoline Company. But that stock was a great investment; a rare chance for a purchaser with a few

thousand dollars. Perhaps it was no more remarkable that Brede should not invest than that I should not—and yet, it seemed to add one circumstance more to the other suspicious circumstances.

* * * * *

When I went upstairs that evening, I found my wife putting her hair to bed—I don't know how I can better describe an operation familiar to every married man. I waited until the last tress was coiled up, and then I spoke:

"I've talked with Brede," I said, "and I didn't have to catechize him. He seemed to feel that some sort of explanation was looked for, and he was very outspoken. You were right about the children—that is, I must have misunderstood him. There are only two. But the Matterhorn episode was simple enough. He didn't realize how dangerous it was until he had got so far into it that he couldn't back out; and he didn't tell her, because he'd left her here, you see, and under the circumstances—"

"Left her here!" cried my wife. "I've been sitting with her the whole afternoon, sewing, and she told me that he left her at Geneva, and came back and took her to Basle, and the baby was born there—now I'm sure, dear, because I asked her."

"Perhaps I was mistaken when I thought he said she was on this side of the water," I suggested, with bitter, biting irony.

"You poor dear, did I abuse you?" said my wife. "But, do you know, Mrs. Tabb said that *she* didn't know how many lumps of sugar he took in his coffee. Now that seems queer, doesn't it?"

It did. It was a small thing. But it looked queer, Very queer.

* * * * *

The next morning, it was clear that war was declared against the Bredes. They came down to breakfast somewhat late, and, as soon as they arrived, the Biggleses swooped up the last fragments that remained on their plates, and made a stately march out of the dining-room, Then Miss Hoogencamp arose and departed, leaving a whole fish-ball on her plate. Even as Atalanta might have dropped an apple behind her to tempt her pursuer to check his speed, so Miss Hoogencamp left that fish-ball behind her, and between her maiden self and contamination.

We had finished our breakfast, my wife and I, before the Bredes appeared. We talked it over, and agreed that we were glad that we had not been obliged to take sides upon such insufficient testimony.

After breakfast, it was the custom of the male half of the Jacobus household to go around the corner of the building and smoke their pipes and cigars where they would not annoy the ladies. We sat under a trellis covered with a grapevine that had borne no grapes in the memory of man. This vine, however, bore leaves, and these, on that pleasant summer morning, shielded from us two persons who were in earnest conversation in the straggling, half-dead flower-garden at the side of the house.

"I don't want," we heard Mr. Jacobus say, "to enter in no man's *pry-vacy*; but I do want to know who it may be, like, that I hev in my house. Now what I ask of *you*, and I don't want you to take it as in no ways *personal*, is—hev you your merridge-license with you?"

"No," we heard the voice of Mr. Brede reply. "Have you yours?"

I think it was a chance shot; but it told all the same. The Major (he was a widower) and Mr. Biggle and I looked at each other; and Mr. Jacobus, on the other side of the grape-trellis, looked at—I don't know what—and was as silent as we were.

Where is *your* marriage-license, married reader? Do you know? Four men, not including Mr. Brede, stood or sat on one side or the other of that grape-trellis, and not one of them knew where his marriage-license was. Each of us had had one—the Major had had three. But where were they? Where is *yours*? Tucked in your best-man's pocket; deposited in his desk—or washed to a pulp in his white waistcoat (if white waistcoats be the fashion of the hour), washed out of existence—can you tell where it is? Can you—unless you are one of those people who frame that interesting document and hang it upon their drawing-room walls?

Mr. Brede's voice arose, after an awful stillness of what seemed like five minutes, and was, probably, thirty seconds:

"Mr. Jacobus, will you make out your bill at once, and let me pay it? I shall leave by the six o'clock train. And will you also send the wagon for my trunks?"

"I hain't said I wanted to hev ye leave— —" began Mr. Jacobus; but Brede cut him short.

"Bring me your bill."

"But," remonstrated Jacobus, "ef ye ain't— —"

"Bring me your bill!" said Mr. Brede.

* * * * *

My wife and I went out for our morning's walk. But it seemed to us, when we looked at "our view," as if we could only see those invisible villages of which Brede had told us—that other side of the ridges and rises of which we catch no glimpse from lofty hills or from the heights of human self-esteem. We meant to stay out until the Bredes had taken their departure; but we returned just in time to see Pete, the Jacobus darkey, the blacker of boots, the brasher of coats, the general handy-man of the house, loading the Brede trunks on the Jacobus wagon.

And, as we stepped upon the verandah, down came Mrs. Brede, leaning on Mr. Brede's arm, as though she were ill; and it was clear that she had been crying. There were heavy rings about her pretty black eyes.

My wife took a step toward her.

"Look at that dress, dear," she whispered; "she never thought anything like this was going to happen when she put *that* on."

It was a pretty, delicate, dainty dress, a graceful, narrow-striped affair. Her hat was trimmed with a narrow-striped silk of the same colors—maroon and white—and in her hand she held a parasol that matched her dress.

"She's had a new dress on twice a day," said my wife, "but that's the prettiest yet. Oh, somehow—I'm *awfully* sorry they're going!"

But going they were. They moved toward the steps. Mrs. Brede looked toward my wife, and my wife moved toward Mrs. Brede. But the ostracized woman, as though she felt the deep humiliation of her position, turned sharply away, and opened her parasol to shield her eyes from the sun. A shower of rice—a half-pound shower of rice—fell down over her pretty hat and her pretty dress, and fell in a spattering circle on the floor, outlining her skirts—and there it lay in a broad, uneven band, bright in the morning sun.

Mrs. Brede was in my wife's arms, sobbing as if her young heart would break.

"Oh, you poor, dear, silly children!" my wife cried, as Mrs. Brede sobbed on her shoulder, "why *didn't* you tell us?"

"W-W-W-We didn't want to be t-t-taken for a b-b-b-b-bridal couple," sobbed Mrs. Brede; "and we d-d-didn't *dream* what awful lies we'd have to tell, and all the aw-awful mixed-up-ness of it. Oh, dear, dear, dear!"

* * * * *

"Pete!" commanded Mr. Jacobus, "put back them trunks. These folks stays here's long's they wants ter. Mr. Brede"—he held out a large, hard hand—"I'd orter've known better," he said. And my last doubt of Mr. Brede vanished as he shook that grimy hand in manly fashion.

The two women were walking off toward "our view," each with an arm about the other's waist—touched by a sudden sisterhood of sympathy.

"Gentlemen," said Mr. Brede, addressing Jacobus, Biggle, the Major and me, "there is a hostelry down the street where they sell honest New Jersey beer. I recognize the obligations of the situation."

We five men filed down the street. The two women went toward the pleasant slope where the sunlight gilded the forehead of the great hill. On Mr. Jacobus's veranda lay a spattered circle of shining grains of rice. Two of Mr. Jacobus's pigeons flew down and picked up the shining grains, making grateful noises far down in their throats.

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RODEOS, WILD WEST SHOWS, AND THE MYTHIC AMERICAN WEST



American frontierswoman and professional scout Martha Jane Canary was better known to America as Calamity Jane. A figure in western folklore during her life and after, Calamity Jane was a central character in many of the increasingly popular novels and films that romanticized western life in the twentieth century. "[Martha Canary, 1852-1903, ("Calamity Jane"), full-length portrait, seated with rifle as General Crook's scout]," c. 1895. Library of Congress.

"The American West" conjures visions of tipis, cabins, cowboys, Indians, farmwives in sunbonnets, and outlaws with six-shooters. Such images pervade American culture, but they are as old as the West itself: novels, rodeos, and Wild West shows mythologized the American West throughout the post-Civil War era.

In the 1860s, Americans devoured dime novels that embellished the lives of real-life individuals such as Calamity Jane and Billy the Kid. Owen Wister's novels, especially *The Virginian*, established the character of the cowboy as a gritty stoic with a rough exterior but the courage and heroism needed to rescue people from train robbers, Indians, or cattle rustlers. Such images were later reinforced when the emergence of rodeo added to popular conceptions of the American West. Rodeos began as small roping and riding contests among cowboys in towns near ranches or at camps at the end of the cattle trails. In Pecos, Texas, on July 4, 1883, cowboys from two ranches, the Hash Knife and the W Ranch, competed in roping and riding contests as a way to settle an argument and is recognized by historians of the West as the first real rodeo. Casual contests evolved into planned celebrations. Many were scheduled around national holidays, such as Independence Day, or during traditional roundup times in the spring and fall. Early rodeos took place in open grassy areas—not arenas—and included calf and steer roping and rough stock events such as bronc riding. They gained popularity and soon dedicated rodeo circuits developed. Although about 90% of rodeo contestants were men, women helped to popularize the rodeo and several popular women bronc riders, such as Bertha Kaepernick, entered men's events, until around 1916 when women's competitive participation was curtailed. Americans also experienced the "Wild West"—the mythical West imagined in so many dime novel—by attending traveling Wild West shows, arguably the unofficial national entertainment of the United States from the 1880s to the 1910s. Wildly popular across the country, the shows traveled throughout the eastern United States and even across Europe and showcased what was already a mythic frontier life. William Frederick "Buffalo Bill" Cody was the first to recognize the broad national appeal of the stock "characters" of the American West—cowboys, Indians, sharpshooters, cavalrymen, and rangers—and put them all together into a single massive traveling extravaganza. Operating out of Omaha, Nebraska, Buffalo Bill launched his touring show in 1883. Cody himself shunned the word "show," fearing that it implied an exaggeration or misrepresentation of the West. He instead called his production "Buffalo Bill's Wild West." He employed real cowboys and Indians in his productions. But it was still, of course, a show. It was entertainment, little different in its broad outlines from contemporary theater. Storylines depicted westward migration, life on the Plains, and Indian attacks, all punctuated by "cowboy fun": bucking broncos, roping cattle, and sharpshooting contests.



William Frederick "Buffalo Bill" Cody helped commercialize the cowboy lifestyle, building a mythology around life in the Old West that produced big bucks for men like Cody. Courier Lithography Company, "Buffalo Bill" Cody," 1900.

Buffalo Bill, joined by shrewd business partners skilled in marketing, turned his shows into a sensation. But he was not alone. Gordon William "Pawnee Bill" Lillie, another popular Wild West showman, got his start in 1886 when Cody employed him as an interpreter for Pawnee members of the show. Lillie went on to create his own production in 1888, "Pawnee Bill's Historic Wild West." He was Cody's only real competitor in the business until 1908, when the two men combined their shows to create a new extravaganza, "Buffalo Bill's Wild West and Pawnee Bill's Great Far East" (most people called it the "Two Bills Show"). It was an unparalleled spectacle. The cast included American cowboys, Mexican *vaqueros*, Native Americans, Russian Cossacks, Japanese acrobats, and an Australian aboriginal.

Cody and Lillie knew that Native Americans fascinated audiences in the United States and Europe and both featured them prominently in their Wild West shows. Most Americans believed that Native cultures were disappearing or had already, and felt a sense of urgency to see their dances, hear their song, and be captivated by their bareback riding skills and their elaborate buckskin and feather attire. The shows certainly veiled the true cultural and historic value of so many Native demonstrations, and the Indian performers were curiosities to white Americans, but the shows were one of the few ways for many Native Americans to make a living in the late nineteenth century.

In an attempt to appeal to women, Cody recruited Annie Oakley, a female sharpshooter who thrilled onlookers with her many stunts. Billed as "Little Sure Shot," she shot apples off her poodle's head and the ash from her husband's cigar, clenched trustingly between his teeth. Gordon Lillie's wife, May Manning Lillie, also became a skilled shot and performed as, "World's Greatest Lady Horseback Shot." Female sharpshooters were Wild West show staples. As many 80 toured the country at the shows' peak. But if such acts challenged expected Victorian gender roles, female performers were typically careful to blunt criticism by maintaining their feminine identity—for example, by riding sidesaddle and wearing full skirts and corsets—during their acts.

The western "cowboys and Indians" mystique, perpetuated in novels, rodeos, and Wild West shows, was rooted in romantic nostalgia and, perhaps, in the anxieties that many felt in the late-nineteenth century's new seemingly "soft" industrial world of factory and office work. The mythical cowboy's "aggressive masculinity" was the seemingly perfect antidote for middle- and upper-class, city-dwelling Americans who feared they "had become over-civilized" and longed for what Theodore Roosevelt called the "strenuous life." Roosevelt himself, a scion of a

wealthy New York family and later a popular American president, turned a brief tenure as a failed Dakota ranch owner into a potent part of his political image. Americans looked longingly to the West, whose romance would continue to pull at generations of Americans.

The West As History: the Turner Thesis

In 1893, the American Historical Association met during that year's World's Columbian Exposition in Chicago. The young Wisconsin historian Frederick Jackson Turner presented his "frontier thesis," one of the most influential theories of American history, in his essay, "The Significance of the Frontier in American History."

Turner looked back at the historical changes in the West and saw, instead of a tsunami of war and plunder and industry, waves of "civilization" that washed across the continent. A frontier line "between savagery and civilization" had moved west from the earliest English settlements in Massachusetts and Virginia across the Appalachians to the Mississippi and finally across the Plains to California and Oregon. Turner invited his audience to "stand at Cumberland Gap [the famous pass through the Appalachian Mountains], and watch the procession of civilization, marching single file—the buffalo following the trail to the salt springs, the Indian, the fur trader and hunter, the cattle-raiser, the pioneer farmer—and the frontier has passed by."

Americans, Turner said, had been forced by necessity to build a rough-hewn civilization out of the frontier, giving the nation its exceptional hustle and its democratic spirit and distinguishing North America from the stale monarchies of Europe. Moreover, the *style* of history Turner called for was democratic as well, arguing that the work of ordinary people (in this case, pioneers) deserved the same study as that of great statesmen. Such was a novel approach in 1893.

But Turner looked ominously to the future. The Census Bureau in 1890 had declared the frontier closed. There was no longer a discernible line running north to south that, Turner said, any longer divided civilization from savagery. Turner worried for the United States' future: what would become of the nation without the safety valve of the frontier? It was a common sentiment. Theodore Roosevelt wrote to Turner that his essay "put into shape a good deal of thought that has been floating around rather loosely."

The history of the West was many-sided and it was made by many persons and peoples. Turner's thesis was rife with faults, not only its bald Anglo Saxon chauvinism—in which non-whites fell before the march of "civilization" and Chinese and Mexican immigrants were invisible—but in its utter inability to appreciate the impact of technology and government subsidies and large-scale economic enterprises alongside the work of hardy pioneers. Still, Turner's thesis held an almost canonical position among historians for much of the twentieth century and, more important, captured Americans' enduring romanticization of the West and the simplification of a long and complicated story into a march of progress.

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PROGRESS AND CONTROVERSY ARRIVE WITH NEW RULES FOR FRACKING ON PUBLIC LANDS

By Abrahm Lustgarten

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An initial review of rules issued by the Interior Department shows the federal government has taken important steps to protect drinking water resources, while not adopting the strictest regulations in place in some states.

The new rules announced Friday by the Obama administration governing how energy companies frack for oil and gas on federal lands managed to anger environmentalists and the industry alike, but represent a significant step toward protecting drinking water resources in some of the most heavily drilled parts of the country.

The rules mark the first time the federal government has stepped in to enact protections to limit risks posed by a technology that has been both criticized for causing environmental harm and credited with making the nation one of the leading producers of oil and gas.

Fracking involves injecting large volumes of water, sand and toxic chemicals underground with explosive force that fractures the rock and helps it release trapped hydrocarbons. It has been associated with water and air pollution almost every place that it is practiced, and become a lightning rod for environmental opposition to domestic energy production. ProPublica has been covering issues related to fracking since 2008, including the gaps in federal oversight and the government's consideration of ways to address it.

The rules exclude drilling on private land and apply only to lands or mineral resources directly managed by the U.S. Department of Interior, including tribal lands, which make up a relative minority of all the wells drilled in the United States. They fall short of some of the most stringent fracking regulations already in place in some states, but establish a baseline of best practices and update arcane federal drilling rules almost three decades old.

"Many of the regulations on the books at the Interior Department have not kept pace with advances in technology and modern drilling methods," said Sally Jewell, Secretary of the Interior and a former petroleum engineer, in her statement announcing the new policy. "Our decades-old regulations do not contemplate current techniques in which hydraulic fracturing is increasingly complex."

The new rules promise to improve basic protections for drinking water by requiring drilling procedures that have long been standard on waste injection wells used by the drilling industry, but which have not been applied to new oil and gas wells used to extract resources.

They are lengthy and complicated, but an initial review of documents released by the Interior Department shows they address four important areas:

They will require drilling companies to encase their wells in cement through vulnerable areas where they could leak into groundwater, and will require testing of that cement to ensure it is properly in place. Pressure tests, called mechanical integrity tests, will be required in order to confirm that the wells can contain the extraordinary forces of fracking, before the fracking process itself can be performed. A geological analysis of a well site will be required before fracking takes place, so that the reach of those fractures and their potential to intersect with water sources or other wells can be predicted. The temporary use of open waste pits – large ponds containing water and pollutants removed from the wells after fracking – will be prohibited except in rare circumstances. These core requirements directly address many of the known causes of water pollution associated with new drilling efforts and fracking across the country. Where methane and other pollutants have escaped wells into water supplies, it has often been because the cement encapsulation of the wells was incomplete, or the pressure of fracking caused them to fail. Waste pits have been documented sources of drinking water contamination in hundreds of cases.

There are other components to the rules as well. They will enhance transparency by establishing a record of tests and making public details about which wells are fracked and what condition those wells are in. Drillers will also be required to release more information about what chemicals they inject underground.

Still, the rules are unlikely to satisfy some of the industry's most ardent critics, in large part because they are less stringent than versions that the government had been considering earlier in its drafting process, and they fall short of what several states already do to oversee fracking. Among other issues, they continue to allow drilling companies to protect trade secrets and not disclose all of the chemicals they use to the public or to doctors.

Some see the rules as both a welcome acknowledgement that the environmental risks of fracking need to be addressed and as a missed opportunity.

"The bottom line is: these rules fail to protect the nation's public lands—home to our last wild places, and sources of drinking water for millions of people—from the risks of fracking," said Amy Mall, a senior policy analyst at the Natural Resources Defense Council, in a statement. "More than ever, this underscores the urgent need to get better protections in place around the country."

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READING ANTHOLOGY: LEVEL 3

OUT OF THE CLASSROOM AND INTO THE CITY: THE USE OF FIELD TRIPS AS AN EXPERIENTIAL LEARNING TOOL IN TEACHER EDUCATION

By Cara M. Djonko-Moore and Nicole M. Joseph
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Abstract

This article explores the researcher's use of field trips as an experiential learning tool in a social studies methods course as a pilot study. The researchers analyzed course evaluations and student reflection papers using document analysis to determine (a) the positive and negative aspects of utilizing field trips during the course, and (b) the ways the field trips advanced or limited pre-service teachers' learning. The findings indicate that students found the field trips to be worthwhile but had concerns about the time and distance. They were able to make important connections to course content but reacted negatively to the inclusion of diversity in the field trips.

As the cost of college education increases, there has been an increased emphasis on the quality of instruction in higher education (e.g., [Commission, 2006](#)). Moreover, with an increased emphasis on teacher quality in K-12 classrooms, more attention has been placed on teacher education programs and the training and skills that graduates receive to meet the needs of all children when they enter the teaching profession (e.g., [Putman, Greenberg, & Walsh, 2014](#)). Teacher educators must consistently examine and evaluate their practice to ensure that they are producing teachers who will be able to meet the demands of the teaching profession.

In teacher education, experiential education, such as field experiences, has been widely used to enhance the learning of students and prepare them to be effective teachers ([McGlenn, 2003](#)). Classroom teachers also use experiential education, typically in the form of field trips, to expand the school curriculum ([Kisiel, 2003](#)). Experiential learning is a teaching strategy that provides concrete experiences to learners to aid their understanding of content, ideas, and concepts ([A. Y. Kolb & Kolb, 2005](#)). In the form of field trips, experiential education has been shown to positively influence the achievement of children and youth, such as helping students learn multiple perspectives and access content in novel ways ([Marcus, 2008](#)). Moreover, field trips provide children a unique context within which to transfer previous knowledge and acquire new knowledge ([Nadelson & Jordan, 2012](#)). Such learning contexts help children recall material learned and provide a high level of engagement and enthusiasm ([Nadelson & Jordan, 2012](#)). Thus, learning how to capitalize on field trips is an important part of teacher education and should receive greater attention as a teaching practice.

Experiential learning through field trips is one way teachers can incorporate specific content into the curriculum while providing a unique and challenging learning setting for children. Public school teachers do not teach content independently or in isolation; rather context standards provide a framework and guide for what should be taught in classrooms. Teachers, typically, have some autonomy on how to help children meet standards in their states. It is important that teachers have the ability to plan learning experiences based on content standards so that children can have maximum benefits from the experiences.

Within teacher education, various types of experiential learning help pre-service teachers gain valuable skills outside of traditional lectures and seminars (Caires, Almeida, & Vieira, 2012; Olgun, 2009). Experiential learning in teacher education commonly includes practicum experiences and student teaching; through these forms of experiential learning, pre-service teachers gain hands-on experience with teachers, students, and administrators in schools (Matsko & Hammerness, 2014; McDonald, Kazemil, & Kavanagh, 2013). Other forms of experiential learning, such as field trips and service learning, can also be effective experiences for pre-service teachers (Zeichner, 2010).

This article addresses one teacher educator's (first author) effort to implement field trips in a social studies methods course aimed at helping pre-service teachers gain a deeper understanding of course content while also modeling teaching methods that pre-service teachers might replicate with their own future students as a pilot study. The course was taken by students enrolled in a teacher licensure program during the 2010 summer term. The majority of the students were White females with three White males enrolled in the course. The course met at a suburban satellite of the main campus. The teacher educator identifies as an African American female and was a graduate assistant at the time the course was taught. The teacher/researcher decided to include an experiential education component to make the course more enjoyable, to give pre-service teachers access to the wealth of resources surrounding the university, and to model good teaching practices. Because this was the teacher/researcher's first attempt at incorporating experiential learning in a social studies methods course, she thought it would be beneficial to examine students' perceptions of the course, specifically with regard to the field trip components. The research questions that guided this inquiry were as follows:

- **Research Question 1 (RQ1):** What do elementary pre-service teachers report as positive and negative aspects of field trips taken in their social studies methods course?
- **Research Question 2 (RQ2):** How did the field trips help or hinder teacher candidates' learning of the course material?

Theoretical Framework

Experiential learning is an approach that allows learners to create knowledge through the cycle of transforming lived experience into current patterns of thinking (D. A. Kolb, 1984). Experiential learning theory was popularized by Kolb and includes four modes of learning: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). CE and AC are the two ends of a learning continuum; CE is the ability to be involved in new experiences and make observations without bias, and AC is the ability to "create concepts that integrate observations into logically sound theories" (D. A. Kolb, 1984, p. 30). RO and AE are also polar opposites on a continuum; RO is the ability to observe and reflect on experiences from different perspectives, and AE involves using knowledge to solve complex problems. According to D. A. Kolb (1984), the learner must become adept at using all four learning modes. Figure 1 illustrates the four phases of D. A. Kolb's (1984) learning cycle and shows how learners can move from one phase to the next. According to D. A. Kolb (1984), all four learning modes are critical for student learning, although the mode that students begin with in the cycle can vary (see Figure 1).

Graphic showing 4 phases of Kolb's learning cycle. There are four labeled circles; each one leads to the next. First circle: Concrete experience. Second circle: Reflective observation. Third circle: Abstract conceptualization. Fourth circle: Active experimentation.

Figure 1. Kolb's Learning Cycle. Source. Adapted from D. A. Kolb (1984). Note. Four phases of Kolb's learning cycle.

This framework is appropriate for this pilot study because it illuminates the specific components that are necessary for experiential learning to be successful for learners, specifically reflection and a connection to previous understandings. Although the actual learning experience is critical, the other components of the cycle are also necessary to ensure that the experience is meaningful and results in the formation of new knowledge. D. A. Kolb's (1984) framework defines and places equal emphasis on all four parts of the learning cycle, so the framework is a useful tool to objectively critique the implementation of a new experiential learning component in a course.

Literature

In reviewing the literature, the researchers identify two relevant bodies of research: experiential learning in teacher education in the form of field trips and curriculum standards that lend themselves to experiential learning. Demarcations in the teacher education literature come mainly in the various examples from undergraduate, graduate, and teacher education students in different methods courses; however, the overall studies examined suggest that regardless of the level or program, experiential learning can be a critical experience that deepens and empowers student learning. In this section, the researchers review published literature in each area.

Field Trips in Teacher Education

Teacher educators have successfully used field trips to enhance pre-service teachers' teacher preparation. The field trips were planned for different purposes and as a part of a variety of courses. For example, [Johnson and Chandler \(2009\)](#) describe the process of secondary mathematics pre-service teachers in a mathematics methods course attending a field trip to a battleship to plan an informal learning experience connected to math content for high school mathematics students. Through the experience, the pre-service teachers were able to plan for informal learning activities with their future students and make concrete connections to mathematics content. [Johnson and Chandler \(2009\)](#) noted that the pre-service teachers described the field trip as a fun, real-life application and a break from the normal routine.

In a social studies course, [Yeşilbursa and Barton \(2011\)](#) published results from an investigation that included a field trip to a local museum as a focus on heritage education, which is an approach to teaching history and culture using community sites and resources. They found that all of the enrolled pre-service teachers liked the trip and were able to make connections to heritage education. Moreover, they made connections to their future teaching practices by sharing their desire to use heritage places as teaching tools. The teacher candidates also saw the value of historic sites in teaching because they are concrete and make history interesting.

Similarly, in another content area, [Tal \(2001\)](#) reported on a field trip that 13 pre-service science teachers attended as part of a science methods course. [Revia \(2001\)](#) found that the pre-service teachers who participated in the single, full-day field trip found the science learning environment enriching and useful for teaching children content and improving engagement. Moreover, [Revia \(2001\)](#) described the necessity of reflection to enhance the teaching and learning process when field trips are used.

The Learning Process Using Field Trips

Field trips are also beneficial for pre-service teachers because of opportunities the experiences provide for them to make real world connections and engage in an authentic learning process. Several studies demonstrate how field trips were used as a part of the learning process for pre-service teachers, including constructivism, reflection, and content knowledge.

Constructivism is a framework heavily emphasized in teacher education courses, and [Broome and Preston-Grimes \(2009\)](#) designed their study to assist pre-service teachers in their understanding of constructivism. The pre-service teachers gathered information about a field trip site through in-class projects and completed a chart that detailed what they knew and wanted to learn (K-W-L chart) to document their prior knowledge and to generate specific questions for the trip.

Reflection, a component of experiential education, is also an important teaching strategy for children. [Broome and Preston-Grimes \(2009\)](#) and [Pence and Macgillivray \(2008\)](#) both included reflection components in their field trips with students. After the trip designed by [Broome and Preston-Grimes \(2009\)](#), the pre-service teachers utilized reflection to discuss larger issues such as political, social, and economic trends that emerged. [Pence and Macgillivray \(2008\)](#) also stressed the importance of reflection as part of the learning process during their study, where 15 American teacher education students taught Italian children for 4 weeks in Rome, Italy. The authors noted that student reflection was critical to help students debrief and troubleshoot the challenges they encountered. In both instances, the researchers found that reflection helped the pre-service teachers make stronger connections to course content and grow professionally. More important, in both studies, the researchers followed a model of a learning process that their future students could replicate with their children in the future.

Content knowledge is typically a major component of course work that pre-service teachers take. [Leinhardt and Gregg \(2000\)](#) engaged in a learning process with their pre-service teachers to help them increase their content knowledge and attitudes toward the history from the Civil Rights Era. The pre-service teachers completed a web-making activity before their trip to a civil rights museum and repeated the activity after the field trip. Guided discussions were also woven into the experience. The authors found that, on average, pre-service teachers doubled the quantity of information they recorded on their webs, with more than half of the pre-service teachers tripling the amount of details included. Thus, the field trip combined with additional learning activities and discussions proved beneficial in meeting the objectives of the course.

Overall, these articles demonstrate that field trips can be used successfully to assist pre-service teachers in meeting course goals including enhancing their understanding of constructivism, engaging in reflection to make deeper connection to course content, and mastering content knowledge.

Curriculum Standards

According to the National Curriculum Standards for Social Studies (NCSS), there are 10 social studies themes that should be included in the curriculum ([National Curriculum Standards for Social Studies \[NCSS\], 2010](#)). These 10 themes include culture; time, continuity, and change; people, places, and environments; individual development and identity; individuals, groups, and institutions; power, authority, and governance; production, distribution, and consumption; science, technology, and society; global connections; and civic ideals and practices. The standards for teaching social studies are based on these 10 themes; thus, it is important that teachers are able to embed them in course content, activities, and discussions ([Golston, 2010](#); [Herczog, 2010](#)).

Because culture is a central theme in social studies, many teacher educators use social studies methods courses as a locus for multicultural education and issues of diversity. For example, [Fitchett, Starker, and Salyers \(2012\)](#) contend that integrating a culturally responsive paradigm in social studies methods can increase future teachers' aptitude for working with diverse students in the future and increase their cultural competence. Heritage education, a study of history and culture focused on material cultures and built environments, can also be included in social studies education ([Hunter, 1988](#)). Material cultures and built environments are artifacts, buildings, historic sites, values, ideas, and traditions that have been passed from one generation to the next ([Hunter, 1988](#)). [Yeşilbursa and Barton \(2011\)](#) discussed the importance of helping teachers and students take ownership of local historic sites, artifacts, and traditions. They merged the study of history, another major theme in the social studies, with historic places, cultural landscapes, buildings, and artifacts, both written and pictorial.

The social studies course for the present study included content for young children; thus, standards from the National Association for the Education of Young Children (NAEYC) are relevant to the pilot study. NAEYC standards for early childhood teachers suggest that teacher educators use a variety of methods to ensure that teacher candidates gain content knowledge and develop a large repertoire of teaching methods to help children construct knowledge ([National Association for the Education of Young Children \[NAEYC\], 2009](#)). According to the [NAEYC \(2009\)](#), teacher candidates must have experiences in their methods courses, including social studies, that will enable them to "use their own knowledge and other resources to design, implement, and evaluate meaningful, challenging curricula that promote comprehensive development and learning outcomes for every young child" (p. 15). [Mindes \(2005\)](#) posits that social studies instruction should be child-centered and allow for varied projects and activities, such as field investigations and visits to local community resources.

The review of literature suggests that experiential learning in higher education has been successfully implemented for students. Moreover, national standards suggest that teacher candidates acquire tools that will enable them to create meaningful social studies experiences inside and outside of the classroom. Because experiential learning, specifically field trips, have been shown to be beneficial, researchers should document and share their personal efforts to implement similar activities. The studies in this review included field trips in teacher education courses that included a single trip as a part of the course. This pilot study is different in that the course took place over the summer (5 weeks), and the teacher educator embedded three field trips plus an independent excursion in the course. These differences may allow for replications in other teacher education programs.

Method

This pilot study follows a case-study design. The focus was on the experiences of students and the teacher/researcher in a single college course. The teacher/researcher recognized the value of a course study after she

received the course evaluations; thus, she designed and implemented the pilot study a posteriori. Institutional Review Board (IRB) approval was granted after the conclusion of the course and gave the researchers permission to evaluate course evaluations and course materials. In total, 17 course evaluations were completed. Although IRB was granted, the researchers asked for consent from the students to analyze and include their reflection papers.

Participants

The participants constituted a sample of convenience and consisted of students enrolled in the social studies course taught by the researcher. There were 24 students enrolled; three of the students were male and 21 were female. All of the students were White except for one student who was of Middle Eastern descent. All students participated in field trips and field trip reflections as part of the course requirements. Each student had the opportunity to complete a course evaluation per university procedures and guidelines. Because the course evaluations were collected anonymously, no participant data are available other than their enrollment in the course. Five students gave permission for their reflection papers to be analyzed. These participants included one male and four females, all of whom are White.

Course Context

The social studies teaching methods course that was the basis for the present pilot study was taught at a public university in a major city in the northeastern United States. The university serves about 30,000 undergraduate students and has multiple campuses. The College of Education serves about 3,000 students, most of whom are teacher licensure students. The main campus is located in the city, while two satellite campuses are located in the surrounding suburbs. Because of the location of the university, several community resources were available for experiential learning activities. These resources include historical sites, museums, historic churches, and national parks.

The course addressed issues and methods in teaching elementary social studies for grades nursery through 6. The emphasis was on teaching for understanding and investigating resources and curriculum in social studies. Experiential education was not a main focus of the course although the teacher/researcher chose it as a teaching strategy. This course provided a detailed examination of the content and methodology needed for teaching history, geography, and the social sciences in the elementary school curriculum. Furthermore, it sought to develop the students' appreciation of the interdependence of cultural groups and use of inquiry and problem-solving methods to understand the historic, geographic, social, and economic dimensions of an interconnected world society. These themes were very important to the teacher educator and are an important part of NAEYC standards.

The teacher/researcher incorporated experiential learning through a series of three required class field trips and one independent excursion. Pre-service teachers attended three field trips in the local city that focused on American history and culture. The teacher/researcher selected these trips in advance of the course so that appropriate arrangements could be made. Following each trip, the pre-service teachers wrote a reflection paper based on guidelines that can be found in [Appendix A](#). The pre-service teachers also selected a site to visit independently with no more than two other classmates.

Field trip 1

The first class field trip was a visit to a replica of the Niña. The trip included a guided tour of a historically accurate replica of the Niña and a view of the Pinta, two ships that Columbus sailed in the late 1400s and early 1500s. According to [the Columbus Foundation \(2012\)](#), the Niña is a replica of the ship on which Columbus sailed across the Atlantic on his three voyages of discovery to the new world, beginning in 1492. Columbus sailed the ship more than 25,000 miles and was last heard of in 1501. The new Niña is a floating museum that visits ports all over the Western Hemisphere. This trip was chosen because it was directly related to colonial history and available in the area for only a short time.

Field trip 2

The second field trip was a visit to a historic African American church founded in the late 1700s. In addition to a guided tour of the actual church grounds, the students visited the archives contained in the lower level of the building. There was also a small museum that the pre-service teachers were guided through. This trip was connected to the course because it (a) celebrated the history of African Americans before, during, and after slavery and (b) contained a variety of primary sources that could be used to aid in the construction of history.

Field trip 3

The third field trip was a visit to a church and burial ground that is an important landmark connected to the United States' Revolutionary War history. Many signers of the Declaration of Independence attended the church, and many notable figures are buried in the burial ground. This field trip was connected to course content and discussion about colonialism and the Revolutionary War. Attendance at the burial ground was required, but a visit to the church site was optional.

Independent excursion

In addition to the three class field trips, pre-service teachers were required to choose an excursion based on their own interests. They could visit a museum, cultural center, or historical site. Pre-service teachers were required to meet or speak with a docent, museum guide, or other administrator to learn about program offerings for school-aged children and youth (based on guidelines that can be found in [Appendix B](#)). It was recommended that pre-service teachers choose a location that was related to their final project, which was a unit plan (a field trip for their students was a required component of the unit plan). They were given a class day to conduct their independent excursion, and no more than three pre-service teachers were allowed to visit the same location. Some of the pre-service teachers chose to visit sites that were close to their homes, while others visited sites that were in the same city as the class field trips.

Data Sources

To answer the research questions, this pilot study focused on pre-service teachers' reflection papers and their course evaluations. In addition to student reflection papers and student course evaluations, the researchers collected course materials including the course syllabus, assignment guidelines, and course notes for analysis.

Data Collection/Procedures

The teacher/researcher administered formal course evaluations at the end of the semester using approved university-wide procedures. The university posted course evaluations from all participants via a web-interface that the teacher/researcher could access. After the conclusion of the course, the teacher/researcher contacted students via e-mail to ask for consent to use their field trip reflection papers and independent excursion reflection papers. Five students gave consent to have their reflection papers analyzed for potential publication. These papers were available to the instructor via Blackboard. There is no link between data set by respondent due to anonymous course evaluations.

Data Analysis

The researchers examined all anonymous student comments included in the course evaluations and isolated all comments directly related to the field trips. There were a total of 169 anonymous comments from 13 different students who specifically addressed the field trip portion of the course; a small number of course evaluations included no comments. Anonymous comments from each student were separated as a part of the course evaluation process. The researchers compiled all relevant comments into a new file for later analysis. Five pre-service teachers in the course gave consent for their reflection papers to be included in the analysis.¹ These student reflections were read multiple times to gain an overall sense of the students' experiences.

The researchers entered the isolated course evaluation comments and the student reflection papers into Qualitative Data Analysis (QDA) Miner software for a more formal analysis. QDA Miner is a qualitative data analysis tool that allows researchers to code and annotate text documents. The researchers used open coding to analyze the data. Initially, the researchers applied 13 codes to the students' course evaluation comments and reflections, such as cultural bias, extension, and choice of trip. She then read all documents a second time once all codes were determined. Second readings revealed several comments that corresponded with the 13 codes that were identified during the first readings. The third reading of the data provided an opportunity to collapse the 13 codes down to four, which were more theoretical themes that illustrated broader nuanced meaning. These four themes are (a) constructive components of field trips, (b) unfavorable components of field trips, (c) field trips advance social studies knowledge, and (d) field trip experiences foster replication for future teaching. These themes will be discussed in the section "Findings." An overview of themes and codes can be found in [Table 1](#).

Table 1. Overview of Categories and Codes.

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Findings

In this section, we discuss the four themes that emerged from the data analyses, including (a) constructive components of field trips, (b) unfavorable components of field trips, (c) field trips advance social studies knowledge, and (d) field trip experiences foster replication for future teaching. This section is organized around the research questions with exemplar quotes to help illustrate the theme.

What Do Elementary Teacher Candidates Report as Positive and Negative Aspects of Field Trips Taken in Their Social Studies Methods Course?

Overall, teacher candidates reported both positive and negative aspects of the field trips. Positive aspects included tour guides' knowledge, the uniqueness of the field trips, and pre-service teachers' ability to make connections to social studies course content. Negative components were the time and money necessary for the field trips, in addition to the perceived bias toward specific racial groups.

Constructive components of field trips

According to student evaluations and reflection papers, there were several positive aspects about using field trips as experiential learning opportunities in the course. The positive comments were mostly written in the reflection papers. Generally, the pre-service teachers found the field trips to be worthwhile and memorable, and they reported that they gained new knowledge. The pre-service teachers also found the tour guides knowledgeable. Below are several exemplary quotes that illustrate ways in which pre-service teachers thought the field trips were positive.

"On this trip, I learned a lot of interesting facts that I never knew before."

This statement suggests that the field trips filled a gap in knowledge for this pre-service teacher regarding important historical events. One particularly memorable piece of knowledge was that the tar pitch used in the construction of the Niña is the same substance described in the construction of Noah's Arc of the Bible. Another interesting fact the students found fascinating was that the crew of the Niña consisted of adolescent boys who slept above deck and were consistently exposed to saltwater and harsh temperatures.

"I think this trip was worthwhile because of how accurately the ships were built, the experiences were very authentic, and real."

This comment reveals that this pre-service teacher values learning experiences that are real and authentic. Indeed, the creators of the Niña were very precise in their construction of the ship, down to the tools used for construction. This care and precision helped to create an experience where the pre-service teachers could actually travel back in time and experience the Niña as it was in the 1500s.

"I was unaware, even, of the existence of the cemetery; the whole experience was new."

This quote shows how the trip to the church burial grounds served to fill a gap in knowledge of local educational resources. There are many local resources that can be used to aid in the development of social studies knowledge, and exposing the pre-service teachers to some of these resources was a major goal of the course.

"As I mentioned, I'm more present minded, and therefore had no knowledge whatever of local black history, nor local history of any color, that I did not read in a textbook."

This quote demonstrates how this field trip raised the consciousness of this pre-service teacher about (a) the presence of local historical sites, and (b) African American history and culture.

"I found the high level of education, qualification, and experience of our guides to be most enlightening."

This comment suggests that tour guides' knowledge is an important factor for teachers to build confidence in the historical facts. When students see their instructors and leaders as knowledgeable experts, they are able to connect more in depth with the experience and ask relevant questions that will aid in their learning. Thus, having knowledgeable tour guides is an important component of a successful field trip experience.

Overall, the comments suggest that the pre-service teachers appreciated the opportunity to experience something new and different. Moreover, the comments suggest that the trips had a greater impact on their learning than previous traditional educational experiences. There were positive aspects mentioned from all three required field trips and from the required independent excursion visit. Not only did students experience something new and different, they also gained an appreciation for resources in their community. Thus, the trips served to help the pre-service teachers learn social studies content in a manner that was memorable and engaging, and they learned about potential resources they could use to enhance their own teaching.

Connecting these comments to [D. A. Kolb's \(1984\)](#) experiential learning framework, the pre-service teachers had experiences that could be built upon through reflection to aid them in their learning of social studies concepts. These comments do not suggest, however, that the pre-service teachers progressed through all four phases of the learning cycle. The pre-service teachers did the required reflections, but the comments do not suggest that they integrated their experiences into new understandings about social studies teaching methods (AC) or used the experiences to solve problems (AE). Some teacher candidates made connections to their future teaching, but the connections were vague and lacked details that would demonstrate deep understanding.

Unfavorable components of field trips

The pre-service teachers expressed positive comments about the field trips, yet they also shared unfavorable aspects about their experience. These negative comments were mostly found in the course evaluations. The codes in the negative category included, "time," "distance," "choice of trip," and "cultural bias." Consistent with previous studies in the literature, several pre-service teachers mentioned the distance from the classroom to the trip sites as problematic. Below are student perspectives on the limitations of the field trip: "Make a couple of the field trips closer to [the university]." "I think it is very inappropriate to have our field trips in [the city] when we are all [suburban] students."

These comments suggest that these pre-service teachers who attended classes in a suburban setting found traveling to the city for field trips to be problematic. This might mean that they lacked an understanding of the value of visiting the city if they did not plan to teach in an urban area. The second of the two comments also suggests that one pre-service teacher thought his or her future students would not be interested in or benefit from trips to an urban city center.

"I would rather the field trips be local. We had to travel to [the city] once a week and that costed [sic] us extra money."

This comment suggests that the burden of traveling was problematic for this pre-service teacher; probably due to gas and parking. Admission to sites was free for pre-service teachers, and they were encouraged to carpool. Several pre-service teachers chose sites for their independent excursion that were close to their homes for the visit they selected, which further indicates that distance was a barrier. However, other students returned to the city for their independent excursion. This action shows that some of them were open to exploring resources outside of

their immediate community and possibly their comfort zone. The distance to the field trip sites required travel time and money for parking, although no sites were more than 30 miles from the assigned class location.

More troubling, however, are the comments that suggested the trips were biased toward African Americans.

“I felt some of the field trips were geared toward African Americans and their history.”

This comment, although seemingly neutral, was written in the course evaluation as a critique as evidenced by the comment section it was included under (What aspects of the course distracted from your learning?). This comment implies that the inclusion of African American history was a negative aspect of the course. This pre-service teacher does not feel connected to African American history or believe it is important for inclusion in the course.

“The field trips chosen were biased in that somehow African culture was the main focus.”

This pre-service teacher’s comment suggests that too much course content was focused on African American history. He or she did not offer a suggestion on other histories to include in the course content.

“All trips were highly focused to African American heritage.”

This pre-service teacher suggests that a negative aspect of the course was a focus on African American history and culture. This comment demonstrates a lack of awareness of the importance of knowing the histories of different cultural groups as a teacher.

These concerns were only expressed in the course evaluations after the conclusion of the semester; therefore, the teacher/researcher was unable to address these concerns during the class. Research indicates that White pre-service teachers are sometimes resistant to the inclusion of diverse themes in college courses (Sleeter & Owuor, 2011). This could explain why students perceived too much emphasis on African Americans. Moreover, because the teacher/researcher identifies as African American, this could have enhanced the feeling of bias the students felt. Nevertheless, pre-service teachers should be reminded that African American history is American history and, thus, is important for everyone to examine at some point in their academic careers. As future teachers, it is very likely that they will interact with African American students. Having knowledge of these students’ histories and culture could increase their effectiveness and ability to teach in culturally responsive ways (Cruz, 1997; Ladson-Billings, 2000). Culture is a main strand in the social studies standards; inclusion of African American culture in a social studies methods course is necessary to cover recommended content (NCSS, 2010).

How Did the Field Trips Help or Hinder Teacher Candidates’ Learning of the Course Material?

The data suggest that the field trips helped the pre-service teachers to make concrete connections to course content, specifically pedagogical knowledge about pre-colonial, colonial, and antebellum history. The pre-service teachers were also exposed to local African American history and culture. Moreover, the data suggest the field trips helped some teacher candidates to consider how they might include experiential learning with their own students. Because the pre-service teachers noted bias in the selection of the field trips toward African Americans, it is possible that the field trips hindered their learning and acceptance of diversity and culture.

Field trip experiences foster replication for future teaching

The future actions category included comments that alluded to pre-service teachers’ desire to incorporate aspects of the field trips into their future teaching. The codes in this category included “replication” and “extension.” Many pre-service teachers commented that they would take their students on a similar field trip, although they understood that their students’ ages and maturity would be an important factor.

“As to whether I would take my students on a similar trip, it would depend upon the students.”

This pre-service teacher does not seem to be completely sold on the specific trips he or she experienced in the course. Some excursions, such as the trip to the historic church, may be inappropriate for very young children while others, such as the trip to the Niña, may be better suited for youngsters. This quote shows this pre-service teacher is open to trips so long as they are in the best interest of the students he or she teaches.

“I would consider taking my class on this trip, because it was so informative and real.”

This quote shows that this pre-service teacher was very enthusiastic about the trip to the Niña. He or she is very open to the idea of incorporating this type of experience with his or her future students.

“I think that the museum would be appropriate for the students that I plan to teach because I plan on teaching around third or fourth grade and at that age.”

This pre-service teacher commented on his or her independent excursion to a museum in the city. He or she chose this site based on the grade level and content for a third or fourth grade classroom and found it very useful. He or she is very open to the museum site for future students.

“Just being in the historic area is enough, but going to the burial grounds can give students a glimpse into the past.”

This pre-service teacher’s comment suggests that he or she saw the value in exploring the historic areas in the city, even if no tour was specifically planned. He or she felt the trip to the burial ground was an added bonus to an area already rich with history that could be explored.

It is important to note that not all schools have resources to send students on field trips. Other opportunities exist for exploring community resources such as virtual field trips. Teachers can share their own experiences with students, along with photographs and artifacts. Even though schools differ in their ability to provide trips for students, if teachers see them as important, they can still offer experiences to students.

Several students provided ideas for extending the field trips with additional activities and lessons with their own students. The two trips the students were able to connect most easily with were the trip to the Niña and the trip to the burial ground.

“Given the opportunity and interest, I might even have students engage more fully in the sailor’s lifestyle.”

This pre-service teacher is considering additional activities that might go along with the trip to the Niña. The guides gave a lot of interesting facts and details about the sailors that this pre-service teacher thinks may be worth exploring with his or her future students.

“The students could write journals as someone from that time, or make a fact book about their job, and what it entails.”

Again, this pre-service teacher considered the trip to the Niña and how it could be extended. Infusing reading and writing was important to this pre-service teacher because of its strong focus in the early grades.

“For kids to grasp this concept it would be fun for them to build a small replica of the ship, after doing research, and visiting these life size replica ships.”

This pre-service teacher sees an opportunity to connect social studies content based on the Niña trip to mathematics and engineering. Concepts such as scale, measurement, and weight would be necessary to include to create replica ships. This is an example of a hands-on activity that would be very appropriate for children.

“Doing my unit plan on colonial America this would be a great field trip to take students on because of the historical content of the trip.”

This pre-service teacher sees a connection between the burial ground and a unit on colonial America that he or she planned as a course requirement. He or she sees the value of helping students learn historical content in a unique setting.

The pre-service teachers were able to make connections between their experiences at the field trip sites and their future teaching. Many of them seriously considered ways to incorporate similar experiences with their future students by providing concrete examples of extension activities. The use of field trips helped the pre-service teachers see the benefit of experiential learning in the teaching of social studies content and think about how they might extend similar trips with additional lessons and activities.

Field trips advance social studies knowledge

The final category included pre-service teachers' comments that relate to teaching social studies, engaging students in social studies activities, or learning social studies. These codes included, "understanding," "opportunities," "culture," and "fun."

Several students mentioned in their reflection papers how the trips enhanced their knowledge of social studies.

"My understanding of social studies has been enhanced in that I now see the discipline as more dynamic."

This comment shows how the field trips made social studies come alive for this pre-service teacher. Indeed, social studies can be taught in a variety of ways such as through textbooks and worksheets or interactive experiences. This pre-service teacher saw how social studies can be more interactive and dynamic than he or she previously realized.

"The trip enhanced my understanding of social studies in that it can be taught almost anywhere as any location."

This pre-service teacher notes how social studies does not have to be confined to the classroom. With a little planning, he or she realizes that social studies can be brought into many experiences and taught in non-traditional ways.

"Social studies can be found all around and it can be affordable and meaningful, which I discovered through this field trip."

This pre-service teacher discovered that there are many local sites and locations that can be used to assist in the teaching of social studies. Many local resources are free and/or low-cost, especially for schoolchildren.

"This trip enhanced my appreciation and understanding of social studies because social studies was never really that fun for me."

Social studies should be taught in a way that is fun, dynamic, and engaging. This pre-service teacher saw firsthand that field trips are a way to bring social studies content to life.

While on the trips, the pre-service teachers also learned interesting facts that helped to build their social studies content knowledge.

"I don't know much about Columbus, only that he sailed in 1492 and has a very controversial national holiday named after him. On this trip, I learned more about his background and the hardships he encountered throughout his voyages."

This pre-service teacher explained that the information shared by the tour guide during the trip to the Niña helped him or her learn more about Christopher Columbus besides the common facts that most people know (i.e., Columbus sailed with three ships in 1492). This memorable experience will enable him or her to teach more thoughtful, engaging, and authentic lessons to students.

"Seeing things firsthand is exactly what helps to shape our own memories, ideas, and knowledge base."

This pre-service teacher expressed the importance of taking ownership of knowledge through firsthand accounts and experiences.

"It is important for both students and teachers alike to utilize the educational resources that are right in their own communities, particularly when they are lucky enough to live outside a city that is so rich with history and opportunities for hands-on-learning."

It is easy for teachers to get caught up in the day-to-day ins and outs of managing a classroom and preparing lessons. This pre-service teacher expressed the importance of using community resources to enhance students' learning. Teachers will not use community resources if they are not aware of them. The use of field trips helped this pre-service teacher to become more aware of the resources that surround schools and communities and potentially opportunities to use them in his or her own teaching.

Discussion

The findings indicate that the pre-service teachers found the field trips to be worthwhile and beneficial. Consistent with previous research, experiential learning in the form of field trips was received positively by pre-service teachers (Broome & Preston-Grimes, 2009; Johnson & Chandler, 2009). The participants found the trips to be memorable and were able to make connections to course content and teaching methods. As a result of the trips, some pre-service teachers explored extension activities and the possibility of similar trips with their future students. Nevertheless, the data do not suggest that the teacher candidates progressed through all four phases of D. A. Kolb's (1984) learning cycle to gain the most knowledge and understanding from the field experiences.

The findings also suggest that field trips are a way to include local history and culture in course content and culture in the social studies curriculum. According to Yeşilbursa and Barton (2011), it is important that heritage education be a part of the social studies curriculum; this includes historic places and cultural landscapes. Indeed, the city was rich with resources, which the pre-service teachers discovered throughout the course. Culture is central to the teaching of social studies, and the field trips were a great way for pre-service teachers to learn about different aspects of American culture, such as colonial life and African American traditions. Although reflections were required, the instructor should have done more to ensure that the pre-service teachers could see the value in learning about alternate historical perspectives, specifically African Americans'. According to D. A. Kolb (1984), concrete experience involves the ability to experience new situations without bias. More preparation on the part of the instructor could have aided the teacher candidates in achieving this part of the learning cycle.

The pre-service teachers expressed concerns about time and distance. This challenge was also found in non-teacher education courses that included experiential education components (Dardig, 2004; Gill, Adams, & Eriksen, 2012). Anticipating concerns about hardships the trips might cause, all pre-service teachers were notified about the trips prior to the beginning of the course, and a few students chose to enroll in a different section. Moreover, because the allotted class time was 4 hr per session, the teacher/researcher was able to provide time for travel to and from the suburban campus. Nevertheless, distance and time remain a challenge to successful implementation of experiential learning experiences in college courses, particularly when sites are selected by the instructor.

The most surprising finding is that some teacher candidates reacted negatively to the inclusion of diversity in the field trips. One of the field trips included an African American historical site, yet the instructor did not connect the trip to pre-service teachers' prior knowledge nor allow them to reflect on why such a trip was important. Some of the pre-service teachers, therefore, did not see the relevance of the trip or make personal connections. The reflection papers were all positive, but the anonymous course evaluations revealed that some of the pre-service teachers perceived that the trips focused too much on African Americans. Incidentally, only one of the three trips was focused exclusively on African American history; the other two trips focused on American history as traditionally defined (e.g., Eurocentric). Fitchett et al. (2012) posit that social studies remains a topic that is heavily influenced by Eurocentric and Westernized ideas, even in the midst of a changing student demographic.

According to social studies standards, it is critical that future teachers have knowledge and appreciation for perspectives that are different from their own, which is why the trip to the African American church was included (NCSS, 2010). Social studies teachers must not only be able to identify and understand alternate perspectives, they should be able to help children to consider alternate perspectives (NCSS, 2010). However, it appears that some of the pre-service teachers were resistant to the inclusion of diverse themes. Research by other scholars indicates that short-term experiences are not sufficient to improve attitudes toward diverse cultures; a more formal and structured approach is necessary (Fitchett et al., 2012; Langer, Escamilla, & Aragon 2010; Tidwell & Thompson 2008). Specific teaching methods that might have helped the pre-service teachers to see the importance of diverse themes and experiences include structured class discussions encouraging divergent views (Arthur & Achenbach, 2002) and making concrete connections between the field experiences and the pre-service teachers' lives (Sevier, 2005), and reviews of social studies standards that include culture and diversity. It is critical that future teachers appreciate and value the inclusion of alternate perspectives and histories within social studies.

Methodological Limitations

There are several limitations of the pilot study. One of the limitations includes the availability of data sources. Additional data sources, such as interviews, post field trip activities, and documented class discussions would have added to the reliability and triangulation of the data. The teacher/researcher, however, did not plan the pilot

study until after the course ended and the course evaluations were posted. Thus, it was impossible to generate data after the fact. Similar studies should make an effort to include stronger data sources.

Other limitations of this pilot study include the small sample size and the limited number of reflection papers included for analysis. As with most qualitative studies, the results are not generalizable to larger contexts. A teacher educator with a similar course context and classroom makeup may find different results. In addition, the small number of reflection papers included for analysis may not have been representative of the entire class. Had more pre-service teachers given permission for their papers to be included, additional themes may have emerged that could affect the findings. Nevertheless, the inclusion of the course evaluations ensured that all pre-service teachers' views were represented. Moreover, course evaluations may be more authentic than reflection papers because course evaluations are ungraded and not reviewed by the instructor until after grades have been posted. There was no pre-test or post-test given to participants. Follow-up studies should include a pre- and post-test to confirm the findings.

Conclusion

Field trips can be an effective way to implement experiential learning in teacher education. In social studies education, field trips are particularly useful because they can coincide with course content, particularly social studies standards and multiculturalism. It is vital that teacher educators consider their students when designing field trips; some pre-service teachers may not immediately see the purpose for certain experiences, particularly if they are not aligned with their personal histories. Teacher educators must not only provide time for reflection, but must also make concrete connections for pre-service teachers so they gain the greatest benefit from the field trips. Some pre-service teachers may be resistant, but it is critical that instructors embed diverse themes and histories of those who have been marginalized into their courses so that future teachers will better understand and be able to teach diverse students.

Recommendations for Future Research

The authors recommend that future research include more studies of teacher education courses that include an experiential learning component, such as field trips. These studies should include more robust research methodologies such as pre-post surveys, participant interviews, regular journal reflections, and documented class discussions. In addition, participation from a larger percentage of the class members would add to the integrity of future studies. Future studies into experiential learning within teacher education should strive to include the opinions and interests of the participants when planning activities. We also recommend briefing and debriefing discussions or activities before and after the experiential learning activities so that participants are fully aware of what to expect, the purpose of the activity, connections to course content, and have opportunities for reflection.

Appendix A

Reflection Paper Questions

1. Where did you go?
2. Did you generally find the trip worthwhile?
3. What did you learn or experience that was new to you?
4. Might you consider taking your future students on a similar trip? Why or why not?
5. How did the trip connect to your personal content knowledge, pedagogical knowledge, and/or pedagogical content knowledge?
6. How has the trip enhanced your understanding/appreciation of social studies?

Appendix B

Independent Excursion Reflection Questions

1. Was the museum appropriate for the students you plan to teach? Why or why not?
2. Was the docent, guide, or administrator helpful and knowledgeable in regards to student programming?

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Notes

- 1. All student course evaluations were included due to anonymous collection procedures per Institutional Review Board (IRB). Only reflections from students who gave expressed written permission for their course work to be analyzed were included in the analysis per IRB.
- © The Author(s) 2016

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EVERYDAY LIFE AS A TEXT: SOFT CONTROL, TELEVISION, AND TWITTER

By Michael Lahey

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Abstract

This article explores how audience data are utilized in the tentative partnerships created between television and social media companies. Specially, it looks at the mutually beneficial relationship formed between the social media platform Twitter and television. It calls attention to how audience data are utilized as a way for the television industry to map itself onto the everyday lives of digital media audiences. I argue that the data-intensive monitoring of everyday life offers some measure of soft control over audiences in a digital media landscape. To do this, I explore “Social TV”—the relationships created between social media technologies and television—before explaining how Twitter leverages user data into partnerships with various television companies. Finally, the article explains what is fruitful about understanding the Twitter–television relationship as a form of soft control.

Introduction

A “deluge of data” is a common theme across contemporary business and consumer cultures in the United States. Digital technologies allow those with resources and know-how to create, track, and sort enormous sets of data whether they be global trends on heart disease or the “cacophony of short-burst” communications that define the social media platform Twitter (Carr, 2010). We see the emergence of products like Google Glass, eyeglasses that overlay data on top of our daily experiences. Through the glasses, we can video chat with friends, interface with Google maps, or have updates pushed to us about, for instance, suspended subway services. A likely fix in a world full of data: more data to solve problems of more data.

Data are ubiquitous in IBM’s “Smarter Planet” advertisements about the coming “tsunami of information”—Radio-Frequency Identification (RFID) chip transmissions, store transactions, medical records, emails, photos, videos, blogs, traffic patterns, and so on. One of the commercials in the series asks, “What if technology could capture all this information and turn it into intelligence?” IBM could help you identify patterns faster and “pull insights from the noise.” The company could help organizations “manage their people” and “mitigate risk.” And, most importantly, they can help you “convert data into action” (infoondemand, 2009).

Charles Duhigg’s (2012) *New York Times Magazine* piece “How Companies Learn Your Secrets” offers us another look into the mysterious world of data. Duhigg tells the tale of how Target uses data science to better understand its customers. One of the more humorous and alarming examples is how Target cross-references purchases to figure out when a family is pregnant, even though they have not told Target. Because these algorithmic calculations are based on shopping data, Target can better target ads and discounts more strategically to these families.

These are just a few examples of the way our everyday lives are being translated into data. On one hand, access to data is cast as a coping mechanism for a world overrun with data. On the other hand, these data are cast as a treasure trove for businesses seeking audience attention. This emphasis on creating, managing, and utilizing data falls under the buzz phrase “Big Data”—data sets too large for traditional computation, and the technologies, engineers, and statisticians who support it.

Television companies are also experimenting with leveraging Big Data as a way to understand audiences and manage risk in a data-rich digital media landscape. One of the reasons the television industry wants to understand its audiences better is because it is increasingly difficult to dictate when and where audiences will watch (Kastelein, 2013). The possibilities opened up by a digital media environment for businesses and audiences alike directly trouble the industry’s ability to dictate clearly windows of distribution. This is a problem for an industry that has historically been understood as a “fundamentally scarce service” (Sterne, 1999, p. 506).

On one hand, television companies fight against the problems present in this type of environment through hard coding digital rights management into web browser screens and utilize copyright laws to slow down illegal content uses (Moody, 2013).¹ On the other hand, some television companies also actively seek to understand networked digital environments in terms of the information about audiences that it can provide. Television companies hope to leverage this knowledge of audience behaviors in various ways to tame problems of attention. A key way this happens is through how television companies use social media for audience information.

This article explores how data are utilized in the tentative partnerships created between television and social media companies. Specially, I look to the mutually beneficial relationship formed between television companies and Twitter—a social media platform that allows users to send either single photos, 6 s or less video clips via their Vine app, or 140 character bursts of communication known as tweets. Investigating the Twitter–television relationship is not about any single television program as Twitter’s presence in the social media efforts of virtually all television shows is ubiquitous. Nor is this article about how television companies might use Twitter to directly engage audience attention. Rather, it is about how Twitter shares complex analyses of user behavior with television companies. They call this work the “TV Genome,” and Twitter does this by creating algorithms that connect tweets to television content with very few context clues. All the user has to do is use Twitter and the work happens in the background.

In this light, I want to call attention to how audience data are utilized as a way for the television industry to map itself onto the everyday lives of contemporary audiences. An emphasis on everyday life is important because it is at the level of the everyday, as understood by Henri Lefebvre, where the materialization of attention and monetization takes place. In addition, everyday life, as Rita Felski (1999) argues, is understood as the space and time where we become “acclimatized to assumptions, behaviors and practices” (p. 31). While our habitual

practices may be processes that we do not think about too much, I guarantee you that the television industry charts them in great detail.

The television industry has historically been more or less interested in consumer data gleaned from viewer rating systems and focus groups. What is different about data collected from social media platforms is that it is “wild,” collected from everyday utterances and not within a structured research scenario (C. Ang, Bobrowicz, Schiano, & Nardi, 2013). This “wild data” allows television companies access to a broader spectrum of consumer information in an open-ended format that allows for more careful tracking of changes in consumer sentiment over time.

Thus, I want to argue that the data-intensive monitoring of everyday life offers some measure of soft control over audiences in a digital media landscape. Borrowing from the work of Gilles Deleuze (1992), Henri Lefebvre (1984), James Beniger (1986), and Tiziana Terranova (2004), I use the phrase soft control to define the purposeful actions of the television industry to shape audience attention toward predetermined goals. These interactions between television companies and audiences develop autonomously over time while often being interjected with prompts and run through different iterations. The data collection that happens on Twitter can be seen as a soft control practice that works in the background to funnel information about audiences to television companies. This happens because Twitter gives television companies in-depth access to unstructured utterances from the everyday life of the Twitter user. The data that are produced in this instance occur because people are simply using Twitter the way it is supposed to be used. Twitter’s algorithmic scripts have data to parse because, well, we do the work. They are there to track, atomize, and tabulate us. By looking specifically at the role Twitter plays in harnessing knowledge about audience behaviors and practices, I will show how algorithmic scripts are put into action for the television industry and how the logic of soft control helps strengthen various television companies’ position in a digital media environment.

This is not to suggest that television companies can determine audiences in the strictest sense—that would clearly be false. Any investigation into “Social TV”—the relationships created between social media technologies and television—will quickly uncover that audience attention is not something that is easily taken for granted. In fact, this process of capturing eyeballs is never fully complete and always in flux.² But this does not mean that television companies are not finding uses of social media to manage the terms of the industry–audience relationship. The amount of data we pump into this social feedback loop is astounding and points to the unequal dynamic between producers and audiences. Thus, even in a media environment that ostensibly gives more control to the audience, an uneven playing field exists.

Television, Social Media, and Data

Before moving on to explaining Twitter and the TV Genome, I want to briefly situate this discussion against the burgeoning importance of social media to the television industry in terms of direct engagement and, more importantly, data collection. And there is a lot of chatter these days about the relationship of social and traditional media. Twitter is the first thing star reporter/TV-host Anderson Cooper reportedly checks when he wakes up (Anderson, 2011). *Advertising Age* sees the integration of social media into traditional media as producing a new type of hybrid media (Rubel, 2011). Gail Becker, global head of Edelman’s Digital Media, who counsels the National Association of Broadcasters, says that we have “officially entered into an era of social entertainment” when people are beginning to expect to interact with the entertainment they consume (Value, Engagement, 2011). Relatedly, in an Edelman survey of media consumers, 57% of “general consumers 18-54 in the United States” consider social networking as a form of entertainment, the number jumping to 70% among 18- to 29-year-olds (Value, Engagements, 2011).

Social media are, perhaps obviously, built around the concept of sharing, which is materialized in the ubiquity of “share” buttons across the Internet. These buttons allow you to share content across a variety of platforms and socially enabled sites. This web application programming interface (API)-enabled form of communication is hybrid from top to bottom. While some platforms like Facebook started ostensibly as a way to allow friends to communicate, consumer- and media-oriented companies have flooded this space as a way to reach out to their customers wherever they are. This mixture of consumer, personal, and interpersonal messages is precisely what these companies are after—“a superior alignment of commercial, consumer, and wider public interests” (Spurgeon, 2008, p. 113).

It is clear that there is a burgeoning connection between television and social media. According to *Lost Remote*, a blog about Social TV, “Facebook is [now] a huge distribution and promotional platform for TV shows” (Bergman, 2012). As of May of 2011, 275 million Facebook users had liked television shows 1.65 billion times, and television

shows are always well represented during the evenings on Twitter's top 10 trending words (Bergman, 2012). In hoping to reproduce the so-called "water cooler effect" through social media, television companies believe they have to remap their products onto the times and spaces of contemporary consumers (Stelter, 2011).

Television companies use social media platforms like Facebook and Twitter for what we could call direct audience engagement. These instances can be mundane, like when Nina Dobrev, an actress formerly of the CW's *The Vampire Diaries*, tweets out to fans: "Feeling soooooo much love from the Teens!!! Thank you for nominating me—you guys are amazing! <3 you!!!! @teenchoiceneews"

This tweet is retweeted by *The Vampire Diaries'* official Twitter account, creating more circulation. A "perhaps-fan" (we really do not know about much about "her"—if she is a bot, corporate account, etc.) like @dobrevselenas can respond to the tweet with "@ninadobrev you deserve it baby, i love you more <3."

There are also award-winning (or at least nominated) uses of social media. The Shorty Awards gives annual recognition to the best uses of social media by television companies. TNT's *Legends* was nominated in 2015 for best use of a Twitter hashtag with #DontKillSeanBean, capitalizing on the popularity of the pop culture meme that questions why Sean Bean, the main actor in *Legends*, dies in everything. BBC America's *Orphan Black* was also nominated in 2015 for its use of social media—Instagram, Tumblr, Twitter—to create content for the #CloneClub, a group of passionate fans labeled after the show's central theme of genetic cloning ("Best in Television," 2015). HBO was nominated in 2014 for its work with 360i, a digital marketing agency, on *Game of Thrones* to create #ROASTJOFFREY, a 48-hr, crowdsourced social media comedy roast of King Joffrey, a reviled character on the show ("Best Use of Social Media for Television," 2014).

Although these examples are worthy of investigation in their own right, for the purposes of this article, an important way to understand the burgeoning relationship between social media and the television industry is through the types of partnerships that occur in the process of building and sharing data sets on potential audiences.

Television's contemporary interest in mining social media platforms for user data parallels their interest in direct audience engagement through social media campaigns, and the two are often intertwined. Television companies look to partner with data-rich companies like Google, Facebook, Twitter, Acxiom, and BlueKai that offer more data on customers than the television industry could collect alone.³ These are what Joseph Turow (2006) would call "permission-based" databases that collect data to analyze consumer behavior (p. 88).

There are many reasons—including improving programming and digital ad targeting—behind this push into Big Data. For instance, all the major networks—ABC, CBS, and NBC—have set up their own analytics companies that mix first- and third-party data as a way to handle the flood of data from social media and traditional data sources (Thielman, 2015a, 2015b). Black Entertainment Television (BET) partnered with Adobe Social to create a social listening campaign to shift how it marketed the hit show *Being Mary Jane* (Enright-Schulz, 2014). Similarly, HBO partnered with Arktan SocialTrends and Facebook to mine user data as a way to shape promotion for the final season of *True Blood* (Aggarwal, 2014). In addition, Time Warner Cable utilizes user data to "target customers with the same advertising campaign simultaneously in cable television, mobile devices, the web, social media advertising, and other platforms" (Ungerleider, 2013). In doing so, Time Warner creates data profiles by combining viewing habits with information that data management companies collect such as voter registration records and real estate records. All these data create a very specific profile of who a user is or could potentially be. This personalization can then be fed back into the many interconnected platforms and technologies, creating slight differences in approach for each individual.

Let us turn now to Twitter for a more in-depth example of how data are used to shape the industry–audience relationship before explaining how we can view this as a form of soft control.

Twitter and the TV Genome

On June 4, 2013, @bobbychiu wrote "My expression after watching *Game of Thrones* this week . . . Omg" which was paired with a picture of a rabbit emerging from a hole, ears perked, face wide with terror.

The most interesting thing about this tweet is that it has no direct connection to the HBO show *Game of Thrones*. This user is not trying to talk back to *Game of Thrones*; he or she is merely sharing his opinion with a range of his followers and using Twitter the way it is supposed to be used. Thus, this individual is just tweeting about what is

happening in his or her everyday life. It just happens that this expression is hosted on a platform that catalogs this sentiment and algorithmically aggregates it with the other tweets connected to *Game of Thrones*.

As one person, [@bobbychiu](#)'s comments are fun but once aggregated have the potential to paint a picture of broader consumer sentiment. It makes sense that television companies would want access to Twitter's data as evidence suggests that Twitter usage portrays a different picture of the popularity of shows than traditional Nielsen ratings do ([Amol & Vranica, 2013](#)). In addition, Twitter has been leveraging its relationship with television in an attempt to monetize the platform. As Sarah Perez of TechCrunch says, Twitter is "betting big on being the TV companion app" ([Perez, 2013](#)).

To better understand how these data are aggregated, let us look at Bluefin Labs, one of many companies (Radian6, General Sentiment, Sysomos, Converseon, and Trendrr) in the growing field of Social TV analytics. According to Bluefin Labs, their clients include 40 of the largest TV networks in the US ([Conyers, 2012](#)). Founded in 2008, Bluefin was purchased by Twitter in February of 2013 to shore up a relationship to television companies ([MacMillan, 2013](#)).

Bluefin calls its work in Social TV analytics the "TV Genome." This "genome" is created by cross-referencing comments made on Twitter with program guide information, the names of characters and actors, closed-captioning text, demographic information about who is commenting, along with an advertising schedule that Bluefin created. The "genome" works in two tiers, one tied into those watching within a 3-hr window of the show and another focusing on the 90 days after a show's premiere to catch time-shifted viewing.⁴

This is a data-driven approach that uses tweets as data points in conjunction with the unstructured data of television video feeds. To create something like a "graph" of television, Bluefin records linear television streams and turns these feeds into data. Data are not just something that exist. Everything in our world only has the potential to become datum and only does so when it is translated into a "unit or morsel" of information ([Gitelman & Jackson, 2013](#), p. 1). To put it another way, this video is just a feed full of potential data until it translated into mapped data. Bluefin has experience in trying to map video data; Michael Fleischman, the chief technology officer of Bluefin, actually worked to help machines recognize home runs by watching Boston Red Sox game broadcasts ([Graham-Rowe, 2007](#)).

When a video feed is translated into data, it would first be broken down into still images, or frames, and then stored into something like an Apache HBase—a Big Data file system where you can store images. The images are stored as raster images (as pixels with discrete number values for color) or vector images (color-annotated polygons). The images are then broken down into particular features based on pixel placement, luminance, color, patterns of pixel movement (including camera movement), and so on. Once the video image is broken down into discrete units, it is available as data. An algorithm can then be taught to recognize what is happening on the screen based on how it cross-references pixel or polygon movement and audio wavelengths as visual data are connected with automatic speech recognition systems to improve accuracy. Thus, for instance, Twitter's algorithms know when King Joffrey from *Game of Thrones* is doing something sadistic or when Detective Linden from AMC's *The Killing* is having a bad day. This ability to break the image down into readable data allows every channel that Bluefin monitors to be precisely mapped.

The semantic analysis that Bluefin does for specific channels—including shows, advertisements, interstitials—is made meaningful for television companies when combined with an analysis of tweets. This allows Bluefin to have a very specific knowledge of when conversations about a television program are occurring. To more precisely catalog what the folks on Twitter think of particular shows, Bluefin breaks the language of tweets down into categories that are more sophisticated than good or bad—"vulgar or polite, serious or amused, calm or excited" ([Talbot, 2011](#)). Thus, Bluefin utilizes deep machine learning algorithms that are utilized to give order and meaning to comments pulled from social media.

While Twitter also uses Bluefin to target advertisements at particular tweeters, the use of tweets to create a map of human behavior is another animal altogether ([Lunden, 2013](#)). This map ingests data from a variety of places we can be in our everyday lives—at work, home, at a friend's house, or a bar. As long as we have a smartphone and a Twitter app (or on another app running Twitter's API), we can do the things we may normally do: respond to a tweet by a friend, comment about the role of nudity in HBO programming, proclaim excitement over the trajectory of a particular character arc, or any other example from the vast array of choices that constitute our everyday lives. Translating the playing we do on Twitter into data, Bluefin atomizes our tweets and reassembles them into larger identified data trends that look something like water cooler "talk." In this way, the social media we may create—in this instance, a tweet—becomes the data for television companies to better understand how we feel about television.

How are the things that occur in the Twitter-TV partnership any different from a longer history of companies trying to understand their audiences? According to [James Beniger \(1986\)](#), the technologies “for collecting and processing all these types of information” appear in the late 1910s and develop through the 1930s (p. 378). Yet this was still a relatively unsophisticated process at the time, as [Karen Buzzard \(2012\)](#) notes, “Prior to the 1930s, knowledge of media audiences consisted primarily of subjective impressions such as anecdotes, postcards mailed in by the audiences, and other schemes conceived by advertisers. (p. 2)”

Since that time, audience research has grown into a robust industry supporting a range of other media industries as they tried to control the “reciprocal flow of information from the mass audience back to the media writers and programmers” with the goal of closing the gap between ideal behavior (what they wanted) and real behavior (what actually happened; [Beniger, 1986](#), p. 276). By the 1960s, “the expansion of the research community also made the social scientist a common figure in marketing circles, and introduced social science terminology into marketing and advertising jargon. The result was a pressure to generate more detailed and deeper descriptions of consumer behavior. ([Arvidsson, 2011](#), p. 277)”

In relation to television, by the end of the 1960s, Nielsen Media Reach became a monopoly provider for audience information to the television industry. Nielsen’s methods have, over time, become more sophisticated, moving from diary usage where a statistically meaningful range of individuals self-reported behavior to, since 1984, the use of the People Meter to technologically track viewing habits ([Buzzard, 2012](#)).

The point of this brief historical tour is to situate practices of trying to understand audiences with a longer tradition. As [Mark Andrejevic \(2009\)](#) says, contemporary efforts “to track the behavior of viewers can trace their lineage back to the efforts of early audience rating researchers to find a two-way channel for monitoring the audience” (pp. 33-34). This means that the technological methods offered by social media platforms are “amplified or supercharged” versions of audience research and not completely different ([Deuze, 2009](#), p. 144). Thus, what makes social media compelling for media companies is the sheer amount of potentially usable data that these data-rich environments foster. Surveys and diaries are a voluntary form of engagement, whereas social media data are often referred to as “wild.” This means it is not based on surveys, diaries, or viewing logs collected from a small sample of TV viewers but rather these data simply exist as a function of the way the Internet and social media technologies work. For instance, we simply have to log on to Facebook, click through some links, and chat with some friends, or post our opinion about a TV show on Twitter. This is a key feature to how soft control works now; we simply have to live and let the background scripts do their algorithmic parsing.

Soft Control and Everyday Life

How can Twitter’s TV Genome be seen as a form of soft control in the dynamics created in industry–audience relationships? To explain this, I need to fully define soft control. By all means, control is a scary word. For me, it conjures up old fears of subliminal advertising, that is, this message made me do that specific thing, but I am unaware of the cause of my behavior.⁵ Although this looming, sinister form of control is a very popular usage of the term, it is but one of the many ways control has been imagined academically.

In *The Control Revolution*, a sweeping rereading of Earth’s history through the framework of informational control, [James Beniger \(1986\)](#) offers a good starting point to understand how the term can be used. Beniger explains control using a range of definitions from determination to influence. He refers to these as existing on a continuum between stronger and softer forms of control. The only thing that encapsulates these different definitions is the notion of a “predetermined goal.” Thus, to [Beniger \(1986\)](#), “all control is thus programmed” (p. 40).

Focusing on the role technology and the economy play, he looks at how public institutions dealt with social control in a 19th- and 20th-century industrial world increasing in size and speed. [Beniger \(1986\)](#) points to the concepts of information and feedback as central to understanding control. This means that since the 1840s, long before the “Information Age,” social organizations needed to be able to utilize information as quickly and efficiently as they did material energy resources. Simply, if the world was moving faster, more information was needed to shape the direction of that world.

Looking at the rise of the advertising industry as a “nascent infrastructure for control of consumption,” [Beniger \(1986\)](#) points to the long list of innovations in the industry—newspaper distribution numbers, coupon reinforcement, the scientific methods of audience investigation by advertisers like Claude Hopkins—as proof of this desire for control. This information was used as a feedback technology to gain a better understanding of the audience and how to reach it.

Beniger clearly is indebted to the work of cybernetics and information theory as seen through his citations of luminaries like Claude Shannon and Norbert Wiener, two founding figures in the study of information. [Wiener \(1948\)](#) defines cybernetics as the science of control and communication across a range of biological and man-made machines.⁶ The focus of cybernetics, as [W. Ross Ashby \(1957\)](#) says in *An Introduction to Cybernetics*, was to understand the behavior of machines as far as they were “regular, or determinate, or reproducible” (p. 1). This study of behavior wants to identify the range of possibilities of action as a way to chart and predict results in complex systems. In these complex systems, the concept of difference—or the change from one state to the next—was important, because it offered a way to plot, predict, and program change mathematically.

Henri Lefebvre analyzes the relationship of feedback technologies to control in the way cybernetic systems are utilized to shape human communication in a “bureaucratic society of controlled consumption.” The idea of bureaucratically controlled consumption is most clearly articulated in Lefebvre’s *Everyday Life in the Modern World*. He argues that society and its various “sub-systems” are functionally organized and rationalized, and produced and reproduced through programming, obsolescence, and management via cybernetic systems. It is our everyday lives where this control, in the form of programming, takes place ([Lefebvre, 1984](#)). An important take-away from this is thinking about how cybernetic systems have the potential to produce as much control as they do freedom. This view of societal control exists in the intense amount of data that cybernetic systems collect and that human statisticians and computer-based algorithms interpret, which has become a central force in how media industries understand and shape their relationship to audiences.

To Gilles Deleuze, the networked nature of audiences and contemporary media does not work against a society of control, but rather is a chief feature of a control society. In his short work, “Postscript on the Societies of Control,” Deleuze discusses the transition from a disciplinary society built on enclosure—as you move from the hospital, to the factory, to the school—to a control society built on more open-ended forms of continuous control where technology interlinks all these previously separate domains. In this formulation, the modes of a control society are not unyielding but flexible—something [Lev Manovich \(2002\)](#) would call “modular” (p. 28). These systems of control are at the crux of a contradiction where freedom of spatial movement is paired with constant monitoring, auditing, and adjustment. As [Gilles Deleuze \(1992\)](#) says, a society of control is one where the “controls are a modulation” (p. 3). In other words, this logic of control is flexible, reconfigurable, and fast. “Control is about the constant subtle structuring of social life, the ways that we are sorted, tracked, cajoled, and tempted” ([Wise, 2011](#), p. 162).

With all these data—credit scores, faces, passports, driver’s licenses, search patterns, website visited—we have perhaps transitioned from the individuals of the disciplinary societies to the “dividuals” of the control society ([Deleuze, 1992](#), p. 5). To Deleuze, “dividuals” are not us, per se; they “can be seen as those data that are aggregated to form unified subjects” ([Cheney-Lippold, 2011](#), p. 169). In this way, there is a constant feedback loop between how we imagine ourselves and the categories created for us by all these data. [John Cheney-Lippold \(2011\)](#) sees the “digital construction of categories of identity” as a new axis of soft control where “control can be enacted through a series of guiding, determining, and persuasive mechanisms” (p. 169).

Applying [Tiziana Terranova’s \(2004\)](#) ideas about soft control is also instructive here because how television companies use social media to collect and map audience data acts like the open environment “biological computing” systems she identifies in *Network Culture*.⁷ To Terranova, these environments are characterized by potentially enormous productivity; their difficulty to control; “nonlinear interactions, feedback loops, and mutations”; and a central designer that wishes to produce an “emergent behavior” out of other actors (pp. 104-105).

For [Terranova \(2004\)](#), “biological computing models” have a moment of construction, then a positioning of constraints, and, finally, the “moment of emergence of a useful or pleasing form” (p. 118). Control is implemented in the beginning (founding the model) and the end (the survival of the most “useful or pleasing variations”) ([Terranova, 2004](#), p. 118). If no “pleasing variations are found, then the model is fine-tuned” and sent through another modeling run ([Terranova, 2004](#), p. 119).

Imagine biological computing on a much larger scale and you get close to conceptualizing what television companies are doing. Twitter’s TV Genome allows looks like an open-ended biological computing model. For instance, let us say Twitter analyzes the responses to an episode of *The New Girl*. The data sets are theoretically open as tweets only trigger algorithms when certain parameters are met. The actors here—the tweeters—are given relative autonomy. They are not told their data are being used and whether Twitter “ingests” this tweet or not does not affect the tweet. This ingested tweet is paired with a range of other tweets to create data for the Fox Network to view via Bluefin’s Signals App—an application that aggregates and displays the information from the

TV Genome specific to that client. And like a biological model, it is open to change depending on when, where, and what people tweet. Thus, it is open ended; the TV Genome is always transforming. This mode of open-ended control works because it does not “require an absolute and total knowledge of all the states of each single component of the system” (Terranova, 2004, p. 119). As more people tweet and as Twitter tweaks its algorithms, the analysis of these tweets has the potential to gain in complexity.

According to Madeline Akrich (1992), “a large part of the work of innovators is that of *inscribing* this vision of (or prediction about) the world in the technical content of a new object” (p. 208, emphasis added). In this way, designers attempt to “define a framework” for how audiences will engage a particular object. Of course, no audience may come forth or they may do something radically different from the intended use, as was the case in how photoelectric light kits made in France were actually used in ancillary markets in Africa (Akrich, 1992). The failure of a particular object to be “correct” for an audience does not signify the end of the road per se. Rather, the experience translates into data to be fed back into the design process where designers redefine “actors with specific tastes, competences, motives, aspirations, political prejudices, and the rest” (Akrich, 1992, p. 208).

In the process of inscribing an object with particular uses, designers “script” potential outcomes. If we focus on the design of an object like a short promotional video, then we get a certain orientation to what design can be. We may think about lighting, actors, editing, rhetorical appeals present via dialogue, and so on. Talking about designer scripts that work in the background forces us to take a different approach. When I talk about background designer scripts in the Twitter–television relationship, I am referring to how user data are ingested, mapped, reduced, and made actionable through various audience retention strategies. Thus, in a sense, these scripts, that is, algorithms, lay dormant, waiting for users to do the work. Background design scripts may best be seen as proto-design, running as a parallel process to the creation of design objects, services, and environments.

The data that algorithms behind the TV Genome collect are used to shape the direction of television companies as they come to grips with an environment that works against dictating windows of distribution. The background algorithms are used to create the structured tracking, personalization, and responsiveness that are becoming an important part of how television relates to digital media environments. Furthermore, the collection of data allows television a richer picture of the rhythms, places, and practices of the everyday lives of audience members. That these data are dynamic offers the potential for an even more complex rendering of our everyday lives as companies “measure” and “adjust” their relationship to audiences. Thus, the moment data are mapped, reduced, and fed back into audience retention strategies is when we can see a logic of soft control.

Conclusion

I have been looking at the role of data as a background script in designing soft control into the relationship of television to the everyday lives of digitally enabled audiences. On one hand, it is frustrating that we cannot know more; no company is going to share its proprietary algorithms or tell you specifically how data become actionable. On the other hand, there are still some important lessons to glean from an acknowledgment these background scripts are in place.

First, the feedback loop between tweets, the TV Genome, and television industry practices is significantly sustained through the role algorithms play in shaping our everyday life. While I have been looking at the role algorithms play in extending the scope of industrial data collection, according to Tarleton Gillespie (2012), “algorithms play an increasingly important role in selecting what information is considered most relevant to us, a crucial feature of our participation in public life” (p. 1). Thus, we have algorithms that read tweets as data on one end, and algorithms that suggest search engine results on Google on the other end.

The important point to note here is how these algorithms work in our everyday life not by hailing us—calling for any particular mode of address—but my working in the background to collect “wild” data from our experiences of being alive and communicating. Eli Parsier (2012), in *The Filter Bubble*, says we tell ourselves a reassuring story. In a broadcast society, editors largely had control of the flow of information. They could tell us when, where, and how. The Internet ostensibly swept these structures away. But rather than the baton of control being passed to us, it has been passed from industrial gatekeepers to algorithmic ones.

Second, I want to point out that the amount of data collected by a company like Twitter (and, remember, they are but one player in this larger field of data collection) helps identify logics of soft control by reinforcing an asymmetry of information between those who hold data and those who do not. The “information flow” goes from our social media work to their databases and not the other way around (Solove, 2004, p. 162).

In the amount of knowable things circulating today—the texts of our everyday lives, or at least the information traces these texts leave behind—we can start to see the way Deleuze’s society of control might work. As entities like the television industry create more sophisticated portraits of whom we are, they arguably gain the upper hand in patterning their practices toward our digital habits. As a nod to Pierre Bourdieu, these corporations know my habitus perhaps better than I do.

Article Notes

- Declaration of Conflicting Interests The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: I, the sole author, agree to this submission and this article is not currently being considered for publication by any other print or electronic journal.
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Notes













- ↵1. For work on intellectual property, see Lawrence Lessig’s *Free Culture* (2004), *Code: Version 2.0* (2006), *Remix* (2008); Adrian Johns’s (2011) *Piracy*; Ted Striphas’s (2009) *The Late Age of Print*; and Rosemary Coombe’s (1998) *The Cultural Life of Intellectual Properties*.
- ↵2. See I. Ang’s (1991) *Desperately Seeking the Audience*. In this book, she points out that the audience as conceptualized by television companies is a discursive construct and that actual audiences are too polysemic to be completely articulated in a closed discursive structure.
- ↵3. For more information on firms like Acxiom and BlueKai, see Joseph Turow’s (2013) *The Daily You*.
- ↵4. Unfortunately, <http://bluefinlabs.com/thesciencebehindit> link is now dead since Bluefin was purchased by Twitter.
- ↵5. See Stephen Fox (1977), *The Mirror Makers*. In this book on the history of creativity and research in the formation of the advertising industry, Fox retells the tale of market researcher James Vicary’s claim that he significantly raised sales of Coke and popcorn by slipping subliminal messages into movies. This claim turned out, surprisingly, not to be true. Also see Charles Acland’s (2011) *Swift Viewing*, where he positions popular understandings of subliminal influence as a way of coming to grips with social change in consumer society, and later in the information age.
- ↵6. Note that cybernetics’ view of machinery is much broader than its popular usage. A machine is anything that can interact and change whether metal or biological.
- ↵7. In addition to scholars who engage with the issue of control mentioned above, see Kevin Kelly’s (1995) *Out of Control: The New Biology of Machines*, Richard Thaler and Cass Sunstein’s (2008) *Nudge*, and Norman Klein’s (2004) *The Vatican to Vegas: A History of Special Effects*.

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DECLINES IN AMERICAN ADULTS' RELIGIOUS PARTICIPATION AND BELIEFS, 1972–2014

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Abstract

Previous research found declines in Americans' religious affiliation but few changes in religious beliefs and practices. By 2014, however, markedly fewer Americans participated in religious activities or embraced religious beliefs, with especially striking declines between 2006 and 2014 and among 18- to 29-year-olds in data from the nationally representative General Social Survey ($N = 58,893$, 1972-2014). In recent years, fewer Americans prayed, believed in God, took the Bible literally, attended religious services, identified as religious, affiliated with a religion, or had confidence in religious institutions. Only slightly more identified as spiritual since 1998, and then only those above age 30. Nearly a third of Millennials were secular not merely in religious affiliation but also in belief in God, religiosity, and religious service attendance, many more than Boomers and Generation X'ers at the same age. Eight times more 18- to 29-year-olds never prayed in 2014 versus the early 1980s. However, Americans have become slightly more likely to believe in an afterlife. In hierarchical linear modeling analyses, the decline in religious commitment was primarily due to time period rather than generation/birth cohort, with the decline in public religious practice larger ($d = -.50$) and beginning sooner (early 1990s) than the smaller ($d = -.18$) decline in private religious practice and belief (primarily after 2006). Differences in religious commitment due to gender, race, education, and region grew larger, suggesting a more religiously polarized nation.

Are Americans less religious than they used to be? In previous research, the answer depended on how religious commitment was measured. Most studies agree that religious affiliation has declined in the United States since the 1970s; for example, more Americans in recent years chose "none" when asked to identify their religion (e.g., [Hout & Fischer, 2002](#); [Lim, MacGregor, & Putnam, 2010](#); [Pew Research Center, 2015](#)). However, several recent studies have concluded that religious service attendance, belief in God, and prayer have not changed or have even increased in recent years (e.g., [Dougherty, Johnson, & Polson, 2007](#); [Presser & Chaves, 2007](#); [Smith & Snell, 2009](#); [P. Taylor, 2014](#); [Wachholtz & Sambamoorthi, 2011](#)). Based on data up to 2008, [Chaves \(2011\)](#) concluded that belief in God and frequency of prayer did not change in the General Social Survey (GSS) since the 1980s. Examining 18- to 24-year-olds in the GSS 1972-2006, [Smith and Snell \(2009\)](#) found only small changes in religious affiliation and service attendance, and no changes in frequency of prayer and belief in God. They concluded that emerging adults "have not since 1972 become dramatically less religious or more secular . . . if such a trend is indeed perceptible, it would seem to be weak and slight" (pp. 99-100). Other sociologists of religion have echoed these sentiments. [Finke and Stark \(1988, 2005\)](#) contended that the overall religiousness of the American public has remained relatively constant as a whole, although fluctuations in affiliation and expression have occurred. Similarly, [Berger's \(1999\)](#) work explored the overall constancy of American religious affiliation over time, with a particular focus on how religiousness moved back to the forefront of political and economic discourse in recent decades—sentiments also echoed in many other seminal works ([Berger, 2011](#); [Berger, Davie, & Fokas, 2008](#)).

Thus, at least up to the mid- to late-2000s, research suggests that Americans' private religious practice and beliefs (e.g., those religious practices, disciplines, and beliefs that may be conducted alone or without explicit religious affiliation) and religious service attendance remained unchanged even as more did not affiliate with a particular religious tradition. Another possibility is that religious belief has been replaced by spirituality ([Fuller, 2001](#); [Saucier & Skrzypińska, 2006](#)). In other words, the prevailing conclusion has been that Americans have remained just as religious and/or spiritual in a private or personal sense, but less religious in a public sense. This may be due to a more general disassociation from large groups—for example, Americans have become significantly less confident in virtually all large institutions from government to medicine ([Twenge, Campbell, & Carter, 2014](#)). Such an explanation would also be consistent with many popular conceptions of religion as a

socially organizing institution (e.g., [Ysseldyk, Matheson, & Anisman, 2010](#)) that transmits cultural values, mores, and rules ([Graham & Haidt, 2010](#)). As societal norms have shifted away from institutional identification to individualism, one would expect commitment to religion, a ubiquitous social institution, to similarly decline. However, it is unclear whether such decreases in external commitment would also be associated with decreases in personal religious involvement or practice.

Despite popular conceptions that public religious involvement has decreased while private expressions of religion and spirituality have stayed about the same, stark distinctions between religion and spirituality may be more theoretical than practical. Although religion and spirituality are known to be distinct constructs (i.e., religion comprises social and ritualized aspects of personal belief, whereas spirituality includes the search for meaning or transcendence in daily life; [Pargament, 1999](#)), these two constructs often overlap, and highly religious individuals often identify as being highly spiritual as well (for a review, see [Hill & Pargament, 2003](#)). Moreover, although some individuals certainly do identify as spiritual but not religious (e.g., [Saucier & Skrzypięska, 2006](#)), a much larger proportion of individuals identify as both religious and spiritual ([Pargament, 1999](#)), and many people have difficulty substantively differentiating between the two on an individual level ([Hill et al., 2000](#); [Zinnbauer et al., 1997](#)). Therefore, as religious commitment has decreased, one may also expect decreases in private religious practice and individual spirituality.

In this article, we seek to examine whether Americans' religious service attendance, religious practice, religious beliefs, religiosity, spirituality, confidence in religious institutions, and religious affiliation have changed since the 1970s, with a particular focus on the years since 2006 and on 18- to 29-year-olds. We take the additional step of calculating effect sizes and performing statistical significance testing to quantify the size of the changes. We draw from the nationally representative GSS of U.S. adults conducted 1972-2014. Because this survey draws from a multiage sample above 42 years, it can isolate the effects of age from those of time period and generation.¹ Thus, unlike some surveys conducted over a shorter period of time (e.g., 7 years: [Pew Research Center, 2015](#)), this data set can determine, for example, if the Millennial generation (born approximately 1980-1994) is less religious because they are young or because of generational or time period change. That is, are Millennials less religious than Generation X (born 1961-1979) and Boomers (born 1943-1960) were when they were 18- to 29-year-olds? This data may also provide an early look at iGen (born 1995-2012) and their religious attitudes.

Changes over time and generations in attitudes, values, and personality traits are rooted in cultural change ([Stewart & Healy, 1989](#); [Twenge, 2014](#)), with cultures and individuals mutually influencing and constituting one another ([Markus & Kitayama, 2010](#)). One cultural change relevant for religious orientation is the rise in individualism, a cultural system placing more emphasis on the self and less on social rules (e.g., [Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985](#); [Fukuyama, 1999](#); [Myers, 2000](#); [Twenge, 2014](#)). Several studies have documented increases in focus on the self ([Twenge, Campbell, & Gentile, 2013](#); [Twenge & Foster, 2010](#)) and declines in focus on institutions, empathy for others, and moral rules ([Kesebir & Kesebir, 2012](#); [Konrath, O'Brien, & Hsing, 2011](#); [Twenge et al., 2014](#)). There are several reasons we would expect religion to decline with greater individualism. First, religiosity implies some level of commitment to a larger group or organization. As [Welzel \(2013\)](#) suggests, the trend in Western societies has been toward more freedom and less commitment to groups. Second, belonging to a religious group may require assent with the group's beliefs, opinions, and practices. This can create tension when differences in opinion arise between an individual and an organization (e.g., [Exline, Pargament, Grubbs, & Yali, 2014](#); [Exline & Rose, 2013](#)). Third, religiosity usually involves some rule-following and submission to authority (e.g., [Graham & Haidt, 2010](#)), another characteristic that goes against emancipation and individualism. Fourth, religion often focuses on concerns outside of the self, such as helping others and serving God (e.g., [Pichon, Boccato, & Saroglou, 2007](#); [Shariff & Norenzayan, 2007](#)). Thus, the increasing individualism of American culture may have produced decreased religiosity among more recent time periods and generations.

Based on previous research and cultural changes, we expect a decline in religious affiliation. We also predict declines in religious service attendance; while religiously unaffiliated Americans may attend services for a time, they may become less likely to do so as they feel more disassociated from religion. Most crucially, we predict declines in more private expressions of religious belief and practice, such as prayer, religiosity, and belief in God, with the declines especially evident among young people. Belonging to a religion and more privately believing in its tenets are traditionally linked (e.g., [Park et al., 2013](#); [Smith, Denton, Faris, & Regnerus, 2002](#)); as more Americans are unaffiliated with religion, a greater proportion may become not just unaffiliated but secular in their beliefs and practices. These declines may be especially evident in recent years and among 18- to 29-year-olds, given the generational and cultural trends toward emphasizing social rules less and individual freedom more (known as "Generation Me": [Twenge, 2014](#); or "emancipative values": [Welzel, 2013](#)). Moving away from social institutions and community engagement would likely detract from one of the key facets of religion as a whole—that is, community involvement and social value transmission.

A secondary question is whether changes in religious orientation over time are caused by time period or generational (cohort) effects. If successive generations are less religious (forming their religious orientation while young and not changing), any decline would be due to generation. If people of all ages have become less religious during certain times, any decline would be due to time period. New hierarchical linear modeling techniques (called APC or age-period-cohort analyses) attempt to separate the effects of age, generation, and time period (Yang, 2008; Yang & Land, 2013). Some have argued that these techniques do not resolve the identification problem that has long plagued simultaneous analysis of age, period, and cohort effects (e.g., Bell & Jones, 2013, 2014); however, these criticisms appear to largely rest on untenable assumptions that are not consistent with basic APC models (Reither et al., 2015). In addition, APC techniques have become widely used. For example, Schwadel (2011) performed an APC analysis on some of the GSS religion variables up to 2006. However, at that time the data included only a handful of Millennials, a generation purported to be less religious; by 2014, however, Millennials were the entirety of 20- to 29-year-olds. In addition, further time period change may have occurred in the 8 years of data available since 2006. Thus, we perform APC analyses to examine whether shifts in Americans' religious orientation are due to generational or time period effects.

In addition, we examine possible moderators of change over time in religious orientation. Trends may differ among men and women, Blacks and Whites, education levels, and U.S. regions, as these groups differ in their levels of religiosity and cultural focus (Blaine & Crocker, 1995; Piff, Kraus, Cote, Cheng, & Keltner, 2010; Plaut, Markus, & Lachman, 2002; R. Taylor, Chatters, Jayakody, & Levin, 1996; Vandello & Cohen, 1999). We theorize that the decline in religious orientation will be larger among demographic groups and regions with higher social power and more individualism, including Whites, men, those with a college education, and living in the Northwest and West, and lower or nonexistent among groups with lower social power and less individualism, including Blacks, women, those without a college education, and the Midwest and South (e.g., Piff et al., 2010; Vandello & Cohen, 1999). Groups with relatively high social power might not see themselves as having a significant need for religion or God, so these groups might pioneer the movement toward less religiosity.

Thus, we have three goals in this article: (a) to perform a comprehensive examination of American adults' religious orientation from 1972 through 2014, with a particular emphasis on 2006-2014 and 18- to 29-year-olds, and including effect sizes; (b) to examine whether these changes are due to generation or time period; and (c) to examine whether the trends differ by gender, race, education, or U.S. region.

Method

Sample

We drew from the GSS, 1972-2014, a nationally representative survey of U.S. residents over 18. Depending on the item, *n*s range between 12,862 and 58,893. As suggested by the GSS administrators, we weight the analyses by the weight variable WTSSALL to make the sample nationally representative of individuals rather than households and correct for other sampling biases. However, these weighted analyses differ only very slightly from unweighted analyses. Also as suggested by the administrators, we excluded the black oversamples collected in 1982 and 1987.

Items

We identified and analyzed all items on respondents' own religious orientation asked in at least six administrations of the GSS. They were as follows:

1. Religious preference: "What is your religious preference? Is it Protestant, Catholic, Jewish, some other religion, or no religion?" We analyzed the percentage of respondents who chose "no religion." Asked 1972-2014.
2. Strength of religious affiliation: "Would you call yourself a strong (Christian, Jew, etc.) or not a very strong (Christian, Jew, etc.)?" Response choices were "not very strong," "somewhat strong," and "strong." Asked 1974-2014.
3. Religious service attendance: "How often do you attend religious services?" Response choices were "never," "less than once a year," "about once a year," "about once or twice a year," "Several times a

year,” “about once a month,” “2-3 times a month,” “nearly every week,” and “every week.” Asked 1972-2014.

4. Belief in the afterlife: “Do you believe there is a life after death?” Response choices were “yes” and “no.” Asked 1973-2014.
5. Believing the Bible is literal: “Which of these statements comes closest to describing your feelings about the Bible?” Response choices were “The Bible is an ancient book of fables, legends, history, and moral precepts recorded by men”; “The Bible is the inspired word of God but not everything in it should be taken literally, word for word”; and “The Bible is the actual word of God and is to be taken literally, word for word.” Asked 1984-2014.
6. Frequency of praying: “About how often do you pray?” Response choices were “never,” “less than once a week,” “once a week,” “several times a week,” “once a day,” and “several times a day.” Asked 1983-2014.
7. Belief in God: “Please look at this card and tell me which of the statements comes closest to expressing what you believe about God.” Response choices were “I don’t believe in God”; “I don’t know whether there is a God and I don’t believe there is any way to find out”; “I don’t believe in a personal God, but do believe in a Higher Power of some kind”; “I find myself believing in God some of the time, but not at others”; “While I have doubts, I feel that I do believe in God”; and “I know God really exists and I have no doubts about it.” Asked 1988-2014.
8. Confidence in religious institutions: “I am going to name some institutions in this country. As far as the people running these institutions are concerned, would you say that you have a great deal of confidence, quite a lot of confidence, only some confidence, or very little in them?” One of the items is “organized religion.” Response choices were “hardly any confidence at all,” “only some confidence,” or “a great deal of confidence.” We excluded “don’t know” and “refused” responses. Asked 1973-2014.
9. Identification as a religious person: “To what extent do you consider yourself a religious person?” Response choices of “not religious at all,” “slightly religious,” “moderately religious,” and “very religious.” Asked 1998 and 2006-2014.
10. Identification as a spiritual person: “To what extent do you consider yourself a spiritual person?” Response choices of “not spiritual at all,” “slightly spiritual,” “moderately spiritual,” and “very spiritual.” Asked 1998 and 2006-2014.

Of these, religious preference, strength of religious affiliation, religious service attendance, and confidence in religious institutions are public religious variables, and belief in an afterlife, believing the Bible is literal, frequency of praying, belief in God, identification as a religious person, and identification as a spiritual person are private religious variables.

Possible Moderators

We analyzed moderation by gender (men vs. women), race (White vs. Black, the only racial groups measured in all survey years), education level (high school graduate and below vs. attended some college and above), and U.S. region (Northeast, Midwest, South, and West).

Procedure

Data collected over time can be analyzed in many ways, including grouping by 20-year generation blocks, by decades, or by individual year. Given our focus on both overall change since the 1970s and change since 2006, we separated the data into 5-year intervals from 1972-2004 and reported data by individual year from 2006 to 2014. We report the effect sizes (d , or difference in terms of standard deviations) and p values for t tests comparing 1972-1974 with 2014 and 2006 and 2014. We also include two figures with all of the year-by-year data for some variables. We report both continuous variables (e.g., the 0-8 scale for religious service attendance) and dichotomous variables (e.g., the percentage who never attend religious services). We use the tables for means and report percentage changes in the text.

For the APC models, we estimated random coefficient models allowing intercepts to vary across time periods (years) and generations (cohorts). Thus, effectively, an intercept (mean religious orientation) score is calculated (using empirical Bayes) for each cohort and each survey year. In addition, a fixed intercept (grand mean) is estimated along with a fixed regression coefficient for age and age squared. This model has three variance components: One for variability in intercepts due to cohorts (τ_{u0}), one for variability in intercepts due to period (τ_{v0}), and a residual term containing unmodeled variance within cohorts and periods. Variance in the intercepts across time periods and cohorts indicates period and cohort differences, respectively (Yang & Land, 2013). Thus, the technique allows for a separation of the effects of generation/cohort, time period, and age. Weighting could not be used for the mixed-effects analyses because proper probability weighting for variance component estimation requires taking into account pairwise selection probabilities, which is not possible in current statistical software.

In describing the trends in the text and tables, we will sometimes use common labels for the generations such as the G.I. or "Greatest" generation (born 1900-1924), Silent (1925-1942), Boomers (1943-1960; some argue 1946-1964), GenX (1961-1979 or 1965-1979), Millennials (1980-1994; for reviews, see Strauss & Howe, 1991; Twenge, 2014), and iGen (1995-2012). These birth year cutoffs are arbitrary and are not necessarily justified by empirical evidence, but are useful shorthand labels for those born in certain eras. Differences among those of the same generation certainly occur, and these can be seen in the tables and figures; we use these labels merely for convenience.

Results

Trends in Religious Orientation

American adults in the 2010s were less religious than those in previous decades, based on religious service attendance and more private religious expressions such as belief in God, praying, identifying as a religious person, and believing the Bible is the word of God (see Table 1 and Figure 1).

Table 1: Religious Orientation Among All Adult Americans, 1972-2014, General Social Survey.

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Figure 1: Percentage of all American adults with no religious affiliation, who never attend services, never pray, do not believe in God, are not religious at all, and are not spiritual at all.

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These findings held when restricted to 18- to 29-year-olds (see Table 2 and Figure 2), demonstrating that Millennials are less religious than previous generations were at the same age.² While religious affiliation and service attendance have been declining since the 1990s, the decrease in more private religious expressions began fairly recently, becoming pronounced only after 2006 (see Figures 1 and 2). Effect sizes ranged from moderate (around $d = .50$; Cohen, 1988) to small (around $d = .20$). The increase in never praying among 18- to 29-year-olds was $d = .80$, equaling the guideline for a large effect.

Table 2: Religious Orientation Among American 18- to 29-Year-Olds, 1972-2014, General Social Survey.

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Figure 2: Percentage of 18- to 29-year-old Americans with no religious affiliation, who never attend services, never pray, do not believe in God, are not religious at all, and are not spiritual at all.

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As found in previous research, fewer Americans now affiliate with a religion. Although the majority of Americans are still religious, three times as many in 2014 (vs. the early 1970s) have no religious affiliation, and twice as many never attend religious services. Fewer have confidence in organized religion; the number who said they had “hardly any” confidence went from 14% in the early 1970s to 24% in 2014, a 71% increase, and those who said they had “a great deal” of confidence was cut in half (from 41% to 20%).

By 2014, the declines in religious orientation extended to more personal and private religious beliefs. Five times as many Americans in 2014 (vs. the late 1980s) never prayed (eight times more among those ages 18-29). Slightly more Americans in 2014 (vs. the 1980s) said they prayed “several times a day” (28%, up from 26%), but the 20% who prayed “less than once a week” in the 1980s became only 11% in 2014, apparently moving to “never” praying (3% in the 1980s vs. 15% in 2014).

Americans in 2014 were less likely to say they believed in God. In the late 1980s, only 13% of U.S. adults expressed serious doubts about the existence of God (choosing one of the less certain response choices such as “I don’t believe in God”; “I don’t know whether there is a God and I don’t believe there is any way to find out”; or “I don’t believe in a personal God, but do believe in a Higher Power of some kind”; these responses were combined into “Do not believe in God” in [Tables 1 and 2](#)). By 2014, however, 22% expressed doubts, a 69% increase. Among 18- to 29-year-olds, 30% had serious doubts by 2014, more than twice as many as in the late 1980s (12%).

Americans have also become less likely to believe that the Bible is the word of God. In 1984, 14% of Americans believed the Bible “is an ancient book of fables, legends, history, and moral precepts recorded by men” rather than the word of God; by 2014, 22% of Americans believed this, a 57% increase. Among 18- to 29-year-olds, 29% believed this by 2014, nearly twice as many as in the late 1980s (15%).

Fewer Americans identify as religious; 62% said they were “moderately” or “very” religious in 1998, compared with 54% in 2014, a 13% decrease. Among 18- to 29-year-olds, 49% said they were moderately or very religious in 1998, compared with 38% in 2014, a 22% decrease. Similarly, those who said they were “not religious at all” increased from 15% in 1998 to 20% in 2014 among all adults (a 33% increase), and from 23% in 1998 to 28% in 2014 among 18- to 29-year-olds (a 22% increase).

Has religiosity been replaced with spirituality? It does not appear so. Identifying as a spiritual person increased between 1998 and 2006, but then declined between 2006 and 2014 (see [Table 1](#) and [Figure 1](#)). In all, 62% identified as moderately or strongly spiritual in 1998, compared with 70% in 2006 and 65% in 2014; thus, identification as a spiritual person increased 5% between 1998 and 2014, a small increase compared to the larger declines in religious belief and practice. In addition, the percentage of 18- to 29-year-olds identifying as moderately or strongly spiritual declined 6%, from 50% in 1998 to 47% in 2014. In 1998, 14% of 18- to 29-year-olds said they were not spiritual at all, rising to 19% by 2014, a 36% increase (see [Table 2](#) and [Figure 2](#)). Thus, there is some suggestion that young people were less spiritual in 2014 versus 1998, though the decline was not statistically significant. In 2014, fewer 18- to 29-year-olds (Millennials) identified as spiritual (47%) than those 50 and above (72%). This suggests that identification as a spiritual person may continue to decline.

One increase in religious belief did emerge: Slightly *more* Americans believe in life after death (see [Tables 1 and 2](#)). Thus, more Americans believe in life after death even as fewer belong to a religion, fewer attend religious services, and fewer pray. In the 1970s, only about 7% of Americans never attended religious services but nevertheless believed in life after death; by 2014, twice as many (15%) showed this disconnect between behavior and belief, and 21% among young people.

Mixed-Effects Analyses to Separate Time Period, Generation, and Age

First, we performed a principal components analysis to determine whether the religion variables could be combined into a composite variable for use in the mixed-effects APC model analyses; combining these variables into an index increases internal reliability over single items. (The religious person and spiritual person variables were not asked in enough years to be included, so we limited this analysis to the other eight variables.) We used the continuous form of six variables (strength of religious affiliation, religious service attendance, frequency of prayer, belief in God, belief in the Bible as literal, confidence in religious institutions), with religious affiliation (none vs. affiliated) and belief in an afterlife (yes vs. no) dichotomous. We included only respondents who completed at least four of the eight items. [Horn’s \(1965\)](#) parallel analysis of $n = 8,513$ cases with no missing values indicated that only a one-component solution had an Eigenvalue better than chance levels. Moreover, all variables loaded highly onto a single principal component explaining 46% of the variance, with a model fit of .94 (on a 0-1 scale).

Using the omega function available in the {psych} package in *R* (Revelle, 2015) indicated that 50% of the common variance in the item scores could be accounted for by a general factor of religious orientation. In addition, the omega coefficient, which is the best estimator of single factor saturation (see Zinbarg, Revelle, Yovel, & Li, 2005), was .70 suggesting that a single factor accounted for much of the variability in these items. The principal components analysis indicated a single principal component across the decades of data collection. Therefore, all variables were z scored, and a composite religious orientation variable was formed ($n = 52,497$, $M = 0.01$, $SD = 0.69$, $\alpha = .83$).

Next, we performed mixed-effects analyses to separate the effects of time period, generation, and age on the composite variable.³ The *SD* in intercepts for period (survey year) was .12 [.09, .16] and for cohorts was .03 [.00, .04], suggesting that almost none of the variability in religious orientation was due to cohorts. There was also a statistically significant effect for age ($b = .011$ [.010, .014]) indicating that older individuals were higher on religious orientation (thus, religious orientation increases about $d = .01$ with each year of age). There was a weaker quadratic effect of age ($b = -.00005$ [-.00008, -.00002]) indicating that the linear effect is not as strong at older ages.

Overall, there was a marked time period effect when generation and age were controlled (see Figure 3). Religious orientation declined $d = -.38$ from 1973 to 2014, and $d = -.15$ between 2006 and 2014. The generational effect was weaker, with religious orientation declining the most between those born in the 1930s and the Millennials born in the 1980s-1990s ($d = -.06$).

Figure 3: Adult Americans' religious orientation by generation (cohort/birth year) and time period (survey year), in mixed-effects analyses separating time period, generation/cohort, and age.

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Although religious orientation formed a single factor, we also examined whether the pattern of change was different for public (affiliation, strength of affiliation, service attendance, confidence in religious institutions) and private (belief in the afterlife, belief that the Bible is literal, praying, belief in God) religious practice. Similar to the analyses with one combined variable, time period explained more of the change than birth cohort for both public and private religious practice. However, the pattern of change and its size differed (see Figure 4). The decline in public religious practice was larger ($d = -.50$ between 1972 and 2014, and $d = -.42$ between 1984 and 2014) and began sooner (with the consistent decline beginning around 1991-1993). The decline in private religious practice and belief was smaller ($d = -.18$ between 1984 and 2014) and began later (with a consistent decline beginning around 2006-2008; $d = -.12$ of the change occurred between 2006 and 2014).

Figure 4: Time period changes in adult Americans' public religious practice (left) and private religious belief/practice (right), in mixed-effects analyses separating time period, generation/cohort, and age.

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Moderators of the Decline in Religious Orientation

We next analyzed whether the time period and cohort decrease in religious orientation (controlled for each other and age) differed based on race, U.S. region, sex, and education level. The trends were moderated by race, with no change in religious orientation for Black Americans ($d = .00$) and a large decrease among White Americans ($d = -.48$). In the early 1970s, Whites and Blacks differed little in religious orientation ($d = .15$, 1973-1974, with Blacks higher), but by 2014, there was a marked racial difference, with Blacks higher ($d = .67$). Cohort effects were weak for both Whites and Blacks.

The effects also differed by U.S. region, with the decline in religious orientation largest in the West ($d = -.42$), Northeast ($d = -.27$), South ($d = -.10$), and Midwest ($d = -.07$). However, Midwesterners showed a pronounced cohort effect from those born in the 1880s to those born in the 1990s ($d = -1.15$), compared with the nonexistent cohort effects in the other three regions. In the early 1970s, Southern residents were only somewhat more religious than those in the Northeast ($d = .23$), but by the 2010s, Southerners were moderately higher in religious

orientation compared to Northeasterners ($d = .40$). The West was the least religious region in both eras, with Westerners lower than Southerners in 1972 ($d = -.47$) but even more so in 2014 ($d = -.78$).

An intriguing pattern appeared when examining men and women separately: The time period difference was somewhat larger for women ($d = -.28$) than for men ($d = -.12$), but men showed a pronounced cohort decline in religious orientation ($d = -.93$), while women showed virtually no effect for cohort ($d = -.02$).

Similarly, the time period decline in religious orientation was somewhat larger among those who had not attended college ($d = -.28$) compared with those who attended at least some college ($d = -.15$). However, there was a moderate cohort decline in religious orientation among those who attended college ($d = -.39$) and virtually none for those who did not attend college ($d = -.02$). Overall, gender, race, education, and regional differences in religious commitment grew larger between the 1970s and the 2010s or between cohorts born in the late 19th century and those born in the late 20th century.

Discussion

By 2014, American adults were less likely to pray, believe in God, identify as religious, attend religious services, or believe the Bible was the word of God than they were in previous decades. Thus, the decline in religious affiliation found in previous research has now extended to religious service attendance and, by 2008 and afterward, to personal religious belief and practice. The only exceptions were an increase in belief in the afterlife and a small increase in identifying as spiritual between 1998 and 2006 limited to those above 30. The declines in religious orientation were particularly striking between the early 2000s and 2014 and among those 18 to 29 years old. Nearly a third of Millennials are not just religiously unaffiliated, but secular in other ways (doubting the existence of God, believing the Bible is a book of fables, not attending religious services, describing oneself as “not religious at all,” never praying), and one out of five also say they are “not spiritual at all.” Although religious orientation is often conceptualized as a multidimensional concept (e.g., [Cornwall, Albrecht, Cunningham, & Pitcher, 1986](#); [Idler et al., 2003](#)), the present data indicated that declines in religious affiliation extended across various measures of religious participation and commitment. The decline in religious affiliation and participation has now extended to private practices and beliefs, though the decline in private religious practice and belief is smaller and began later than the decline in public religious practice.

Mixed-effects analyses demonstrated that these trends were primarily due to time period. Millennials were less religious than their Boomer and Generation X predecessors were at the same age, demonstrating that their lower religious commitment is not solely due to their developmental stage of young adulthood. However, this appears to be due to a time period effect in which all generations are growing less religious over time. This suggests support for the idea that growing individualism has been accompanied by less religion on a larger cultural basis, with a larger linear cohort decline in some groups (men, Midwesterners, the college educated). These findings contradict popular culture notions of generations cycling back and forth with, for example, a less religious generation being followed by a more religious one. For example, generational theorists [Howe and Strauss \(2000\)](#), who adhere to the theory that generations come in cycles, proposed that Millennials would be more religious than GenX'ers. However, these data strongly suggest that the opposite is true.

Men and women, Blacks and Whites, the college educated and not college educated, and the South versus the Northeast are becoming more polarized in their religious orientation: While differences in religious commitment between these groups were small during the 1970s, they have grown larger in recent years and with recent cohorts. The decline in religious commitment was most pronounced among men, Whites, and those in the Midwest, Northeast, and West, and was nearly absent among Black Americans and small in the South. It appears that groups with relatively high social power are less likely to see themselves as having a significant need for religion or God in recent years.

In comparison with those from earlier years and generations, American adults in recent years and generations were slightly more likely to believe in an afterlife. Combined with the decline in religious participation and belief, this might seem paradoxical. One plausible, though speculative, explanation is that this is another example of the rise in entitlement—expecting special privileges without effort ([Campbell, Bonacci, Shelton, Exline, & Bushman, 2004](#); [Twenge & Foster, 2010](#)). Entitlement appears in religious and spiritual domains when people see themselves as deserving spiritual rewards or blessings due to their special status. Entitlement centered on afterlife beliefs could be seen as a modern rendition of Pascal's wager, in which the individual observes that believing in God and a positive afterlife has few downsides, but not believing has the major possible downside of

condemnation to eternal suffering (Hájek, 2003). However, the current data make it difficult to determine the cause of rising belief in the afterlife.

Limitations and Future Directions

Using the GSS data set has several major advantages, including the ability to examine trends among carefully sampled U.S. adults over long periods of time. Nonetheless, this form of research also has its limitations. Responses are limited to self-report, and measures must be brief. As such, the GSS does not provide the opportunity for nuanced or in-depth measurement of specific ideas of interest over time.

Principal component and omega analyses demonstrated that a single factor captured the eight religious orientation variables. Although religiosity is usually conceptualized as multidimensional (Cornwall et al., 1986; Idler et al., 2003), in this data set, the majority of variation in religious orientation was determined by a single factor. We tried to strike a balance between internal reliability and diversity among individual items by presenting analyses of single items in the tables and focusing the APC analyses on the composite measure and on the public and private practice measures.

Our focus here was on individuals in the United States, so cross-cultural studies should examine temporal trends in religious orientation in other countries. Religious groups may also differ in how they manage the discrepancy between religious participation and afterlife beliefs, based on teachings about the afterlife and whether (and how) the afterlife is connected with choices or behaviors during this life.

Conclusion

The 2010s are a time of tremendous change in the religious landscape of the United States. Although the majority of Americans are still religious, the declines in public religious affiliation observed in previous research have, by 2014, extended to private religious belief and action (such as prayer, belief in God, and identifying as religious). This decline was not replaced by a substantial increase in those identifying as spiritual. The slight increases in afterlife belief represent a potentially important exception to this pattern. Overall, the data suggest a pervasive decline in religious participation and belief among Americans, with a burgeoning minority becoming decidedly nonreligious.

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Notes

- ¹ Birth cohort refers to everyone born in a given year, and generation to those born within a specified period. Both refer to the effects of being born during a certain era and thus are thus somewhat interchangeable; we will use the term *generation* most of the time but will use birth cohort when we are specifically referring to birth year. Generational labels (such as Boomers and Millennials) use arbitrary birth year cutoffs; we use these labels only for ease of presentation.
- ² In the 2014 survey year, the 18- and 19-year-olds were born after 1995 and thus are iGen instead of Millennials. The *n* of 18- to 19-year-olds was too small to justify a separate analysis (e.g., *n* = 51 in 2014). As a proxy, we examined 18- to 22-year-olds (*n* = 153 in 2014; total *n*1972-2014 = 4,927), which in 2014 includes those born 1992-1996 (and thus, those at the cusp between Millennials and iGen). In most cases, the decline in religious orientation was even more dramatic among 18- to 22-year-olds than among 18- to 29-year-olds. For example, the percentage of 18- to 22-year-olds who reported no religious affiliation rose from 11% in 1972-1974 to 36% in 2014; the percentage who reported they never prayed rose from 4% in 1980-1984 to 28% in 2014; the percentage who said they were “not spiritual at all” rose

from 13% in 2006 to 25% in 2014. Belief in God declined $d = -.54$ (1988-2014), being a spiritual person $d = -.21$ (1998-2014), and attendance at religious services declined $d = -.48$ (1972-2014). This suggests that iGen will continue the decrease in religious orientation rather than reversing it, even in spirituality.

- 3. Some controversy has surrounded the issue of which intervals to use in APC models (Bell & Jones, 2013, 2014). We analyzed the data in 2-year, 5-year, and 10-year intervals, and found that they all produced very similar results.

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ON LIKE DONKEY KONG: HOW A DUBIOUS SUPER PAC BOOSTED A QUESTIONABLE PENNY STOCK

By Robert Faturechi and Derek Willis
Published May 27, 2016 by *ProPublica*

A little more than a year ago, Hillary Clinton's imminent entry into the race for the Democratic presidential nomination was setting off political and financial ripples around the country. One of the most unlikely was a spike in the stock price of an obscure Las Vegas company that once built tables for beer pong.

The company, CrossClick Media, had been issuing press releases for months, saying it had won a contract to run call centers and other services for a super PAC called Voters for Hillary. Getting hired by the PAC was "a milestone" for CrossClick and would lead to growing revenue "predicated largely on Ms. Clinton becoming a Presidential candidate and the Company pursuing other clients for our services," the firm's chief executive had declared in December 2014.

Excited posts about CrossClick's bright future started filling Internet message boards popular with investors in so-called penny stocks, which, like CrossClick, trade for less than five dollars per share.

“Soon the 1st lady announces her candidacy and it’s on like Donkey Kong,” read a comment posted March 28, 2015, on a site called InvestorsHub. “Hope you have some shares :)”

Days after Clinton announced, a person with the same user name wrote, “We are in the midst of our biggest gain day yet. You’re close to changing your life, so hang tight! XCLK is the new hot riser!”

CrossClick’s stock (listed as XCLK on the over-the-counter market) was indeed rising. By May 6 it had shot up about twelve-fold from where it had been hovering. Tens of millions of shares traded hands on some days, meaning anyone who sold at the peak could have made tens of thousands of dollars in profits.

It appeared to be a big success. But a closer look at the company and the PAC suggests a different story. Operating in lightly regulated areas of Wall Street and politics, the two entities were closely entwined and their finances weren’t what they seemed.

CrossClick’s shares have sunk back to being nearly worthless, and one of its executives recently described it as insolvent in court records. Meantime, federal campaign reports indicate that Voters for Hillary has spent no money supporting Clinton, or any other candidate for that matter. The great majority of the approximately \$500,000 it raised before Clinton announced came in the form of loans, not donations, most of it from registered Republicans. A review of the PAC’s finances shows it flouted federal campaign finance rules and that some of its lenders or their spouses have faced allegations of securities fraud.

The links between the company and the PAC show up in financial and political filings. The woman who effectively controls CrossClick is married to the head of the PAC. The PAC’s treasurer is the managing member of a firm that had been another major CrossClick shareholder of the company.

It’s unknown who, if anyone, sold CrossClick’s stock at a profit during the spike in its price. Such trades are generally not public unless made by a senior officer or someone with 10 percent of all shares. CrossClick’s latest disclosures contain no such notice. The company has made no filings with the Securities and Exchange Commission since November, and its last annual report covered the period ending in December 2014. Kurt Kramarenko, the CEO, didn’t respond to messages left at numbers associated with him.

Milton Ault III, the chairman of the board for the PAC, said in an interview that the political group wasn’t set up for the purpose of boosting CrossClick’s stock. Ault said he helped establish the PAC — created in 2014 as the Foundation for a Greater America — because he wanted to expand access to health care and help get Clinton elected. He acknowledged the PAC failed to effectively spend money in support of the former Secretary of State’s campaign.

Ault said the PAC hired CrossClick to assist a company that was developing call centers to back Democrats.

“I know the people who run it and I wanted to see them successful,” Ault said. “What’s wrong with that?”

As a super PAC, Voters for Hillary came under less-stringent federal regulations than other types of political committees. The Supreme Court’s landmark 2010 Citizens United decision paved the way for such groups, which must disclose their donors but, unlike candidates and regular PACs, can accept contributions of unlimited amounts.

Similarly, penny stocks are highly speculative investments that don’t have the same disclosure requirements of larger companies traded on major stock exchanges. In some instances, U.S. officials have accused brokers and others of taking steps to artificially boost penny-stock prices, then selling out and leaving fellow investors holding the bag when share prices plummet, a gambit known as pump-and-dump.

Christine Parlour, a business school professor for the University of California at Berkeley, who reviewed the CrossClick filings at ProPublica’s request, said the company’s activities are “really, really, really dubious.” She said CrossClick has “absolutely no revenue and no business plan. They’re shuffling paper around.”

Sam Antar, who became a Manhattan-based securities fraud expert after being convicted in the 1990s in connection with a stock market scheme, said the strategy was novel.

“I have never seen anything like that,” Antar said. “I’ve never seen a super PAC used to promote a penny stock.”

Billions of Shares

CrossClick first sold stock to the public in 2010 under its then-name of Southern Products Inc. It segued from beer-pong tables to other sectors, including consumer electronics, before announcing its deal to provide Voters for Hillary with call center services in late 2014.

The company had about 170 million shares outstanding in mid-2014, trading at a price as low as a hundredth of a cent. The number of outstanding shares grew as the political season began, increasing to 2.6 billion by the end of April 2015.

Records show the PAC paid the company close to \$73,000 in all. But they also show that in the months after Clinton announced her candidacy CrossClick paid roughly the same amount back to the PAC.

Asked by ProPublica to review the filings, Antar, the securities fraud expert, said they were “disturbing to say the least.” He added, “You don’t pay someone to pay you back. It’s what we call a round-trip transaction.”

The controlling shareholder of CrossClick is Carson City, Nevada-based Mckea Holdings, according to CrossClick’s filings with the Securities and Exchange Commission. The managing member of Mckea Holdings is Kristine Ault, wife of the PAC’s chair, Milton Ault.

Ault said his wife’s company didn’t sell any of its shares in CrossClick and that the Aults lost money on their investment in the company.

Another major shareholder of the company had been Finiks Capital LLC, a Newport Beach, California-based firm whose managing member is James Hodgins, an SEC filing shows. Hodgins’ LinkedIn page also describes him as a general partner of Mckea Holdings.

Finiks and Hodgins also had multiple ties to Voters for Hillary. Hodgins was listed in FEC filings as the super PAC’s treasurer. Finiks [provided \\$6,500 in seed money](#) to the PAC. Then, before Clinton formally entered the race, the PAC loaned Hodgins’ firm \$242,000 to be invested in small-cap equities, the PAC told the FEC. No rules prevent a PAC from making such a loan.

Most of the money was [loaned in November 2014](#), but the group did not disclose the loans to the FEC during the reporting period in which they occurred, as required by law. Instead, they were disclosed months later, in an amended report filed soon after Clinton announced and CrossClick’s stock was showing signs of life. The PAC has not filed required financial disclosure forms [since July 2015](#), so it’s not known if those loans have been paid back.

The loans that Voters for Hillary gave to Finiks represented more than a third of the money the PAC had collected.

Hodgins could not be reached for comment.

One of the principal lenders to Voters for Hillary was Judson Church, a New Jersey investor who gave [\\$250,000](#) to “provide liquidity during pre announce for Hillary,” according to FEC filings. A public records database shows Church has registered before as a Republican. He could not be reached for comment.

Another loan, for [\\$200,000](#), came from Mary Coons, who is identified in FEC records as a student and housewife in Hartford. A public records database also lists her as a registered Republican. Her husband is William Coons III, a stockbroker who the SEC once described as playing an integral role in a market manipulation scheme in which a stock was pumped up with false publicity, then sold to the public for inflated prices.

Ault confirmed that William Coons is Mary Coons’ husband, and pointed out that the SEC case against William Coons was dropped. Executives at the company involved settled with the government without admitting wrongdoing in 2007.

In 2009, allegations that William Coons made material misrepresentations to a client led to a \$925,000 settlement. More recently, he was temporarily suspended by the self-regulating body for securities brokers over allegations that he sold \$2 million in promissory notes after overstating the financial health of their issuer, records show. Neither Coons could be reached for comment.

Another lender was Kyleen Cane, a Nevada attorney who provided \$10,700, paying for one of the PAC's early expenses directly on her credit card. Cane was charged in a federal indictment unsealed in Brooklyn, N.Y., last year relating to allegations that she was involved in a \$300 million pump-and-dump scheme that left elderly investors with worthless shares. Federal authorities have alleged that the defendants in the case, which is ongoing, concealed their ownership interests, released false press releases and issued misleading SEC filings.

Cane declined to comment through her attorney, who said his client denied the allegations in the indictment.

"I Have People I Call"

Candidates sometimes lend money to their own political committees, but super PACs are typically funded by big contributions from wealthy donors who don't expect the money back. A ProPublica analysis of FEC filings found that no other super PAC has received more in loans or has relied on loans for such a large percentage of its revenue. Only five PACs active during the 2016 cycle have received six figures in loans, and Voters for Hillary is the only one to already begin repaying them. It's also rare for super PACs to make loans.

Ault said the PAC's lenders were either Clinton backers, or simply looking to profit from the interest rates the committee agreed to, which were as high as 18 percent. "I've been on Wall Street for a long time. If I want to raise money, I have people I call and they know people," he said.

In 2012, Ault faced allegations that he made transactions in customer accounts without the customers' consent or knowledge. The Financial Industry Regulatory Authority, the independent self-regulating body for securities brokers, fined him \$75,000, suspended him for two years from associating with members of the organization and ordered him to pay more than \$300,000 in restitution to investors.

Gary Gottlieb, a CrossClick executive, said Ault's wife's company became a controlling shareholder in October 2014, at which time Ault, who had been consulting for the company, pitched the idea of entering into a major deal with the PAC. He said the press releases touting the contract were not intended to boost the stock.

"I really never have and didn't much care for the stock price," he said. "It really didn't play for the most part into how we ran the business. We were interested in generating revenue... We were a real company, we wanted to expand."

He could not explain why his company paid money back to the PAC after Clinton announced, as reported in FEC filings.

The FEC has come under fire for what some critics call its weak oversight of super PACs. In this case, the FEC fined Voters for Hillary \$9,800 for one of its blown deadlines, but public filings reveal no action for other missed filings, omissions and oddities. The FEC caught the initially unreported loans to Finiks and demanded an explanation, but the PAC never responded and FEC records show no follow up so far.

Another potential problem for the group is that it does fundraising under the name Voters for Hillary. Super PACs cannot coordinate with candidates' campaigns; speaking generally, Judith Ingram, a spokeswoman for the FEC, said independent political committees are barred from using candidates' names, except under a few special conditions.

None of those conditions apply to Voters for Hillary. Brian Fallon, a spokesman for the Hillary Clinton campaign, didn't respond to a request for comment on the PAC.

There's no sign the movements of CrossClick's stock have drawn regulators' attention. Kevin Callahan, a spokesman for the SEC, which has filed lawsuits in pump and dump cases, declined to comment on CrossClick.

One stockholder, KBM Worldwide, has filed a lawsuit alleging the company manipulated its share price. According to SEC filings, KBM, a Great Neck, N.Y., firm that invests in small public companies traded over-the-counter, essentially lent CrossClick money in exchange for shares. In its lawsuit, KBM claims CrossClick manipulated its stock price to avoid repaying the loan. Ault called the lawsuit baseless.

Other investors have gone to CrossClick's Facebook page or investor message boards to complain about the company.

“Thank you for the tax write off of 2015,” wrote one, presumably referring to his lost investment. “Enjoy our cash!!!”

Gottlieb, the CrossClick executive, said he had no idea who might have profited by selling the company’s stock last year following publicity about its deal with the PAC.

“It’s the marketplace, dude,” he said.

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THE PRODUCTION OF COMEDY: THE JOKE IN THE AGE OF SOCIAL MEDIA

By Paul Sturges
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Abstract

The joke is an essential comic format, and since great volumes of jokes circulate unattributed and without explicit context, the question of their origin requires answering. The current production of jokes is explored in this article, using interviews with stand-up comedians and the current literature of comedy. Comedians reveal a serious devotion to their joke writing, spending working time trawling their own experience and cultural exposure for potentially comic material which they then can structure as jokes. In carrying out this task, they are strongly concerned that the material they create will represent a message that is true to themselves (or “authentic”) rather than merely amusing. They use social media to test material and build their profile with potential audiences. In doing so, they accept the collateral effect that their jokes will quickly enter the communally owned resource of comic content that circulates orally and electronically.

Introduction

This article explores the processes by which a specific form of new content is generated. The form is comedy, as represented by the joke. Two intermingled themes dominate this exploration: comedians’ need for their jokes to be recognized as their own personal (or authentic) creations, and the media environment in which the production of comedy is shaped. Omid Djalili’s comment on his own performance “This shit doesn’t write itself” (Nottingham Playhouse, February 20, 2012) introduces the topic very effectively. If comedy doesn’t write itself, where does it come from? Freud was interested in precisely this question. He remarks that “The great majority of jokes . . . are circulated anonymously; one would be curious to learn from what sort of people such productions originate” (Freud, 1905/2002, p. 193). This was precisely the source of the author’s own interest in the question when on the school playground in the 1950s he heard jokes that had clearly been given an elaborate structure by someone who fully understood how to contrive something that used conventional comic technique to prompt laughter. At the same time, they were of such infantile stupidity and filthiness that it was impossible to believe that they had ever been intended to appear in print or be performed in front of a paying audience, live or broadcast. Both Freud and the author were essentially asking their question in a pre-mass communication environment when most jokes were normally an anonymous oral phenomenon.

Freud (1905/2002) is still probably the most quoted authority on the nature of the joke itself. In his second chapter, on The Technique of Jokes, he discusses them as a combination of [comic] technique and [humorous] thought. The thought is a perception of something anomalous whether in language (the sort of verbal coincidence

that makes a pun), human behavior (someone's quirks or tics), beliefs, relationships, political and social circumstances, culture both high and low, religion, and science. The comic technique is the presentation of this perception in a way that points up what the comedian identifies as its humorous qualities. The technique is most commonly structural and verbal, although comedians emphasize and illustrate their jokes with facial expressions and their body language. Even the most inspired and best structured joke is usually most effective when delivered with the judgment and timing of a practiced comedian and when emerging convincingly from a natural or well realized comic persona. What Freud said in 1905 holds true even today.

The second half of the 20th century and the beginning of the 21st has become the era of the stand-up comedian (a performer who literally stands in front of an audience to deliver comic material). In this era it is possible to uncover much more about the creation of comic content than is true of earlier periods. In the United Kingdom particularly, and elsewhere to a significant but lesser extent, there is an enormous output of comedy in a range of different communication formats. Much of this is created by the stand-up comedians who perform it. It is not especially difficult to obtain insights into the creative processes of stand-up comedy. Many of the current creators of comedy are very self-conscious and open about this. Twenty-first century comedians would like to think that their jokes are correctly attributed to them and that their professional skills and abilities are properly understood. Jokes still circulate unattributed, with the Internet as chief medium for this. But the nature of the medium often permits anyone who is sufficiently interested to trace them back to a specific creator. An effect of this is that writers can now be more effectively judged as artists who make authentic personal statements through their comedy. What follows will explore the outpouring of new comic content, as far as possible through the words of comedians themselves, with the themes of media influences and authenticity as the main foci.

Methodology and Literature

The method adopted here is to develop a narrative in the manner usual in historical and literary studies. Use is made of original testimony derived from the author's ongoing program of interviews with comedians, earlier examples of which provided the evidence for a previous article ([Sturges, 2010](#)). In what follows, the date and location of an interview is given on its first use in the text, but not subsequently. Effectively, a small number of interviews and conversations is used to suggest something about the activity of a large community of performers. An estimate would suggest that Britain has hundreds, maybe thousands, of professional comedians constituting a higher number per capita than any other country, including the United States. To place this in proportion, the 5 million Danes support as few as 20 to 30 full-time comedians ([Russell, 2013](#)). Making a clear distinction between stand-up comedians and comic performers of theatre plays and films or radio and TV series and sketch shows is not possible. There is too much overlap. However, the main focus here is on individual comic performance rather than scripted sketch and full-length drama comedy on stage, radio, TV, and movies. We should, however, note that stand-up comedy routines are also recorded and broadcast on radio and TV and sold as videos.

In addition to interview material, much of the argument developed here is based on a reading of selected titles from the literature of comedy. Naturally using the literature begins with the essential insights provided by the scholarly classics. [Freud \(1905/2002\)](#) has already been cited and there is [Bakhtin's \(1968\)](#) analysis of carnival and [Legman's \(1968\)](#) tireless cataloguing of, and commentary on, the dirty joke. More recently, the literature of comedy has grown swiftly. Works by [Moreall \(1983\)](#), [Palmer \(1994\)](#), [Jacobson \(1997\)](#), and [Lockyer and Pickering \(2005\)](#) are worth mentioning as providing particularly relevant context. [Henkle \(1980\)](#) sets English popular comedy in a cultural context, as does [Medhurst \(2007\)](#) who draws on a rich selection from the wealth of recent commentary. Specifically on the joke, [Holt's \(2008\)](#) elegant essay illustrates the form very effectively. A working comedian's thoughts on the subject can be found in [Carr and Greeves \(2006\)](#). This is very definitely not a scholarly work, and indeed much of the source material for a study such as the present one is popular in intent rather than scholarly. Thus, there are relevant general accounts of comedy during the period from [Nathan \(1971\)](#) and [Fisher \(1973\)](#). There is an account of a pioneering scriptwriting collective from [McCann \(2006\)](#); many textbooks on scriptwriting such as [Wolfe \(1992\)](#); and others on performance, of which [Ritchie \(2012\)](#) is a recent example. The outstanding contribution to this literature, however, is the remarkably candid and informative commentary on stand-up comedy of the performer and writer [Stewart Lee \(2010\)](#). What Lee does is to annotate transcripts of his own live comedy performances with a dense body of comments, explanations, confessions, challenges, and additional comic content. His contribution to the literature of stand-up comedy, and comedy in general, is a landmark.

Comedy and Broadcast Media

Before examining the current mode of production of comedy, it is necessary to look back at the immediate past. The past 70 years has seen the mutation of comedy from an art or entertainment performed entirely to live audiences to a form also disseminated by mass media and now, in particular, by social media. This process of change took place in the mid-20th century. In the 19th century, comedians were heard in the music halls: performance spaces known for their vulgarity and vitality and found all over Britain. Vaudeville was probably the closest American equivalent. Music hall declined and died away in the early 20th century, with variety theatre providing a new outlet for comedy. Variety in turn declined, but this time in competition with the early manifestations of broadcasting in the second half of the century. Live comedy in the United Kingdom largely retreated to the northern workingmen's club circuit. As will be explained later, the comedy of the clubs was generally considered unsuitable for media dissemination. Mid-century radio and TV essentially incorporated the blander and more acceptable content that characterized the variety tradition into sketch shows and situation comedy. With the exception of the clubs, comedy writing and performance continued to be driven by broadcast media until social media and a new comedy club circuit stimulated the fresh waves of comedy that are the subject of this article.

It is more or less a cliché that before mass media a comedian could build a long and successful career with little more material than was needed for a single performance, which could be presented in front of different audiences up and down the country. It might be a cliché, but the evidence suggests that it is essentially true. George Robey, 1869-1954, known as the Prime Minister of Mirth, was so preeminent in the musical hall days that detailed commentary on his comic style and content has survived to be collated, for instance by [Harding \(1990\)](#). What becomes immediately obvious is that Robey did not depend on the strength of his jokes: It was his comic persona, his mode of delivery, and his songs, linked by comic patter, that were the source of his success. Audiences regarded this patter as sublimely funny and it is here that we might expect to find jokes. However, to the modern reader, transcripts of his material contain hardly any. He interacted with the audience through poses, gestures, facial expressions, and indignant accusations that they were reading unintended meanings into what he said.

A very different set of demands began to apply in comedy in the 1940s and 1950s. After the foundation of the British Broadcasting Corporation (BBC) in 1923, variety, as an entertainment form, transferred to radio more or less intact. The strains this created for comedians were apparent from the beginning, with an official view from the BBC in 1931 being that "few comedians are capable of writing their own material and the dearth of clever humorous writers is even greater" ([Parker, 1977](#), p. 41). Comedy was nevertheless successful in radio. During the 1939-1945 War, comedy programs, most notably *It's That Man Again* (frequently referred to as *ITMA*), were scheduled almost every evening. The extent to which the catchphrases of broadcast comedians became part of the currency of everyday conversation shows how popular comedy was, and why it was regarded as an important contribution to national morale. The mass taste for radio comedy that had been nurtured in war time meant that in the post-war years, there was a continuing need for new comic output. Some of the response was predictable, drawing on the undemanding merriment, catchphrases, wordplay, and stereotypical characters already popular. This material was fed into half hour shows, or slots in longer radio variety programs, and used sketches, conversations, and monologues to deliver a flow of jokes.

Some of the material was developed by the performers themselves, but some was from writers who provided material of differing levels of quantity and quality. Thus Bob Monkhouse began his career in comedy as a teenager in 1945, selling pages of his jokes to comedians for a few shillings at theatre stage doors ([Monkhouse, 1993](#)).

The career of Frankie Howerd exemplifies the struggles of a great performer who was not himself a writer. During his short first radio season in 1946, he effectively used up the entire resources of material that he had been touring around variety theatres for years. At first his response was "studying a pile of joke books, cannibalising their contents and then inserting enough stutters, hesitations and digressions to ensure that every single joke could be relied on to go a long, long way" ([McCann, 2004](#), p. 80) Eventually Howerd's improvised research proved inadequate for his needs and in November 1947 he hired Eric Sykes to write for him. Howerd understood his debt to Sykes and those who wrote for him subsequently. "When it came to writers, he knew that no other comedian in the country had shown them, both as individuals and as members of a profession, so much trust, respect and support" ([McCann, 2004](#), p. 163). Howerd and his writers later successfully adapted to television. BBC Television, which had a tentative beginning before the war, began to broadcast in earnest after the end of hostilities, but did not become a significant vehicle for comedy until the 1950s.

What was distinctive about the early years of mass media, compared with the previous age of live performance, was that the creation of comedy became a major aspect of performers' work, and indeed the whole profession of the scriptwriters who served them. This theme of comedy writing as work has become even more significant in the period as stand-up comedy has become the dominant mode. What has changed in the age of stand-up comedy is that the balance has shifted toward a concept of the comedian as a kind of *auteur*. There is thus a tension that will be apparent in the following sections between the creation of jokes as a form of artistic endeavor and as an occupation serving the demand for novelty of mass media audiences. The contemporaneous development and growth of social media has both raised levels of demand and permitted the comedian to interact with audiences in a way that offers unprecedented reach and speed.

The Joke in Stand-Up Comedy

Probably the dominant theme of commentary on comedy today is the search for what we will call "authenticity." An overarching idea of what authenticity might mean emerged in its British version with the "alternative comedy" of Alexei Sayle, Jo Brand, Ben Elton, and others in the 1980s. It was first heard in London's Comedy Store, and it still dominates the content of routines heard in venues up and down the country. If it was alternative to anything, that was to the two comic traditions that emerged from music hall and variety. These were light comedy, as broadcast on mainstream radio and TV and as performed on stage, and the comedy of the northern workingmen's clubs. The former set out to amuse but not challenge. The latter tapped into a coarser, crueler strain of comedy in which there is a kind of disgust for the body and its functions, and women and all kinds of minorities might be insulted and demeaned. It was perhaps for the workingmen's clubs that the coarse and ugly jokes of the 1950s playground had been created. This form of comedy was seldom if ever broadcast in unexpurgated form, although a few comedians such as Bernard Manning and Roy "Chubby" Brown built careers that partially lapped over into the media world from the grubby, male-dominated live venues of the north of England. Commentators generally draw attention to alternative comedy's rejection of political and social establishments in favor of human values, the honest way it embraced even the most taboo of subject matter, and its angry, expletive-laden voice. It is personal comedy created in this spirit that we mean when we talk of authenticity. But we use the term in a rather broader sense to cover the comedian's ownership of both content (Freud's "thought") and expression (Freud's "technique"). In this article, authenticity refers much more to jokes that reveal a personal voice than it does to jokes that embody a social critique.

When we talk of the work of creating comedy and the artistic pressures, we also need to talk of the incentives and rewards. Audiences noisily express their intolerance of stale and familiar material. According to Bethany Black (Interview, Manchester, November 28, 2011), a few comedians do still behave as if they were in the music hall age and tour what is basically a single set or routine round small venues season after season. However good this set might be, the lack of new material means that they have no genuine prospect of breaking through into the world of radio, TV, stadium gigs, and DVDs. All of these demand novelty. At this point, it is important to stress that although the payment offered for a 20-min slot in a small comedy club might scarcely cover the expenses incurred in travelling there, in contrast, the financial rewards of success are enormous. A few very successful comedians such as Peter Kay, Jimmy Carr, and Michael McIntyre earn annual sums measured in millions. The basis for this level of success usually involves a regular TV spot, corporate entertainment gigs, tours of major theatres and even stadiums, DVDs of live performances, book contracts, voice-over work, and other peripherals. Even just a smaller impact in some of these forms can represent a comfortable middle-class income level. Comedians who care both about the quality and integrity of their material and hope for major success effectively commit themselves to produce great numbers of new jokes each year. This is impossible without both skill and application, but working with social media does facilitate the process in ways that will be illustrated.

The Tension Between Effort and Authenticity

Comedy writing is characterized very effectively by [Schneider \(2009\)](#): "It takes a lot of work to make a good joke. I know it's not work in the sense of a seven-year old child down an Angolan tin mine, but I also know some jokes just pop out spontaneously. But more often than not, the birth of a joke is a long, painful process, without gas and air, or epidural (p. 3)."

[Ritchie \(2012, p. 157\)](#) quotes John Cleese as saying that it might take him and Graham Chapman 2 hr to generate 2 min of material. Bethany Black describes similar levels of work. Using her own life and observations as her main sources, she sometimes finds readymade jokes emerge. Her experience is that these tend not to be as good as those that require work (for instance to set them in character). She aims to devote at least 3 hr per day to

writing and tests material via social media, reckoning that about 20 favorable responses indicate that a joke will work. A comedian such as Gary Delaney (Interview, Derby, October 18, 2010) whose material consists of those tiny comic units we call “one liners” has to generate enormous numbers of jokes. Delaney records them on his phone as they occur to him. He calculates that only about 1 in 20 is worth persisting with for his own routines (though he may use the best of the rest in scripts for other comedians).

The nature of this persistence, which turns a comic idea into a well-formed joke, naturally varies from comedian to comedian. Lee (2010) suggests that “even though critics and TV Commissioners always talk about our art form in terms of its content, it is the rhythm, pitch, tone and pace of what we do—the non-verbal cues—that are arguably more important” (p. 299). So we can envisage the work as first identifying or creating content and then giving that content the form in which it can be performed successfully. Bethany Black identifies a threefold formula—[writing] skills, turnover [of content], and a Unique Selling Point [or comic persona]—which provides for this. Turnover might merely be based on the resolution to create fresh material, but skills include both the writing of jokes and embedding them in a persona. The persona tends to be presented to an audience as if it is a truthful representation of the comedian’s attitudes, beliefs, behavior, but in fact it is always more or less artificial. Stewart Lee (2010) puts it in the following way: “The personal is absent from my work. The me you see on stage is largely a construct, based on me at my worst, my most annoying, my most petty and my most patronizing” (p. 249). Despite what he says, this is, of course, intensely personal and, indeed, authentic even if it only represents part of his personality and part of his natural voice.

Lee, always the most trenchant of commentators, calls those performers whose comedy is written for them as “cheats.” For the comedian to avoid being a cheat, in Lee’s terms, is not an easy assignment. It is important to emphasize the point that this represents a break with the past. Griffin (2005) says of Ken Dodd, the great survivor of the old-school, that he does not reveal himself in his comedy.

“This point of view is one of the schisms between comics of the old and newer schools. The younger breed clearly thinks that comedy has to be about something and to say something about the comedian; the old pros of Dodd’s generation think the opposite is true. Funny is funny: no more no less. (p. 201)”

Nowadays, there is a core audience, a body of critics, and a community of fellow writers and performers that does not share Dodd’s view. This community demands that comedians should not merely deliver highly polished new content, but also speak with their own personal voice.

New comedy is expected to avoid the familiar themes (mother-in-law jokes, racial stereotyping, etc.) of the pre-stand-up era, but where can the comedian look for inspiration? The idea, sometimes expressed, that only the experience of conflict and the awareness of death produce great comedy is unhelpful, given that most British and American comedians have enjoyed comparatively trouble free lives. A few comedians, who have grown up in harder circumstances, do have experience that offers insight into the extremes. Zoe Lyons (Interview, Derby, May 14, 2008) has interesting things to say about the caution with which she exposes her own experience as a gay woman to public view. Bethany Black does not shrink from developing comedy as a transgendered lesbian woman. For the majority of comedians, there is a choice of big social and political themes and the exploration of daily and domestic experience. Many of them avoid the big themes and risk banality in the small scale and personal. An alert comedian observes the daily life with an eye for the bizarre. Delaney’s starting point could be a cliché, a neologism, something heard on the radio (particularly late night talk shows), song lyrics, or other “found” material. Black might see the unintended comedy in an overheard conversation or the “inspirational” statements people place on Facebook. Comedians also structure jokes around phrases and jingles from familiar advertisements or popular TV shows. This is material requiring transmutation from its essential triviality. Twisting and manipulating it into viable joke form is work, and the effectiveness of that work needs to be tested.

Testing New Comedy and Social Media

Much of the testing of new material today is no different from what it might have been in the 19th and 20th centuries. It is done in small venues where quite well-known comedians will perform work in progress to small audiences for a negligible fee. Sarah Millican (Interview, Derby, January 21, 2008) follows a personal rule that if material she tests on an audience succeeds on three out of five occasions, it is strong enough to take its place in her regular live routines. What is distinctive about the current age of comedy is that social media now offer a powerful alternative to this process. Exposing new jokes via social media has two values—it is both an invaluable testing ground for material and a means of building up a profile with a potential audience. Delaney acquired 12,000 Twitter followers in 18 months and was able to track about 25% of ticket sales for his 2010 Edinburgh run

to this following. He finds that using Twitter (not Facebook which has too static an “audience”) works better than just sitting in front of a screen or a sheet of paper. However, there are two downsides to this. Delaney calculates that if one of his jokes gets so re-posted that it goes viral, within little more than 24 hr it is circulating without attribution. After 72 hr audiences can be heard commenting “that just an old pub joke,” rendering good material almost unusable. However, some material transcends this and works despite the familiarity. He hopes to make an audio CD of this “evolution-tested” material as a kind of heritage of his comedy.

The second downside to exposing new material on social media is that other comedians may appropriate the jokes. This is a common occurrence which occasionally surfaces publicly: Delaney, Tim Vine, Marcus Brigstocke, Phil Jupitus, and others have discussed this (Schneider, 2009). Their response varies from largely impotent anger expressed via the networks and in the media but also, more directly, protests directed at audience members who appear to be recording their act. This is not new and the author well remembers the late Mike Reid at a private club performance in the early 1970s refusing to continue while an audience member made notes. At the other end of the spectrum of responses, there is a resigned acceptance that this “borrowing” is just an incentive to make their own comedy unique and less likely to be passed off as someone else’s. This is a problem. Originality is hard to achieve precisely because jokes take standard forms, and because they circle around familiar topics. The comedians of the past did not worry too much: the familiarity of much of their material might well have been reassuring for audiences. They were naturally borrowers, purchasers, and recyclers of jokes. If they used someone else’s joke, audiences would probably not notice, or maybe even relish its familiarity. As we have already pointed out, here were many willing sellers of jokes, and published jokes and other comic material could provide ideas and inspiration. The comedian as researcher is not a completely unknown phenomenon and Ken Dodd, for instance, is both a great archivist of comic material and an enthusiastic user of libraries (Conversation after performance at Derby, June 5, 2010). Today, the competitiveness of the comedy world and the media exposure of new jokes make the question of originality a more urgent concern.

The ultimate intention is to create a complete comic routine from newly-written jokes (and carefully prepared improvisations). This requires a further input of hard work. Stewart Lee creates what he calls “Epic shows full of call backs and cross references or supporting shifts of mood or emotional gambits” (Lee, 2010, p. 95) that rely on a narrative or conceptual through line. It is something akin to this that a comedian must create to have any hope of more than just small venue exposure. The testing ground is likely to be a month’s residency at the Edinburgh Festival in August of the year. It is here that critical attention and the chance of high-profile bookings can be generated. Edinburgh comedy shows are expected to last for an hour, which means that a comedian’s normal 20 min set will need to be replaced or expanded into something much more like one of Lee’s epics. The extra work this demands is obvious, but a comedian’s professionalism points in this way already. Black believes that the life cycle of any comedy set, short or long, should be no more than 6 months. This means that while touring one set, another must be in preparation.

For the comedian who performs one-liners, the demands are very much greater. Gary Delaney, one of the outstanding one-liner comedians, knows his material works best in a 20-min format, describes the structuring of an hour-long Edinburgh set. He aims to give the material an upward trajectory, starting gently before introducing a more shocking theme or a mini-narrative. He will package different parts of the set with contrasting “voices.” Occasional songs or bits of stage business can be used as punctuation between the parts. The aim is to create rises and troughs, light and shade, with some fixed and some floating breakpoints to avoid the flagging of audience attention. Yet at the same time as he subtly shapes his material, he employs total openness, telling the audience that “these are just jokes and some are in bad taste.” The elaborate artifice of his Edinburgh-length routine is considerable even though the consistent tone of his personal voice is always apparent. The virtue of a fully realized routine suitable for presentation at Edinburgh is that if it is good enough, it can be used for a tour of major venues and an eventual commercially available DVD.

Concluding Remarks

There is, in Britain and the United States and to a lesser extent in other countries, a content producing community that creates the thousands of small, often ephemeral, works of commentary on human life that we call jokes. We have illustrated how in response to the demands of mass media the writing of jokes became a painstaking professional process, despite the process’s essential playfulness. The possibilities presented by social media now, in turn, allowed comedians to engage with an extensive public, not limited by presence at a specific venue, while their work is in the process of creation. Social media are both an outlet for content and a stimulus for fresh production. Services such as Facebook and Twitter disseminate content at a rate which, given the requirement for novelty in comedy first noted by Freud, might seem to threaten to exhaust the production capacity. Indeed, critics

periodically speculate that the resources are becoming exhausted and that new comedy is no longer of the same quality as before. It is reasonable to suggest that the demand for authenticity, which comedians and critics impose on the task of writing comedy, actually contributes strongly to more and better quality comic material. Certainly, the production capacity seems to respond with fresh material constantly appearing from both new and established writers and performers.

On every night of every year, comedians try out new material which they themselves have created in their own authentic voice in pubs, clubs, and small theatres, but crucially this is only part of the story. The extent to which this material has already withstood the test of exposure via social media makes it possible to suggest that the media environment itself is a kind of engine for stimulating new comedy. This might make it sound as though ideas plus social media equals jokes. This is far from the case. Whether a comedian explores the most problematic recesses of human behavior, as does Lee, or generates inspired wordplay, like Delaney, it is expected that there will be an underlying truth and coherence to the material. Comedians who are seen to be giving something of themselves are valued more highly than those who just seek to amuse. The comedian in the age of social media is both an artist and a technician employing a range of creative and communication skills to produce new jokes with the flavor of authenticity. Some of the new material that they create is rubbish: some is gold. Today this distinction can emerge fast and decisively. Social media are both a challenge and a stimulus for the comedian. There is only one consistent feature between the pre-media age, the age of broadcasting, and the current age of social media. This is that someone somewhere is exploring their own responses to life and polishing this into new jokes that can be offered up to audiences. Style, scale, and media vary, but the joke remains.

Author Biography

Paul Sturges has written extensively on Intellectual Freedom topics, and became interested in comedy as a mode of free expression. His programme of interviewing standup comedians pointed him towards the question of how jokes are created.

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TEACHING DIVERSITY: THE SCIENCE YOU NEED TO KNOW TO EXPLAIN WHY RACE IS NOT BIOLOGICAL

Abstract

This article is targeted to faculty teaching race and ethnicity, racism, diversity, and multicultural courses. Many students equate race with skin color. The premise of this article is that to teach students about the social construction of race, teachers must first know enough science to teach students that race is not biological. This article examines the biology of race by showing how advances in DNA sequencing led to genetics research that supports arguments that race is not biological. DNA comparisons show that all human populations living today are one species that came from Africa. The article explains the migration of humans out of Africa about 60,000 years ago and how they populated Australia, then Asia, Europe, and the Americas. The article shows how recent research maps the timing of the migration and admixture of specific population groups into Europe and India. The article shows how a mutation in one nucleotide can result in a trait like blue eyes, or Hemoglobin S (which confers resistance to malaria), which can be subject to evolution through natural selection. DNA comparisons show how natural selection shaped the genetics of human skin color to adapt to less UV light in the northern latitudes of Europe and Asia. The article shows that there is no relation between skin color or other “racial” characteristics and complex traits like intelligence. The science in this article will help teachers explain that as race is not biological, race is socially constructed and culturally enacted.

When I began teaching race and ethnicity, I discovered that many of my students believed that race was not an idea, but a fact. Some did not accept the idea that race was socially constructed even by the end of the semester. As I tried to answer their questions, I found that I did not know enough contemporary science to be able to explain why the idea of race was not biological. Consequently, I decided to delve into the scientific literature for answers. When I used the results of my research to teach my students, I was able to reach more of them.

This article argues that to teach students how race is socially constructed, faculty must have mastered enough science to show skeptical students that the idea of race is not biological. Most educators who teach in the areas of anti-racism, cultural competence, diversity, or race and ethnicity are social scientists. Few have backgrounds in biological anthropology, population genetics, or molecular biology. Yet, knowledge that relates to race as biology has exploded with contemporary progress in molecular biology and genomics. The purpose of this article is to present faculty with accurate scientific information on the biology of race to share with their students. This will help students understand that race as biology is not scientifically based. Therefore, the ideas about race that are held as folk concepts in U.S. culture must be socially constructed.

The concept that race does not have a biological basis, but instead is socially constructed, has been accepted among social scientists for three generations (cf. [Montagu, 1942](#)). Yet, many U.S. students enter anti-racism, cultural competence, diversity, or race and ethnicity classes in disciplines ranging from business to nursing to sociology, with the underlying assumption that race is biological ([Coleman, 2011](#)). As [Goodman, Moses, and Jones \(2012\)](#) explained, “race seems obviously real to anyone immersed in North America’s dominant culture” (p. 2).

“We live in a society saturated with race. Racial thinking has infiltrated and now influences in some way or another everyone’s experiences of health, education, romance, friendship, work, religion, politics—virtually every arena and aspect of our lives. ([Goodman et al., 2012](#), p. 9)”

Students absorb normative beliefs that “race” is real as part of their culture ([Smedley & Smedley, 2005](#)).

In terms of background assumptions, this article examines the idea of race from the viewpoint of social scientific realism. Social scientific realism asserts that the social world comprises “not only human beings, but also the social relations and structures that are the products of human social interaction” ([Carter, 2000](#), p. 1). This is to be contrasted with poststructuralist or postmodernist theories of the social world. The implications of social scientific realism include the following: (a) There is a social reality that is “relatively independent of individual social actors” and (b) social structures can “constrain and influence subsequent social actors” ([Carter, 2000](#), p. 5). As [Smedley and Smedley \(2005\)](#) suggest, while race as biology is fiction, racism as a social problem is real. In the United States, “there are profound and stubbornly persistent . . . differences in socioeconomic status, educational and occupational status, wealth, [and] political power” based on ascribed race ([Smedley & Smedley, 2005](#), p. 16).

From Traits to Genes to Genomes

Since the end of World War II, biological science has exploded. In 1953, Watson and Crick published the structure of the DNA molecule—the famous double helix. Since then, whole new fields, including molecular genetics, population genetics, epigenetics, and genomics, have developed. Advances in sequencing the human genome can serve as an example of how quickly scientific technology has been developing. The classical Sanger chain-termination DNA sequencing method was introduced in 1977 ([Sanger, Nicklen, & Coulson, 1977](#)). Sanger won a Nobel Prize for it in 1980. Sanger sequencing required a lot of space, and labs could typically run only about 100 reactions at a time. However, it was the most widely used sequencing method for about 25 years. By 1981, Sanger sequencing had been used to fully sequence human mtDNA, which has only 16,569 base pairs organized in a ring, making it easier to sequence. In 1990, the international project to map the human genome was begun. By 1996, the yeast genome was sequenced, followed by the *c. elegans* roundworm genome in 1998. The first draft of the human genome was announced in 2001. Finally, the first fully sequenced genome of a single person was published in 2003. It took more than 10 years, US\$3 billion, and a massive international effort to accomplish the Human Genome Project using Sanger sequencing ([Hayden, 2014b](#)). By 2000, second generation high-throughput sequencing using technologies such as reversible terminator sequencing became commercially available. Technologies have advanced so quickly that, by 2014, a single machine could automatically sequence five full human genomes a day for close to US\$1,000 each ([Hayden, 2014a](#)). Exciting new methods are being developed, including a nanopore technology, which uses an enzyme to feed an intact single-stranded length of DNA through a protein nanopore and reads the bases in order in one continuous read. The intact DNA can be hundreds of kilobytes long. All of these new technologies can be brought to bear on the issue of whether race is biological.

There are six accepted scientific arguments as to why race is a biological myth ([Mukhopadhyay, Henze, & Moses, 2014](#)). When students assume that race is a real biological entity, faculty can use these scientific arguments to help students begin to question their assumptions. I typically present the science during the second or third week of the semester.

1. People cannot be reliably divided into racial groups.
2. There are no relationships between traits that are used to categorize people into races (like skin color) and associated stereotypes.
3. Over time, geography and environment influence the genetic structures of human populations through natural selection.
4. There is more diversity within racial groups than between racial groups.
5. All people living today are descended from populations that originated in Africa.
6. All people living today are one biological species.

Considerable scientific evidence that supports these arguments has been published since 2000. The new science will help faculty address student misconceptions that race is biological.

People Cannot Be Reliably Divided Into Racial Groups

Many students enter class assuming that because they can “see” race, it is biological. They assume that by using visible human biological variation like skin color, hair texture, and facial characteristics, they can reliably divide people into racial categories. But [McCarthy \(2009\)](#) emphasizes that “racing” people is not just a visual but also a conceptual process. He states that “real or ascribed somatic markers are taken as signs of deeper differences . . . stereotypical representations combining phenotypic features with cultural and behavioral traits” ([McCarthy, 2009](#), p. 10). To help students see that they are “racing” people in their minds, I present three ideas.

First, in the United States, the racial categories we use are essentially the same categories used by the Swedish botanist, Linnaeus, 250 years ago. [Linnaeus \(1758\)](#), using his new taxonomic system for categorizing plants and animals, classified people as belonging to the Class—*Mammalia*, Order—*Primates*, Genus—*Homo*, and Species—*sapiens*. Linnaeus further subdivided *Homo sapiens* into four types, on the basis of geography and skin color: *Europaeus* (white skins), *Asiaticus* (yellow skins), *Americanus* (red skins), and *Afer* (black skins; [Tattersall & DeSalle, 2011](#)). Linnaeus further suggested that each group had a characteristic temperament due to an excess of one of Galen’s four humors: blood, phlegm, yellow bile, and black bile ([Brace, 2005](#)). For example, Linnaeus characterized Europeans as having an excess of phlegm and being “sanguine,” “confident, muscular, and inventive.” He described American Indians as having an excess of blood and therefore being “choleric,” “energetic, upright, and combative.” He said that Asiatics had an excess of yellow bile, which caused them to be “melancholic” and “gloomy, thoughtful, inflexible, and avaricious,” while Africans were said to have an excess of black bile, which caused them to be “bilious” and as a result, “self-contented, lazy, slow, and relaxed” ([Tattersall & DeSalle, 2011](#), p. 12). Some of these stereotypes are still in use today.

Second, in class, we talk about how racial categories differ from culture to culture. For example, Barack Obama, the son of an African father from Kenya with dark skin, and a European American mother from Kansas with light skin, would typically be raced as “White” in Brazil but as “Black” in the United States, while he would have been raced as “colored” had he lived under South African apartheid. The idea that in Brazil, people with any European ancestry are raced as White, while in the United States, people who have any African ancestry are raced as Black, often drives discussion toward the “one drop rule” in the United States, and how by 1920, the same person might be raced differently depending on the state. This helps students to challenge their own culturally received notions of the fixedness of racial categories.

Third, we do a class activity to show that many human biological traits are continuous variables, rather than discrete categories. This can be done with a number of easily visible traits, such as height or curliness of hair (have students line themselves up from most straight to most curly), but I always conclude with skin color. Have students line themselves up from most pale to most dark skin (using the inner side of the upper arm works well). Then, let them try to decide where to divide themselves into specific categories. Ask, “How many categories should there be?” and “Why do there need to be categories?”

This exercise lets students see that skin color is an example of a biological cline—the gradual change of a trait across the geographical range of a species. [Kittles and Weiss \(2003\)](#) explain, that “if one examines only the geographic extremes, differences appear large” (p. 38). For example, if you juxtapose people from the Congo in West Africa, and people from Norway, you might conclude that the two peoples looked so different that they were

of different “races.” However, if you walked all the way from the Congo through Egypt and the Middle East to Norway, you would find that skin color varies very gradually—almost imperceptibly—as you travel. There is no place where one color of skin gives way abruptly to another—no place where you can draw a line and say that people on one side of the line have a different color of skin than people on the other side of the line. Famously, [Livingstone \(1962\)](#), a population biologist, concluded, “there are no races, there are only clines” (p. 279). Scientists have been unable to find a way to objectively and reliably divide people into the same set of racial groupings ([Mukhopadhyay et al., 2014](#)).

“Racial” Traits Do Not Correlate With Other Types of Biological Diversity

A second argument against race as biology is that the visible traits that people use to identify “race,” like skin color, hair texture, or facial characteristics, do not correlate with other types of human biological diversity. Students in diversity classes sometimes assume that there is a gene for intelligence, or a gene for athletic ability, or a gene for heart disease. But that is not the case. Even a trait that seems relatively straightforward, like height (which has only one value for each person at a time) is highly complex genetically. For example, in a study of 183,727 adults, [Allen et al. \(2010\)](#) found that “hundreds of genetic variants, in at least 180 loci, influence adult height” (p. 832). However, the genetic variants they identified accounted for only 10.5% of the variation in height in their sample, suggesting that there are many more genes that affect height that have not yet been identified. Height is a classic polygenic trait, meaning that it is controlled by multiple genes, each of which has a very small effect ([Allen et al., 2010](#)).

If hundreds of genes control height, consider how much more complex a trait like “intelligence” is. Psychologists have spent 150 years trying to define and measure intelligence, and they still disagree ([Nisbett et al., 2012](#)). Some scientists believed that because intelligence, as measured by analytic IQ, is 40% to 80% heritable, genes affecting it would be easy to find, once the human genome had been mapped. However, “whereas 282 individual genes responsible for specific forms of mental retardation have been identified, very little progress has been made in finding the genes that contribute to normal variation” in intelligence (p. 135). In fact, [Butcher, Davis, Craig, and Plomin \(2008\)](#) reported that only one gene has been consistently replicated as influencing cognitive ability, and it explains less than 1% of the variance in general cognitive ability.

[Cooper \(2005\)](#) says that all too frequently, “during the last hundred years, the debate over the meaning of race has retained a highly consistent core . . . [built] around the same belief in Black inferiority” (p. 71). Every now and then, he says, someone uses “the latest jargon and half-truths from the margins of science” to reassert that people with the ascribed status of “Blacks” in the United States are inferior ([Cooper, 2005](#), p. 71; see, for example, [Chase, 1977](#); [Hearnshaw, 1981](#); [Hernstein & Murray, 1994](#); [Rowe, 2005](#)). However, Cooper concludes that “despite substantial effort, no genetic polymorphism has yet been found that accounts for any significant proportion of the “racial differences” in the rates of common diseases, IQ, or any other similar trait—nor is there any reason . . . to expect that to be the case. Contrariwise, there is massive and highly consistent evidence of social influences. (p. 74)”

In their review of the literature, [Nisbett et al. \(2012\)](#) agree. They conclude that “the direct evidence indicates that the difference between the races is entirely due to environmental factors” (p. 146).

Environment Influences the Genetic Structures of Human Groups via Natural Selection

A fundamental theory of biology is that over time, geography and environment influence the genetic structures of human populations through natural selection. People differ in any number of observable traits, such as height, shape of head, length of arms and legs, stockiness, and facial characteristics, just as they vary in other traits like ABO blood groups and Rh factors. Why is it that traits vary across populations?

[Darwin \(1876/1902\)](#) hypothesized that a single species, spread out over different environmental niches and isolated over time, would adapt to better fit new environments through natural selection. He observed that traits (such as beak shape and size in finches, or skin color or dentition in people) were heritable. However, he had no knowledge of the mechanism of heredity. (Although the work of Mendel outlining the basic mechanics of heredity had been published in an obscure journal in 1866, it was not “rediscovered” until 1900; Darwin died in 1882. So, although Mendel lived at the same time as Darwin, Darwin did not know of his work.)

Today, we know that human DNA consists of some 3.2 billion base pairs (G-C or A-T) arranged in the famous double helix model. During the process of meiosis, when human eggs or sperm cells are created, random copying errors can occur. Most are corrected, but occasionally some errors, or mutations, slip by. Mutations can occur in a single base pair, or through duplication or inversion of a gene (which can have thousands of base pairs), or they can occur through unequal crossing over or duplication of chromosomes (as in Trisomy 21, which causes Down syndrome). A mutation can be neutral, harmful, lethal, or (rarely) beneficial to the individual in whom it occurs. If the individual with the mutation successfully reproduces, the mutation may be passed on to the next generation. Mutations are important for evolution through natural selection because they introduce variety into DNA (Gould, 1980).

Mutations can be functional or nonfunctional. On one hand, mutations that are located in nonfunctional areas of the genome do not affect genes or parts of the DNA that turn nearby genes on and off. Therefore, as mutations in nonfunctional locations in the genome do not differentially affect successful reproduction, they are not subject to natural selection. However, nonfunctional mutations can be very useful as genetic markers to trace human history. These genetic markers can be used to show ancient human migration patterns; they can also be used to show how closely two population groups are related. For example, genetic markers have been used to determine how closely the Hadza (northern Tanzania), the Sandawe (central Tanzania), and the San (South Africa) peoples, all of whom speak rare click languages, are related (Tishkoff et al., 2007). Long (2003) concluded that “population history and relationships are read best from DNA sequences without function” (p. 17).

On the other hand, as functional mutations affect genes, or parts of the DNA that turn nearby genes on and off, they are subject to natural selection. Long (2003) concluded that, in contrast to mutations in nonfunctional areas, “DNA sequences that encode expressed genes will show patterns of variation that are more directly related to natural selection and human adaptation” (p. 17).

Blue eyes

Scientists are now able to demonstrate how a mutation in a single base pair (one of 3.2 billion) has resulted in a change in a known trait, such as blue eyes. A mutation in a single base pair is called a single nucleotide polymorphism (SNP). In 2008, Eiberg et al. were able to show how the mutation of a single base pair (from A to G) within the HERC2 regulatory gene inhibits the activity of the nearby OCA2 gene. Essentially, the mutation turns off the biosynthesis of melanin (the brown pigment that results in brown eyes) in the iris. People who have two copies of the mutation (the rs12913832*G allele) have blue eyes with no brown pigmentation. People who have two copies of the ancestral allele (the rs12913832*A allele) have brown eyes. The team’s research suggests that this is a “founder mutation,” meaning that everyone who has the *G allele at this position on chromosome 15q can trace their ancestry back to a single person in whom the mutation first occurred, who most likely lived in the northwest part of the Black Sea region 6,000 to 10,000 years ago (Eiberg et al., 2008). This type of work is pioneering, because it follows a specific single-point mutation (A to G), through its mechanisms of action, to show how it produces a known human trait. This is an example of the type of random mutation that has recently introduced genetic diversity into a population. However, scientists believe that the rapid increase in blue eyes in Europeans was due to sexual selection, rather than natural selection. They suggest that blue eyes may have been seen as novel, and therefore desirable, in mate selection (Eiberg et al., 2008). In contrast, let us look at how mutations affect traits that appear to have been beneficial to successful reproduction, and therefore were subject to natural selection.

Hemoglobin S

Hemoglobin S is an abnormal red blood cell which causes sickle-cell anemia. Sickle-cell anemia, a serious, often fatal disease, is also caused by a single-point mutation, from an A to a T. To get sickle-cell anemia, a person must inherit two copies of the mutation (one from each parent). The mutation alters one of the amino acids in the hemoglobin protein which results in abnormal red blood cells, that, under certain conditions, change to a long, sickled shape which causes anemia, pain, and tissue damage (see DNA Learning Center, Cold Spring Harbor Laboratory, n.d.). Prior to modern medicine, sickle-cell anemia was invariably fatal. This should have resulted in people with sickle-cell anemia dying before they could reproduce, thus selecting against the mutation over the generations.

However, instead of being selected against, the sickle-cell mutation is very common in areas with malaria, such as India, the Mediterranean, and sub-Saharan Africa, where 10% to 40% of the population carries it. The reason

is that for people who have only one copy of the sickle-cell mutation, the mutation confers tolerance to malaria—people still get malaria, but they do not die from it (Ferreira et al., 2011). Studies of the distribution of Hemoglobin S and the distribution of malaria show that the higher the prevalence of malaria, the higher the percentage of people with hemoglobin S. Where there is no malaria, 0% of the population has Hemoglobin S. Brace (1996) concluded that the frequency of the sickle-cell mutation in populations “is controlled by the intensity of infestation with falciparum malaria”—the parasite that causes malaria (p. 113). This is a classic example of natural selection. Over time, geography and the environment (areas conducive to malaria) interacted with a random mutation (Hemoglobin S) that conferred a reproductive advantage in people who carried one copy of the gene.

Researchers believe that the Hemoglobin S mutation occurred independently three times in Africa and once in either the Arabian Peninsula or central India between 70,000 and 150,000 years ago (Desai & Dhanani, 2004). While such mutations are rare, it is likely that over the last 100,000 years or so, this mutation also occurred a few times in areas of the world where there was no malaria. However, as the sickle-cell mutation conferred no advantage in the interaction between people and their (nonmalarial) environment, it died out.

Lactase persistence

All human infants are able to digest lactose, the primary carbohydrate in milk, because their intestines secrete lactase. In most human populations, the ability to secrete this enzyme goes away after weaning. This is the ancestral condition for humans (and all mammals; Itan, Powell, Beaumont, Burger, & Thomas, 2009). Accordingly, in East Asian and Southeast Asian populations, indigenous North and South American populations, and in large parts of Africa, 0% of the adult population has the lactase persistence trait. This makes sense, because, as long as human cultures were based on hunting and gathering, lactase persistence was unnecessary. However, as animals began to be domesticated, nonhuman milk (goat, cow, horse, camel, reindeer) became readily available as a source of food to pastoralists following their herds. Consequently, there was strong natural selection for lactase persistence in herding societies, and so dairying and lactase persistence co-evolved.

In Europeans, lactase persistence is due to a single C to T mutation at -13910^*T , upstream from the lactase gene (Itan et al., 2009). The 13910^*T allele accounts for virtually all the variance in lactase persistence frequency in Europe. It ranges in frequency from 73% to 95% in the British Isles and Scandinavia, 56% to 67% in Central and Western Europe, and 6% to 36% in Eastern and Southern Europe. Itan et al. (2009) date the origin of dairying and the co-evolving -13910^*T lactase persistence mutation to about 7,500 years ago. Moreover, they conclude that this is a “recent mutation event” (Ingram, Mulcare, Itan, Thomas, & Swallow, 2009, p. 586); Bersaglieri et al. (2004) concluded that the signals of recent selection for the -13910^*T lactase persistence mutation they observed were among the “strongest yet seen for any gene in the genome” (p. 1111).

However, genotype frequency comparisons have shown that the European mutation is not found in African and Middle Eastern dairying populations. Instead, different lactase persistence-associated mutations occurring in the same region of the genome have been identified. For example, Bedouins in Jordan and Saudi Arabia have the -13915^*G mutation, while pastoralists in Kenya and Tanzania carry the -13907^*G variant and the -14010^*C variant (Ingram et al., 2009; Tishkoff et al., 2008). This is an example of convergent evolution. It is likely that over the last 10,000 years, mutations in the control area upstream of the Lactase (LCT) gene also occurred a few times in areas of the world where there was no dairying. However, as those mutations conferred no advantage to nondairying populations, they died out.

Skin color

Geography and environment also influenced the genetic structures that resulted in varied skin colors among different human populations. Unlike blue eyes or Hemoglobin S, skin color is a polygenic trait—one whose phenotype is influenced by multiple genes, each one having a relatively small effect (Sturm, 2009). Observable skin color is determined by the amount and distribution of two types of melanin pigment granules within skin cells—a red-yellow form known as pheomelanin and a black-brown form known as eumelanin (Barsh, 2003; McEvoy, Beleza, & Shriver, 2006). For example, Beaumont et al. (2007) showed that in Europeans, red hair and fair skin with freckles are associated with loss-of-function alleles of the Melanocortin Receptor (MC1R) gene. These alleles have been shown to decrease the ability of the skin to produce eumelanin (the black-brown melanin) in in vitro functional studies (Beaumont et al., 2007). Skin color is measured with a hand-held instrument using skin reflectance spectroscopy (Shriver & Parra, 2000).

Anthropologists assume that the “earliest members of the hominid lineage probably had a mostly unpigmented or lightly pigmented integument [skin] covered with dark black hair, similar to that of the modern chimpanzee” (Jablonski & Chaplin, 2000, p. 57). They also assume that after our lineage diverged from the lineage of modern chimpanzees, “coincident with the loss of fur . . . there was strong selection for skin darkening” to protect the skin from the ultraviolet rays of the sun (McEvoy et al., 2006, p. R176). Both of these changes occurred roughly 2 to 5 million years ago (Fuentes, 2012). Therefore, anthropologists assume that the process of differentiation of skin color started from a population of *Homo sapiens* with dark skin.

On a global level, skin color in indigenous populations in the Old World tends to be darkest in the tropics. The farther north or south of the tropics, the lighter skin color becomes. The reason appears to be related to the amount of sun light, which is much greater at the equator than at the poles. Melanin absorbs and scatters light (Jablonski & Chaplin, 2000). Jablonski and Chaplin (2013) found that “86% ($r = 0.927$) of the variation in human skin reflectance” can be accounted for by autumn levels of ultraviolet radiation (p. 672). The reason is that humans need enough ultraviolet light to make Vitamin D, but too much ultraviolet light results in sunburn and the destruction of folate, which is necessary for healthy reproduction. The amount of pigment in human skin enables populations to balance these two needs. Therefore, on one hand, in the high latitudes like Sweden or Siberia, there was “positive directional selection” for less melanin in the skin so that people in the high latitudes could make more Vitamin D (Jablonski & Chaplin, 2000, p. 673). On the other hand, near the equator, in places like Papua New Guinea, Southern India, or the Congo, there was positive selection for more melanin in the skin, so that people could be protected from too much sun and the destruction of folate (Jablonski & Chaplin, 2000).

Selective sweeps

With regard to how much effect natural selection has had on *Homo sapiens* in the last 50,000 years or so, at the turn of the 21st century, there were still two camps. Those in the first camp argued that cultural evolution, such as adapting to extreme cold by learning to make thick clothes out of fur skins, had lessened the effects of natural selection. Those in the second camp argued that *Homo sapiens* continued to benefit from positive natural selection during the last 50,000 years (Hawks, Wang, Cochran, Harpending, & Moyzis, 2007). Rogers (2011) states that “as recently as the year 2000, it was possible for Stephen Jay Gould to argue that ‘natural selection has almost become irrelevant in human evolution. There’s been no biological change in humans in 40,000 or 50,000 years’” (p. 93). Gould (1980) had previously argued that “cultural evolution is our primary innovation. It works by the transmission of skills, knowledge and behavior through learning—a cultural inheritance of acquired characters” (p. 137). Rogers states that in 2000, when Gould gave this interview, there was no way to tell which position was correct. However, had Gould lived 10 years longer, advances in genetics would have made Gould’s position “untenable,” and Rogers believes Gould would have changed his mind. Today, just 15 years later, there is plenty of evidence that natural selection is still affecting humans. Indeed, Hawks et al. (2007) argue that the rapidly expanding world population since the domestication of plants and animals (resulting in shifts from hunter-gatherer cultures to pastoralism and agriculture, about 10,000 years ago) has resulted in a 100-fold increase in mutations, thus increasing the amount of positive natural selection that is occurring.

The way scientists evaluate genomes for evidence of positive natural selection is to look for selective sweeps. Long (2003) states that “a favorable allele may occasionally rise rapidly and sweep through the population replacing all other alleles at that locus. This mode of selection is often referred to as positive selection. One consequence of a selective sweep is that the level of background genetic variation in the vicinity of the favored allele is reduced. (p. 7)”

Another way to explain this is that DNA tends to be inherited in chunks or blocks of base pairs grouped around a functional SNP on a chromosome. Functional mutations (SNPs) that occurred earlier in human history tend to have shorter blocks or chunks of unchanged DNA surrounding them, because they had many more generations for recombination to shorten the length of the unchanged stretches of DNA attached to them. However, functional mutations (SNPs) that have occurred relatively recently in human history have much longer chunks of unchanged DNA surrounding them. Several new statistical tests have been developed to evaluate the presence of selective sweeps and their population frequency (Huff, Harpending, & Rogers, 2010; Pickrell et al., 2009; Sabeti et al., 2002; Voight, Kudaravalli, Wen, & Pritchard, 2006). These tests are particularly effective at identifying selective sweeps at moderate frequency (~50%–80%), and at high frequency (>80% to fixation) within a population (Pickrell et al., 2009). For example, McEvoy et al. (2006) identified “a 150 kb region surrounding the SLC24A5 gene” that “shows a large drop in heterozygosity in Europeans.” This means that the 150 kb region around the gene is unchanged and thus shows evidence of recent selection (p. R177).

[McEvoy et al. \(2006\)](#) were looking for genes within regional populations that affected skin pigmentation. The team studied DNA from three geographically distinct populations from West Africa, East Asia, and Northern Europe. Based on differences among these three groups, they developed a four-step evolutionary model for skin pigmentation. First, they found evidence of mutations in two genes (MITF and EDN3) that occurred in the ancestral human population, prior to any splits between the groups. Second, they found evidence of a split between the African group and the ancestors of Asians and Europeans, who carried the ASIP and BNC2 genes. Third, they identified five genes that showed positive selection only in the East Asian population. Fourth, they identified five different genes that showed positive selection only in the Northern European population. All the genes identified were involved in the pathway for the biosynthesis of melanin. Both Northern Europe and East Asia are at much higher latitudes than Africa, so pale skin with less melanin benefitted humans in both environments. But since mutations are random, nature could only positively select the mutations related to the biosynthesis of melanin that actually occurred in the Northern European and East Asian populations. Thus, the genetic mechanisms that resulted in the pale skin color of East Asians and Europeans are different; this is an example of convergent evolution ([McEvoy et al., 2006](#)). The [McEvoy et al. \(2006\)](#) study shows clear evidence for the operation of natural selection with regard to skin color. As a result of studies like this one, molecular biologists have concluded that “skin colour as a selectable trait has likely occurred multiple times at diverse geographical sites around the globe” ([Sturm, 2009](#), p. 13).

There Is More Diversity Within Than Between Racial Groups

The fourth argument against race as biology is that there is more diversity among people within groups than between groups. That means that there is more diversity among people within a single population, for example, among Samoans, than there is between regions (or “races”) like Europe and sub-Saharan Africa. [Lewontin \(1972\)](#) was the first to demonstrate this. In a landmark article, he examined the frequency of alleles of 17 genes over 101 different populations. First, he established that there were differences in frequencies between populations for each of the 17 genes. For example, he found that the Duffy antigen Fy^a occurs in 66% of Europeans and 99% of East Asians but in only 10% of sub-Saharan Africans ([Lewontin, 1972](#)). Then, Lewontin divided the 101 populations into seven “races”: Caucasian, African, Mongoloid, South Asian Aborigines, Amerinds, Oceanians, and Australian aborigines. For example, in his Amerind race, he included 21 North, Central, and South American populations; in his Oceanian race, he included 15 populations ranging from the Hawaiians to the Maori.

[Lewontin \(1972\)](#) stated that the statistical question he asked was “How much of human diversity between populations is accounted for by more or less conventional racial classification?” (p. 386). He noted that dividing world populations into seven races (instead of four, for example, as Linnaeus did) and weighting them equally maximizes “both the total human diversity and the proportion of it that is calculated between populations” ([Lewontin, 1972](#), p. 385). In other words, his assumptions bias the statistics toward showing more diversity between regions or “races.” Using the frequencies of different alleles, he calculated diversity within each population (e.g., Basques, or Koreans, or Navaho). Then, he calculated diversity between populations within a region, for example, between all 15 of the Oceanian populations. Then, he calculated the diversity between the seven regions or “races.”

[Lewontin \(1972\)](#) concluded that “the results are quite remarkable” (p. 396). Of the total genetic diversity (100%), he found that the average within-population diversity (e.g., within Danes, or within Navaho) was 85.4%. The difference between populations within a region (e.g., between the 15 Oceanian populations) accounted for 8.3% of the total diversity. He found that only 6.3% of the total diversity was accounted for by regional or “racial classification” ([Lewontin, 1972](#), p. 396). What this means is that most biological variability exists between you and your neighbors in the same population. Lewontin stated that “based on randomly chosen genetic differences, human races and populations are remarkably similar to each other, with the largest part by far of human variation being accounted for by the differences between individuals” (p. 397).

[Lewontin's \(1972\)](#) pioneering findings continue to be borne out by more recent studies. [Relethford \(2002\)](#) summarized six studies looking at within-group variation versus between-group variation. He reviewed studies assessing differences in blood polymorphisms, microsatellite DNA, RFLPs, *Alu* insertions, mtDNA, Y-chromosome DNA, and craniometrics. He concluded that they all showed the same pattern. Variation within local populations (e.g., Tongans) accounts for 68.9% to 85.4% of total differences found. Variation between populations within a region (e.g., populations of Europe, like the Danes and the Spanish) accounts for 1.3% to 8.4% of the total variation ([Relethford, 2002](#)). Finally, variation between regions or “races” (e.g., Europe vs. sub-Saharan Africa) accounts for 6.3% to 24.9% of total differences found ([Relethford, 2002](#), p. 396).

Findings also suggest that the more genetic diversity there is within a single population, the older the population is. There is a correlation between frequency of variation, age, and geographic distribution (Kittles & Weiss, 2003). The greater the variation within a geographic distribution, the greater the age of that population. Using several measures of genetic variation, researchers have determined that sub-Saharan Africans have “almost twice the diversity of non-African populations” (Kittles & Weiss, 2003, p. 44). In fact, all the genetic diversity of populations from all over the world can be found within sub-Saharan Africa (Wells, 2003). The San (Bushmen) have the most within-population diversity of any group on the planet and, thus, are considered to be the oldest of all the populations living today (Li et al., 2008; Tishkoff et al., 2009; Wells, 2003).

The exception to this pattern is skin color. Relethford (2002) found that 88% of the total variation in worldwide skin color is found between regions or “races” (e.g., Europe vs. sub-Saharan Africa), while only 9% of the total variation is within group (e.g., among Tongans, or among San, or among Danes; p. 396). As stated earlier, the observable trait of skin color is not correlated with other traits. What this means is that while there is a relationship between continental ancestry and skin color, the classifications we call “race” are meaningless when it comes to genes and DNA for human traits other than skin color. “Race” is truly only skin deep.

All Humans Living Today Are Descended From Africa

The fifth argument against race as biology is that all humans living today are descended from a small group of ancestors who lived in Africa. This is the “out of Africa” or “recent African origin” model (Veeramah & Hammer, 2014). In the past, some anthropologists had “argued for the origin of human races through a process of separate speciation events from ape-like ancestors in many parts of the world. This hypothesis became known as multi-regionalism” (Wells, 2003, p. 33). The multiregionalism hypothesis has not been supported. Evidence from genetics supports the idea that we are all one people, whose ancestors lived in Africa.

The more recently two species have branched from a common ancestor, the more similar their DNA sequences will be. When random mutations occur in nonfunctional areas of DNA, and are passed down to offspring, they stay in the DNA. Thus, they can serve as markers for our ancestry. Wells (2003) explains that “our DNA carries, hidden in its string of four simple letters, a historical document stretching back to the origin of life . . . the differences we see when we compare DNA from two or more individuals . . . are the historical language of the genes. (p. iii)”

Molecular biologists compare DNA to find differences, called genetic markers, which they can then use to calculate the genetic distance between two populations (Cavalli-Sforza, 2000). In some cases, they can use the genetic markers to estimate how long it has been since the populations split into two groups.

For an example of how comparison of DNA can be used, take the Neanderthals. The fossil record shows that they lived in Europe and Asia from about 400,000 years ago to 30,000 years ago, and overlapped with modern humans from about 45,000 to 30,000 years ago (Green et al., 2010). There have been many questions about how Neanderthals and *Homo sapiens* were related (Cavalli-Sforza, 2000; Sykes, 2001). The team that analyzed the first Neanderthal genomes found that humans and Neanderthals share about 99.7% of their DNA, and that humans and Neanderthals shared common ancestors about 500,000 years ago (Green et al., 2010). The results showed clearly that the Neanderthals were not our direct ancestors (Cavalli-Sforza, 2000). Instead, the Neanderthals were classified as our “sister” species (*Homo sapiens neandertales*, whereas we are *Homo sapiens*). However, the team found that 1% to 4% of DNA is shared between Neanderthals and Eurasian (but not African) *Homo sapiens* (Green et al., 2010). This suggests that there was some interbreeding (Green et al., 2010; Stewart & Stringer, 2012).

By comparison, the first study to sequence and compare the genome of a chimpanzee with a human genome determined that we share 96% of our DNA with chimpanzees, who are our closest living relatives (Cheng et al., 2005; Lovgren, 2005). The findings of this team suggested that the ancestors of *Homo sapiens* (including Neanderthals) and chimpanzees diverged about 6.5 million years ago (Lovgren, 2005).

The same methods of comparing DNA can be used to tell how closely related two human populations are (Fairbanks, 2012; Jorde et al., 2000). A decade ago, three teams, led by Cavalli-Sforza, by Sykes and by Wells, reported on years of work looking at relationships among human populations. In 2000, Cavalli-Sforza summarized research conducted over 40 years. His team analyzed gene frequencies on 110 blood system groups and proteins from samples of members of about 2,000 aboriginal populations throughout the world. He concluded that all modern humans are members of one species which originated in Africa. He calculated that some modern humans left Africa between 80,000 and 50,000 years ago and reached Australia by 50,000 years ago. His model

of human migration from Africa suggests that after Australia, humans settled Asia, then Europe, and finally, via East Asia, the Americas ([Cavalli-Sforza, 2000](#)).

MtDNA

In 2001, Sykes summarized 25 years of work on mitochondrial DNA (mtDNA), which has the advantage of being passed intact, directly from mother to child. As mtDNA is found within the mitochondria, small “energy factories” within cells, it is not involved in sexual reproduction. When a mutation, such as a change from a G to an A, occurs in the DNA of a mitochondrion in a woman’s germ cell, if that germ cell is passed on to a daughter, the mutation will continue in the daughter’s DNA. In other words, your mtDNA is an exact copy of your mother’s mtDNA, which is an exact copy of her mother’s DNA, which is an exact copy of her mother’s DNA, and so on. A mutation occurs in mtDNA about once every 10,000 years, which enables scientists to estimate how long ago two lines shared a common maternal ancestor ([Sykes, 2001](#)).

After analyzing thousands of samples from all over Europe, [Sykes \(2001\)](#) found that nearly all native Europeans could trace their maternal ancestry to one of just seven different women, who lived between 45,000 and 10,000 years ago. Remarkably, 47% of Europeans have mtDNA that traces back to one woman, who lived about 20,000 years ago, most likely in the area of the Rhone River in France. Sykes explained that each of these women was certainly not the only woman living in her hunting and gathering band at the time. But if a woman has no children or only boys, her mtDNA line dies out.

Using mtDNA sequences from all over the world, [Sykes \(2001\)](#) identified 33 women who are the mothers of all people living today, and 13 of them originated in Africa. His findings suggest that a small group from one of the African mtDNA clans left Africa to populate the rest of the world. The 20 women whose mtDNA clans are found in the rest of the world are all descendants of that single woman whose descendants left Africa. Sykes writes, “Incredibly, even though the African clans are easily the most ancient in the world, we are still able to reconstruct the genetic relationships among them . . . the ancestors of the ancestors . . . One by one the clans converge until there is only one ancestor, the mother of all of Africa and of the rest of the world . . . “Mitochondrial Eve.” ([Sykes, 2001](#), p. 276)”

[Sykes \(2001\)](#) concluded that “we are all direct maternal descendants” of Mitochondrial Eve, who lived about 150,000 years ago in Africa (pp. 276-277).

Y-chromosome DNA

In 2003, Wells released a book on his research team’s findings using DNA from the Y-chromosome. The Y-chromosome is passed down from fathers to sons just as mtDNA is passed down from mothers to daughters. As with maternal lineages, if a man has no children or no sons, his Y-chromosome lineage is lost. The [Wells \(2003\)](#) team studied a “worldwide sample of men, from dozens of populations on every continent” (p. 53).

[Wells \(2003\)](#) concluded that all modern humans originated in Africa. He also concluded that all men alive today can trace their paternal lineage back to one man—“Y-chromosome Adam”—who lived in Africa about 60,000 years ago. While there were other men alive then, their lineages have died out. He noted that the difference between the estimated age of “Mitochondrial Eve” and “Y-chromosome Adam” (who were real people) means that more female lineages survived, unbroken, into the present day. As a result, scientists could trace the maternal line much further back into prehistory (150,000 years) than they could trace the paternal line of all people living today. Wells explained that the greater the diversity, as shown by the accumulation of additional genetic markers, the older the lineage. As a result, he said that “you are more likely to sample extremely divergent genetic lineages within a single African village than you are in the whole of the rest of the world” ([Wells, 2003](#), p. 39). He emphasized that the real surprise is that as all modern humans lived in Africa until at least 60,000 years ago, our species has only had 60,000 years to populate the globe ([Wells, 2003](#)).

[Wells \(2003\)](#) divided the descendants of men who left Africa into a genealogical tree with 11 lineages. Each genetic marker represents a single-point mutation (SNP) at a specific place in the genome. First, genetic evidence suggests that a small band with the marker M168 migrated out of Africa along the coasts of the Arabian Peninsula and India, through Indonesia, and reached Australia very early, between 60,000 and 50,000 years ago. This very early migration into Australia is also supported by [Rasmussen et al. \(2011\)](#). Second, a group bearing the marker M89 moved out of northeastern Africa into the Middle East 45,000 years ago. From there, the M89 group split into two groups. One group that developed the marker M9 went into Asia about 40,000 years ago. The Asian (M9)

group split three ways: into Central Asia (M45), 35,000 years ago; into India (M20), 30,000 years ago; and into China (M122), 10,000 years ago. The Central Asian (M45) group split into two groups: toward Europe (M173), 30,000 years ago and toward Siberia (M242), 20,000 years ago. Finally, the Siberian group (M242) went on to populate North and South America (M3), about 10,000 years ago.

Whole genomes

While the earlier studies compared frequencies of gene alleles for blood proteins, or genetic markers in parts of the mtDNA or the Y-chromosome, second generation sequencing now enables teams to compare whole genomes. For example, [Li et al. \(2008\)](#) analyzed 650,000 base pairs that had been previously identified as having mutations (SNPs), in the genomes of 1,064 individuals from 51 populations. The genomes of members of 51 populations were compared with each other and with chimpanzees. (The chimpanzee genomes were assumed to represent “ancestral allele frequencies”—the frequencies of alleles before humans and chimpanzees began to diverge from a common ancestor.) Li et al. constructed a phylogenetic tree diagram showing the relationships among the populations. The least different from the ancestral allele frequencies were the San (Bushmen) and other sub-Saharan African populations, followed by North African populations, European, Middle Eastern, Central Asian, East Asian, Amerindian, and Oceanian populations. (Australian aboriginal populations were not studied.) They concluded that their findings were consistent with a “serial founder effect, a scenario in which population expansion involves successive migration of a small fraction of individuals out of the previous location, starting from a single origin in sub-Saharan Africa” ([Li et al., 2008](#), p. 1103). Their study fully supports the recent African origin model.

Second-generation population history studies

Recent work with second generation sequencing and new statistical modeling methods adds much finer detail on migration and admixture of populations. For example, in Europe, [Stewart and Stringer \(2012\)](#) show a cyclical pattern of interglacial expansion of *Homo sapiens* out of Africa and retreat back to Africa or warmer refuges during ice ages. They showed that populations of *Homo sapiens* moved out of Africa during warm interglacial periods, then retreated from Europe and Asia into southern areas like Spain, Italy, the Balkans, and the Caspian Sea during the last ice age (about 27,000-11,700 years ago), and then expanded again to repopulate Europe after the climate warmed. [Behar et al. \(2006\)](#) supported these findings by showing that the Basques are a remnant of the Paleolithic hunter-gatherer population that retreated into the area around the Bay of Biscayne during the last ice age. The hunter gatherers then expanded to resettle Central and Western Europe after the end of the last ice age. Using genome-wide data from 94 ancient Europeans who lived 8,000 to 3,000 years ago, [Haak et al. \(2015\)](#) modeled the genetic admixture among the indigenous hunter gatherers, Neolithic farmers expanding into Europe from Anatolia (starting about 8,000 years ago), and the Yamnaya or kurgan culture—a pastoralist culture from the steppes north of the Black and Caspian Seas. The Yamnaya culture had horses, wheeled vehicles, and carried the gene for lactase persistence. Haak et al.’s study showed a massive migration of the Yamnaya people into central Europe about 4,500 years ago, one that could have spread an early form of the Indo-European language, which is the basis of most of today’s European languages.

Much of northern India also speaks Indo-European languages. In the first major work on population history in India, [Reich, Thangaraj, Patterson, Price, and Singh \(2009\)](#) used second generation sequencing technology and statistical modeling to compare the genomes of 25 diverse groups from India to the genomes of people from Western Asia, Europe, and the Andaman Islands (who are thought to be closest to the ancestral populations of southern India). They found that the “Ancestral North Indians” (ANI) form a clade with Europeans (meaning that they are closely related), but are genetically distinct from the “Ancestral South Indians” (ASI), who form a clade with the Andaman Islanders ([Reich et al., 2009](#)). Using admixture modeling, they found that different Indian groups inherited different proportions of ancestry from the ANI who are related to western Eurasians, and the ASI, who are related to the Andaman Islanders (p. 491). This parallels the language data—Northern Indian groups speak Indo-European languages, while Southern Indian groups speak Dravidian languages. However, Reich’s team called for further investigation to date the beginning of the admixture of Northern Indian and Southern Indian populations.

Thus, the work of teams examining blood group allele frequencies, mtDNA, Y-chromosome DNA, and whole genomes, all shows the same pattern. By comparing the DNA of people from around the world, scientists can determine where their ancestors came from and approximately when migrations took place. And in doing so, they

have found that the ancestors of all humans living today came from Africa ([Veeramah & Hammer, 2014](#)). We are all Africans, no matter the color of our skin.

All Humans Living Today Are One Biological Species

The sixth argument against race as biology is that all humans living today are one biological species. The most common definition of a biological species is “a group of interbreeding natural populations that are reproductively isolated from other such groups” ([Fuentes, 2012](#), p. 108). In other words, one criterion that defines populations as part of the same species is that they can mate and reproduce successfully. By that criterion, it is clear that all humans today are part of the same species. Different species, for example, fox and gray squirrels east of the Mississippi River in the U.S., do not recognize each other as potential mates. All humans, from any population group, can and do mate and reproduce successfully (unlike, for example, horses and donkeys, which can mate, but produce mules, which are infertile). [Mukhopadhyay et al. \(2014\)](#) state that “Contemporary humans are, and always have been, one species, with roots in Africa. There are no subspecies of humans” (p. xvi).

Conclusion

On its face, race seems to be “a concept that is intuitively biologically based” ([Kittles & Weiss, 2003](#), p. 34). Yet, during the 18th century, the idea that humans could be divided into different biological races that were correlated with different traits and characteristics, such as “intelligent and hard-working” versus “unintelligent and indolent,” seems to have appeared about the same time that chattel slavery was rapidly expanding as a money-making opportunity for Europeans ([Smedley & Smedley, 2005](#)). This suggests that the idea of race had a social genesis tied to the justification of slavery. However, even during the time of Linnaeus, there were some authors, e.g., Blumenbach, who recognized that “no absolutely sharp distinction could be expected between different peoples and [that] . . . the varieties of mankind . . . seemed to have been arbitrarily chosen as to both number and definition” ([Boyd, 1950](#), as cited by [Kittles & Weiss, 2003](#), p. 35). Since then, despite the fact that humans may look very different from each other on the surface, scientists have found that under the skin, we are all alike.

In summary, there are a number of evidence-based reasons why race is not biological. First, there are no objective, identifiable traits by which people can be reliably divided into racial groups. Second, skin color, which is the primary basis of folk conceptions of race in the United States, has been shown to be the result of natural selection; it is a result of the interaction between geographical environment and random mutations in genes that affect the biosynthesis of melanin in the skin. Third, visible traits like skin color do not correlate with traits like blood groups, much less with complex traits like intelligence, athletic ability, or musical ability. Fourth, another way to show that skin color does not correlate with other human traits is to statistically compare within-population variation versus between-region variation. Researchers find that there is much more variation within a single population, like the Yoruba, than there is between geographical regions or “races” (e.g., between Europeans and sub-Saharan Africans).

Fifth, by comparing the genetic markers (mutations or SNPs) of people in populations all over the world, scientists can determine population expansion patterns of the past. Using “molecular clocks,” they can also roughly estimate how many thousands of years ago an out-migration or admixture occurred. By comparing genetic markers in mtDNA, Y-chromosome DNA, autosomal DNA or whole genomes, researchers concluded that all humans living today are descended from Africa. Furthermore, all human populations outside of Africa are descended from one hunting and gathering band that migrated from Eastern Africa, probably about 60,000 years ago. Within Africa, the ancestry of sub-Saharan African populations can be traced back to the San, who appear to have the most similarities to the ancestors of all people living today ([Li et al., 2008](#); [Tishkoff et al., 2009](#)). There is no research that supports the theory of polygenesis or multiregionalism, which posited that different “races” arose independently in different geographic regions.

Finally, because members of all human populations living today can successfully interbreed, by definition, humans constitute one species. Although some populations lived long enough in certain geographic environments for natural selection to alter characteristics like skin color, these populations were not isolated long enough to become new species. There is a great deal of both prehistoric and historic evidence for extensive global trading routes, which led to people from different groups meeting and mating over thousands of years of human history ([Fuentes, 2012](#)).

Many students in the United States equate race with skin color. The idea that race is not skin color, or a set of discrete biological types, but instead is socially constructed, is one of the most important ideas of our time. [Omi and Winant \(2015\)](#) conclude as follows: “Race is not something rooted in nature, something that reflects clear and discrete variations in human identity. But race is also not an illusion. While it may not be “real” in a biological sense, race is indeed real as a social category with definite social consequences. (p. 110)”

For many students, moving from race-as-biology to race-as-socially-constructed is as profound as learning that the earth is round, when they always knew it was flat ([Goodman et al., 2012](#)). It requires a paradigm shift. While this paradigm shift will not be sufficient to eliminate racism in our time, it is surely a necessary step in the right direction.

When I used these six scientific arguments as to why race is not biological to teach my students, I found that more of them accepted the idea that race is socially constructed. I suspect that I am not the only social scientist teaching diversity classes whose teaching may benefit from increased biological science literacy. Understanding how 21st century science supports arguments against race-as-biology will help educators assist students to make the necessary paradigm shift.


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Kay Young McChesney has an interdisciplinary background in psychology, sociology and social work. She is currently working to develop and evaluate anti-bias curricula that will effectively reduce racial/ethnic, gender, heterosexist and other biases, with the goal of creating a campus climate where all students will thrive.

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PREDICTORS OF ENGLISH HEALTH LITERACY AMONG U.S. HISPANIC IMMIGRANTS: THE IMPORTANCE OF LANGUAGE, BILINGUALISM, AND SOCIOLINGUISTIC ENVIRONMENT

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Abstract

In the United States, data confirm that Spanish-speaking immigrants are particularly affected by the negative health outcomes associated with low health literacy. Although the literature points to variables such as age, educational background and language, only a few studies have investigated the factors that may influence health literacy in this group. Similarly, the role that bilingualism and/or multilingualism play in health literacy assessment continues to be an issue in need of further research. The purpose of this study was to examine the predictors of English health literacy among adult Hispanic immigrants whose self-reported primary language is Spanish, but who live and function in a bilingual community. It also explored issues related to the language of the instrument. An analysis of data collected through a randomized controlled study was conducted. Results identified English proficiency as the strongest predictor of health literacy ($p < 0.001$). The results further point to the importance of primary and secondary language in the assessment of health literacy level. This study raises many questions in need of further investigation to clarify how language proficiency and sociolinguistic environment affect health literacy in language minority adults; proposes language approaches that may be more appropriate for measuring health literacy in these populations; and recommends further place-based research to determine whether the connection between language proficiency and health is generalizable to border communities.

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Background

The 2003 National Assessment of Adult Literacy (NAAL) found that Hispanics in the United States (U.S.) had lower levels of health literacy compared to other population groups (U. S. Department of Education 2006). However, recent reports and research studies have concluded that there is a need for more recent and reliable data on health literacy among certain groups, including Hispanics and Spanish-speaking adults (Berkman, et al 2011, Koskan, Friedman & Hilfinger Messias 2010, Soto Mas, et al 2015, Soto Mas, Mein, Fuentes, Thatcher & Balcázar 2013, Soto Mas, Ji, Fuentes & Tinajero 2015, U.S. Department of Health and Human Services 2010). The national-level data is more than 10 years old, and there is a scarcity of current information on the health literacy levels of populations with limited English language skills (U.S. Department of Health and Human Services

2010). Although the 2003 NAAL embedded most of the health-related questions into the main section of the questionnaire, it may not be an appropriate tool for assessing health literacy among non-English speakers. First, NAAL measures English oral fluency and “how well Americans perform tasks with printed materials similar to those they encounter in their daily lives at work, at home, and in the community,” which may include balancing a checkbook (quantitative literacy), filling out a job application (document literacy), or finding information in a news article (prose literacy) (National Center for Education Statistics [NCES] n.d.). Under this framework, English proficiency, or the lack thereof, becomes a confounding factor in the assessment of health literacy. Similarly, people who are not originally from the U.S. may find scenarios and tasks portrayed by NAAL foreign to them, which adds an additional threat to the internal validity of the instrument.

Aside from the data generated by the 2003 NAAL, only regional U.S. studies have assessed the health literacy level of Hispanics, mostly in clinical settings, and with conflicting results. Studies in North Carolina, New York, and California found high prevalence of low health literacy among male and female patients (Brice, et al 2008, Garbers, Schmitt, Rappa & Chiasson 2010, Sudore, et al 2009). To the contrary, a study with primary care patients on the U.S.-Mexico border found that more than 98% had adequate health literacy (Penaranda, Diaz, Noriega & Shokar 2012). A more recent study with Hispanic college students on the U.S.-Mexico border also found higher levels of health literacy in this group than in the general Hispanic population, and similar to educated U.S. adults (Mas, Jacobson & Dong 2014).

There are also inconsistencies across studies in terms of the factors that have been identified as possibly influencing health literacy among Hispanics. In the general U.S. population, national data identified gender, age, educational level, and language as relevant variables affecting health literacy level. The 2003 NAAL found that women had higher average health literacy than men; adults 65 years-of-age and older had lower health literacy compared to younger adults; and average health literacy increased with higher level of educational attainment (Kutner, Greenberg, Jin & Paulsen 2006). In the case of Hispanics, however, there are conflicting results due in part to the fact that these variables have only been explored in small studies with different demographic groups. One study found that education was a significant predictor of health literacy but that age, gender, income, and citizenship status were not (Boyas 2013). Two recent studies suggested that education and age may have an effect on health literacy (Mas, Jacobson & Dong 2014, Soto Mas, Ji, Fuentes & Tinajero 2015). Although these discrepancies may be related to the disparate designs, sub-populations and instruments generally used in studies with Hispanics (Koskan, Friedman & Hilfinger Messias 2010, Soto Mas, et al 2015), there are also relevant conceptual issues relating to health literacy that must be further explored. For instance, health literacy has no single, standard definition. At times it is defined as simply the ability to read and write, and in other cases it is more comprehensively linked to socio-cultural and political change (Soto Mas, Jacobson, Balcázar 2015). Methodological approaches vary according to the definition used by the study. Similarly, the roles that both primary (L1) and secondary (L2) language use and proficiency play in health literacy assessment in bilingual communities has not been researched or discussed in the literature. In the U.S., this is particularly relevant for Spanish speakers, as more than 37 million people speak Spanish, and approximately half of them speak English “less than very well”, with the rest speaking English at varying levels of proficiency (Ryan 2013). In addition, no research to date has explored the interaction within bilinguals of L1 and L2 languages, and impact on health literacy levels. Future research should explore the role L1 literacy plays as a predictor variable of L2 health literacy.

Another issue to consider is the fact that health literacy has generally been defined as the ability to understand *English* health information (Kirsch, Jungeblut, Jenkins & Kolstad 1993, Kutner, Greenberg, Jin & Paulsen 2006, Nielsen-Bohman, Panzer & Kindig 2004), and is a construct that is embedded within the U.S. healthcare system, which is predominately English-speaking. Studies have found that even when health literacy assessments are conducted in Spanish, participants whose L1 is self-reported as Spanish have lower health literacy than L1 English speakers (Brice, et al 2008, Garbers, Schmitt, Rappa & Chiasson 2010, Sentell & Braun 2012, Williams, Parker & Baker 1995). Researchers have debated whether or not it is appropriate to measure health literacy in other than the L1 of the participant, and recommend that studies with Hispanics control for language use (that is, collect data on the languages used by participants for different purposes and contexts) and language proficiency (Koskan, Friedman & Hilfinger Messias 2010, Mas, Jacobson & Dong 2014, Soto Mas, et al 2015, Soto Mas, Ji, Fuentes & Tinajero 2015). In fact, NAAL includes a questionnaire with items on language background (NCES n.d.). However, these variables are difficult to control without going beyond self-report on language use and conducting proficiency testing in the participants’ languages. And even if these variables were controlled, the question still remains as to how the interaction between two languages in a bilingual individual impacts the results, or, just as importantly, the interpretation of the results, of commonly used health literacy assessments, such as the Test of Functional Health Literacy in Adults (TOFHLA) and the Program for the International Assessment of Adult Competencies (PIAAC). TOFHLA measures functional health literacy by assessing numeracy and reading comprehension using actual health-related materials such as prescription bottle labels and

appointment slips, and is available in both English and Spanish (Peppercorn Books & Press, Inc.). PIAAC assesses literacy by measuring “understanding, evaluating, using, and engaging with written texts to participate in society”. Although PIAAC is part of an international program involving more than 20 countries and is available in multiple languages, it is administered in the “official language” of each of the participating countries (Organisation for Economic Co-operation and Development [OECD] 2012).

In the Hispanic communities that exist throughout the U.S. where the majority of Spanish speakers are bilingual to some degree along a continuum, it is not clear which health literacy assessment tool should be used. Hispanics in the U.S. cannot be reduced to such simple categories as “Limited English Proficient” as is currently the practice: language use among Hispanic groups throughout the U.S. is complex and dynamic, and requires much deeper exploration in order to better understand health literacy among these groups. It often is not clear which literacy tests, the English test or the Spanish test, will provide the most reliable health literacy score in bilinguals. For example, which test will provide the most reliable score for a bilingual who speaks Spanish primarily at home, but uses English at work, or for the bilingual who obtained a high school equivalent education in a Spanish-speaking country, but has resided in the U.S. for 10 years? There is great complexity involved in measuring health literacy among bilinguals, leading to other unexplored questions: does having low health literacy in Spanish constitute low health literacy in English and vice versa? Does the score on a test of health literacy in Spanish predict how a person will access or process information in English in an English-speaking context? In other words, if a person has high health literacy in Spanish, what does this mean when faced with the challenges of accessing information in an English-speaking context? These and a myriad others are questions that have not been addressed in the literature.

It is such complexity that justified this study. The purpose was to examine the predictors of health literacy, assessed in English, among adult Hispanic immigrants. Variables of age, sex, years living in the U.S., education level, whether participants attended English classes and school or college in the U.S., and language history and preferences were included in the analysis. The study involved immigrants whose L1 is Spanish but who show varying degrees of proficiency in English. In other words, these immigrants fall along a bilingual continuum, according to the demographic information provided. Issues related to the language of the instrument, specifically the significance of the language of the test and the sociolinguistic environment of the community in which the data were collected are also explored.

This was part of a larger study conducted in a southern city on the U.S.-Mexico border that assessed the effectiveness of a curriculum in improving health literacy and English proficiency among Hispanic adults. Information on the curriculum and the results of the intervention have been reported previously (Soto Mas, Mein, Fuentes, Thatcher & Balcázar 2013, Soto Mas, Ji, Fuentes & Tinajero 2015). The study obtained approval by the Institutional Review Board and all participants signed an informed consent.

Methods

This study involved an analysis of baseline data collected for a randomized controlled study and included only self-reported immigrants.

Participants

Participants were recruited from the community through local Spanish media. The original inclusion criteria for the larger study included adults (21+ years of age) with Spanish as their L1, able to read and write Spanish, and self-reported as having no previous participation in a formal health/cardiovascular education/prevention program. Since the interest of the study was to assess health literacy in English, only people with a low to intermediate level of English proficiency -able to read, write and speak English at a basic level- were included in the study. For this analysis, the number of eligible cases was adjusted to include only those who were born outside the U.S. as a means of controlling for immigration status.

Data Collection and Measures

Prior to inclusion, all individuals who met the criteria and indicated interest in participating were screened for English proficiency. The Combined English Language Skills Assessment (CELSA) (Association of Classroom Teacher Testers, CA) was used. CELSA is a standard computerized proficiency test that measures grammatical

ability and understanding of meaning in a typical reading context, and is generally used as a placement test in foreign language programs. The test is written in English and all instructions are given in English only. It establishes three levels of language proficiency based on the obtained score: 90-102 level 1, 103-107 level 2, and 108-114 level 3 (Thompson 1994).

Health literacy was assessed using the English version of the TOFHLA, which has proven to be a valid and reliable instrument for testing literacy in a particular domain (healthcare) in which particular domain-specific documents are used, including, for example pharmaceutical labels and patient education materials (Parker, Baker, Williams & Nurss 1995). Assessment of health-related reading fluency is essential because, as a predictor variable, it is more powerful than a measure of general reading fluency in “detecting associations with health outcomes” (Baker, 2006). In addition, it is not possible to simply assume a correlation between general reading fluency and health literacy. TOFHLA classifies participants in three categories according to their total score: inadequate functional health literacy, marginal functional health literacy, and adequate functional health literacy.

Participants were also asked to complete a brief bilingual demographic questionnaire that included questions on: age, sex, years living in the U.S., education level, whether they attended English classes and school or college in the U.S., and language history and preferences (see Table 1 below).

Table 1: Demographics for categorical variables (n=144)

	%	No.
Age in years		
30 or less	9.7	14
31-45	41.0	59
46-60	44.4	64
60+	4.9	7
Sex		
Male	22.2	32
Female	77.8	112
Years in the U.S.		
0-3 years	17.4	25
4-7 years	9.0	13
8 or more years	73.6	106
Education level		
Less than high school	18.8	27
High school degree	37.5	54
Post high school education	43.8	63
Language spoken at home		
Spanish	80.6	116

	%	No.
Both/English	19.4	28
Attended school/college in the U.S.		
Yes	38.9	56
No	61.1	88
Years of U.S. schooling		
None	61.1	88
1 or less	14.6	21
1 to 2	14.6	21
More than 2	9.7	14
Length of English classes		
1 year or less	44.4	64
More than 1 year	55.6	80

Data Analysis

Data quality included crosschecking 100% of the cases. Missing data was minimal. For this study, all analyses were conducted in Stata v13 (StataCorp, 2013) and using complete cases only. The original study included 181 participants. This analysis was conducted with 144 participants after excluding incomplete cases and those who were born in the U.S. and did not meet the immigrant criterion (10 cases).

Associations between demographic characteristics, English proficiency, and health literacy were quantified. The continuous outcome measures were total TOFHLA scores (range 0-100), weighted numeracy scores (range 0-50), and reading comprehension scores (range 0-50). Total TOFHLA scores were categorized into inadequate functional health literacy (score 0-59), marginal functional health literacy (60-74), and adequate functional health literacy (75-100).

Demographic predictors of interest in the study included all demographic variables and English proficiency (CELSA score) at baseline. Simple linear regression models were used to calculate differences in means across levels of the predictors. For each continuous outcome, changes were estimated as a function of each predictor, along with confidence intervals. For continuous predictors, the linear model was compared to models with higher-order polynomial terms using an F-test. For ordinal categorical variables, the saturated model was compared to a linear trend model using an F-test. Regression coefficient F-tests were used to test for differences in the average outcome as a function of each predictor in the univariate analysis. In a multivariate analysis, a multiple linear regression model was used to summarize effects of English proficiency, controlling for the other predictors. Non-significant terms were dropped from the multiple regression model using a backwards stepwise procedure with a p-value threshold of 0.1.

Differences were examined in the TOFHLA categories across quartiles of English proficiency scores and testing for an association between the categorical outcome and quartiles using a Pearson chi-square test. All hypothesis tests were conducted at the 0.05 level of significance and confidence intervals at the 95% level.

It is important to note that although the original study implemented a randomized control, pretest and posttest design, this analysis was conducted only on the baseline data. The aim was to make a prediction, rather than establishing a causal inference.

Results

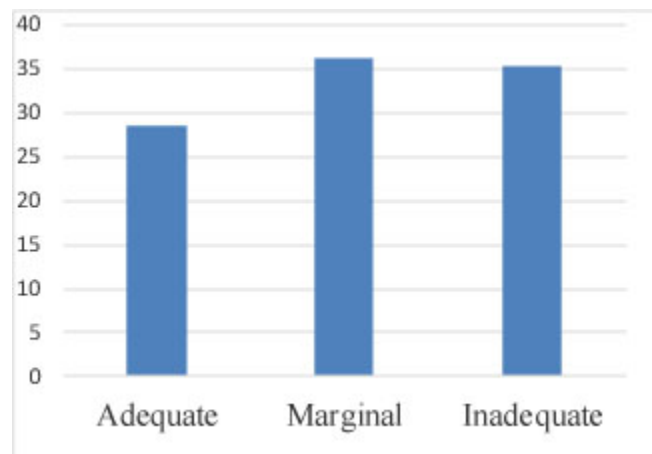
Demographic characteristics of the sample are included in [Table 1](#). The majority were 31 to 60 years of age (85%), female (78%), and had been living in the U.S. for eight or more years (74%). More than 80% graduated from high school or had a higher degree, and less than 40% attended school/college in the U.S. Regarding language background and preferences, a high majority spoke Spanish at home (81%). Descriptive statistics for test scores are included in [Table 2](#).

Table 2: Descriptive statistics for test outcomes (n=144)

	Mean	Median	SD	Min	Max
Total TOFHLA	63.7	65.0	16.5	24.0	94.0
Numeracy (wt)	29.9	30.0	10.2	3.0	48.0
Reading comprehension	33.8	35.0	9.0	0.0	50.0
English proficiency	99.8	101.0	5.6	90.0	116.0

TOFHLA results yielded an overall marginal functional health literacy level (mean score 63.7), with 51 (35.4%) participants at the inadequate level; 52 (36.1%) at the marginal level, and 41 (28.5%) at the adequate level. Reading comprehension mean score was higher (33.8) than that for numeracy (29.9).

Figure 1. TOFHLA results, percent of respondents at each health literacy level



There was no evidence of non-linearities in the relationship between the continuous variables (English language proficiency and age) and any of the outcomes. Therefore, the continuous variables were included as linear terms in the regression models. The estimated mean test scores, with 95% confidence intervals, as a function of the predictor variables are shown in [Table 3](#). English proficiency was the strongest predictor of health literacy scores. The estimated average TOFHLA score increased linearly with English proficiency score ($p < 0.001$). As shown, 1 standard deviation increase in English proficiency resulted in an estimated 10 point increase in TOFHLA score. There was no evidence of a difference in mean TOFHLA score and any of the other variables. Numeracy and reading comprehension scores also increased with English proficiency score. Average reading comprehension score was higher in those with more than 1 year of English language courses. There was no evidence of differences in mean reading or numeracy scores across levels of any of the other variables (though age was almost a statistically significant predictor of numeracy).

Table 3: Average total TOFHLA, reading, and numeracy test scores across different demographic predictor variables.

	Total TOFHLA Mean 95% CI	Numeracy (wt) Mean 95% CI	Reading comprehension Mean 95% CI
English proficiency score 94.4 100.0 105.6	54.68 [51.53,57.83] 63.98 [61.72,66.23] 73.28 [70.03,76.52] p* < 0.001	26.79 [24.55,29.03] 30.02 [28.41,31.62] 33.24 [30.93,35.55] p < 0.001	27.89 [26.33,29.44] 33.96 [32.85,35.07] 40.03 [38.43,41.63] p < 0.001
Age 35.5 45.5 55.5	64.67 [60.89,68.44] 63.66 [60.94,66.39] 62.66 [58.71,66.60] p = 0.468	31.32 [28.99,33.64] 29.86 [28.18,31.54] 28.40 [25.97,30.83] p = 0.088	33.35 [31.28,35.42] 33.80 [32.31,35.30] 34.26 [32.09,36.43] p = 0.551
Sex Male Female	66.69 [60.93,72.45] 62.86 [59.78,65.94] p = 0.248	32.25 [28.68,35.82] 29.26 [27.35,31.16] p = 0.146	34.44 [31.26,37.62] 33.60 [31.90,35.30] p = 0.646
Years in U.S. 0-3 years 4-7 years 8 or more years	62.0 [55.45,68.55] 60.08 [51.00,69.16] 64.56 [61.38,67.74] p = 0.559	29.16 [25.09,33.23] 27.92 [22.28,33.56] 30.35 [28.37,32.32] p = 0.668	32.84 [29.34,36.44] 32.15 [27.16,37.15] 34.21 [32.46,35.96] p = 0.634
Education level Less than high school High school More than high school	59.86 [53.60,66.17] 64.50 [60.06,68.94] 64.67 [60.55,68.78] p = 0.413	28.78 [24.86,32.70] 30.35 [27.58,33.12] 30.05 [27.48,32.61] p = 0.804	31.11 [27.67,34.55] 34.15 [31.72,36.58] 34.62 [32.37,36.37] p = 0.228
Language spoken at home Spanish English/Both	63.54 [60.50,66.58] 64.39 [58.20,70.58] p = 0.808	30.01 [28.12,31.90] 29.57 [25.73,33.41] p = 0.84	33.53 [31.87,35.20] 34.82 [31.43,38.22] p = 0.502
Attended school/college in U.S. Yes No	65.30 [60.94,69.67] 62.69 [59.21,66.17] p = 0.357	30.75 [28.04,33.46] 29.40 [27.24,31.56] p = 0.442	34.55 [32.16,36.95] 33.30 [31.38,35.21] p = 0.419
Years of U.S. schooling None 1 or less 1 to 2 More than 2	62.69 [59.16,66.20] 65.38 [58.21,72.55] 66.19 [59.02,73.36] 63.86 [55.07,72.64] p = 0.799	29.40 [27.22,31.57] 31.57 [27.12,36.03] 30.43 [25.97,34.88] 30.0 [24.55,35.45] p = 0.846	33.30 [31.37,35.22] 33.81 [29.87,37.75] 35.76 [31.83,39.70] 33.86 [29.04,38.68] p = 0.744
Length of English classes 1 year or less More than 1 year	60.80 [56.75,64.84] 66.04 [62.42,69.65] p = 0.058	29.22 [26.68,31.75] 30.49 [28.22,32.76] p = 0.462	31.58 [29.38,33.77] 35.55 [33.59,37.51] p = 0.009

*p-values correspond to a test of no difference in average mean across levels of the predictor from a linear regression model. For continuous variables (age and English proficiency), the estimated mean and confidence intervals are shown when the predictor is set to the average and ± 1 standard deviation from the average. Results from the multiple linear regression models are in [Table 4](#). After implementing the stepwise selection procedure, age and English proficiency were the only variables retained in the linear regression models for total TOFHLA score and numeracy score; and English proficiency was the only variable retained in the model for the reading comprehension score. The relationship between English proficiency and the three continuous outcomes, total TOFHLA, weighted numeracy, and reading comprehension, remained statistically significant ($p < 0.001$). After adjusting for English proficiency score, the magnitudes of the age-total TOFHLA and age-numeracy score

associations increase; specifically, the average numeracy score decreases on average with age ($p = 0.02$), resulting in a trend of a decrease in total TOFHLA scores with age ($p = 0.07$). There was no evidence of a difference in reading comprehension score as a function of age.

Table 4: Multiple regression results.*

	Total TOFHLA	Numeracy	Reading Comprehension
Estimated change in English score 95% CI for the estimated change (5.6 point increase) p-value**	9.49 7.24, 11.73 0.000	3.42 1.83, 5.01 0.000	6.04 4.93, 7.15 0.000
Estimated change in age 95% CI for the estimated change (10 year increase) p-value**	-2.16 -4.37, .14 0.066	-1.86 -3.46, -.26 0.023	–

*The results correspond to changes in the average outcome for a 1 standard deviation increase in the predictor.

**p-value corresponding to the null hypothesis of no change as a function of the predictor. TOFHLA category frequencies as a function of quartiles of English language score are shown in [Table 5](#). The same pattern of monotonic increase in TOFHLA performance as a function of English language score is evident.

Table 5: Row percents and 95% confidence intervals for categories of total TOFLHA score across quartiles of English language score.*

Quartiles of English score	Inadequate functional health literacy	Marginal functional health literacy	Adequate functional health literacy
1	62.5 (46.58, 76.11)	32.5 (19.77, 48.47)	5.00 (1.23, 18.16)
2	40.48 (26.71, 55.92)	40.48 (26.71, 55.92)	19.05 (9.74, 33.91)
3	19.35 (8.88, 37.16)	35.48 (20.71, 53.66)	45.16 (28.7, 62.76)
4	09.68 (3.11, 26.34)	35.48 (20.71, 53.66)	54.84 (37.24, 71.3)
Total	35.42 (27.96, 43.66)	36.11 (28.6, 44.36)	28.47 (21.63, 36.47)

*Pearson chi-square p-value for testing the null of no association between quartiles of English score and categories of TOFLHA score <0.0001.

Discussion

To our knowledge, this is one of few studies that have explored predictors of English health literacy specifically among U.S. adult Hispanic immigrant bilinguals. There is consensus among experts on the need for further research involving language minorities and exploring the relationship between health literacy and limited English proficiency (McKee & Paasche-Orlow 2012, Sentell & Braun 2012). Consistent with the literature, the study emphasizes language history and preferences. The demographic data suggest a continuum of bilingualism in this sample, as influenced by number of years living in the U.S.; experience with the U.S. education system; and amount of time in English classes. A strength of the study was the fact that English proficiency was assessed through a standard test, rather than self-reported. In addition, by including only participants born outside of the U.S. it was assumed that participants had a high proficiency in oral Spanish, although future studies would benefit from also administering a test in Spanish, as suggested by the varying levels of education in this sample.

Additionally, the study individually explored two key health literacy domains: reading comprehension and numeracy. Finally, analyses included absolute TOFHLA score as well as categorical results or health literacy level. It might appear that using an English instrument would compromise the validity of the test when administered to Spanish speakers, as is argued in the literature. However, it is essential to consider that the use of a Spanish instrument would be equally problematic, unless all of the participants being assessed have no fluency in English (such as being recent arrivals to the U.S.).

Overall, TOFHLA results indicated marginal functional health literacy in this sample, when measured in English. This result is consistent with existing national data. The 2003 NAAL found that 66% of Hispanics had “basic” or “below basic” health literacy (Kutner, Greenberg, Jin & Paulsen 2006), and that 13.8% of Medicare managed-care Spanish speaking enrollees had inadequate health literacy (Wolf, Gazmararian & Baker 2007). However, it is important to remember that small regional and clinical studies with Hispanics have provided inconsistent results, some finding a high prevalence of limited health literacy (Brice, et al 2008, Garbers, Schmitt, Rappa & Chiasson 2010, Sudore, et al 2009), and others finding a high percentage of people with adequate health literacy (Mas, Jacobson & Dong 2014, Penaranda, Diaz, Noriega & Shokar 2012,). As mentioned previously, these discrepancies may be related to a number of theoretical and methodological issues that must be further explored, including geographical and sociolinguistic factors.

This study identified English proficiency as the strongest predictor of TOFHLA scores among participants, including numeracy and reading comprehension scores. Results indicate that time attending English language courses may also constitute a relevant factor affecting functional English health literacy. Categorical results confirmed the positive effect of English proficiency on health literacy (Table 5). These results are consistent with previous literature emphasizing the importance of English language proficiency in health literacy (McKee & Paasche-Orlow 2012, Pippins, Alegria & Haas 2007, Sentell & Braun 2012). This study also found evidence that younger participants obtained higher numeracy scores (after adjusting for English proficiency). Thus, age may be a relevant demographic factor associated with functional health literacy and numeracy in this population. A previous study with Hispanics in Arkansas found that age and gender were not significant predictors of health literacy scores (Boyas 2013), however it is not clear whether that study controlled for immigrant status or proficiency in English and Spanish.

As would be expected, completing the test in a language in which the participants were not highly proficient seems to have negatively affected the outcome of the test. The typical argument to recommend testing health literacy in English is that English is the dominant language in the healthcare system in the U.S., and that there is therefore a need for the general public to understand English health information (Kirsch, Jungeblut, Jenkins & Kolstad 1993, Kutner, Greenberg, Jin & Paulsen 2006, Nielsen-Bohman, Panzer & Kindig 2004). In addition to the obvious question of whether similar results would have been obtained if the Spanish TOHFLA had been implemented, it is also important to consider the implications of marginal health literacy within the sociolinguistic context of metroplexes on the border such as the one in which the study was conducted. This context provides an opportunity to call into question the significance of low or marginal health literacy and Limited English Proficiency (LEP) across subpopulations of Hispanics.

The study was conducted in a U.S.-Mexico border community in which the language environment and language needs and preferences vary from other non-border communities. In the city where the study was conducted, more than 80% of the population is Hispanic/Latino, and more than 71% of the residents speak Spanish at home (U.S. Census Bureau 2014). Daily activities in all social domains are negotiated among individuals who lie along a broad continuum of Spanish and English bilingualism (Teschner 1995). What has not been sufficiently explored in the literature is whether English proficiency and functional health literacy in English, as measured using currently available instruments, are essential to obtaining reliable health information and accessing the health care system in a community in which most people have learned to navigate a bicultural and bilingual environment and are familiar with the established health care systems (on both sides of the border). Although studies have found that LEP constitutes a barrier to health care and is associated with poorer health status in Hispanics (Pippins, Alegria & Haas 2007), whether this is true among the border communities of this study and other border communities is an issue in need of further investigation. It is possible that in communities in which there is not a pressing need for learning and using English to carry out normal daily activities, and in which meaning negotiation among bilinguals is the norm, including within the available health care systems accessed in two countries, the connection between LEP, low English health literacy and poorer health outcomes is not as evident. However, it cannot be assumed that health literacy levels have no impact on health outcomes in this context, either. There is an urgent need for further research into border bilingual communities, and on how to measure health literacy within such richly layered social and linguistic contexts. In this particular border community, for example, the hospital systems lack professional interpreters and translators, and no research to date has explored how provider-patient interactions

take place; how accessible information is in both languages; and how individuals with different levels of literacy and bilingualism navigate the system.

In summary, the language of the instrument used to assess health literacy level; the L1 and L2 proficiency of participants; and the geographic and sociolinguistic environment are variables that merit further consideration in health literacy research. Concerning the former, we may accept that, for the most part, the language of the healthcare system in the U.S. is English and that L1 Spanish speakers have lower English health literacy than native English speakers (Sentell & Braun 2012, Williams, Parker & Baker 1995). However, researchers have also recommended that future research consider whether differences in health literacy level among U.S. Hispanics is determined by language use alone or associated with cultural adaptations such as health beliefs and practices (Boyas 2013). We contend here that geography and sociolinguistic environment must also be integrated into research on health literacy. In addition, this research must go beyond implementation of health literacy tests to in-depth sociolinguistic and ethnographic analysis of particular geographic areas, including within hospital and clinical settings. These observations may apply globally to other border areas. Additionally, there are some other relevant global questions related to language acquisition and proficiency that urgently need to be addressed. First, there is general consensus among language acquisition researchers that L1 language proficiency directly influences second language (L2) acquisition. According to Cummins' language interdependence principle, academic aspects of language proficiency, including literacy (reading and writing) of L1 proficiency, are transferable to L2 (Cummins 1991, Cummins 2012). This suggests that a bilingual person who has high literacy in L1 is likely to perform better on a test of L2 literacy. Future studies in health literacy should test for both L1 and L2 proficiency, and collect explicit data on educational attainment in L1 and L2 in order to explore the complex interdependence of literacies. Only through such rigorous, in-depth language research will it be possible to fully understand the significance of the results of literacy tests and the challenges faced by LEP populations in accessing the healthcare system throughout the U.S.

Limitations

The results and contribution of the present study must be considered within its particular design and the characteristics of the participants, as well as the context in which the study was conducted. For instance, health literacy was assessed in English and participants included only immigrants whose L1 was Spanish with a low-to-intermediate level of English. However, the majority had a high school or higher degree, had lived in the U.S. for eight or more years, and more than half had taken English classes for more than 1 year. Thus, findings cannot be generalized to the general Hispanic population: demographic and contextual factors vary according to sociocultural and geographical context. We reemphasize here that a weakness in many health literacy studies in general has been a lack of in-depth description of study populations and settings. Without such description, it is difficult to tease apart contributors to low health literacy, and to interpret the impact on healthcare access and outcomes accurately.

This was a small exploratory study, and results may only apply to adults with the same characteristics as those of the study population. The study used a health literacy definition that includes only functional health literacy. The TOFHLA was not administered individually, but rather to an entire group. Although the content of the test was not altered, results may not be comparable to one-on-one administration. In addition, Spanish proficiency levels were collected through self-report of language used at home. Finally, only variables that were the focus of the original study were explored, which were limited. Including other independent and dependent variables may have yielded additional significant results.

Conclusions

The results of this study emphasize the importance of considering both language context and language use in health literacy research, particularly in the interpretation of the results of health literacy assessments. Contextual factors must be considered in studies looking at the impact of health literacy on health outcomes, including health access, health quality and health status. This is especially important in the U.S., considering the growth of the Spanish speaking population in many communities across the country, particularly along the U.S.-Mexico border region. Globally, language diversity is facilitated by globalization, immigration, and displacement of people. Language use is a contextual factor that may influence health care and health outcomes, and assessing L1 and L2 proficiency should become the norm in health literacy studies with language minorities. Health literacy research must further explore the role of bilingualism in health literacy among Hispanics, and clarify the factors that must be considered when measuring health literacy in this group. This study raises many questions in need of further

investigation to clarify how language proficiency and sociolinguistic environment affect health literacy in language minority adults; proposes language approaches that may be more appropriate for measuring health literacy in these populations; and recommends further place-based research to determine whether the connection between language proficiency and health is generalizable to border communities.

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THE GREAT REPUBLICAN CRACK-UP

By Alec MacGillis
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LAST SEPT. 2, Don Phillips sat down at his desk at the Mandalay banquet hall along the interstate just south of Dayton, Ohio, and composed an angry letter to the congressman from the adjoining district, the highest-ranking elected Republican in the country, then-House Speaker John Boehner.

Dear John:

What has Congress done to solve any of these problems that affect all Americans? ... What's going on with the Republicans? No wonder people are so interested in **TRUMP**. Everyone is sick of electing politicians that do nothing and continue to go on vacations and work three days a week when the Country is in trouble. Congress needs to get in gear and do something to solve some of these problems.

The letter was, quite literally, a "Dear John" break-up declaration. Phillips was once the picture of a Midwestern establishment Republican. He is a successful businessman who started out delivering food to the cafeterias and vending machines at the factories and tool-and-die shops that used to be all over Dayton. Thirty-two years ago, he built the Mandalay, the giant windowless catering hall on I-75, between the industrial park and the for-profit college. He has voted Republican in every presidential election since 1964. His upstairs office, where elevator music is piped in on the Mandalay's audio system, has pictures of himself with George H.W. Bush on the walls, a Bush commemorative golf putter leaning against the shelves, and a copy of Karl Rove's latest book on his desk. There is a framed certificate from 1981 declaring Phillips a member of the "Senate Business Advisory Board" in "recognition of his commitment to preserve and strengthen the American free enterprise system." For the past few years, Phillips even let the Montgomery County Republican Party use a room at the Mandalay for its headquarters.

He had known Boehner for three decades — had considered him a friend, had attended his golf tournaments. Yet the time for the break had come.

Whatever the reason you cannot do what needs to be done to lead your party, the American people need to step up to the plate and get people in Washington that can do the job, whether we are talking about the President, Congress or your job.

Can you name any major accomplishment that has been achieved for the American people since you have been Speaker? Everyone we know is disappointed in what is going on with the Congress.

Three weeks after Phillips sent the letter, Boehner announced his resignation. While Phillips was under no illusions that his letter had played a part in Boehner's decision, he saw his own discontent with the party leadership as part of a swelling dissent that had, by that point, upended the Republican presidential campaign. In 2012, Phillips had supported Mitt Romney in the primaries. Yet this year, the man who housed the Republican establishment in his own building was supporting the man running against it.

"I feel very good about Trump. I'm for Trump 100 percent. I'm a Trump man and a lot of my family are Trump," he said. His wife, Cay, who often handles the Mandalay's front desk, had been wary of Donald Trump because of "some of the things he was saying," but then she read Trump's latest book and changed her mind. "He really knows what he's doing," Don Phillips said. "He'll put people around him. He has no obligations to Washington. Washington is broken. I definitely feel Trump is the answer to America."

The disruption that the nomination of Trump represents for the party of Lincoln, Eisenhower and Reagan has been cast as a freakish anomaly, the equivalent of the earthquakes that hit the other side of Ohio in recent years. But just as those earthquakes had a likely explanation — gas and oil fracking in the Utica Shale — so can the crackup of the Republican Party and rise of Trump be traced back to what the geologists call the local site conditions.

It's no secret the country has sorted itself into ever-more polarized camps. What is underappreciated is how much that dynamic has played out even within regions, even within a single relatively small metropolitan area like Dayton. The city along the Great Miami River, an hour north of Cincinnati, was once a bastion of moderation and heterodoxy, the sort of place where the spectrum was jumbled with conservative Democrats, liberal Republicans and everything in between. But a combination of trends — among them suburban flight, deindustrialization, the flip of the Solid South to Republicans — changed everything.



Don Phillips was for Mitt Romney in the 2012 primaries and housed the local Republican Party at his banquet hall, the Mandalay. But this year, he was for Trump. (Ty Wright for ProPublica)

By 2016, the Dayton area consisted of an urban core greatly diminished in stature yet also increasingly assertive in its liberalism, to the degree that it had even made itself into a national poster child for tolerance toward immigrants. Meanwhile, Dayton's outlying areas were both home to a much larger share of the region's people and commerce and to a conservatism that was far more strident and monolithic than anything the area had known

in decades past. Caught in the middle, in a political no man's land, were people who were at home in neither realm, descendants of conservative Democrats who had drifted from that party as it grew more culturally liberal and coastally oriented, yet who had formed only a tenuous connection with Republicans, one based more on grievance than ideology.

Both parties had been transformed, but such was the nature of the realignment that in 2016, it was the Republican Party that suffered a crackup. For decades, Dayton has been one of the most competitive cities in one of the most competitive states in the country. In 2012, when Barack Obama narrowly won Ohio, he took Montgomery County, in which Dayton sits, by only 3 percentage points, making it the most closely contested of Ohio's half-dozen biggest urban counties. This year, Dayton became a bellwether once again: When Ohio Republicans [went to the polls](#) in March to pick their nominee, of the nine largest counties in the state, Montgomery County was where Donald Trump fared best.

The stresses that created these Trump voters had been building for decades in places like Dayton. For the most part, the political establishment ignored, dismissed or overlooked these forces, until suddenly they blew apart nearly everyone's blueprint for the presidential campaign.

"You brought everyone else along with you."

In 1971, another letter to another Republican congressman from Ohio: Jacqueline Kennedy wrote to William McCulloch to wish him well on his retirement from the House of Representatives. This was not something that former first ladies did often — especially to members of the opposing party — but McCulloch was a special case. "You, more than anyone, were responsible for the civil rights legislation of the 1960s," she wrote. "There were so many opportunities to sabotage the bill, without appearing to do so, but you never took them. On the contrary, you brought everyone else along with you."



Rep. William McCulloch in his Washington office on Sept. 11, 1963. (Bob Schutz/AP Photo)

There was little exaggeration in this praise. McCulloch, a [country lawyer from tiny Piqua](#), just north of Dayton, was a conservative in the Old Guard mold that had defined Ohio Republicanism since Robert Taft: fiscally prudent, wary of foreign entanglement, even-keeled to the point of stodgy. He wore red suspenders, returned a portion of his congressional office allowance each year and forswore spending pork for his district. He supported gun ownership and school prayer and opposed many social welfare programs. But he was also the proud descendant of abolitionists and had goaded President John F. Kennedy into pushing forward on civil rights and had then played a leading role in seeing the legislation home after Kennedy's assassination. "To do less," he said, "would be to shirk our responsibility as national legislators and as human beings who honor the principles of liberty and justice."

In this, McCulloch was no outlier among fellow Ohio Republicans. The state leaned Republican back then — in 1960, Richard Nixon had beaten Kennedy in the state by 5 points, almost exactly the margin of victory he got in bellwether Montgomery County. Eighteen of the state's 24 congressional seats were held by Republicans in 1963 and 1964. And of them, [all but one voted for the Civil Rights Act](#), putting Ohio Republicans in a class of their own

in supporting the bill. (All told, 136 House Republicans voted yea, and 35 nay.) The state had, after all, long prided itself on its history as a beacon of liberty: cross the Ohio River from Kentucky and you were free. It had lost the third-most men on the Union side of the Civil War, and its political culture shared quite a bit with Yankee New England, from which many of its early inhabitants had moved, especially in the state's northern half.

McCulloch's mantle as Republican civil rights champion was soon assumed by Dayton's own congressman, Charles Whalen. Urbane and cerebral — he attended Harvard Business School before becoming an executive at the Dayton Dress Company and teaching economics at the University of Dayton — Whalen was the author of Ohio's fair-housing law in the state Legislature. He carried that commitment to Washington after he was elected to Congress in 1966 and, years later, wrote a book on the passage of the Civil Rights Act. He defied easy categorization: He vocally opposed the Vietnam War, but was also critical of War on Poverty programs and, as a Roman Catholic, opposed *Roe v. Wade*. "I have always been amused," he [once wrote](#), "when pundits refer to a Congressman as 'liberal' for voting against \$150 billion of waste in Vietnam and another Congressman as 'conservative' when he voted for it." Ideological diversity, he said, is "beneficial in that it provides the Party not only with the vitality necessary to keep astride of current political tides, but also the restraint that is helpful in making far-reaching decisions."

McCulloch and Whalen's self-confident moral authority was undergirded by the solidity and prosperity of their home base. For decades, Dayton had been an exemplar of American capitalism and ingenuity — back when America not only invented things but still made the things it invented, Dayton did a lot of both. In 1890, it generated [more patents per capita than any other city](#) — there were the Wright Brothers and their bicycle shop, of course, but also James Ritty, the saloonkeeper who invented the mechanical cash register to keep his employees from pilfering dough, and John Patterson, who transformed Ritty's invention into the National Cash Register company, and Charles Kettering, the engineer who turned Ritty's creation electric. The sound of Dayton in these years was, literally, *ka-ching*. The Third National Bank was finished with imported marble and mahogany woodwork; patrons did their business at bronze check desks. Local hotels included the Biltmore and the Algonquin — the aspirations were transparent, and not unjustified.

Kettering went on to found the auto parts giant Delco, where he developed the electrical starting motor and leaded gasoline, plus side ventures with DuPont and others to invent Freon and colored paint for cars. In the postwar years, Dayton had a [higher concentration of auto workers than anywhere outside of Michigan](#). The city swelled with new arrivals in search of work — not just African-Americans on the Great Migration, but Scots-Irish up from Kentucky and Tennessee. By 1960, Dayton was still one of the 50 largest cities in the country — bigger than Charlotte, Tucson and Austin.

But as Whalen's tenure carried into the 1970s, changes were underway. As elsewhere, the arrival of Southern blacks had been answered with white flight. In 1930, nearly three-quarters of Montgomery County's population lived in Dayton, but half a century later, that share had plummeted to less than a third. They had moved to working-class inner suburbs like Miamisburg and Huber Heights, tight-knit communities with modest, well-kept frame houses and bungalows, and more upscale Oakwood or Beavercreek, which was just across the line into Greene County. The city that remained was the [second-most racially segregated of Ohio's eight largest](#). And the Appalachian migrants had added a more conservative element to the area's political landscape.

Midway through President Nixon's first term, he had [been hooked by the 1970 book *The Real Majority*](#), which argued that the classic swing voter was the "47-year-old machinist's wife from Dayton." This voter tilted Democratic on economic issues, but Nixon and his adviser Pat Buchanan concluded that she could be won over by Republicans who stoked fears about welfare, school desegregation and crime. The irony was that the district with exactly the demographic being targeted by Nixon was being represented throughout the 1970s by a Republican — one with an entirely different sort of politics than what Nixon envisioned.

But by 1978, Whalen was coming under increasing pressure from local Republicans fed up with his liberal bent. Facing a primary challenge, he announced his retirement. The Republican Party in southwest Ohio — as elsewhere — was becoming less northern, less urban, and less liberal. And the city he was born in and represented for a dozen years was headed for trouble.

"People was friendly."

Don Phillips didn't know what to make of the people he called "the Russians." They were good for business, renting out the Mandalay for their big weddings. But they were different than his usual customers. The men and women sat separately inside the hall. And the men lived it up like nothing he'd ever seen — dozens of bottles of

vodka, hundreds of packs of cigarettes. The butts ended up in the flower pots outside. He'd had to triple the \$500 cleaning fee for them. No problem, they said. They just stacked more cash on the desk.

Where were they getting all that money? They were making it big in long-haul trucking. Dayton was a transport town — “logistics,” as the industry liked to call it — since it sat at the juncture of two major routes, I-75 and I-70. Half the population of the U.S. was within an 11-hour drive, something local boosters had taken to citing as a point of pride as so many of the city's other assets had fallen away. The “Russians” had gotten into the freight business soon after coming to town — after all, you didn't need fluent English to drive a truck. And now they were doing so well with it that some were driving sports cars around town — Porsches, Maseratis, you name it. Phillips couldn't figure how there was so much money in trucking, but he kept that to himself. “We're being nice to them,” he said. “We're not running them off, we're letting them come. But when they come they're going to behave just like anyone else.”

The Russians were actually Turks — specifically, what are known as Ahiska Turks, descendants of people who had migrated north centuries ago. After the Soviet Union broke up, they faced frequent persecution as a Muslim minority in Russia, and in 2004, the U.S. granted them refugee status. Some **11,000 arrived in the U.S.** before the refugee status expired in 2007. And in the years that followed, a couple thousand of them gravitated to Dayton, because Dayton had become a good place for starting over with nothing.

By the time they arrived, Dayton's manufacturing industries had **long been hollowing out**. Nearly half of the 20,000 jobs that existed in 1990 at five GM plants were gone by 2008, for example. Auto-parts maker Delphi, into which Kettering's Delco had been absorbed, dropped from 10,000 employees in the Dayton area in 2002 to a mere 800 by 2009. The papermaking giant Mead gave up its home base in Dayton in a 2001 merger.

But nothing hurt as much as the decline of NCR, as Patterson's company was now called, having long since expanded beyond cash registers to ATM machines, bar code scanners and software. Some 15,000 manufacturing jobs with NCR had vanished from the city even before the company announced in June 2009, barely past the lowest point of the recession, that it was moving its headquarters to Atlanta, complete with this graceless grace note from its CEO: “We had a very difficult time recruiting people to live and work in Dayton.”



Islom Shakhbandarov and other Ahiska Turks in Dayton have prospered in the long-haul freight business. They drive Porsches and Maseratis around town. And when they pay for their big weddings at the Mandalay, they pay with stacks of cash. (Ty Wright for ProPublica)

Total despair was precluded only by the comforting presence of Wright-Patterson Air Force Base on the edge of town. The city's population was 141,000, down by nearly half over the previous five decades and now just 183rd largest in the country. The broad streets of downtown, spreading out on the flat ground along the river, suddenly seemed too wide, too empty. The elegant Algonquin Hotel was now the discount Grand, where rooms went for under \$100. And the median sales price for a home in the city was around \$80,000, half the national average.

This made it appealingly affordable for the Ahiska Turks. At the same time, the city did not seem as far gone as other bargain-basement Rust Belt cities like Detroit or Youngstown. The Turks [zeroed in on Old North Dayton](#), which had once been heavily Eastern European. "The neighborhoods were decent, actually. Very decent. Not like really, really bad with huge crime rates," said Islom Shakhbandarov, the charismatic president of the local Ahiska Turkish American Community Center.

But there was something else about Dayton. "People was friendly — unusually friendly," said Shakhbandarov. "We started spreading the word that Dayton was welcoming."

"We became aware of our ignorance."

Chuck Whalen had been succeeded as Dayton's congressman by Tony Hall, a Democrat. Hall had grown up in a Republican family in town — his father ran a laundry — but he'd joined the Peace Corps and had come back a Kennedy Democrat. While he had a different party affiliation than Whalen, he aspired to his example. "The Republican leadership was griping about how he was too liberal in some of his ways," Hall says, "but he was representing his district, and representing thoughtful ways to do things."

Soon enough, Hall was having differences with his own party leadership. He could tell that many of his Democratic constituents — blue-collar workers, the proverbial machinists' wives — did not care much for the direction the national party was taking in the 1980s and '90s. In 1980, Montgomery County had been [one of only two counties](#) in the entire central and western swath of Ohio that Jimmy Carter carried against Ronald Reagan. Eight years later, the county gave a [substantially bigger margin](#) to George H.W. Bush than he received across the state. Hall's constituents were especially down on President Bill Clinton's promotion of the North American Free Trade Agreement, he said. "A lot of Democrats in the Midwest feel that they didn't leave the Democratic Party — they feel like the Democratic Party left them," he says. "They had basic desires and needs and wanted them to represent the working man."

Many of the Democrats who had moved out to the more working-class suburbs of Dayton started voting Republican. That party had, after all, been making the sort of crime-and-welfare pitch that Nixon had envisioned in 1970 to appeal to these voters' conservative views on race and social issues. The drift among these voters from the Democratic Party accelerated with the wave of auto plant closings that started after 2000, Hall said. "As long as we had our 10 or 12 auto plants, we were pretty good, but we felt that the NAFTA deal made it a lot easier for companies to go to Mexico — and they did. They shut down our factories," says Hall. Voters just coming of age "saw their Moms and Dads lose their jobs and they didn't think anyone did anything for them."



In 1960, Dayton was one of the 50th biggest cities in the country. Since then, its population has fallen by nearly half and its rank has slipped to 183rd. (Ty Wright for ProPublica)

As those Democrats had, over time, left Dayton for the suburbs and then left the party as well, the party they had left behind in the city had taken on a different character. By the late-2000's, Dayton was dominated by a staunchly liberal leadership cohort: an assortment of African-Americans (by this point Dayton was 43 percent black), activist-minded elected officials and bureaucrats, college professors, and other urbanite professionals who were doing their part to bring the city back — going to the theater, patronizing the growing bar and restaurant scene on East Fifth Street. And in 2011, this cohort decided to take up a very particular liberal cause: making the city more welcoming to immigrants and refugees.

It was, on its face, an unlikely issue to champion. The city had refugees other than the Turks (Africans, Iraqis) and had experienced an uptick in Mexican immigration starting in the late 1990s — people come to work in construction and fast food and the tomato farms north of the city — but its foreign-born population was only 4.5 percent of the total, barely above the statewide average. Still, word started to come of newcomers having difficulties — the Ahiska Turks were having run-ins with building inspectors as they renovated their homes; undocumented Hispanic immigrants weren't comfortable reporting robberies to the cops and were experiencing discrimination from landlords.

To Dayton's liberals, reports of troubles being encountered by new arrivals were a rebuke. "We became aware of our ignorance," said Tom Wahlrab, then-director of Dayton's Human Relations Council, a mediator by training who lived in a renovated townhouse in the city's historic Oregon District. "We said, what could we do with the community for welcoming these newcomers?"

Dayton was becoming a small blue island — Obama won 76 percent of the city's vote in 2008, compared with only 44 percent in the rest of Montgomery County, a difference that had grown by 6 percentage points since 1980, when Jimmy Carter won 66 percent in the city and 40 percent in the rest of the county. The Republican sweep in the 2010 midterms, which had put the Ohio state government under total GOP control, had put a halt for the time being to any immediate prospects of reforming the nation's broken immigration laws or figuring out what to do with the 11 million undocumented people living in the shadows. Arizona and Alabama passed strict laws clamping down on illegal immigrants in 2010 and 2011.

But Dayton went in the opposite direction. There was a task force, subcommittees, and a series of “conversations” where residents turned out to talk about what Dayton could do for its new arrivals. There was a report that became an [action plan](#) that called for, among other things, expanded interpretation services in courts, health care and government; a World Cup-style soccer tournament between immigrant groups to be held every fall; and the provision of a municipal ID card for those ineligible for a driver’s license. Already, it was the policy of the city police not to spend limited resources trying to ferret out undocumented immigrants.

A [public hearing on the plan](#) in September 2011 attracted only three in opposition, anti-illegal immigrant activists from the Cleveland area. Nan Whaley, an Indiana native who stayed in Dayton after attending college and was elected to the city commission in 2005, spoke up for the plan: “We’re recognizing that we’ve had incredible population loss over the past 40 years, and that we’re trying to redefine what an open city looks like.” Two weeks later she and her fellow city commissioners approved the plan, 4-0.

Welcome Dayton, as it was called, hired a director and two “immigration resource specialists.” It added free tax assistance websites in different languages to help immigrants get their earned-income credits. It guided immigrants through the home-buying process. It held “community-building” events called “Voices” where immigrants talked about their background. The orchestra had a Welcome Dayton weekend. The World Cup soccer tournament was a hit. Our Lady of Guadalupe celebrations drew hundreds more than in years prior. Nan Whaley, one of the leading champions of the initiative, was elected mayor in 2013. Just a few weeks earlier, the program had gotten the ultimate liberal affirmation: a [spot on “The Daily Show.”](#)



Tom Wahlrab was the director of the city’s Human Relations Council and a major force behind launching Welcome Dayton. “We became aware of our ignorance,” he said. (Ty Wright for ProPublica)

“They got welfare.”

Phil Plummer was caught in the middle. The son of a city firefighter, he had grown up in Old North Dayton when it was still thriving and had, after starting out as a corrections officer, worked all the way up the ladder to be elected Montgomery County sheriff as a Republican in 2008. On the one hand, he didn’t care much for Welcome Dayton, which smacked too much of making Dayton a “sanctuary city,” much as city leaders rejected the term. “The intent

was to welcome immigration ... but it went a little too far and brought the illegals here,” he said. “They’ve got a policy where police can’t ask anyone their immigration status, and to me that’s an indicator of a sanctuary city. If I can’t ask you your immigration status, it’s tough to enforce the law of the land.” He also fretted about how much undocumented immigrants were costing the city. “Are they paying taxes?” he said. “It is a burden to us — they are going to our schools.”

On the other hand, he found it hard not to sympathize with the new arrivals. “They want an opportunity,” he said, “same as our ancestors did.” He was in favor of reforming the nation’s immigration laws. “We got to be honest with ourselves — they’re not going to deport them,” he said. “Something’s got to be done — we got to quit kicking the can down the road.” He even thought many of the immigrants would end up in his party: “They’re Republicans. They have a good work ethic.” Plummer’s compassion got the better of him when he received calls from a local nun, Sister Maria Stacy, asking if she could visit undocumented immigrants being held at the jail. Sister Maria had been dispatched to Dayton in 2002 from her native Cincinnati to minister to the new immigrants there — organizing English classes, offering help in finding lawyers, and, yes, praying with them in jail when it came to that. “She’s a little radical,” Plummer said. “But we bend over backwards for her.”

Plummer’s nuanced view was also in stark contrast with his counterpart just to the south, in Butler County. Butler was once mostly farmland surrounding a couple small market and manufacturing towns, Hamilton and Middletown, but over time had turned into an exurb to both Cincinnati and Dayton, tripling in population since 1940. Warren County, just to Butler’s east, had once been even less developed and had grown almost tenfold over the same period as tract housing developments flared out across the former soybean fields. Their combined population had vaulted to 600,000 over the course of a half century when Montgomery’s population had stayed flat at about 530,000.



Sister Maria Stacy, here attending a quinceanera ceremony in Dayton, often seeks permission from the local sheriff to visit undocumented immigrants being held at the county jail. (Ty Wright for ProPublica)

As they had grown, these exurbs had become the Republican bedrock in Ohio. When President Bush’s 2004 reelection came down to Ohio, Butler went for him with 66 percent of its vote and Warren with 72 percent. In fact, those two counties plus two other Dayton exurbs, Greene and Miami counties, together [provided Bush’s narrow 120,000-vote margin](#) of victory in the state.

These fast-growing counties had not only drawn the region's Republicans to them. By concentrating Republicans far from Democratic-dominated cities like Dayton, they seemed to change the very character of Ohio Republicanism from the strand embodied by congressmen like Bill McCulloch and Chuck Whalen. Maybe it had to do with the [political science](#) showing that the less densely settled a place was, the more likely it was to be politically conservative. Maybe it was the [other effect](#) the political scientists talked about, how [being surrounded](#) by people with similar politics tended to make one's politics more extreme.

Regardless of the causes of the transformation, the fact was that part of McCulloch's former district, stretching north of Dayton, was now represented by Jim Jordan, an arch-conservative who would eventually become chairman of the hard-right House Freedom Caucus. The bulk of McCulloch's former district had been represented since the early 1990s by John Boehner. He was, by the standards of the day, considered relatively moderate. But by the time he became speaker of the House in 2011, his district had been shifting right for quite some time as well.

No one embodied this shift better than Butler County Sheriff Rick Jones, who was first elected in 2004. Jones looked like he'd stepped out of a Western, with a hulking frame and exemplary walrus mustache, and, in a sense, fashioned himself as a frontier lawman. He made two trips to inspect the Mexican border. And he prides himself on his tough enforcement of immigration laws in his own territory. Jones' publicity stunts have included posting an ["Illegal Aliens Here" sign](#) with an arrow pointing to his jail and sending the Mexican government a \$900,000 bill for the cost of jailing illegal immigrants. These stunts earned him a [spot of his own on "The Daily Show."](#) They also did nothing to hinder his easy reelection in 2008 and 2012.

To hear Jones tell it, Dayton was the end of the earth, the darkness to be guarded against. "I tell anybody that's wanting to commit a crime here, if you're from another country, I tell them to go Dayton," he said. "They're fine. They give you free stuff. They want you to be there. They got welfare."

Back in Dayton, Plummer viewed Jones' outspokenness with bemusement tinged with envy. "He's a crazy guy," he said. "Of course, that's a big Republican area, so he can go out on a limb. This is a Democrat town, so I gotta..." He trailed off, leaving the local political imperatives implied.



Butler County Sheriff Rick Jones marches at the head of the Fourth of July parade in Middletown, Ohio. Jones has made a name for himself in opposing illegal immigration — once, he sent the Mexican government a \$900,000 bill for immigrants he was housing at the county jail. (Ty Wright for ProPublica)

“Go ahead, knock yourself out.”

Butler County, Warren County, and the other growing exurbs were helping put the Republican Party in Montgomery County in dire straits. As suburbia had sprawled to the farther-out counties, taking the most engaged and wealthy conservatives with it, the party that was left in Dayton and its inner suburbs was bereft of resources and direction.

There were still plenty of people who voted Republican in the county — George W. Bush had barely lost it in 2004. Some of them were in the county’s middle- and upper-middle-class suburbs, like Kettering and Oakwood. But many of the Bush voters were the blue-collar ex-Democrats of working-class suburbs like Miamisburg and Huber Heights. Vote as they might, their allegiance to the Republican Party — whether what remained of its moderate establishment in Dayton or the newer, more ideological vanguard in the exurbs — was limited.

This had left the Montgomery County Republican Party increasingly adrift. It had been led since 2006 by Greg Gantt, an amiable, mild-mannered Dayton lawyer. But fundraising was a constant struggle and around 2009, he started having to contend with a new coterie of Tea Party activists, mobilized by the conservative backlash against Obama. The ferment they brought into the party throughout the state helped fuel the party’s big 2010 sweep of state offices, which in turn allowed it to control the decennial redistricting process. A year later, in 2012, Republicans would win 52 percent of the House vote in Ohio but [75 percent of the state’s congressional seats](#).

As time went on, though, these new activists also sought to block and second-guess Gantt at every turn. He found their claims to revolutionary status tiresome — it was as if they thought they were the first ones ever to propose different ways of doing party business. “It’s fingernails on a chalkboard when I hear people talk about ‘the establishment,’” he said. “What the hell is that — is there a secret meeting of all the people in the party?”

Also complicating Gantt’s task was the fact that, at the national level, the party had been for a while now been growing far more Southern-dominated as the realignment of Southern conservative Democrats into Republicans completed itself. It was George Voinovich, the former Ohio governor, who, just prior to his 2011 retirement from the Senate, had deplored the regional shift within his party. “We got too many Jim DeMints and Tom Coburns,” he said, referring to his arch-conservative colleagues from South Carolina and Oklahoma. “It’s the Southerners ... They get on TV and go ‘errrr, errrr.’ People hear them and say, ‘These people, they’re Southerners. The party’s being taken over by Southerners. What the hell they got to do with Ohio?’” Voinovich reiterated this when I spoke with him in early April 2016, prior to his death in June. “Jim DeMint used to say, ‘If you don’t subscribe to his version of the Republican Party, you’re not a really a Republican,’” he said. “I used to tell him that a lot of things you subscribe to are like manure on the rug in Ohio.”

In 2012, Gantt finally grew so tired of the challenge of maintaining his corner of the Ohio Republican Party that he ceded control to one of the new activists, a 30-year-old lawyer named Rob Scott. Scott was a Kettering native who had founded the Dayton Tea Party and served on the ballot committee for a statewide initiative to end Ohio’s estate tax. “They thought everything we were doing was wrong and they knew everything,” Gantt said. “I was trying to make up my mind. I thought, if you are in charge of a divided house, how much fun is that going to be? I said, ‘Rob, if you want it, you got it.’ I sat down with them and said, ‘It’ll take me a year to go around and introduce you to the money people, to teach you everything I know.’ I said, ‘I’m done, but I’ll hang around and show you the ropes,’ and they said, ‘No we got it.’ I said, ‘Go ahead, knock yourself out.’”

Within a year and a half, Scott himself was gone, [forced out](#) for poor performance in September 2013. The party’s anemic fundraising had shriveled further, it had failed to field candidates for many local offices, and its headquarters office was shuttered. The Republican Party in the fifth largest county in Ohio was homeless, its possessions stuck in storage.

“Stay out of Montgomery County.”

In the early summer of 2014, the U.S.-Mexican border saw a surge of crossings by Central American women, their children and unaccompanied minors. The surge was the final blow to the House of Representatives’ fading

prospects to act on immigration reform. It also raised the immediate question of where to house the women and children while their fates were decided. In Dayton, Mayor Nan Whaley announced that her city would gladly do its part to take in some of them. “Of course we would consider being helpful to the country, because we’re an immigrant-friendly community,” she said.

Whaley’s announcement brought instant condemnation from Dayton’s congressman, Mike Turner. Turner was the former mayor of Dayton and was elected to succeed Tony Hall after his 2002 retirement. Even after the 2011 redistricting, Turner’s seat was one of the few remaining competitive districts in the state, and Turner was, by the standards of the House Republican caucus, a relative moderate. But he did not care much for Whaley, who was rumored to be eyeing his seat (she denied it.) And while his new district still included heavily Democratic Dayton, the city’s population decline meant that the district by necessity now [included more of the exurban periphery](#), making it more conservative than it had been in Whalen’s or Hall’s time.

When Turner weighed in on the migrant children fleeing El Salvador and Honduras, he sounded more like Rick Jones than like Whalen or Hall. He called Whaley’s offer “completely out of line,” and said: “When we talk about being an ‘immigrant welcoming city,’ we are not talking about welcoming people who are being victims of an illegal enterprise.” In late July, he fired off a letter to Obama signed by Phil Plummer and five other local elected Republicans saying the Dayton area did not want any of the children there.



A boarded-up home near Third Street in Dayton. In 1930, nearly three-quarters of Montgomery County’s population lived in Dayton, but half a century later, after years of white flight, that share had plummeted to less than a third. (Ty Wright for ProPublica)

A week later, the Obama administration announced it would not be scattering the women and children to cities like Dayton, and instead would hold them in facilities closer to the border. But the episode served to amplify the “sanctuary city” talk swirling around Welcome Dayton. Dayton officials continued to resist the term, saying that while police did not stop, investigate or arrest people solely because of their suspected immigration status, they still investigated the immigration status of people involved in serious offenses and cooperated with federal requests to hold certain undocumented immigrants on retainers, within limits.

Nonetheless, the sanctuary-city term stuck. And the immigration debate became further inflamed when, shortly after the 2014 election, Obama announced his executive action protecting some 5 million immigrants from

deportation in lieu of any congressional action on the issue. On June 16, 2015, Trump announced his campaign for president, saying he would build a wall on the southern border to keep Mexico from “sending rapists” across it. Two weeks later, a young woman named Kathryn Steinle was killed in San Francisco by an undocumented Mexican who had been convicted of seven felonies and deported five times, and who said subsequently that he had come to San Francisco because of its lax enforcement of immigration laws.

Steinle’s death provoked an uproar. Trump said this “senseless and totally preventable act of violence” was “yet another example of why we must secure our border.” The House subcommittee on immigration held a hearing on Capitol Hill titled “[Sanctuary Cities: A Threat to Public Safety](#).” There, the lone person called to testify in defense of cities with a lax approach to illegal immigration was Richard Biehl, Dayton’s police chief. Just like that, Dayton’s local debate over openness had intersected with the national one that was shaping a presidential race already showing signs of heading in unforeseen directions.

Back in Montgomery County, Sheriff Plummer had all the more reason of his own to be skeptical of Welcome Dayton: His territory was suddenly a major hot spot in the nationwide heroin epidemic. Just as the Dayton area’s location at the juncture of I-75 and I-70 had made it ideal for the logistics industry, so it had made it a [nexus for Mexican traffickers](#). In November, Plummer’s deputies arrested a 40-year-old Mexican and found, in three homes he owned in the area, \$450,000 in cash and 20 pounds of pure heroin, plus several guns. The drugs came from the Sinaloa cartel and amounted to one of the largest seizures ever in the Miami Valley. Medina had been deported from the U.S. three times. “Stay out of Montgomery County and stay out of the Miami Valley,” Plummer said at the news conference announcing the arrest.

The traffickers were also using Dayton as an eager market for their product — a community rife with the economic despair and general demoralization that made places susceptible to the opiate scourge. In 2014, there were 127 fatal heroin overdoses in the county, more than double the rate from just three years earlier and among the highest per-capita rates in the country. The heroin surge was making Plummer even more wary of Dayton’s happy talk about tolerance and integration. “We’ve got three cartels here and they go where there’s less pressure on them,” he said.

As it happened, Plummer now had a new outlet for his misgivings. Just months earlier, the Montgomery County Republican Party — no longer homeless thanks to the offer of space at the Mandalay — had finally settled on a new chairman. He wasn’t particularly political-minded, but he was well-regarded and well-liked and, most important, sufficiently service-minded to take on the thankless task of running a diminished county party: Phil Plummer.

“They’re misleading people.”

The same week as the heroin seizure, Mayor Whaley reasserted her welcome to refugees. This time it wasn’t Central American women and children fleeing violence and poverty, but Syrians fleeing a brutal civil war.

In September, she had joined with the mayors of 17 other cities, including New York, Chicago and Los Angeles, in [signing a letter](#) saying they were willing to accept even more refugees from Syria than the Obama administration was proposing. On Friday, November 13, ISIS attackers in Paris killed 130 people. The following Monday, Congressman Turner used the attacks to take aim at Whaley’s outreach to Syrian refugees. “While Dayton is a welcoming city,” he wrote to her in an open letter, “in the wake of these deadly attacks and the tragic loss of lives, I urge you to prioritize the safety and security of our community and rescind your invitation to the Obama Administration to send Syrian refugees for relocation in Dayton, Ohio.”

Whaley refused to comply, saying the city would take in refugees if the Obama administration asked it to. “Should the decision be made to place refugees from any country in the City of Dayton, we will continue to be a leader in the welcoming movement and will champion inclusive communities that enable all residents to thrive,” she said.

It was almost as if the two rivals were engaging in a pre-rehearsed duel. As with their standoff over the Central Americans, Whaley and Turner were speaking to completely different audiences; by standing up to the other, the confrontation served each of their interests. Nationwide polls had showed how much [partisan sentiments on immigration had diverged](#); just a decade earlier, Democrats and Republicans had answered similarly on the subject, but since then, they’d polarized even more than on other issues. “For him, it’s an albatross to be nailed to her,” said Matt Joseph, a city commissioner who had helped create Welcome Dayton. “For her, it’s something to get her votes.”

The rhetoric was being amplified in the Republican primary, with the candidates each seeking to outdo each other in their opposition to admitting Syrian refugees. By early December, following the shootings in San Bernardino, Calif., Trump was calling for a ban on any Muslims entering the U.S. Just like that, he had managed to fuse anxiety over immigration with anxiety over Islamic terrorism into a single potent mass.

It was all deeply unsettling to the Ahiska Turks. They were flourishing more with every year. Some were branching into the home health-care business. Some were saving up enough to buy homes in the suburbs. And one of them, Adil Baguirov, who had come to the country as a student years before his fellow Turks arrived as refugees, was getting into politics. He had been elected president of the Dayton Board of Education. He was handsome and well-spoken enough that it was easy to imagine him going far — though he joked that as a naturalized citizen, he couldn't become president.



The Ahiska Turks worship at their community center near downtown Dayton. Islom Shakhbandarov, center, is appalled at the anti-Muslim rhetoric of the 2016 campaign. “Donald Trump is the biggest enemy of this country,” he says. “He don’t understand what he’s fighting with right now.” (Ty Wright for ProPublica)

The Turks were showing how well Muslim immigrants could fare in America, and how much they could do for a city that needed a boost. And it pained them to see other Muslims, from a country adjoining their ancestral homeland, being tarred as a national security threat. Baguirov had been fingerprinted twice over the course of his 15-month background check for permanent status, he said; the notion of terrorists pouring through the pipeline was absurd. “They’re misleading people,” he said. “Politicians who talk about immigration don’t know anything about anything about immigration.

It was particularly bewildering for Baguirov, because he was a proud Republican. In fact, he was just the sort of new American who Republican Party leaders said the party could bring to its side, if only it tried: He believed in free markets and hard work and personal responsibility and had limited sympathy for those who came to the country illegally, unlike people like him, who had jumped through all the hoops to do it right. The irony was rich: One of the most promising moderate Republican politicians left in Dayton, Ohio in the age of Trump was a Muslim.

“Your freedom and liberty are at risk.”

For Don Phillips, at the Mandalay, Trump’s fusing of immigration and national security had essentially sealed the deal. In recent years, the former George H.W. Bush admirer had grown more and more animated by the usual litany of talk radio issues: his letter to Boehner had cited Obamacare, Benghazi, and the scandal over the IRS targeting Tea Party groups for closer scrutiny. It had even lamented that “pretty soon state’s rights will be a thing of the past” — a striking line coming from a Republican in the area that had produced pro-civil rights Republicans like McCulloch and Whalen.

There were still glimmers of Phillips’ past moderation. For one thing, he thought deporting illegal immigrants was unworkable. But he was with Trump when it came to the Muslim threat. “Bush should have shut down the border after 9/11 and reassessed what we were doing,” he said. “We would not be in this position today with [ISIS] and some of the foreigners coming into this country that don’t like us.”

Greg Gantt, the former party chairman, was supporting his state’s governor, John Kasich, as was Mike Turner, the congressman, while Phil Plummer was for Marco Rubio. But everywhere one looked, it seemed, there were signs that the local Republican establishment, such as it still was, was in disarray. Phillips was not the only fixture of the county GOP with Trump — so was Patrick Flanagan, a former county party chairman who was the longest-serving member of the state Republican committee. Rob Scott, the young lawyer who had briefly run the county party, was not only with Trump but had been put in charge of running his Ohio campaign for the primary.



Butler County Sheriff Rick Jones views Dayton, just to the north, as a bastion of illegal immigrants and lax liberalism. “I tell anybody that’s wanting to commit a crime here, if you’re from another country, I tell them to go Dayton. They’re fine. They give you free stuff. They want you to be there. They got welfare.” (Ty Wright for ProPublica)

The crackup was visible in the exurbs, too. One winter weeknight, the Warren County Republican Party met to decide on which candidates for local office to endorse in the March 15 primary. Turnout was high, well over 100 people, befitting a county party that had, over the years, been the scene of [high-pitched ideological battles](#) between anti-abortion activists, Tea Partiers and a smattering of moderates. The meeting ran well over two hours as one candidate after another rose to vouch for his or her conservative credentials. One judicial candidate touted

the fact that he had a concealed carry permit for his gun; a few minutes later another one-upped him by saying he had 50 guns in his house. A candidate for the seemingly apolitical position of county reporter declared: “Your freedom and liberty are at risk because of the government taking from you and giving to others.” Late in the meeting, a resolution to object to the state party committee’s recent endorsement of Kasich passed overwhelmingly. It had no practical effect, but sent the message that in the heart of Republican Ohio, the party line no longer mattered.

The next day, Sheriff Jones received in his large office adjacent to the Butler County jail the campaign manager for one of the Republicans running to replace John Boehner. The candidate, state Sen. Bill Beagle, was in the business-friendly mode of Republican that Boehner represented, but while Boehner had tried to pass immigration reform in the House, Beagle was seeking Jones’ endorsement. He got it, and within weeks Beagle had put out [an ad with Jones](#) that warned: “Americans borders are being overrun by criminals and who knows how many terrorists.”

Jones’ presidential endorsement had already been made. He was with Trump.

“They want security.”

Trump came to Dayton — or rather, the airport just north of town in Vandalia, where one of the shuttered Delphi plants was — on March 12, the Saturday before the primary. It was the day after his rally in Chicago had been canceled amid massive protests, and the friction from that standoff seemed to carry east to the flat empty terrain around the airport, where the access roads were jammed hours before his arrival. The protesters were out early, too. “No Hate in My State,” read one sign. “Trump Make Dayton Great Again: Please Leave.” “Will Trade Trump for 100 Refugees.”

Inside the airplane hangar, the mood was festive. The candidate’s eclectic soundtrack played on endless loop (Stones, Billy Joel, Pavarotti). There were husbands in golf caps with well-manicured wives. There were frat boys. But most noticeable were the many fathers with their grown or near-grown sons.

One moment the plane wasn’t there, and then it was. The crowd surged forward, as it does on the first drumbeat in a rock show. Trump made his way to the podium set up at the edge of the hangar. “Ohio,” [he said](#). “I love Ohio.”

He opened by talking about the protest in Chicago, “a planned attack that came out of nowhere.” It was sad that he had to cancel, but he didn’t want any of his supporters to get hurt. “We have people that are so amazing. It’s not necessarily loyalty to me, it’s loyalty to the country,” he said. “They want security, they want a great military, they want to take care of defense. They want a border. They want a *wall*.”

He paused, because he knew the chant would follow, and it did.

Build a wall. Build a wall. Build a wall.

“We’re going to build the wall, folks, don’t worry. Who’s going to pay for the wall?”

Mexico. Mexico. Mexico.

It wasn’t even five minutes into his speech and he had them. “Our jobs are being sucked away,” he continued. “It’s unbelievable what’s happening. Our military can’t beat ISIS. Our veterans are treated horribly. Our border is like Swiss cheese. People are just pouring over. On top of that, we’ve divided the country — black and white, income groups, everybody hates each other. Even in Washington, Congress, the politicians hate each other — the Democrats hate the Republicans, the liberals hate the conservatives.”

When a protester managed to penetrate the security perimeter around the podium and started to clamber up before being yanked down, and four agents leaped onto the stage to surround the candidate, the crowd roared in solidarity with the intended target, who looked slightly shaken.

“I was ready for him, but it’s much easier if the cops do it,” Trump said. “And to think I had such an easy life. What do I need this for, right? I know why I need it. Because I’ve done great, I love this country, and we’re going to make this country great again. I owe it. It’s payback time. It’s payback time.”



Don Phillips was for Mitt Romney in the 2012 primaries and housed the local Republican Party at his banquet hall, the Mandalay, just south of Dayton. But this year, he was for Trump. “Washington is broken,” he said. “I definitely feel Trump is the answer to America.” (Ty Wright for ProPublica)

Don Phillips was not at the rally — he would have liked to go, but was busy at the Mandalay. The people who were at the rally were, by and large, not party people at all. Afterward, out on the muddy field that had taken overflow parking, I met two young men who had voted for Obama in 2008. Now, they were both drawn to Trump.

Alex Jones, 30, shrugged in explanation. “I was naive, man,” he said. “I was doing drugs all the time. As I get older, my view’s not so clouded. I’ve become more conservative.” He worked part time at a pizza shop in Oxford, just west of Dayton, and part time delivering medicine to nursing homes. His father worked at a U-Haul after working at a hydraulics plant and his mother was the activity director at a nursing home. His Trump T-shirt featured an image of the mogul transposed on Shepard Fairey’s famous 2008 image of Obama.

The other, Heath Bowling, a burly, jovial 36-year-old with a prodigious soul patch and a full set of Cincinnati Reds garb, had thought out his evolution more. A father of two, he now ran a small business in Montgomery County, installing siding, and he resented younger people, the underemployed ones around town, some of whom had gotten caught up in Bernie Sanders. “These kids, they expect everything to be free,” he said. He was upset about food stamp fraud, people selling them for 50 cents on the dollar.

But he had not swung all the way across the spectrum. He had only scorn for congressional Republicans and Tea Party Republicans — “I’m so sick of hearing Obama was not born in the U.S. I mean, it’s been eight years now!”

And he was torn on immigration. He didn’t care for Trump’s outright nativism. But it was also wrong to suggest that someone could just come here to work because there was work to be had. After all, he said, “We can’t jump on a plane and go to Croatia and get a job.” Shutting the door would cut down on the heroin, he said. Six school classmates had died from overdoses. He’d heard the stories about the bodies found in the bathrooms at the Cincinnati Bengals stadium, and the one in the porta-john that wasn’t found for five days.

He knew he was relatively fortunate, with the siding firm. His dad was doing OK too — he had retired from the military and was now a foreman at the new Chinese-owned auto-glass plant at the former GM plant south of the

city, one of the [few bright spots](#) in the area, and one whose foreign ownership seemed to implicitly challenge Trump's protectionist message.

Back in 2008, Bowling had been working as a lawn-care guy, spraying the lawn at the DHL shipping hub in nearby Wilmington when word came down that DHL was leaving, taking 3,500 jobs from the area. "A guy came out and said, 'Dude, today is not the day. Roll that hose up and turn the water off.' I said, OK."

"He puts it clearly."

Over my days in the Dayton area, I spoke to other people like Heath Bowling — people who were supporting Trump who were not ideologically conservative, or even particularly "angry," but were simply politically adrift.

Contessa Hammel, 43, worked at a Speedway gas station after four years in the military and had never voted in 25 years of eligibility because "I didn't want to make an unintelligent decision." Now she spends her weekends doling out Trump signs. I found her hard at work in West Carrollton, just outside the city. "He makes it simple for people like me," she said. "He puts it clearly."

Jerome Brewer, 40, an auto-body repairman in Miamisburg who'd swung between the parties, voted for John Kerry in 2004 and for Hillary Clinton against Obama in 2008 but for John McCain and Mitt Romney against Obama. The auto-body business had slowed after the GM closings — "If you get a little dent now you can live with it so you'll be able to put food on the table." He'd seen Mexicans get jobs at his shop, making half his pay. "Trump is talking about all the issues people I know are concerned about that no one would be talking about if it weren't for him," he said. "For the first time since Reagan there's a candidate I'm really liking, rather than voting for the lesser of two evils."



Heath Bowling, 36, who runs a siding and insulation business, voted for Barack Obama in 2008 but now supports Donald Trump. He now scorns the sort of younger voters who, this time around, supported Bernie Sanders. "These kids, they expect everything to be free." (Ty Wright for ProPublica)

I spoke with Brewer at the First Baptist Church in Miamisburg, where he had just cast his primary ballot for Trump. Trump got 36 percent in Ohio that day, roughly what he'd gotten in many other states he'd won, except that in Ohio the opposition had consolidated behind John Kasich (who had also been helped by Democrats and independents casting an anti-Trump vote on his behalf). Trump had lost badly to Kasich in the well-off suburbs of Columbus, the capital. He'd lost to him in the better-off suburbs of Dayton, places like Oakwood and Beavercreek.

But **overall in Montgomery County**, Trump had gotten more votes, in finishing second, than Hillary Clinton had received in winning the county in the Democratic primary. And he had cleaned up in the working-class suburbs like Miamisburg. In one precinct that voted at First Baptist, the Trump share was 57 percent; in another it was 60, among his highest in the entire state.

The stories of the Trump voters I spoke with started to blur together. Their fathers had had solid jobs in Dayton and had voted mostly Democrat (and, they would add in a candid aside, were not so enlightened about race.) They themselves had less solid jobs, and voted mostly Republican, when they voted, but with little sense of attachment.

Tony Hall, the former Democratic congressman, understood why Trump would appeal to these voters. Nobody had paid attention to them for a long time.

"Trump isn't saying anything other than you've got trouble and I'm going to take care of it, you got shafted and I'm going to take care of it," he told me. "The Democrats are not addressing their issues and haven't been for years ... Their constituency is the working people and the poor and they forgot about them for years ... They want someone to sit down and have a beer with them and listen to them and address some of their issues and do everything they can to bring jobs back."

They had a home in neither party as it now existed in greater Dayton. They were certainly not part of the Democratic Party of Welcome Dayton — the world that, the day before the Trump rally, had hosted a visit to town by Cecile Richards, the president of Planned Parenthood, stumping for Clinton. But they also weren't part of the Republican Party that had left Montgomery County and moved to the exurbs, whether it took the form of Warren County's ideological infighting or Boehner's country-club complacency. They were stranded between these two poles, in the older, frayed inner suburbs of Montgomery County.

Don Phillips saw these people a lot as the campaign headed into summer, and as Dayton prepared for its moment in the sun, hosting the first presidential debate last September. They came to party headquarters at the Mandalay to pick up Trump signs. But, he said, marveling: "These are not Republicans." Or not Republicans as he'd known them. They were no one's constituency, until now.

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TRUST IN SCIENTISTS ON CLIMATE CHANGE AND VACCINES

By Lawrence C. Hamilton, Joel Hartter, and Kei Saito
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Abstract

On climate change and other topics, conservatives have taken positions at odds with a strong scientific consensus. Claims that this indicates a broad conservative distrust of science have been countered by assertions

that while conservatives might oppose the scientific consensus on climate change or evolution, liberals oppose scientists on some other domains such as vaccines. Evidence for disproportionately liberal bias against science on vaccines has been largely anecdotal, however. Here, we test this proposition of opposite biases using 2014 survey data from Oregon and New Hampshire. Across vaccine as well as climate change questions on each of these two surveys, we find that Democrats are most likely to say they trust scientists for information, and Tea Party supporters are least likely, contradicting the proposition of opposite bias. Moreover, partisan divisions tend to widen with education. Theoretical explanations that have been offered for liberal trust or conservative distrust of science in other specific domains such as climate change or environmental protection fit less well with these results on vaccines. Given the much different content of climate change and vaccine issues, the common political pattern appears more consistent with hypotheses of broader ideological divisions on acceptance of science.

Introduction

In recent years, the science-driven topic of climate change has emerged as one of the most politically divided issues in surveys of U.S. public opinion (Hamilton, 2014). Its correlations with ideology and political party are strong enough to make ideology, party, and climate change opinions look like three equally valid indicators for the same underlying dimension (Kahan, 2015). This has not always been true, of course; a generation ago, ideology and party had much the same meaning as today, while anthropogenic climate change was barely on the public horizon. A countermovement opposing regulations enacted with bipartisan support in the 1970s helped transform environment protection generally, and later climate change in particular, into highly partisan issues (Jacques, Dunlap, & Freeman, 2008; McCright & Dunlap, 2011; McCright, Xiao, & Dunlap, 2014). Scientists whose research detects environmental problems, or anthropogenic climate change, also are seen in an increasingly polarized light.

Across major science topics including not only climate change but also evolution, age of the earth, environmental and health impacts of industrial activities, or biomedical research on stem cells and AIDS, conservative leaders have taken positions at odds with a scientific consensus. Leadership and media personality declarations that evolution and anthropogenic climate change are hoaxes, along with concerted efforts to rewrite high school science textbooks, restrict science at the Environmental Protection Agency (Kollipara, 2014) and National Science Foundation (Mervis, 2014), and defund earth research by the National Aeronautics and Space Administration (Samenow, 2015; Timmer, 2015) provide tangible signs of a partisan “war on science,” with support attributed to economic, ideological, religious, and cognitive differences (Mooney, 2005, 2012) or simply to culture (Kahan, 2015). Gauchat (2012) track General Social Survey (GSS) responses to a question on confidence in “the Scientific Community” from 1974 to 2010, finding that “conservatives began the period with the highest trust in science, relative to liberals and moderates, and ended the period with the lowest” (p. 167). He considers historical and political origins for the political divide on science, an area further explored by studies including Jacques et al. (2008) and Brulle, Carmichael, and Jenkins (2012).

Claims of a broad conservative distrust of science have been countered by assertions that while conservatives might oppose the scientific consensus on climate change or evolution, liberals oppose scientists on some other core domains, notably vaccines. Opposition to vaccination among the U.S. public has been a potent force with potentially disastrous consequences (Kirkland, 2012; Lillvis, Kirkland, & Frick, 2014; Omer, Salmon, Orenstein, deHart, & Halsey, 2009; Parikh, 2008). A number of commentators have depicted vaccine opposition as primarily a liberal folly, comparable in seriousness and scale to the conservative rejection of climate science (e.g., Berezow, 2014; Hoskinson, 2014; O’Neil, 2014).

In this article, we test the proposition of opposite bias using data from two regional surveys conducted in 2014. Both surveys carried a pair of questions asking respondents whether they trust scientists for information about climate change or vaccines. Our analysis follows the approach taken in research on “the social bases of environmental concern,” a substantial literature (since Van Liere & Dunlap, 1980) exploring individual demographic and ideological characteristics as predictors of survey responses on environment-related questions, including trust in environmental scientists (Hamilton & Saito, 2015). Age, gender, education, and political effects have been widely replicated. The social-bases approach adapts well to our goal of comparing people who say they trust scientists on climate change and vaccines. Are these opposite or overlapping groups?

Vaccine Safety Concerns

Vaccine effectiveness and safety have been important topics of medical research. One 1998 paper asserting a connection between vaccinations and pervasive developmental disorders (Wakefield et al., 1998) sparked widespread alarm. Other researchers, however, found no support for this connection, and the Wakefield paper itself was subsequently retracted and debunked as a fraud. Public concern about hypothetical links between vaccination and autism nevertheless remains prominent (Kirkland, 2012). A large-scale review of research on the adverse effects of vaccines, conducted by an Institute of Medicine (IOM, 2012) panel for the National Academy of Sciences, concluded that the weight of evidence clearly favors rejection of the hypothesized relationship between measles-mumps-rubella (MMR) vaccine and autism. Some other hypothesized effects are also rejected, including MMR and type I diabetes, and inactivated influenza vaccine and asthma. But not all adverse effects are discounted. The IOM review concluded that evidence convincingly supports several causal relationships involving the live varicella zoster vaccine, is suggestive though not convincing regarding some other possible connections, and data are too sparse to reach conclusions about still others that involve rare events. Susceptibility to side effects also may be higher in certain subgroups such as individuals with compromised immune systems. Vaccination preparation and practices have changed in response to research even when findings were not conclusive, as in the precautionary removal of a mercury-based preservative from infant vaccinations by 2001. Vaccine benefits are subject to ongoing research; for example, one recent study identified mechanisms by which measles vaccination prevents other infectious diseases (Mina, Metcalf, de Swart, Osterhaus, & Grenfell, 2015).

Research findings such as the lack of an MMR/autism link leave many vaccine opponents un-persuaded. Surveys and focus groups find parents may distrust government agencies and medical professionals (Raithatha, Holland, Gerrard, & Harvey, 2003), and base their vaccination decisions on personal experience and advice from family members rather than scientific concepts and evidence (Leask, Chapman, Hawe, & Burgess, 2006; Nicholson & Leask, 2012). Brown et al. (2012, p. 1855) study a group of parents doubtful about MMR vaccine and suggest that the shrinking core of parents now rejecting MMR consists mainly of those with “more extreme and complex anti-immunization views.” Such views are supported by anti-vaccination websites, where Kata (2012) describes a postmodern perspective that “evidence-based advice from qualified vaccine experts becomes just another opinion among many” (p. 3779). Blume (2006) cautions against seeing resistance to vaccination as a social movement that “shares the radical ideology and disruptive practices commonly associated with other familiar ‘movements’ (the women’s movement, the student movement, the environmental movement)” (p. 630). Instead he argues that this framing diverts attention from a potentially disruptive critique of vaccination practices by parents.

Is this critique disproportionately liberal? Pro- and anti-vaccination arguments can be framed as a clash of ideals between health benefits for the majority of the population, and individual rights and responsibility to decide what is best for one’s children. Individual rights or judgment have both liberal and conservative appeal. The idea that chemicals found in vaccines might be dangerous seems resonant with liberal environmental concerns, and distrust of “Big Pharma” pharmaceutical companies fits with some liberal attitudes as well. Doubts about Western medicine more generally are prominent among New Age beliefs (Houtman & Aupers, 2007), which attract more liberals than conservatives (Raschke, 1996). Evidence supporting an alleged liberal bias against vaccination has been largely anecdotal, however, based on arguments from regional stereotypes or celebrity statements (Berezow, 2014; Hoskinson, 2014; O’Neil 2014). Mooney (2012) responds with counter-anecdotes of liberals castigating other liberals for taking an unscientific stance against vaccines. Systematic research finds mixed or no evidence for a widespread liberal bias against vaccines (Kahan, 2014; Lewandowsky, Gignac, & Oberauer, 2013). One 2009 poll found that Democrats were less likely than Republicans to believe that news media were exaggerating the dangers of swine flu and more likely to say they would get the vaccination themselves (Pew, 2009). Another survey found higher confidence among Democrats that the schedule of vaccines recommended by the Department of Health and Human Services is safe (Berinsky, 2012). In the specific case of the human papillomavirus (HPV) vaccine, conservatives have led strong opposition with the argument that reducing danger from this virus will lead to increased sexual activity by young women (Bernat, Harpin, Eisenberg, Bearinger, & Resnick, 2009; Reitera, McRee, Kadis, & Brewer, 2011).

Our focus in this article is not on vaccine safety, as studied by scientists such as those cited in the IOM (2012) review. Nor do we directly examine anti-vaccination beliefs. Rather, we focus on more general public perceptions of science. Can scientists be trusted for information about vaccines? If not, one presumably harbors doubt about the institutions, individuals, or processes of science itself, and deems other sources more plausible. Then scientific conclusions against adverse effects are not reassuring, and suspicion could generalize to different vaccines and other topics.

Divisions on Science, Climate, and Vaccines

The current wide political divisions across many areas of science seem a stark contrast to reports from post-Sputnik America, where 92% believed that “science is making our lives healthier, easier, and more comfortable” (Withey, 1959, p. 387). Divisions today are especially pronounced regarding anthropogenic climate change, where people who reject its reality also tend not to trust scientists on this topic. Consequently, survey responses on climate beliefs and trust in climate scientists correlate with each other and have similar background predictors. That finding has been subject to differing interpretations, however. Is general distrust in science a causal factor influencing people not to believe that anthropogenic climate change is problematic (Hmielowski, Feldman, Myers, Leiserowitz, & Maibach, 2014)? Alternatively, is climate change rejected for other reasons (Antonio & Brulle, 2011; Campbell & Kay, 2014; McCright & Dunlap, 2010, 2011), and that rejection then spread to climate scientists? One version of this alternative holds that survey responses about climate change and climate scientists behave as indicators for the same thing (Kahan, 2015).

Although Gauchat’s (2012) GSS analysis finds liberal/conservative divisions on general confidence in “the scientific community,” it remains obvious that not all science is uniformly opposed by conservatives. McCright, Dentzman, Charters, and Dietz (2013) apply Schnaiberg’s (1977,1980) distinction between *impact science*, which could highlight negative externalities from economic activities, and *production science*, which aims to enhance economic production. They find, as expected, that conservatives are more inclined to oppose impact science and favor production science. The impact/production distinction, however, applies less well to other domains such as human evolution that are not economic, but nevertheless marked by strong partisan divisions (Hamilton & Saito, 2015). Seeking a broad measure for trust in science that is not domain-specific, Nadelson et al. (2014) construct a 21-item index which proves to be positively related to liberalism and negatively to religiosity. Kahan (2015), however, shows it is possible to build indexes for *science intelligence* and *climate science intelligence* by choosing a balance of questions alternately biased against liberals or conservatives. A *trust in science* index that is not politically correlated might be assembled with offsetting-bias items, but its interpretation would be difficult compared with individual questions addressing specific, high-salience science domains.

Indirect support for symmetry—conservative rejection of science in some domains balanced by liberal rejection in others—comes from experiments including Kahan (2013), who reports that liberal and conservative opinions about the validity of a three-question cognitive test vary in opposite directions depending on whether subjects are told that people who accept (or in alternate forms, reject) evidence of climate change tend to do better on this test. More directly, Campbell and Kay (2014) describe *solution aversion* in which people doubt the seriousness of a scientifically identified problem because they object to its likely solutions. Climate change provides the archetype for such aversion: Conservative skepticism of consensus statements from climate scientists is reduced when a free-market solution is proposed, while liberal views remain unchanged. Two other experiments (reacting to scientific statements about climate change and the health effects of air pollution) further show solution aversion among conservatives but not among liberals. To find solution aversion among liberals, they run a fourth experiment in which subjects read essays arguing for or against gun control as a solution to home invasions; those who favor gun control are more likely to discount the seriousness of this problem if relaxed gun controls are presented as the solution. Unlike climate change or pollution, however, this gun control manipulation does not reference a broad scientific consensus that exists in real life.

Vaccinations, however, clearly are a domain with strong scientific and medical consensus. Claims of disproportionately liberal bias against vaccinations have been widely repeated, but so far with little empirical support. Kahan (2014) detects no significant political or religious differences in vaccine risk perceptions. Lewandowsky et al. (2013) construct an indicator of attitudes toward vaccination and find that opposition is predicted most strongly by *conspiracist ideation* (tendency to believe in conspiracies), secondarily by a free-market ideology, and most weakly by liberalism. A strong correlation (.85) between their free-market and liberal/conservative dimensions suggests caution, however. Collinearity might complicate interpretation of their opposite-sign partial effects. Other factors such as age, gender, and education are not controlled in this analysis nor in several reports that note political differences in response to survey questions about vaccines (Berinsky, 2012; Pew, 2009).

Two Regional Surveys

To test the opposite-bias proposition, we use similarly worded survey questions asking whether people trust scientists for information about climate change or about vaccines. These questions were placed on random-sample surveys conducted in New Hampshire and northeast Oregon in 2014.

Our Oregon survey focused on seven rural counties in the historically resource-dependent northeast corner of the state, whereas the New Hampshire survey was statewide. Both aimed for representative sampling within their respective regions, although New Hampshire encompasses a greater diversity of urban to rural locations and is somewhat closer to representative for the United States as a whole. Previous surveys have found that New Hampshire residents give responses similar to those on national surveys with respect to climate change and some other environmental issues (Hamilton, 2012), whereas northeast Oregon responses tend to be more conservative (Hamilton et al., 2014; Hamilton et al., 2012). The geographic, cultural, and socioeconomic distance between these two regions provides a challenge for replication.

Telephone interviews for both surveys were conducted by trained interviewers at the Survey Center of the University of New Hampshire in summer and fall 2014. The surveys occurred under two different projects:

New Hampshire (Granite State Poll)

This random-sample land line and cell telephone survey of 1,061 New Hampshire residents took place in two stages, in July and October 2014.¹ The Granite State Poll interviews random samples of New Hampshire residents 4 times each year. Along with standard background and political questions, the poll carries questions on climate change and other science-related topics (Hamilton, 2012; Hamilton & Saito, 2015).

Northeast Oregon (Communities and Forests in Oregon [CAFOR])

A random-sample land line and cell telephone survey of 1,752 residents in seven counties (Baker, Crook, Grant, Umatilla, Union, Wallowa, Wheeler) was conducted under the CAFOR project in August through October 2014 (Boag et al., 2015).² Earlier, CAFOR research has been described in papers or reports by Hamilton et al. (2012; Hamilton et al., 2014) and Hartter et al. (2014; Hartter et al., 2015).

The Oregon survey, conducted in a rural region where the forest industry and fire risks are salient topics, also asked a third parallel question concerning trust in scientists as a source of information about forest management issues. The wording of these trust questions, along with others used in our analysis, is given in Table 1. Table 1 also lists coding for the logit regression analysis of Table 2.

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Table 1.

Definitions of Variables, With Weighted Means or Percentages From Surveys in Northeast OR (1,752 Interviews in August to October 2014) and NH (1,061 Interviews in July or October 2014).

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Table 2.

Odds Ratios From Weighted Logit Regression of Trust in Scientists Regarding Vaccines, Climate Change, or Forest Management, in Northeast OR or NH.

All analyses in this article use probability weights to make minor adjustments for known sampling bias. Although weighting schemes designed by CAFOR and Granite State Poll researchers differ in their details, they have similar goals. We use each project's original weights here to maintain consistency with other published analyses.

Surveys commonly assess political orientation by asking respondents to self-identify their ideology or political party. Ideological questions might use as many as nine values, from “extremely liberal” to “extremely conservative,” or be simplified to just five or three. Similarly, a U.S. political party question might range from “strong Democrat” to “strong Republican,” or be simplified to Democrat, Independent, or Republican (in each case, with a residual “other” category that is often too diverse to interpret). Although historical research regarded ideology and party as distinct dimensions, societal trends toward increasing polarization and party sorting (where people choose parties that align with their ideology) have strengthened the correlation between ideological and party measures (Fiorina & Abrams, 2008; Guber, 2012; McCright et al., 2014), so they behave similarly in relation to other survey questions. For example, both ideology and political party questions, in either seven-value or three-value forms, exhibit strong and consistent effects on beliefs about climate change: Liberals or Democrats are much more likely than conservatives or Republicans to agree with the scientific consensus that anthropogenic climate change is real and problematic (e.g., Hamilton, 2011, 2012; McCright & Dunlap, 2011).

Both of our regional surveys asked respondents to self-identify as Democrat, Republican, or Independent. They also separately inquired whether they support, oppose, or are neutral regarding “the political movement known as the Tea Party,” which in recent years has become a prominent, strongly conservative force in U.S. politics. Hamilton and Saito (2015) develop these two questions into a four-party classification of Democrats, Independents, Republicans, and Tea Party supporters (whatever their initial party identification).³ Responses to many science, environmental, or political questions show a strong, ordered gradient from Democrat to Independent to Republican to Tea Party supporter using this scheme. Comparing our two regional surveys, the northeast Oregon sample appears substantially more conservative, consistent with recent voting in that region.⁴ We also see that northeast Oregon respondents are several years older than those in New Hampshire and less likely to have college or postgraduate degrees.

Dependent variables for this analysis are three questions about trust in scientists. Does the respondent trust scientists as a source of information about vaccines? About climate change? Or, in northeast Oregon, about forest management issues? Alternatively, do they not trust scientists, or are they unsure? A similar question about trust in scientists for information on environmental issues was asked previously on national, regional, and statewide surveys (Hamilton, 2014; Hamilton et al., 2012; Hamilton & Saito, 2015). Our vaccine version was introduced as an experiment in 2014.

In principle, one might think such questions are ambiguous, because people of any persuasion could believe at least *some* scientists are trustworthy and support their own position. In practice, however, research finds that many responses follow attitudes regarding the domain itself—so much so that perceptions about the risks of climate change and the trustworthiness of climate scientists, for example, arguably behave as if they are indicators for the same thing (Kahan, 2015). Similarly, responses on trusting scientists for information about environmental issues have mostly the same predictors as belief in anthropogenic climate change or support for environmental protection (Hamilton & Saito, 2015).

Who Trusts Scientists?

Figure 1 graphs response to our climate, vaccines, and forestry trust questions. On both surveys, a majority say they trust scientists about vaccines, although this majority is larger in New Hampshire (70% vs. 57%). Climate change, often a polarizing topic, evinces less trust on both surveys (63% vs. 44%). In northeast Oregon where the forest management question was asked, it brought responses similar to climate change (44% trust scientists). Forest management and science in this region are probably associated in many people’s minds with environmental protection or the U.S. Forest Service. Both our 2011 and 2014 northeast Oregon surveys found widespread doubts about local impacts from environmental rules. They also found concerns that the Forest Service is not doing enough, or not doing the right things, to manage forests that have great importance for local landscapes and livelihoods.

Figure 1.

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Figure 1.

Weighted percentages for three “trust scientists” questions on New Hampshire and NE Oregon surveys.

Note. NE = Northeast.

Education and political orientation, two individual characteristics that often predict views on science, do so consistently in our data as well. [Figure 2](#) graphs the percentage of “trust-scientists” responses by education, across two surveys and three questions. In all five charts, trust is highest among those with postgraduate education and lowest among respondents with high school or less. Overall levels of trust tend to be lower in northeast Oregon, but education gradients there are steeper. Among Oregon respondents with high school or less education, fewer than half (34%-41%) trust scientists on vaccines, climate change, or forest management. Among New Hampshire residents with high school or less, more than half (53%-58%) trust scientists on vaccines or climate.

[Figure 2.](#)

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Figure 2.

Weighted percentage who trust scientists, by education.

Note. HS = high school; NE = Northeast.

Political orientation has been shown to be a consistent predictor for indicators of trust in scientists generally ([McCright et al., 2013](#)) or more specifically regarding environmental issues ([Hamilton & Saito, 2015](#)). It proves similarly consistent as a predictor of the three domain-specific trust questions here. [Figure 3](#) breaks down trust-scientist responses by political party. For both surveys and all three questions, trust is highest among Democrats and lowest among Tea Party supporters.⁵ Regarding climate change, that pattern agrees with all previous research. The northeast Oregon forest management result is unsurprising as well. Science on forest management in that region has often been associated not only with government but also with environmental or endangered-species protection—examples of *impact science* ([McCright et al., 2013](#); [Schnaiberg, 1977, 1980](#)) and grounds for conservative *solution aversion* ([Campbell & Kay, 2014](#)). However, neither impact science nor solution aversion theories predict that trust regarding vaccines would be greater among Democrats (75% or 82%) compared with Tea Party supporters (51% or 52%). This result contradicts claims of a liberal anti-science bias on vaccines.

[Figure 3.](#)

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Figure 3.

Weighted percentage who trust scientists, by political party.

Note. NE = Northeast.

The bivariate trust/party relationships in [Figure 3](#), like the trust/education relationships in [Figure 2](#), all are statistically significant ($p < .05$, from design-based F tests). Other background characteristics such as age and gender often correlate with education or party, however, raising the question of whether relationships in these charts might partly be spurious. Moreover, education and political party often exhibit interaction effects that make additive models misleading. The next section tests these ideas.

Interaction Effects

Survey research on climate change perceptions often detects interaction effects involving education and politics, the two key variables noted above. Education exhibits positive effects on perceptions about the reality or risk of anthropogenic climate change among liberals and moderates (or Democrats and Independents) but a weak or even negative effect among conservatives (or Republicans). First observed in GSS data by [Hamilton \(2008\)](#), *education* \times *politics* interactions were subsequently confirmed using other climate questions and surveys ([Hamilton, 2011, 2012](#); [Hamilton & Keim, 2009](#); [McCright, 2011](#); [McCright & Dunlap, 2011](#); [Shao, Keim, Garland, & Hamilton, 2014](#)). Variations with a similar flavor include objectively tested *science literacy* \times *politics* ([Hamilton et](#)

al., 2012), *numerical literacy* × *worldview* (Kahan et al., 2012), and *self-assessed understanding* × *politics* (Hamilton, 2011; McCright & Dunlap, 2011).

Studies have also found similar interactions regarding a number of non-climate environmental questions (Hamilton, Colocousis, & Duncan, 2010; Hamilton et al., 2014; Hamilton & Safford, 2015). For example, Hamilton and Saito (2015) report *education* × *party* interactions affecting not only climate measures but also belief in human evolution and whether people say they trust scientists for information about environmental issues. We expected to see such interactions regarding trust in scientists on climate change. Theory does not predict, and previous studies have not tested, whether similar interactions might occur regarding trust in scientists on vaccines.

The general pattern of the *education* × *politics* (and similar) interactions fits with several overlapping theoretical frameworks, notably *biased assimilation* (Corner, Whitmarsh, & Xenias, 2011; Munro & Ditto, 1997) and *elite cues* (Brulle et al., 2012; McCright et al., 2014). A common theme in these frameworks is selective acquisition of information that supports existing prejudices, whether from peer groups, political leaders, news media, or other sources. General news media often provide “balanced” coverage from which ideologically agreeable information can be filtered (Boykoff, 2013). Alternatively, information can be pre-filtered by choosing biased web or media sources. To account for the Education × Politics interaction effects, a common inference has been that information elites can be more efficacious in biased assimilation or perceiving elite cues. That is, they more actively acquire information to reinforce their ideological beliefs.

Table 2 shows results from seven models including *education* × *party* interaction effects on trust in scientists about vaccines, climate change, or forest management, separately for the Oregon and New Hampshire surveys. The last two columns depict the composite dependent variable *climvax*, denoting individuals who do not say they trust scientists on either climate change or vaccines. All models also include respondent age and gender as control variables.⁶ The coefficients shown are odds ratios from weighted logit regressions. They represent the multiplicative effects of a one-unit increase in each independent variable on the odds favoring a “trust-scientists” response (or for the last two columns, the lack of trust in scientists).⁷ Thus, for the northeast Oregon survey, each 1-year increase in respondent age multiplies the odds of trusting scientists for information about vaccines by 0.998 (a 0.2% change), which is trivial and not significant. *Age* does have significant effects on trust regarding climate change or forest management. In each case, older respondents are less inclined to trust scientists. Gender shows a significant effect only on *climvax*, in New Hampshire.

The main effects of *education* describe the effects of *education* when *party* = 0, that is among political Independents. These *education* main effects are statistically significant across all seven models, indicating that among Independents, the odds of trusting scientists about vaccines, climate, or forest management increase (multiplied by 1.439 to 1.800, that is, rise by about 44% to 80%) with each level of education. The odds of *not* trusting scientists on either vaccines or climate decline with education.

Political *party* main effects likewise are significant across all trust questions and both surveys. For the positively coded questions in columns 1 to 5 (Table 2), these odds ratios are all below 1.0, meaning the odds of a “trust scientist for information” response declines moving from Democrat to Independent, Republican, and Tea Party supporter. In the Oregon survey, for example, odds of trusting scientists about vaccines decline by an average of 21% (are multiplied by 0.786) with each level of *party*. In the New Hampshire survey, odds of trusting scientists about vaccines decline by 34% (multiplied by 0.657) with each level of *party*. Both results contradict assertions that liberals are more likely to reject science regarding vaccines; instead, the opposite is true. *Party* effects are even stronger regarding climate change, where each level reduces the odds of trusting scientists for information by an average of 51% (northeast Oregon) or 48% (New Hampshire).⁸

The *education* × *party* interaction terms are statistically significant across six of our seven models and take the same direction in all. Education exerts the strongest positive effect on trust among Democrats and a somewhat weaker but still positive effect among Independents. Among Republicans and Tea Party supporters, education effects are closer to zero. Figure 4 visualizes these relationships with adjusted marginal plots calculated from the first five logit models of Table 2. Among Tea Party supporters, trust in scientists regarding climate change actually declines with education, consistent with results in Hamilton and Saito (2015) that used a different climate question and a categorical rather than ordinal party indicator.

Figure 4.

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Figure 4.

Interaction effects: Predicted probability of trust in scientists as a function of education and political party, controlling for age and gender.

Note. HS = high school; NE = Northeast.

The other interactions in [Figure 4](#) are weaker but have the same direction. Trust in scientists on each topic rises steeply with education among Democrats and Independents, and rises less steeply or not at all with education among Tea Party supporters. The replications in [Figure 4](#) extend the domains over which we have seen political divisions widening with education, to now include trust in scientists about forest management and vaccines. Biased assimilation, elite cues, and similar theories account for such patterns (regarding climate change, for example) in terms of more effective and motivated acquisition of information. With respect to vaccines, this might, depending on one's prejudices, go in one direction toward greater awareness of medical studies and advice or in the opposite direction toward anti-vaccination sources such as the websites described by [Brown et al. \(2012\)](#) or [Kata \(2012\)](#). In both directions, such motivated information-seeking has analogues on the topic of climate change.

What is the demographic profile of those who do *not* trust scientists on either of our two main questions? We explored this in [Table 2](#) by defining a new variable, *climvax*, denoting those respondents who do not trust scientists on climate change and do not trust them on vaccines. This untrusting group comprises one third of our Oregon sample and one fifth of those from New Hampshire. The last two columns in [Table 2](#) show that this composite indicator for lack of trust has dominant political effects that mirror those for the vaccine, climate, and forest indicators individually. Democrats are least likely and Tea Party supporters most likely not to trust scientists on either vaccines or climate change. We also see significant *education × party* interaction effects on *climvax* that mirror those for the individual indicators: The odds of trusting scientists on neither vaccines nor climate change decline most steeply with education among Democrats and decline less steeply (northeast Oregon) or actually increase (New Hampshire) with education among Tea Party supporters.

Discussion

New Hampshire and northeast Oregon differ in many ways, so finding common patterns across both surveys suggests the conclusions are robust. The common patterns involve higher liberal and lower conservative trust in scientists, something already well documented regarding climate change (e.g., [Campbell & Kay, 2014](#); [McCright & Dunlap, 2011](#)) and environmental issues ([Hamilton, 2014](#); [Hamilton & Saito, 2015](#); [McCright et al., 2013](#)). Unexpectedly, we find that this occurs also with vaccines, a topic where stereotypically liberal arguments exist (e.g., concern about chemicals and big corporations), and some observers have claimed to see the liberal counterpart to conservative rejection of climate science. Our contrary finding brings up a question raised by others: Are conservatives generally less inclined to trust scientists? [Mooney \(2005, 2012\)](#), drawing on ideological, economic, psychological, and even physiological studies, has argued in the affirmative. Other studies reporting higher liberal or lower conservative support for science include [Gauchat's \(2012\)](#) analysis of a general GSS question and work by [Nadelson et al. \(2014\)](#) on a multi-item scale.

Narrowing their focus to bias regarding specific science domains, [McCright et al. \(2013\)](#) find patterns consistent with theoretical predictions involving impact science versus production science; [Campbell and Kay \(2014\)](#) propose a somewhat overlapping theory of solution aversion. Both theories fit our climate change and forest management results, but neither fits our finding on vaccines. The impact versus production theory predicts that conservatives should favor science that serves economic needs, which vaccine research does both for pharmaceutical companies and public health.

Solution aversion suggests that skepticism toward science is motivated by aversion to ideologically objectionable solutions such as pollution control, but that does not match the vaccination case either. Adverse reactions to vaccines are objectionable to everyone regardless of ideology and, certainly, to physicians and medical scientists; they are the focus of studies and conclusions in the [IOM \(2012\)](#) report, for example. A more ideological conservative objection could be that vaccinations often involve government ([Salmon et al., 2005](#)), although anti-vaccination rhetoric has mainly emphasized child safety ([Brayden & Wall, 2008](#); [Kirkland, 2012](#)). There might also be connections through [Lewandowsky et al.'s \(2013\)](#) idea of conspiracist ideation, not testable with our data but needing further research in this framework.

Our surveys do not ask whether people think that vaccines are safe. With regard to specific vaccines, that is a topic of past and continuing research. The surveys ask whether people think that scientists can be trusted for information on this topic. Democrats are most likely, and Tea Party supporters least likely, to say yes. This political pattern in vaccine and climate change responses, despite the much different content and concerns in those domains, appears consistent with hypotheses of broader ideological divisions on acceptance of science. Behavior of our combined indicator for who does not trust scientists on *either* domain points in this direction as well.

The pattern of liberal trust and conservative distrust of science appears broad in that it extends across many domains, to which we now add vaccines. Further domains need testing in future research, but even if those follow the same pattern, it would not necessarily imply divergent attitudes toward “science” as a general abstraction. More concretely, the observed patterns show divergent views regarding scientific evidence in areas that have a strong consensus among scientists, but where public divisions exist and ideology may supply different answers.

Article Notes

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Notes

- Authors' Note Conclusions in this article are those of the authors and do not necessarily represent the views of supporting agencies. Sampling and interviews for both surveys were conducted by the University of New Hampshire (UNH) Survey Center. Suggestions by three anonymous reviewers contributed to final draft.
- ↵1. Response rates of 24% and 22%, by the American Association for Public Opinion Research (AAPOR; 2006) definition 4.
- ↵2. Response rate 33%, by the AAPOR (2006) definition 4.
- ↵3. People who declined to answer either political question are set aside for these analyses.
- ↵4. For example, in 2012, President Obama received from 22.1% to 34.5% of the votes cast in these northeast Oregon (OR) counties, compared with 52.2% in the state of New Hampshire (NH) and 51.1% nationwide.
- ↵5. Separating out Tea Party supporters builds a fourth political group consisting of 2% (OR) or 9% (NH) of those who originally self-identified as Democrats; 7% (OR) or 17% (NH) of Independents; 38% (OR) or 40% (NH) of Republicans; and 30% (OR) or 19% (NH) of those who originally self-identified as “other” or gave no affiliation. Using just Democrat/Independent/Republican instead of our four-party scheme consequently would have little impact (two points or less) on any of the Democrat percentages in Figure 3. With either coding, Democrats are most likely to trust scientists on all measures in both surveys. Three-party coding also would have little impact on the Independent percentages of Figure 3: two points or less regarding vaccines or climate and four points regarding forest management. Under a three-party coding, the Republican percentages become intermediate between Republican and Tea Party percentages shown in Figure 3. However, combining this heterogeneous group overlooks what are often wide and politically consequential differences between Tea Party and non-Tea Party Republicans (Hamilton, 2014; Hamilton & Saito, 2015).

- ↴6. McCright et al. (2013) report that religious identification also affects trust in science. We looked for a similar pattern in our New Hampshire data using a standard question about frequency of religious service attendance but that proved to have no effect on climate or vaccine responses. A religion question was not asked on our Oregon survey.
- ↴7. The first five models in Table 2 use dichotomous dependent variables, coded 1 if the respondent says they trust scientists and 0 otherwise. Alternatively, these survey questions can be coded as ordinal (distrust/unsure/trust) and analyzed by ordered logit regression. Ordered-logit versions yield basically the same conclusions as the binomial models in Table 2, however. For parsimony, we prefer the dichotomous versions in Table 2.
- ↴8. Our four-value political party indicator is treated as ordinal in these models, but we also tested versions with party treated categorically as a set of dummy variables (see Hamilton & Saito, 2015, for examples using the latter approach). Both versions yield similar conclusions. Because our substantive focus in this article is on the liberal-to-conservative gradient rather than contrasts between individual party pairs, we prefer the simpler ordinal approach here.

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THE FEMALE EXECUTIVE'S PERSPECTIVE ON CAREER PLANNING AND ADVANCEMENT IN ORGANIZATIONS

By Dasie J. Schulz and Christine Enslin
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Abstract

Gender bias continues to play a role in the gender discrepancy at executive levels in organizations across the United States, although women hold 51% of all middle management positions. Female middle managers may be overlooked for advancement to executive positions because of a lack of synergy between individual career planning and organizational development and advancement practices. This may have significant implications for organizations as they struggle to recruit and hire qualified senior leadership to close the widening leadership gap created as baby boomers leave the workforce in record numbers over the next decade. One way to retain talented, knowledgeable, female middle managers is to incorporate career planning and advancement programs, which increase visibility for both the individual and organizational leaders into potential advancement opportunities. This descriptive phenomenological study was designed to investigate and describe the lived experiences of female executives with career planning and advancement in organizations. Data collected from 16 female executives employed in organizations in Nashville, Tennessee, revealed that although individuals must make a commitment to career planning and take responsibility for executing the plan, successful career planning and advancement are dependent on others beyond the individual seeking advancement. The findings of this study are important for women who desire advancement to executive levels and to organizational leaders who want to hire and promote the right person for the job regardless of gender.

Introduction

As of March 2011, 51.5% of managers in the United States were women, but only 14.4% of executive officers and a mere 5.2% of the CEOs were female ([Catalyst, 2011](#)). Researchers strive to identify the barriers women face in the pursuit of advancement in organizations in the United States and explain how women of high professional achievement have overcome barriers to career advancement including gender bias, conflicting behavioral expectations (the double-bind), challenges to networking, and difficulties initiating mentor relationships. Research found that engaging in career planning can help women proactively manage their careers, navigate obstacles to advancement, and overcome gender bias and stereotypes to obtain executive level leadership positions in the United States organizations ([Sabattini, 2008](#); [Warren, 2009](#)). Providing organizational support for career planning and advancement can help organizational leaders retain talented female middle managers and close the leadership gap, which will only widen further as millions of baby boomers leave the workforce in the next 10 years ([Green, 2007](#); [Levanon & Cheng, 2011](#); [Rogers et al., 2011](#)).

For the purpose of this study, a distinction was made between career development, career planning, and career planning strategies. Career development was defined as the application of programs, training, and development

opportunities provided by the employer to assist employees with professional development and advancement (Lalli, 2009). Career paths, career maps, education, training, and workshops are all common components of career development programs, and assist employees with the implementation of a career plan (Van de Ven, 2007). Career planning was defined as the action taken to assess individual values, desires, goals, interests, and career aspirations. Career planning also encompasses evaluating opportunities; setting career goals; engaging in purposeful networking; hiring a career coach; obtaining career counseling; identifying and taking advantage of educational and developmental opportunities; and actively seeking the advice and guidance of trusted peers, managers, and subject matter experts (Dagley & Salter, 2004; McGrath, Zell, & Vance, 2013).

Women in organizations often face obstacles in obtaining mentors, especially female mentors who may have better insights into the challenges women face in achieving advancement in organizations (Enslin, 2007; Evans, 2009). A study conducted by Raggins and Cotton (1991) found that women had restricted access to mentors and reported a lack of availability and willingness of male leaders to engage in a mentoring relationship with females. A second study found that women who successfully gained access to male mentors were significantly less likely to engage in and benefit from networking and bonding opportunities available outside work hours (Raggins & Cotton, 1999). Herminia (1992) and Sabattini (2008) pointed out that a lack of access to social bonding presented an obstacle to advancement for women in organizations and has consequences for career advancement manifest in the underrepresentation of women in executive positions.

Career planning was identified as one of the unwritten rules to advancement for women in organizations, and female executives who participated in past research studies exploring the hurdles to advancement for women wished they had discovered and applied career planning earlier in their careers (Evans, 2009; Sabattini, 2008; Sabattini & Dinolfo, 2010). Career planning can help women overcome obstacles to advancement in organizations by helping the individual gain the self-awareness to make the appropriate career choices and helping individuals identify and leverage development tools appropriate to achieving long-term personal and professional growth (Thurgate & Jackson, 2011). Insights gained from engaging in career planning with employees may also help organizations develop and implement programs, policies, and procedures that more adequately promote gender equality in recruiting, hiring, promotion, and succession planning practices (Levanon & Cheng, 2011; Guthridge, Komm, & Lawson, 2008; Rogers et al., 2011).

Creating a partnership between motivated female employees and organizational leaders by implementing a comprehensive career planning element in the talent management system may be effective in mitigating the loss of female talent in organizations. Creating a partnership may also help organizational leaders close the leadership gap and mitigate the loss of experienced workers as older workers begin to retire and leave the workforce in larger numbers (Green, 2007; Levanon & Cheng, 2011; Rogers et al., 2011). Organizations that create customized career paths and development opportunities improve both employee loyalty and customer loyalty (Benko & Weisberg, 2007). The transparency and detail available through customized career planning allow individuals and organizations to leverage career development tools to maximize the potential of the individual and to meet both individual and organizational growth objectives (Adomaitien & Zubrickien, 2010). Increasing employee retention rates and promoting from within saves organizations millions of dollars in costs associated with high employee turnover (Benko & Weisberg, 2007).

Research Question

This study was organized around one central question and six sub-questions. The central research question was as follows: What are female executives' perceptions of experiences with career planning and advancement in organizations?

Theoretical Framework

The theoretical framework for this study provides a foundation for understanding the obstacles to the advancement of women in organizations in the United States and includes the theory of cascading gender bias (Warren, 2009), the double-bind dilemma (Catalyst, 2007), and the unwritten rules of advancement (Sabattini, 2008). Each of these theories describes implications of gender bias for perceptions of women as leaders and the influence of gender stereotypes on the advancement of women in organizations. These studies address the hurdles women face as they pursue advancement in organizations and provided the theoretical underpinning for this study.

Cascading Gender Bias

The theory of cascading gender bias identified potential for leadership bias to influence organizational human resource management system. Warren (2009) described the double-bind dilemma and the unwritten rules to advancement as side effects of gender bias, which can prevent women from advancing to the executive suite. Warren identified three major contributors to gender bias in talent management systems: senior leadership effect, institutionalizing bias, and compounding bias.

Senior leadership effect describes two phenomena that contribute to cascading bias. First, because both male and female managers apply a *think leader—think male* perspective to performance evaluation, women are disadvantaged when being considered for leadership positions, regardless of the gender of the hiring manager or influential organizational executive (Jackson et al., 2007; Warren, 2009). Second, people generally prefer to work with and associate with others who share their beliefs, values, and interest. Generally, people feel most comfortable with others most similar to themselves. Consciously or subconsciously, organizational leaders apply gender stereotypes to establish preferences among potential candidates for executive openings and influence decisions about who is hired or promoted to top positions (Warren, 2009). Because the majority of organizational executives are male, it stands to reason that the majority of individuals promoted to executive positions will also be male (Rosenfeld, 2009; Warren, 2009). Senior leadership effect influences who gets assigned to high-visibility projects, takes part in networking opportunities, and receives mentoring (Sabattini, 2008; Sabattini & Dinolfo, 2010; Warren, 2009).

Stereotypes are built into talent management procedures, programs, and tools and contribute to *institutionalizing bias* (Warren, 2009). Career path planning, succession planning, and mentoring programs can magnify the influence of leadership bias on the hiring, development, and promotion processes built into talent management systems. Advancement and succession planning criteria are often established and dictated with top-down influence in organizations. Little consideration is given to whether criteria identified include characteristics or traits that incorporate or perpetuate gender bias.

Warren (2009) described *compounding biases* as “gaps between the design and execution of talent management programs compound the disadvantages faced by women, especially those seeking professional development and advancement” (p. 6).

Double-Bind

The double-bind dilemma for women in leadership established that women in organizations struggle to overcome contradictory demands for performance, behavior, and leadership. Catalyst (2007) described a double-bind as a set of conflicting demands that require women demonstrate contradictory behaviors that set them up for harsh judgment no matter which behavior is adopted and forces women to choose between equally unsatisfactory alternatives (Catalyst, 2007). The double-bind manifests itself in three predicaments—extreme perception, the high competence threshold, and competent but disliked—and is manifest in masculine leadership theory and stereotypes (Catalyst, 2007).

Extreme perceptions are a manifestation of gender stereotypes, which create the tendency for women to be described as nurturing and compassionate. Such stereotypes create a predicament in which, when female leaders behave as expected (nurturing and compassionate), they are labeled *too soft*. Alternatively, if a female leader is assertive and firm (unnurturing and uncompassionate), that woman will be labeled *too tough*.

High competency threshold describes a predicament in which women must deliver to higher standards than male counterparts, often for smaller rewards. As a result, women face the high competency threshold when they are required to prove leadership ability repeatedly or when they must perform more consistently and at a higher level than male counterparts only to receive the same or lower compensation, recognition, or opportunities.

The predicament described as *competent but disliked* describes the phenomenon in which female managers and executives are challenged with balancing passiveness with assertiveness to satisfy the expectations of colleagues and managers. Regardless of experience, performance results, ability, influence, or use of power, female managers must endure constant scrutiny and judgment from others who inevitably label them as *too-soft* or *too-hard*. *Competent but disliked* is a predicament that describes the dilemma of being seen either as someone who *takes-charge* or someone who *takes-care*. The result is that “. . . female leaders are perceived as likable or competent, but rarely both” (Catalyst, 2007, p. 8).

Unwritten Rules of Advancement

The theory of unwritten rules for advancement identified specific, undocumented behaviors that influence upward mobility in organizations. [Sabattini \(2008\)](#) described networking, gaining visibility, leveraging organizational politics, developing strong communication skills, demonstrating strong performance, obtaining mentoring, working long hours, and having a career plan as significant factors in the unwritten rules for advancement. Failures to identify, acknowledge, and adhere to the unwritten rules for advancement could delay or even derail one's career. The unwritten rules to advancement were identified as a hurdle for women seeking advancement to executive levels in organizations because female workers often learn about the unwritten rules through observation and trial and error, rather than from relationships built through mentoring or networking, and not knowing may delay or derail advancement ([Sabattini, 2008](#)).

Methods, Techniques, or Modes of Inquiry

A descriptive phenomenological design was appropriate for this research study because the purpose of this research was to explore and describe female executives' experiences and perceptions pertinent to career planning and advancement in organizations. Ten in-depth interviews and two focus groups were used to thoroughly investigate and describe experiences and perceptions. Focus group interviews involving three female executives each were leveraged to triangulate the data collected in the in-depth interviews and confirm the themes that emerged in the data. All study participants were female executives employed in organizations in Nashville, Tennessee, during the 2 years leading up to the study.

Data Sources, Evidence, Objectives, or Materials

This study used purposeful and snowball sampling of female executives in the greater Nashville, Tennessee area. Participants were recruited through email, in person, and over the phone and were invited to participate in in-depth interviews or focus groups to share personal, lived experiences with career planning and advancement in organizations. Sixty-two women were invited to participate in this study. Sixteen agreed to participate; 10 participated in in-depth interviews and 6 participated in focus group interviews. The 10 in-depth interviews and 2 focus groups that resulted in the collection of data for this study were held in classrooms on University of Phoenix campuses in Nashville, Tennessee, and Murfreesboro, Tennessee. In-depth interviews and focus groups were conducted to the point of data saturation.

Standardized interview protocols were developed and peer reviewed prior to the study. The protocols were used in all in-depth interviews and focus group interviews to ensure that study participants in each session were provided with an opportunity to respond to an identical set of questions. Demographic and work history questionnaires were used to collect demographic data such as age bracket, marital status, education level, and work history detail including industry, size of current organization, and years of experience in executive positions. The researcher conducted the interviews following the in-depth interview and focus group protocol.

The in-depth interview protocol was designed to mitigate the potential for subjectivity and bias in individual interview settings and guided each in-depth interview. In-depth interview questions were developed to provide data that may be helpful to answering the research questions identified for this study. Questions were developed to ensure open-ended answers describing participants' perceptions and experiences with the phenomenon under study. Questions were developed in alignment with the research questions and to guide the interview process. In-depth interview questions were designed to gather data rich descriptions of female executives' lived experiences, beliefs, and perceptions relevant to career planning and advancement in organizations.

Validation of study protocol and data collection tools is recommended to ensure adequate design for eliciting data rich responses from the study subjects. Pilot interviews and focus groups are effective tools for validating study protocol ([Leedy & Ormrod, 2010](#); [Salkind, 2003](#)). Expert review of study protocol and demographics and work history profile questionnaires ensured credibility and consistency in data collection. The expert was a senior director of human resources for a medium sized firm and possessed extensive experience with qualitative research, focus groups, and the development and validation of focus group protocol.

To evaluate the clarity of in-depth interview questions and the effectiveness of the interview protocol, a pilot study took place prior to the actual study. A pilot study is an effective way of validating study protocol ([Leedy & Ormrod,](#)

2010; Salkind, 2003). No questions were changed prior to conducting the actual in-depth interviews for this study. The pilot in-depth interview participant did not participate in the actual study. The pilot study revealed that the in-depth interview questions were clear and concise and elicited open-ended answers sufficient to collect data capable of answering the research questions posed for this study. No changes were made to the in-depth interview protocol based on the results of the pilot in-depth interview.

The focus group protocol listed the predetermined questions that were applied in each focus group interview. Questions were developed before the focus group pilot interview based on themes identified in the analysis of data collected from in-depth interviews. The themes identified dictated the selection of the topics discussed and the format of focus group interview questions. Focus group questions were developed to provide data that may be helpful to answering the research questions identified for this study and relevant to verifying themes identified in analysis of in-depth interview data. Questions were developed to guide the focus group interviews, ensure open-ended answers in alignment with the research questions, and facilitate candid discussion among focus group participants. One pilot focus group was conducted to evaluate the appropriateness of the focus group and to ensure the clarity of interview questions. Based on feedback from the pilot focus group members, one question was modified. Participants from the pilot study did not participate in the actual study.

The demographics and work history profile were designed to gather demographic and work history details relevant to describing the sample relevant to this study. Work history and demographic data made it possible to identify and describe characteristics of the participants, the organizations, and the industries represented by the study sample. All study participants were asked to sign a signed consent form, were advised of their right to withdraw from the study at any time without any repercussions, were assured of confidentiality, and were assigned pseudonyms to ensure protection of privacy. The in-depth interview protocol, focus group protocol, and demographics and work history profile were reviewed by the International Review Board (IRB) to ensure adequate consideration for participant privacy, anonymity, and confidentiality.

Results and Point of View

A key finding of this study was that gender bias was the prevalent challenge experienced by women when applying career planning and advancement in organizations. Barriers to advancement for women in organizations were identified by [Catalyst \(2007\)](#), [Sabattini \(2008\)](#), and [Warren \(2009\)](#) as the double-bind, the unwritten rules to advancement, and cascading gender bias. These three barriers were also identified as obstacles women face as they pursue advancement to executive levels in organizations. Although the unwritten rules to advancement apply to all employees, networking and access to mentors were two of the unwritten rules identified as unwritten rules that can represent seemingly insurmountable barriers for women in male dominated environments ([Herminia, 1992](#); [Raggins & Cotton, 1991, 1999](#); [Sabattini, 2008](#)). Because women perceive a significant disadvantage in overcoming unwritten rules to networking (especially outside working hours) and gaining access to mentors ([Raggins & Cotton, 1999](#)), the unwritten rules to advancement were identified as gender specific challenges for the purpose of this study.

Experiences With the Double-Bind

Female executives who participated in this study shared perceptions and experiences with the double-bind, which was described by [Catalyst \(2007\)](#) as a set of conflicting demands that earns women a label of either *too nice* or *too brash*, requires women to work harder than male counterparts for the same or less reward and recognition, and creates a need for women to prove themselves capable and worthy of each opportunity, often doing the job long before receiving the formal promotion, whereas male counterparts are given opportunities and promoted based on potential rather than proven performance.

Cheryl explained her perceptions of the double-bind as a hurdle for women pursuing career planning and advancement in organizations when she stated, “A female needs to be worried, much more, about the respect level around her than the like level. That’s something a female needs to come to terms with. I think sometimes we are wired a little different, but when you get to that place, and accept that, you become a stronger leader.”

Another participant shared concerns about gender bias in the workplace: “I’m in a very male dominated environment. Very male dominated. Very few women [organization name omitted], in my department, and at my level and above. So, again, you’ve gotta make sure you can hang in the meeting.” She went on to say, “I feel like

women almost have to try a little harder because there's an expectation that they're not going to be as business minded, if you will, as men. So it's a little bit harder to work."

One focus group participant commented on the need for women to vocalize their advancement desires because many managers assume women are not as career driven as men: "It does seem to be with men. It's almost just assumed, well of course they wanna advance. With women . . . I don't know. And so, I think it's really really important for women to make it clear—you know—just to have an idea what else they want to do and try to be working and growing themselves to get there all the time."

A fellow focus group participant spoke up, vocalizing concerns about the double standard often faced by women who advocate for themselves. "Yes," she agreed, "And not in a bitchy way, because when we speak up we're bitches, but when men speak up they're just being assertive."

Pat described how gender bias could work against both male and female employees in low- and mid-level environments dominated by either gender. Pat pointed out that low-level males trying to build careers in female dominated industries such as health care may face more gender bias than women in the same roles, but observed that women may still be challenged by gender bias in pursuit of advancement to executive levels even in traditionally feminine industries. She stated, "Well, I think not only for women but since we're talking about women, it's extremely important for women to have the degrees, to have the certifications, and to have the experience that they need. And sometimes, I find . . . that there is sort of a bias. You know, in nursing the bias is more toward men coming into those positions versus females, because it's generally a female career. You know, that's really the majority of people in those positions. In other positions, though, I think—depending on what it is—sometimes females are at a disadvantage because they are female."

In summary, data collected and analyzed for this study revealed evidence of female executive's experiences with the double-bind and supported the evidence of gender bias present in the three predicaments of the double-bind as presented by [Catalyst \(2007\)](#).

Experiences With the Unwritten Rules to Advancement

Female executives who participated in this study emphasized the importance of individual commitment to career planning, and the responsibility for women to take ownership for pursuing career goals. Diane, a CEO with 20 years executive level experience in organizations, emphasized the necessity for personal ownership in career planning and advancement, and the benefit of self-awareness gained through career planning: "I think if we're aware of ourselves and of the opportunities, I really think there's power in that. And it's up to us to take advantage of that knowledge." Another participant, Brenda, advised junior women to "Do it! Number one, I mean, you just gotta do it! And it's got to be YOU."

Another participant explained how awareness of self and surroundings helped her manage her career through a volatile and uncertain time: "Changes were happening. The changes that were happening were out of my control, so how could I be more in control of what I could control? And that's only the . . . you know . . . just me. And how could I make my skills better or more marketable so if I did get cut, you know, that my next opportunity—that I'd be a better-prepared candidate."

Another participant said that women were responsible for taking action to manage the trajectory of their own career whenever possible. "You have to innovate," she said. She went on to explain how inequity in her work environment and a perceived need for change motivated her to develop and champion for the creation of a new position that resulted in her promotion to executive level: "When I was a director of sales I had three counterparts. Four of us were covering the whole country, and I was so much more effective and better at my position than the other three. Yet, I found out they were being paid more than me. They were three men, and I was the only female. That crawled all over me. So that's when I created the executive director level, sold it [to senior management], and then I was promoted to executive director."

Although every woman may not be in a position to create her own executive level position, a career plan is powerless without action. Erica precisely summed this up when she declared, "I think that what a woman actually does plays a larger role than the actual career planning."

Female executives who participated in this study described networking and building relationships with peers, mentors, and advocates as important factors in the lived experiences with career planning and advancement in organizations. One stated, "Women need to have strong supporters and strong sponsors within their

organizations to help them move up. And we, as women, have a duty and an obligation. We just had a legal education thing on this the other day—lifting as we climb. We need to remember that there are people above us, women above us, who lifted us and we need to lift the people behind us. And I believe career planning is such a big part of that. We need to talk to the younger women that we see in our organizations about thinking about career planning, about being deliberate in the choices that you make.”

Another said, “I heard somebody put it in terms of having a personal advisory board. Those people in your life that you can go and talk to and say, “I need to talk to you about my career,” or “I need to talk to you about finances,” or “I need to see how you handled this situation.” And having those people that you trust to keep your confidences and you also trust to be brutally honest.”

In summary, in-depth interview and focus group participants for this study described experiences with the unwritten rules to advancement, specifically those rules related to career planning and to finding mentors and advocates who provide support and act as champions.

Experiences With Cascading Gender Bias

The basic principle behind cascading gender bias is that senior leaders, the majority of whom are male, consciously or subconsciously apply masculine assumptions to evaluate leadership potential and capabilities for the purposes of hiring, promoting, and succession planning (Warren, 2009). Female executives who participated in this study described experiences and observations related to cascading gender bias.

Cascading gender bias was evident in one participant’s reference to the *old boys club*. “I think women work harder than men,” the female executive stated. “There are the old boys’ clubs. And they are there, and they are prevalent.” The participant paused a moment and then went on to say, “I don’t think they are wrong. I’m not calloused by it. It’s just . . . where do I fit in?”

When asked to describe the nature of the relationship between career planning and the advancement of women in organizations, another in-depth interview participant stated, “It really depends on leadership, in my opinion. It is a top-down perspective. If you work in an organization where women are seen as valuable in leadership roles then I think those things trickle down.” The female executive went on to say, “In different years, in the company that I’m at, there have been ten women in top leadership positions. In other years, there have been two. It really just depends on who was president and CEO at the time.”

And yet another female executive described cascading gender bias as a hurdle to career planning and advancement in organizations when she said, “I have faced hurdles. I have worked in environments where it was very difficult for women to advance, largely because the leadership roles were filled with men who were looking to promote other men and not females. I have left those environments in order to continue to move up, realizing there were no opportunities.”

In summary, female executives who participated in this study shared observations and experiences in support of Warren’s (2009) assertions that cascading gender bias influences and often dictates who gets recruited, hired, and promoted in an organization.

Summary: Results and Point of View

Gender bias was the prevalent challenge to career planning and advancement in organizations as described by female executives who participated in this study. Evidence of the double-bind, the unwritten rules to advancement, and cascading gender bias was evident in the data collected in 10 in-depth interviews and 2 focus group interviews involving 3 female executives each. Participants described how career planning and engaging the support of mentors and advocates played a significant role in their advancement to executive level leadership, which supports past research indicating that career planning may help women overcome obstacles to advancement in organizations (Sabattini, 2008; Sabattini & Dinolfo, 2010; Warren, 2009).

Recommendations

The findings of this study may help organizational leaders develop appropriate models and programs to address career planning and advancement and increase the potential for hiring and promoting the best person for the job

regardless of gender. Women who desire advancement in organizations must take the initiative to engage in career planning follow through on the resulting career plan. Women must recognize that successful career planning and advancement in organizations are dependent on people beyond the individual doing the career planning and seek support from peers, mentors, advisors, and advocates who can positively contribute to their success. Female executives must take responsibility for informing and educating junior women about the unwritten rules for advancement and encourage women, minorities, and men to engage in career planning early and often in their careers. Organizational leaders and human resource management professionals must develop and implement mentor programs that ensure women gain access and support from mentors at executive levels. Females who seek career advancement must make networking a priority and create visibility for themselves inside and outside their current organizations.

Women in organizations must find the confidence and strength to openly discuss gender bias as it presents itself in the workplace, and organizational leaders must implement policies and practices to ensure female workers can voice concerns without fear of retribution or negative implications for future advancement. Educational leaders must encourage career planning, in a broad sense, during the first 2 years of college and provide students with tools, information, and training necessary to develop a solid foundation for lifelong career planning. Women must take advantage of the tools provided by educational institutions and should seek support for career planning after graduating from college. Likewise, organizations must help women continue efforts toward career planning by offering self-assessment tools, access to mentors, training and development opportunities, and insights into career paths and potential advancement opportunities within the organization. Women who desire advancement to executive levels in organizations must engage in career planning activities that enhance self-awareness; increase visibility into development and advancement opportunities; facilitate networking; and establish mentoring relationships with individuals who can provide advice, coaching, and support.

Organizations must promote the formal career planning programs, development programs, and tools available within the organization to make it more likely that employees will become aware of and engage in career planning. Organizational leaders must empower human resource management teams to design and implement comprehensive career planning and advancement programs that inform and empower managers by making it possible to more efficiently and effectively match employees to development and advancement opportunities. Organizational leaders must provide managers and human resource departments with the necessary resources for successfully implementing and maintaining career planning and advancement programs. Finally, the findings of this study inspired the development of the comprehensive organizational career planning model, which can be applied for women, men, and minorities in organizations (Figure 1).

Figure 1.

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Figure 1.

Comprehensive organizational career planning model.

Although the comprehensive career planning model developed for this study has not been tested, the model was developed by the researcher to address the need for career-planning support in organizations and incorporates the findings of this study. The model demonstrates a perpetual process for development, feedback, reflection, and learning that has a strong foundation of continuous organizational support. Investments in organizational development programs that address all elements of the comprehensive organizational career planning model would benefit individuals and organizations by cultivating employee engagement, increasing job satisfaction, providing visibility into opportunities for advancement, increasing employee retention, reducing turnover costs, increasing productivity, and enhancing visibility and insight for succession planning.

Limitations

The limitations of the study included population size and geographic area, which make it impossible to generalize the results across the broader population. Other limitations include self-reporting by study participants and researcher as interviewer, which may have introduced bias. Participant responses may have been consciously or subconsciously influenced through nonverbal cues or tone and manner in which the interviewer asked questions. Although research protocol was examined by experts prior to pilot studies to mitigate the potential for bias in interview questions and focus groups were used to provide validation through triangulation, a researcher's

engagement in the process may introduce bias and affect results. Researcher bias was also possible in the interpretation of results.

Conclusion

The findings of this study have implications for individual career management, employee retention and productivity, and for closing the gender-gap in organizational leadership. Career planning can empower women, men, and minorities to seek out and pursue development and advancement opportunities. Engaging employees in organizational career planning programs and supporting career planning efforts may serve to increase employee retention and boost employee loyalty, while serving to close the leadership gap at senior levels in the organization. Engaging highly motivated employees in career planning and advancement programs may also serve to better ensure that the best person is chosen for the job regardless of gender.

The findings in this study are significant for providing managers and organizational leaders with additional insights into the benefits for organizations and the benefits and barriers for women with regard to career planning and advancement in organizations. The findings may help policy makers and organizational leaders design future models and programs to aid with career planning and advancement in organizations and for creating organizational cultures and structures that are increasingly gender-neutral. These findings may also provide organizational leaders with additional information about the factors influencing the lived experience of female employees with career planning and advancement in organizations, and help educational institutions develop programs and tools that help students develop awareness for the importance of career planning to advancement.


Future research may include repeating the research design, method, process, and protocol in other geographic areas of the United States to further explore the lived experiences of female executives with career planning or to investigate the lived experiences of male executives with career planning and advancement. Recommended future research would also investigate the emotional and experiential implications for women who verbalize concerns about gender bias and gender inequality in organizational systems. Finally, future research should be conducted to explore the implications of incorporating the comprehensive career planning model in an organizational talent management system to address the perceived need for support in organizations to address the challenges of career planning and advancement.


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