



FaithLink

Connecting Faith and Life

Air Conditioning by Kira Austin-Young



As we reach the height of summer, we recognize the huge role that air conditioning plays in our modern lives. What is the history of air conditioning and how has it changed our world? What are the costs of air conditioning? As people of faith, how do we balance our comfort with caring for the environment?

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The History of Air Conditioning

Many of us take for granted the relief of air conditioning on a hot summer afternoon, but the impact of air conditioning on our world, including everything from architecture to politics, is significant. That refreshing, icy blast as we move from out of the summer heat makes it easy to forget that, until relatively recently, the options on a hot day were limited to sweating and fanning oneself.

Primitive air cooling systems have existed since ancient times, though they were generally so inefficient and energy-intensive that only the wealthiest had access to them. Affluent ancient Romans brought cool water to their homes by way of their famous aqueducts and circulated this water through the walls to cool the house. In the third century, the Roman emperor Elgabalus imported snow from the mountains to cool off his villa. For centuries, cooling technology relied on air circulation and architectural innovation. Similarly, during the oppressive Washington, D.C. summer of 1881, a dying President Garfield used a contraption that blew air through cotton sheets doused in ice water. Like Elgabalus before him, this required a massive amount of resources—nearly 500,000 pounds of ice in two months.

In the 1800s, modern inventors began to tackle the issue with newer innovations. With Nikola Tesla's invention of alternating currents, the early 19th

century also brought us electricity and the oscillating fan. Though similar inventions preceded him, Willis Carrier is the man credited with the development of the first modern air conditioning unit in 1902. Instead of human comfort, Carrier was more interested in lowering the product-ruining humidity in the printing plant where he worked. Carrier's unit sent air through water-cooled coils, and later, he was able to reduce the size through the invention of a central compressor allowing for a centrifugal chiller. It debuted to the public at the Rivoli Theater in New York in 1925, forever cementing the relationship between escaping the summer heat by going to air conditioned movie theaters for the summer blockbusters. At the 1939 World's Fair in Queens, New York, the Carrier Igloo of Tomorrow Exhibit introduced air conditioning to 65,000 visitors.

During the postwar era of the 1950s, the luxury of air conditioning became a mass market technology as the rise of the middle class moved air conditioning into individual homes. Today, the ubiquity of air conditioning allows us to continue our lives as normal even during the hottest months. Even on the most scorching days, we can take refuge from the heat in our cooled houses, our air-conditioned cars, and our air-conditioned work places.

REFLECT:

- What is your personal history with air conditioning? Have you always lived with it in your home and your car or was there a time in your life before air conditioning?
- Considering where you live, what would your life be like without air conditioning now?

The Hidden Impact of Air Conditioning

As of 2011, 87% of households in the United States had either an air conditioner or central air, compared with 11% in Brazil and 2% in India. While the United States might be the most

air-conditioned nation, air conditioning has supported development and livability of hot climate zones around the world. The “founding father” of Singapore, Lee Kuan Yew, who helped turn an island with few natural resources into one of the wealthiest nations in the world, credited air conditioning for Singapore's success. In an interview, he said, “[air conditioning] changed the nature of civilization by making development possible in the tropics.”

Closer to home, cities like Las Vegas, Phoenix, Houston, and Miami became livable year-round for many more people due to the explosion of air conditioning. After the 1930s, the South experienced population growth, in part due to reduced heat deaths and increased migration from Northern climates. This changed Southern culture through industrialization and increased political power. In some ways, it was air conditioning that made the South more integrated with the rest of the United States as it became less agrarian and more culturally homogenous.

Air conditioning has also affected the architecture of our homes and public places. Before air conditioning, homes in warm climates were designed with high ceilings, open floor plans, and large porches to help escape the heat. Now, homes are constructed for central air conditioning with little attention to natural cooling. Big box stores, large government buildings, skyscrapers, and strip malls would be unbearably hot and stuffy without air conditioning. Historian Raymond Arsenault goes so far as to call the shopping mall “the cathedral of air-conditioned culture.”

Recently, there have been accusations that air conditioning is sexist, particularly in business environments. Even in summer, men in some industries are encouraged to wear suits, and offices are air conditioned accordingly. Meanwhile, women who dress for the outside weather freeze indoors. During the summer, I, for one, always have a cardigan, wrap, or light sweater for when I go indoors.

REFLECT:

- Generally, what has your experience been with air conditioning in different parts of the country or world?
- How has air conditioning changed our culture by making the indoors more comfortable? What losses and gains have we shared collectively?

A Religious Response to Air Conditioning

From its invention, air conditioning raised moral questions. Though heating rooms with fires was accepted, controlling the environment through cooling the air seemed to go against God’s will. The idea that a machine could control the weather was deemed sinful, and extreme heat was viewed as something with which people should not tamper. At some point, the relief of staying cool in hot weather outweighed these moral concerns, however skepticism about air conditioning remains in the environmental concerns created by its use. In the papal encyclical *Laudato Si*, Pope Francis denounced air conditioning as an example of humanity’s instant gratification.

Yet there is no doubt that air conditioning has saved lives and increased productivity. Extreme heat waves

are remarkably deadly, and air conditioning helps keep hospitals sterile. As one writer points out, perhaps Pope Francis neglected to mention the air conditioning installed to protect the frescoes of the Sistine Chapel or to preserve important documents in the Vatican archives.

At present, there is little doubt that a population accustomed to air conditioning would not willingly do away with it, especially as temperatures rise around the globe. But there is no question that our air-conditioning habit is contributing to that very change in the climate. Today, 1% of the world is in a barely livable hot zone, but that is expected to rise to 19% by 2070, causing billions of people to migrate out of those areas. As Christians, we should be interested in both reducing emissions and improving human flourishing by advocating for measures that will do both, like regulation that promotes rapid tech-switching, generous funding to the developing world, and public sector expansion that delivers low-cost, reliable, clean energy for all.

REFLECT:

- Why might there have been a stronger religious and moral reaction to air conditioning than to heating?
- Besides personal comfort, what other benefits does air conditioning and other cooling bring to our lives?

Core Bible Passages

Last July, while visiting the Holy Land, we were attentive to our schedule, much like humans throughout history. We woke up early to visit sights and took breaks in the hottest parts of the day. Places of shade were at a premium, and elevation mattered quite a bit. Jerusalem was much higher and cooler than Jericho or the Dead Sea. Our pilgrimage group took advantage of courtyards and other open spaces where we could catch a breeze. In the Bible, even God was familiar with these cooling strategies, as we are told in Genesis 3 that Adam and Eve “heard the sound of the LORD God walking in the garden at the time of the evening breeze.” (Genesis 3:8)

The paradox of climate change is that we both have the intellectual and technological power to affect the climate and that we are also relatively weak in the face of nature. In meditating on this, I often turn to the later chapters of Job, where God responds to Job’s questioning with God’s own questions. “Where were you when I laid the foundation of the earth? Tell me, if you have understanding,” God asks. (Job 38:2) These chapters are a reminder of the humility we should employ in toying with nature.

REFLECT:

- The world and climate of the Bible was often warm. How do you see the effects of shade, breezes, and other natural cooling measures show up in the stories of Scripture?
- What role should humility play in our technological advances, especially when they disrupt the natural world? How does our faith influence these questions?

Air Conditioning and COVID-19

Going into the summer, many people expected infections of the novel coronavirus, COVID-19, to wane due to rising temperatures and increased humidity, much as the flu does. Instead, infections skyrocketed in the hottest and stickiest parts of the country. Most of us retreat from the heat by moving indoors to air conditioned spaces, and some experts are attributing this spike in cases to the currents of air caused by HVAC systems. As we have learned more about COVID-19, airborne transmission appears to be the primary means of infection. This means that even while observing social distancing, air ventilation can carry aerosols and respiratory droplets that spread infections in enclosed spaces like bars or restaurants.

An investigation of an outbreak linked to a restaurant in China found that, while a few people at the infected person's table fell ill, the others in the restaurant who caught the virus were all in the path of the air conditioner's air flow. Ventilation (bringing in more outside air) and filtration (removing virus carriers) may help, but for most businesses, making these alterations to existing systems is prohibitively expensive. While there are ways to manipulate air flow to make it safer, the best ventilation will always be outside. We have yet to see what kind of long-term impacts this pandemic might have on air-conditioning usage, but it may be that the purchase of future units includes considerations of infectious airborne diseases.

REFLECT:

- During the pandemic, how has your use or relationship with air conditioning changed?
- What long-term impacts on air-conditioning usage or HVAC units might come out of this pandemic?

United Methodist Perspective: Sacraments and COVID-19

As a clergy person who has primarily served in small congregations, seminary did not prepare me for the amount of time, energy, and money that I would spend on the HVAC system of the church. When people come to church, part of being hospitable is insuring their physical comfort which often includes how warm or cool the building is. But managing industrial HVAC units is tough and considerations about windows, how many people are in a space, and the weather outside affect its usage. I know few preachers who enjoy getting an earful after their sermon about how hot or cold the church was. Especially for smaller churches, the investment in the initial purchase of an HVAC system plus the maintenance and energy costs often take up a large segment of the budget. While physical comfort and hospitality are important, there may be other more mission-oriented places those funds could go.

Under the Natural World section, the Social Principles state, "All creation is the Lord's, and we are responsible for the ways in which we use and abuse it." One of the ways that we use and abuse creation is through massive energy consumption to heat and cool our buildings. The Social Principles call on all of us to "take measures to save energy," due to the ways in which utilization of gas, oil, and carbon accelerate global warming. Each person is encouraged to adapt their lifestyle to one that respects the limits of the Earth, which might include how and when we use air conditioning.

REFLECT:

- How do you weigh the tension between comfort and environmental concerns when you set your thermostat at home?
- What are some ways you might decrease energy usage at your church?

Helpful Links

- A longer opinion piece that offers a cohesive summary of the less desirable effects of air conditioning and how we might be able to reduce our usage of it:
<https://www.dallasnews.com/opinion/commentary/2013/08/02/is-air-conditioning-making-us-weak/>
- A more thorough history of the air conditioner from Smithsonian Magazine: <https://www.smithsonian-mag.com/smithsonian-institution/unexpected-history-air-conditioner-180972108/>
- A longer article on how air conditioning was received initially and how it is viewed now:
<https://news.yahoo.com/moral-history-air-conditioning-185300302.html>
- A defense of air conditioning from the perspective of human flourishing and comfort:
<https://jacobinmag.com/2018/08/air-conditioning-climate-change-energy-pollution>

About the Writer

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Next Week in **FaithLink**
Connecting Faith and Life

Back to School?

by Benjamin Dueholm

For months, people around the country have been debating the questions of how and whether to re-open schools this fall. What are the choices and trade-offs for students, parents, and teachers? How can faith guide us to make the best choices for all parties involved?



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Opening Prayer

O merciful Creator, your hand is open wide to satisfy the needs of every living creature. Make us always thankful for your loving providence; and grant that we, remembering the account that we must one day give, may be faithful stewards of your good gifts; through Jesus Christ our Lord, who with you and the Holy Spirit lives and reigns, one God, for ever and ever. Amen.

Leader Helps

- In the week before this issue is to be used, there will be a video of a conversation about this topic available online at <https://www.facebook.com/Lets-Talk-About-the-Bible-109513374028090>. You can watch this video for your own benefit or share it with your participants to prepare them for this week's discussion.
- Have several Bibles on hand and a markerboard and markers for writing lists or responses to reflection questions.
- Open the session with the provided prayer or one of your own.
- Remind the group that people have different perspectives and to honor these differences by treating one another with respect as you explore this topic together.
- Open the conversation by inviting everyone to share what temperature they keep their homes at. Highlight the differences and discuss how our society has been changed and shaped by the invention of air conditioning.
- Read or review highlights of each section of this issue. Use the *REFLECT* questions to stimulate discussion.
- Close the session with the provided prayer or one of your own.

Teaching Alternatives

- Do an air-conditioning audit of your home or church building. What kind of unit do you have? How much money is budgeted or spent on heating and cooling each year? Brainstorm how you might reduce the usage of your air conditioner. Some power companies might be willing to do an energy audit and assist with this.
- Read Salvatore Basile's book *Cool: How Air Conditioning Changed Everything* and discuss what you learn about the changes wrought by air conditioning.

Closing Prayer

Almighty God, in giving us dominion over things on earth, you made us fellow workers in your creation. Give us wisdom and reverence so to use the resources of nature, that no one may suffer from our abuse of them, and that generations yet to come may continue to praise you for your bounty; through Jesus Christ our Lord. Amen.