IEEE Technology and Society MAGAZINE

Amish Technology: Reinforcing Values, Building Community

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Amish Technology:

Reinforcing Values and Building Community

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O n late-night TV and in popular jokes, the Amish are usually portrayed as rural farmers who live in a bygone era.[1] They are supposed to be a people who would never set foot in automobiles, never study the workings of a diesel engine, and never admit change into their society. And yet, when a non-Amish person — or "English" person as the Amish call their English-

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[1]This article primarily refers to the Old Order Amish. Because this is the largest and most recognizable group of Amish people, they are typically referred to as simply "Amish." For an explanation of the different types of Amish see [1, pp. 21-22].


Even though power lines tower over an Amish farm, they choose not to connect to the grid.

speaking neighbors[2] — travels through an Amish community, he or she discovers something very different. An observer may see an Amish woman talking on a pay phone, an Amish carpenter using a drill press, or even an Amish teenager driving a car. This revelation is often startling, but scenes like these are in fact the norm. They are not examples of Amish straying from their faith, but evidence that stereotypes obscure the intricacies of Amish life.

The relationships the Amish have with the outside world and technology may at first seem arbitrary, but they are the result of careful consideration. The Amish are not fundamentally anti-technology; rather, they believe that change does not necessarily result in desirable ends. They have not banned all machines and methods invented in the past 150 years, but they do exercise extreme caution when dealing with new technologies. The Amish are cautious because they fear the changes that can accompany new technology. What a modern observer might see as potentially undesirable effects — like pollution and injuries caused by heavy equipment — however, are not major concerns for the Amish. The foremost reason the Amish carefully regulate technology is to preserve their culture [2].

Like many scholars of technology, the Amish have rejected the idea that technologies are value-free tools. Instead, they recognize that technology and social order are constructed simultaneously and influence each other a great deal. Implicitly they agree with the argu-
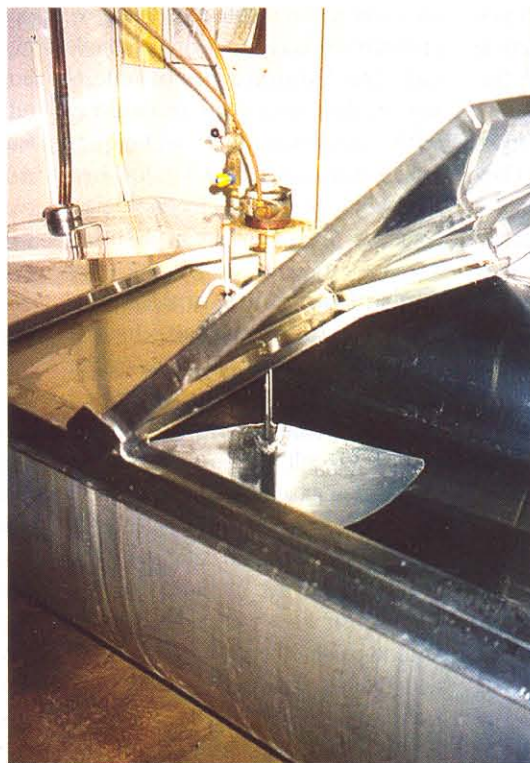
A bulk tank and mechanized agitator used to meet grade "A" milk regulations.

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ment that technology and the social world are co-produced, that technology, in Sheila Jasanoff's words, "both embeds and is embedded in social practices, identities, norms, conventions, discourses, instruments and institutions — in short, in all the building blocks of what we term the social" [3, p. 3]. The Amish believe that technologies can reinforce social norms, enable or constrain the ways that people interact with one another, and shape a culture's identity. But despite the fact the Amish believe technology is so powerful, they are not technological determinists [4]. They do not view technology as an autonomous force, but rather as a tool that can be actively used to construct and maintain social order. The Amish recognize both the power of technology to shape their world and their power to shape technology.

The Amish have not, however, developed these ideas out of some sort of theoretical or academic

interest. (In fact, they do not believe in education past the eight grade.[3]) Rather, they reflect on the relationship between technology and society because they believe it is crucial if they are to understand and strengthen their culture, religion, and community. Their belief that technology and society simultaneously influence each other has both inspired and informed Amish attempts to maintain their way of life. The Amish regulate which technologies are to be used, when they are to be used, how they are to be used, and why they are to be used because they believe that one of the most important ways they can promote and reinforce their values is by actively embedding these values in their relationships with technology.

This article explores the way the Amish actively try to shape their society through technological decision-making. It can be tempting to simply point to various technologies the Amish use and ask — why? But because the Amish do not view technology as entirely separate from their society, any faithful explanation of their technology cannot either. Thus in order to convey the full picture this article will examine numerous facets of Amish life including their codes of conduct, the process of becoming an adult member of the church, economic pressures, business needs, and family life.

One Amish person succinctly explained the Amish approach to technology in the following way: "Machinery is not wrong in itself,

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[2]When talking to one another, most Amish speak a derivative of German usually referred to as "Pennsylvania Dutch."

[3]The Amish rejection of advanced education is based on their belief that "the wisdom of this world is foolishness with God" [5, p. 91].

but if it doesn't help fellowship you shouldn't have it" [6].[4] This article argues that the Amish pursue this goal of fostering community through technological choice in at least two interrelated ways. They first seek to prohibit those technologies they believe are antithetical to their values and choose those they believe will reinforce and strengthen their values. This straightforward approach is very important to the Amish, but it cannot explain all of their decisions. The Amish also recognize that the technologies they use have become a crucial part of their identity and they use this link between technology and identity to strengthen their community. Thus when making decisions about technology, the Amish rely on a second criterion — they deliberately choose

the other social institutions that govern their work, religion, and community. The Amish practice of reflecting on their own their relationship with machines and techniques makes Amish culture a window into the ways in which technologies, societies, and values are interwoven.

Amish Community and Values

To begin to understand why the Amish make the decisions about technology that they do, one must first understand Amish values. This can be difficult for those raised with very different social norms, but there are a few basic ideas that can help one begin to appreciate why the Amish make the choices they do. The Amish are a sect of Christianity and, as such, share the same Bible and many basic theological beliefs

you by pious brethren, by the grace of God" [9, p. 451].[6] The idea of honest work, living a simple life, relying on their fellow believers, and trusting in God has shaped the Amish way of life to this day. They place great importance on values like humility, equality, simplicity and community.

Community is especially important to the Amish. They have gone to great lengths to carry out the scripture passage that implores them to "be not conformed to the world" [11]. The Amish believe that the world is full of distractions that must be avoided if they are to live piously. To steer clear of these distractions and ensure that they rely on their "pious brethren," they have separated themselves from those that do not share their faith.[7] Today the Amish live in groups of between 30 and 50 families called districts. They go to school together, worship together, play together, work together, and make decisions about technology together. The Amish believe that these separate communities provide the fertile soil in which they can best understand their place in the world, pass on their values to the next generation, and live the humble lives they believe are so important.

Rules that Bind and Nurture

Community is so essential to their way of life that the Amish have very carefully shaped the way it is organized. The primary method by

Amish buggies stand in stark contrast to the trucks and minivans driven by their Indiana neighbors.

technologies that are different from those used by other Americans in order to maintain their unique culture. The Amish believe that their way of life depends as much on the technologies they choose as any of

with other Protestant churches.[5] There are a few important points on which they differ in both emphasis and approach, however. One of the church's fathers, Menno Simons, advised his people to "rent a farm, milk cows, learn a trade if possible, do manual labor as did Paul, and all that which you then fall short of will doubtlessly be given and provided

[4]This paper is partly based on a handful of interviews conducted by the author in Amish communities in Indiana, Illinois, and New York. Because the Amish value their privacy their names will not be cited. For an interesting discussion on the difficulties of interviewing the Amish see [7].

[5]For a detailed account of Amish history see [8].

[6]Menno Simons was founder of the Mennonites. The Amish church broke from the Mennonites in the late 17th century in part because they believed the Mennonites were straying from Menno Simons' teachings [10].

[7]Although the Amish separate themselves for the good of their own people, they have not forgotten the outside world. Their desire to help others is often directed towards those outside their community. Should a non-Amish neighbor's barn burn down, the Amish will band together and help with the erection of a new one, just as they would for a fellow Amish person. Above and beyond this, some Amish communities are known to participate actively in hunger and disaster relief projects across the world.

which they do this is known as the "Ordnung" — a code of conduct that varies slightly from district to district.[8] The Ordnung is comprised of the district's long established traditions, as well as more recently agreed upon norms, and governs every aspect of Amish life — including the format of church services, the color of clothing to be worn, and which technologies are acceptable and which are unacceptable. The Ordnung is not written down, but it is understood and adhered to by the adult members of the community because it is continually being conveyed by example and occasionally by instruction when someone breaks a rule or inquires about a rule.

The Ordnung structures the life of the Amish in two interconnected ways. First, it provides the members of an Amish district with a template for living that they believe will nurture their community, their religious beliefs, and their values. For example, the Ordnung emphasizes the Amish dedication to nonviolence by forbidding Amish people from becoming soldiers and it requires that church services be held at a different family's house each week so that members of the community are continually supporting and relying on each other.

A number of Amish rules are designed to aid them in their quest to remain humble. For instance, to ensure that no individual becomes prideful about the way they look, each district specifies the color and design of clothing its members are to wear. Many districts go as far as to even reject buttons as "unnecessary" or potentially "prideful" adornment and require Amish to use straight pins to fasten their clothing. The Ordnung is also designed to promote humility by encouraging Amish adults to avoid

being photographed in such a way that a viewer can distinguish who particular individuals are. This helps to reinforce the idea that an Amish person should not stand out as an individual, but rather is part of a community.

Through measures like these, the Amish use the Ordnung to promote their values, instill responsibility, pass down traditions, and build strong ties with one another. One Amish minister described the effective use of an Ordnung when he stated: "a respect-

Stereotypes obscure the intricacies of Amish life.

ed Ordnung generates peace, love, contentment, equality, and unity" [10, p. 115]. Because it lays out how their life should be lived, in a very real sense the Ordnung is what makes an Amish person Amish.

The second way the Ordnung structures Amish life is by defining what is not Amish. In a sense, the Ordnung is the line that separates the Amish from the non-Amish; it is what gives the Amish their distinctly separate identity. For instance, each of the rules that detail what an Amish person should wear not only ensures that they will look Amish,

but also that they will be easily distinguished from outsiders. In an interview, one Amish man used a parable to describe how this aspect of the Ordnung can promote community [12]. He said that if you own a cow and your property is surrounded by green pastures, you need a good fence to keep it in. For the Amish, who are as human as anyone and are tempted by the outside world to abandon their faith and way of life, there need to be good fences as well. The Ordnung defines what the Amish cannot do and makes those who are not adhering to the faith readily visible. Because they believe the outside world is a distraction that must be mediated, the Ordnung provides the barriers that keep community members focused on their fellow Amish and their faith.

Ordnung and Amish Change
Although a district's Ordnung is meant to convey the traditions of the community, it can be — and occasionally is — changed. When individual members begin exploring new abilities and possibilities that

A sophisticated sawdust collection system, powered by a diesel engine, services an Amish carpentry shop.

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[8]While each district has its own distinct Ordnung, they are similar on many points. As such this article will often refer to "the Ordnung" of the Amish in general for those issues on which there is almost universal agreement.

raise some concerns, the district must decide whether or not such activities should be allowed. To facilitate this process, twice a year each Amish district holds a counsel meeting. The counsels are led by the district's bishop (its religious and secular leader) but all of the adult members of the church — men and

There are often small differences in the Ordnung of neighboring districts. For instance one may allow rubber carriage tires or bicycles while others do not. But because of the threat of being shunned, change to a district's Ordnung is usually incremental and often done in concert with other districts.

> ## The relationships the Amish have with the outside world and technology may at first seem arbitrary, but they are the result of careful consideration.

women — vote on the practices in question. To ensure that the implications of new practices are carefully considered, the voting system is designed such that change is very difficult. If two or more people (out of a possible 60-100) reject the change, the Ordnung remains unaltered. Thus the Amish allow for change, but the emphasis on tradition is built into the mechanisms that allow this change.

At least one other factor also helps to ensure that these deliberations are conservative. When considering a modification to their Ordnung, the members of a district must consider the other districts around them. If they make a change that neighboring districts believe is too radical they may be shunned, i.e., the offended districts could break off all communications with them and no longer recognize them as fellow Amish. This threat is of particular concern not only for community reasons but also because there are often close family ties between districts. An Amish woman might, for instance, decide that voting for allowing electrical appliances in the home is not worth risking the very real possibility that she may never again get to talk to her daughters who married into other districts.

While Amish counsel meetings address all aspects of Amish life, beginning in the late 19th and early 20th centuries, the conversations increasingly began to focus on modern technologies. Only a few years earlier, it might have been difficult to distinguish the Amish from many other rural American communities. Their dress may have been a bit different, and their buggies less flashy, but they farmed in largely the same way and used many of the same technologies. The development of powerful new technologies like electricity, the automobile, and the airplane, however, generated a significant amount of concern in Amish communities. There was a suspicion that technologies like these would cause a significant disruption in the Amish world. To limit the ways in which machines and techniques negatively impact their society, the Amish have developed rules to govern their use.

Regulating Technological Change

The precise reasons why specific technologies were — and continue to be — regulated is difficult to pin down. The Amish have left very few, if any, written explanations; non-Amish are not allowed to

attend the Amish counsels and most Amish are very hesitant to discuss the details of counsel meetings with outsiders [13], [14]. Despite these obstacles, conversations with and further study of the Amish can begin to shed some light on the decision making process. As with any democratic process, there were likely many factors taken into account and different people involved may have had very different ideas about why things happened the way they did. But there are a few general themes that can help begin to explain the rationale behind Amish decision-making.

An Amish minister described the decision making process in the following way: "We try to find out how new ideas, inventions, or trends will affect us as a people, as a community, as a church. If they affect us adversely, we are wary. Many things are not what they appear to be at first glance. It is not individual technologies that concern us, but the total chain" [15, p. 16]. The Amish believe that social change is often closely tied with technological change and therefore tend to be suspicious of new technologies. They are strikingly different from most English in that they do not see an inherent value in technological progress. They must be fully convinced that a given technology will benefit the things they do value — their ethics, their community, and their spiritual life — before they will accept it.

As with the Ordnung in general, the Amish formulate rules about technology with two interconnected goals in mind. First, when deciding whether or not to allow a certain practice or technology, the Amish first ask whether it is compatible with their values. If they fear that a particular technology might disrupt their religion, tradition, community, or families, they are likely to prohibit it. The Amish not only believe that the English world is distracting, but also that many English machines and

methods are distracting. For instance, the Amish believe that the pride, sense of power, and convenience that can come from owning an automobile may cause a person to focus on him or herself as an individual and thereby neglect the group. The Amish believe that technologies in general must be mediated in order to avoid situations like this and help to ensure that their way of life is not compromised.

The second purpose of the Ordnung — to create a fence between the Amish and non-Amish — has also played an important role in the Amish decisions about technology. Today, the most visible differences between the Amish and English worlds are the technologies they use. Most Americans do not see the Amish as different because they believe in adult baptism, but rather because they drive buggies, use horse drawn plows, etc. These differences were not accidental. The major technologies being developed in the non-Amish world at the beginning of the 20th century — like electricity, the automobile, and the airplane — very quickly became symbols of the modern world. The Amish rejected many of these technologies in part to retain their identity as separate from the modern world.

When asked today why they have rejected a specific technology, many members of the church will simply reply: "Because it's not Amish."[9] This argument is circular, but it emphasizes the way in which the Amish link their identity to the technologies they use. By banning these highly visible technologies, the Amish developed a new way of dis-

[9]Nearly every Amish person interviewed for this article gave this answer at one point or another.
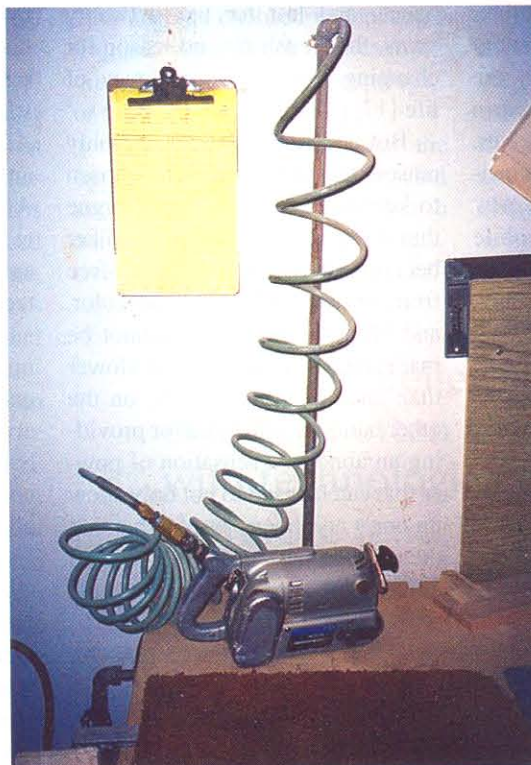
A pneumatically powered belt sander lies on a workbench in an Amish carpentry shop.

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tinguishing themselves and strengthening the fence between themselves and the English world.

Regulating Electricity

The way in which the Amish make decisions about technology to promote both their values and their identity can be seen in an example where there is some historical record. The strict Amish regulation of electricity began in 1910 when Isaac Glick, an Amish farmer in Lancaster, Pennsylvania, hooked an electric light up to a generator [10, pp. 198-201]. His use of the new technology led to a counsel debate and the decision was made not to allow it.

Donald Kraybill, who recounts this story, argues that the reason was twofold. First of all, the Peachey Church, a group that broke off from the Mennonites as the Amish had, had just decided to allow electricity and the Amish were looking to prove that they were distinct from this new congregation. Secondly,

they believed that physically hooking one's house up to the grid, a public utility owned by large corporations, did not help in the drive to be separate from the modern world. As one Amish farmer feared: "It seems to me that after people get everything hooked up to electricity, then it will all go on fire and the end of the world's going to come" [10, p. 200]. Instead of linking to the grid, the Amish continued to use the power sources they had been using — kerosene and natural gas — to cook their food and illuminate and heat their homes.

To this day, power lines bypass Amish houses. But the justification for this rule may have changed over the years. Many Amish today argue that the desire to avoid a physical connection to the English world is not the reason they reject getting power from electric companies [6], [14]. They point out that they have tapped into natural gas lines (or would if a utility provided them) rather than have to pick up canisters in town. The precise reasons why the Amish initially deemed connection to the grid as a threat to their community no longer matter, if they ever did matter. What is more important is that the Amish have defined electricity as the domain of the outside world, and thus any use of the technology must be very carefully considered. Even if the Amish link themselves to the outside world by piping gas into their homes from a public utility, they are still reaffirming their identity by forging a different relationship to power than their English neighbors.

Amish Transportation

Another area of technology that the Amish have carefully considered in

order to ensure that it reflects their values and reinforces their identity is transportation. Traditionally the Amish have relied on horse drawn carriages to transport themselves, but in the early part of the 20th century they were faced with a new option. In 1907, an automobile manufacturing company was formed in Lancaster, Pennsylvania, the heart of Amish country. This company advertised its product as "the king of sports and the queen of amusements," and immediately turned off the Amish, who saw it as an unnecessary luxury and dangerous source of pride [10, p. 214]. By the second decade of the 20th century, after a few Amish had pur-

The interior of an Amish kitchen is nearly identical to a modern kitchen except that it has no electrical appliances and is lit with sunlight and gaslight.

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chased motorcars, every Amish district in the United States independently decided to prohibit the use of the automobile [16, pp. 37, 73]. Because most of the people an Amish family knows live relatively close to their home; because the Amish are not relegated to a strict schedule that demands speedy transportation; because horses have become practically family members; and because buggies are relatively inexpensive (costing today between two and three thousand dollars new), require little mainte-

nance, and last for up to twenty years, the Amish saw no reason for changing their traditional way of life [17, p. 8].

But economics are not the only reason why the Amish have chosen to keep their buggies. Some argue that buggies are a social equalizer because they are uniform, free from excess bodywork and color, and because one buggy cannot be made significantly faster or slower than another. Automobiles, on the other hand are criticized for providing an abnormal sensation of power that can be used to not only show up one's neighbors, but to abandon them altogether. As one Amish man noted, "Young people can just jump in the car and go to town and have a good time in it.... It destroys the family life at home" [18]. Buggies are deemed better because they slow the pace of life to ten or twelve miles-per-hour, giving people a chance to interact with their environment rather than fly by it. The Amish believe the automobile is not very compatible with the values they hold dear.

Despite these criticisms, however, there are several situations today in which an Amish person would be allowed to make use of a

motor vehicle. For instance, it is not uncommon for an Amish woman to be driven to the grocery store by an English friend; for an Amish family to travel from Indiana to Florida via bus; for an Amish business to lease a car indirectly through a non-Amish employee; or even for an Amish teenager to actually drive and own an automobile. While these at first may seem to contradict Amish principles, each case signifies an arrangement that the Amish believe can help strengthen their community, and is therefore allowed under the Ordnung.

In the first scenario, it is probably not a necessity that the Amish woman be driven to the store — it is likely that she could take her own horse and buggy — but because she is not the one driving the car, it is acceptable behavior. She does not have the freedom to roam as she pleases, but rather must depend on another person. Some English people have gotten so involved in transporting the Amish that they have started their own thriving taxicab companies. These services are welcomed by the Amish because they satisfy a need and still make it inconvenient for a person to tour about on a whim.

The second scenario is a response to the fact that the Amish are spread across the United States. Many young Amish move miles away from their families to find land and work. It would be extremely difficult to travel by buggy to visit family members that lived a thousand miles away. Thus the Amish allow the use of public transportation (other than airplanes) to visit family and even to take vacations. The Amish community is a highly structured environment, but it is not a prison. Such trips allow them to reinforce their family ties and their ties with other Amish communities.

The third scenario reflects a fairly recent change that will be explored later. To sum up quickly,

this scenario is the result of the belief that many Amish businesses cannot survive without an automobile. For instance, Amish businesses that specialize in building fences would likely run out of work rather quickly if they did not accept jobs outside of the area easily traversed in a buggy. To make this possible, some districts grant businesses special permission to lease a car, but only if they agree to certain restrictions. Under no condition would an Amish person be able to drive it; he or she must instead hire and be dependent upon an English employee. A district may even prohibit parking the car near an Amish home to decrease the temptation to use the car for trivial things. Some districts allow Amish businesses to use motor vehicles, but take a number of precautions to limit the potential negative impacts they perceive.

"Running About"

The fourth scenario is the result of a deeply rooted Amish tradition that will require further explanation of how the Amish structure their society. The Amish understand that it is difficult to be Amish. It requires a significant amount of humility, patience, and dedication. They also understand that because their lives are so intertwined, members who do not accept these responsibilities can threaten the active and united nature of their community. Therefore, the Amish go out of their way to ensure that their members truly want to be Amish.

The primary technique they use is the church admission process itself. To curtail immature and uninformed decisions no one is allowed to enter into the church until they are in a position where they can readily think for themselves. The Amish contend that it takes not just age but also experience to develop such wisdom. Therefore they give their children the opportunity to explore alternatives to Amish life by turning a blind eye to those who violate the

Ordnung and choose to adopt some English ways. The Amish term for this phase of life is "rumspringa," or "running about."[10]

Many Amish youths take the opportunity to experience what another life would be like. Amish adolescents may begin with relatively small violations such as curling the brim of their hat or driving the family carriage faster than their parents would. (It is often said that one can tell that a teenager is driving a buggy whenever it is going fifteen miles-per-hour, rather than the average of ten to twelve.) But the "running about" period also gives Amish youth the chance to experiment with modern technologies. Many of them are drawn to the outside world because they are fascinated by the devices they see English people using. Thus Amish teenagers may find ways to watch television, listen to music on the radio, operate their own ham radio, or even drive automobiles.

By their early 20s, most Amish children decide that they are not satisfied by English customs and technologies. Many of them begin to see more clearly the benefits of Amish culture and sincerely regret their actions [12]. Over eighty percent of children (and as many as

10."Rumspringa" has recently been subject to a fair amount of media coverage in the United States because of the 2004 UPN television show "Amish in the City" and the 2002 feature-length documentary Devil's Playground. These programs can be a bit misleading as they focus on the most extreme examples of Amish rebelliousness. Most Amish teenagers do not live in Los Angeles, parade up and down the red carpet at movie premieres, or deal drugs.

ninety-five percent in some places) decide to become adult members of the Amish church [19]. The period of rumspringa helps to ensure that this is an informed commitment to community and church. Offering children the option to leave the rigorous and humble life of an Amish person and explore what the outside

> The Amish believe that social change is often closely tied with technological change and therefore tend to be suspicious of new technologies.

world has to offer — including its technologies — ensures that the people that make up the community truly want to be there and will henceforth work for the good of the Amish people.

Modern Pressures

While the questions of whether to adopt electricity and automobiles were important for the Amish to resolve, these were only the beginning of the difficulties their society encountered in the 20th century. Although they work hard to remain separate, many changes in American government, economics, society, and technology have had a significant effect on the Amish. In recent years the stability of the Amish has been put to rigorous tests. In their efforts to meet these challenges and stay focused on their values as much as possible, the Amish have chosen to alter some of their traditions and, in particular, the technologies they employ.

An example of this can be seen in the Amish response to new milk regulations imposed by a number of states in the 1950s and 1960s. These regulations required farmers to install electric powered bulk tanks with cooling systems if they wanted their milk to continue to be rated

Grade "A" quality. The regulation clashed head on with the Ordnung of Amish communities.

This put the Amish in a bit of a dilemma. Much of their tradition is built upon an intimate relationship with the land. Many Amish view farming as the ideal way to earn a living. They have kept themselves separate and free from the outside world by working the land upon which they settle. The Amish did not want to significantly compromise one of the cornerstones of their culture.

Therefore, in 1968, a group of five Lancaster bishops and four milk inspectors from Pennsylvania met to iron out an agreement that would satisfy both parties [10, pp. 202-205]. The inspectors' primary concern was that the milk be kept refrigerated. They suggested simply installing normal electric refrigeration units. But the Amish refused to run electric lines into their barns. Instead they developed an "Amish solution." They agreed to install coolers, but chose to power them using diesel engines salvaged from old trucks.

The inspectors also required that the milk be automatically stirred five minutes every hour. This was a difficult request for the Amish to grant because the very word "automatic" bothered them, but they eventually consented to a newly devised system that used a 12-V battery, rather than 110-V electricity, to run an automatic starter. The fact that the Amish had traditionally used batteries to power a few devices like flashlights made this a bit more palatable.

Finally, the inspectors wanted the milk picked up every day to decrease spoilage. At this point, the Amish drew a line they would not cross for any reason. They would not allow anyone to interfere with Sunday, their day of rest and church services. Because the Amish were a major producer of milk in the area, the bulk milk industry agreed to readjust its practices slightly by picking up milk a second time on Saturday instead of Sunday morning. With this specially devised arrangement, the Amish won a minor battle in keeping their community economically sound and their culture relatively unchanged.

The resolution of the milk controversy is an instance in which the Amish accepted new technology, but they did it in a uniquely Amish way and for Amish reasons. The compromise was important because it protected the ability for the Amish to continue to earn a living doing the work they find most rewarding — farming. Yet while they introduced new technologies into their society, they made sure that the machines were different from those used by their English neighbors and that the electricity they generated could not be easily put to other uses. With this new — seemingly modern — technology, the Amish were able to meet an economic need while still retaining their identity and practice of being different from the outside world.

Amish Entrepreneurs

Despite compromises like these, the Amish have not been able to rely completely on farming to support themselves economically. For at least the last forty years, they have been in the middle of a land squeeze. Because married couples desire to have many children and the Ordnung prohibits contraceptives, an Amish family has an average of seven children [20]. Even though not every Amish child enters the church, this has resulted in a constant rise in Amish population. As of 2001, the Amish numbered over 180 000 children and adults [10, p. 336]. They have sought new farmland by gradually spreading into 25 American States and the province of Ontario. But the English population is also increasing and land prices are rising. There simply is not enough farmland to go around.

Young Amish adults increasingly have to look for employment other than farming. In the first half of the 20th century nearly all the Amish in the area surrounding Arthur, Illinois, were farmers. By 1989, that number was less than half [17, p. 9]. In Indiana the changes have been even more marked. While over fifty percent of Amish men under the age of 35 were farming in some Indiana areas in 1993, less than twenty-five percent of young Amish men were farming in 2001 [1, pp. 119-120].

Many young Amish who are not able to farm have found work in English factories, supermarkets, or stores in their area. Generally, they
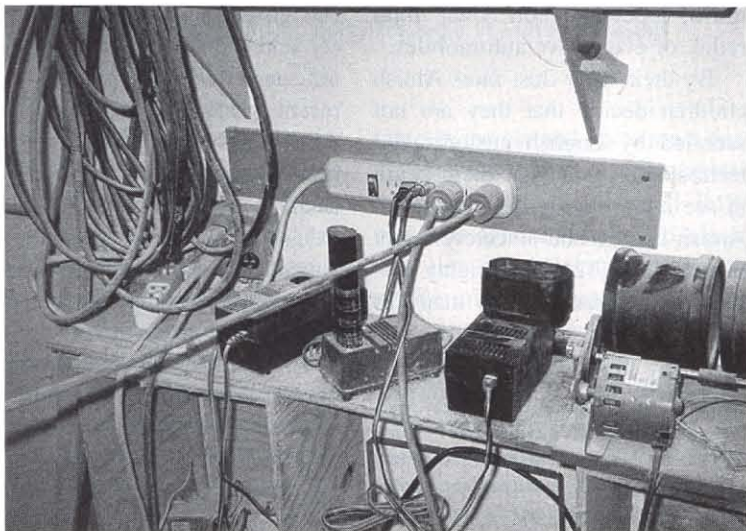
An "Amish power strip" draws power from a generator to supply energy to various batteries for a carpentry business.

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are treated well and receive a good wage. But being employed by the English can disrupt an Amish community. The hours and location of the business can restrict an Amish person's ability to participate in his or her culture and the exposure to the culture of the modern world can exert an influence as well. As one Amish woman noted, "The shops coming in were a good thing. They gave our young people jobs among our own people. But now they've got money and they go to town" [21].

Because of their concern that working for outsiders will dilute their culture and traditions, Amish communities have begun developing their own entrepreneurial talents and have increased the number and variety of businesses they own and operate [22]. Amish people have explored business ventures as diverse as machinery assembly, log house construction, upholstering, engine repair, grocery stores, bookstores, and cabinetry building. Economic forces have made the Amish ideal of communities comprised primarily of farmers impossible. But by developing their own businesses, the Amish ensure that they can work relatively close to home, work with their fellow church members, be free to attend community events like weekday weddings, and help reinforce their separation from the outside world.

As the Amish have entered these new fields — many of which are dominated by large American corporations — they have chosen to make some compromises when it comes to technology. They believe that in order to produce and sell an affordable product in the modern age, some increase in technology is necessary. As an Amish bishop put it, "To make a living, we need to have some things we didn't have fifty years ago" [6].

An example of this can be seen in the issues faced by Amish carpenters. Because the Amish have traditionally been good at building and feel that it is admirable to work

with one's hands, carpentry has become one of their key industries. However, it would have been very difficult to survive on the output one could create using hand powered tools. Therefore, the Amish struck another bargain. They still strongly disagreed with running electric lines into their shops, so they motorized hand tools in a different way. A number of carpentry shops purchased regular electric saws, routers, and sanders and retrofitted them with motors that

can distract one from one's family and neighbors. It is often used as a barometer by the Amish to determine whether or not something is acceptable. The Amish allow certain forms of electricity, but choose those forms that make it difficult to power devices like kitchen appliances, radios, and televisions.

The Amish have also developed ways of gaining the business benefits of certain technologies while maintaining their distance from

> If the Amish fear a particular technology might disrupt their religion, tradition, community, or families, they are likely to prohibit it.

could be powered with air pressure. They then installed large diesel engines just outside their shops and strung pneumatic lines to the various work stations.[11]

Why go to all the trouble and expense to create such an intricate power system when electricity does the same job? In part because it distinguishes the Amish as different from their neighbors. But also because, as an Amish minister explained, "so far no Amish person has ever figured out how to run a television with an air compressor" [17, p. 3]. Television is seen as a technology that is contradictory to Amish ideals because it brings the outside world into the home and

them.[12] One way they do this is by hiring English companies to take care of certain aspects of an industry that they do not want to do themselves. As was already mentioned, the Amish will often hire English drivers to transport them to work sites, etc. But the Amish may also rely on non-Amish businesses to help them attract and interact with customers in ways they cannot or prefer not to do themselves. For instance, the Amish have been able to tap into the market for remodeling kitchens in far away cities by contracting with companies who do the on-site work. It is also now possible to buy Amish-made furniture online through websites developed and maintained by English companies. These arrangements help the Amish economically and yet minimize the distraction and compromises that come with using particular technologies themselves.

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[11]These new systems proved to be so efficient that a few English companies now produce them for non-Amish shops [23]. The Amish are surprisingly inventive in other fields as well and have even been awarded patents in a few cases. For instance, they have developed a cook-stove that employs an airtight combustion compartment that some claim is the "only significant advance in wood-fire stoves in 300 years" [24, p. 30].The Amish also have designed a horse-drawn plow fitted with a hydraulic lift so that rocks do not present as much of a problem to farming [25].

[12]The Amish relationship with medicine follows a similar rule. While they rely on homeopathic remedies for many things, if they find an English doctor that they trust, the Ordnung does not prohibit them from receiving medical care that uses advanced technologies.

Line Dividing Home and Work

Despite all of the detailed explanations given above, the fact that the Amish use such a wide array of modern technologies may still seem fairly surprising. It does not mesh with many English people's visions of what Amish life should be. Many Amish households and make them needlessly noisy.

But the English companies and customers that the Amish rely on have abandoned many of the forms of communication that the Amish prefer. Without a phone it is difficult for furniture shops to communicate with distant customers, for

> ## The Amish have rejected many technologies in part to retain their identity as separate from the modern world.

Amish feel a similar unease. They believe that they must adopt some new practices to remain economically viable, but that does not mean that they are enthusiastic about such changes. To compensate for these distractions, the Amish have tried to protect the simplicity of the home. While they have adjusted the Ordnung to promote Amish businesses, they are much less likely to change rules that govern the life in the home.[13] A stark example of this demarcation is the fact that diesel generators and pneumatic equipment are not allowed in the Amish home; kitchens are empty of electric appliances and interiors are still lit by candles, gas lamps, and windows.

The desire to protect the home has also shaped the Amish rules concerning telephones [27], [28]. Traditionally the Amish have been opposed to owning telephones because they believe that phones disrupt the natural interactions between people. An Amish buggy maker contended that "if everyone had telephones, they wouldn't trouble to walk down the road or get in the buggy to go visiting anymore" [17, p. 3]. Telephones are seen as distracting; they give the outside world an easy entrance into

stores to order merchandise, or even for farmers to coordinate milk and produce pick-ups with dairy and grocery companies. To remedy this problem, these businesses began to use the phones of their non-Amish neighbors. But as businesses got bigger and were sometimes far away from English phones, this became increasingly difficult. Gradually many Amish districts have begun to allow telephones, but with certain qualifications that ensure they do not compromise their lives at home.

Most districts maintain the rule that telephones are not allowed inside buildings owned by Amish people. Instead they are usually placed in small structures, or "Amish phone booths," that are kept "a safe distance away" from Amish dwellings. Typically the telephones are purchased by either the community in general or by specific Amish businesses, but they are kept accessible to the entire community. They are outfitted with a log so that calls can be recorded and payments can easily be made by individual people.[14]

This arrangement encourages cooperation, reduces the impact on traditional forms of communication, and allows Amish businesses to develop. But most of all it keeps telephones outside of the home. It helps keep the home free from the distractions of the modern world.

Where the Amish Stand Today

The Amish are continually debating whether or not to introduce new technologies into their society — a process which can be contentious at times. A young Amish farmer noted that he (and every other Amish dairy farmer) would love to install glass piping that would quickly transport the milk from the cows to the refrigerators and relieve him of a lot of work, if only it were allowed [29]. Yet despite his desire, this farmer is still firmly committed to his community. Like many other Amish, he struggles with the Ordnung, but has agreed to and recognizes the benefits of a society that does not accept rapid change.

These struggles will continue as changes in American government, business, farming, and technology exert increased pressure on the Amish way of life. In response to some of these stresses, the Amish have chosen to accept some somewhat marked changes in technology. Some Amish communities now allow battery-operated typewriters, electric cash registers, and fax machines [25]. These new machines have led to a vigorous debate because many of them require 110 volt electricity (easily done by coupling invertors to their existing diesel engines), which could also be used to power a television. But some districts have decided that their businesses cannot survive without them.

The Amish are not, however, about to relax their control over technology. Because they believe that technology can shape those things they value above all others

[13]A number of scholars have criticized this stance as just one more method the male dominated society uses to repress women [26].

[14]Whether and how the Amish can receive phone calls varies from district to district [27]. For instance, some do not allow incoming calls to be answered; some allow calls to be pre-arranged; and some use voice mail services provided by phone companies.

— their culture, their community, and their values — they continue to closely monitor and regulate its use. One Amish man admitted, "We realize ... that the more modern equipment we have and the more mechanized we become, the more we are drawn into the swirl of the world, and away from the simplicity of Christ and our life in Him" [30, p. 95]. The Amish see technology as a potential disruption to their simplicity, humility, and separation and work to make sure that it disrupts their lives as little as possible. A bishop explained his difficult position in the following way: "Time will bring some changes; that's why our responsibility is so great.... We can prolong our time. I'll do what I can" [6]. Why this dedication when the world around them is changing so quickly? One Amish farmer argued that "If it hasn't worked for the good of [English] families, why will it work for our society? It's not good community" [31]. The Amish exert control over technology in an effort to protect themselves from the values and distractions of the English world.

The Amish believe that their society and their technology are inextricably intertwined. In an effort to maintain and protect their community of believers, therefore, the Amish require that every technology they use not only conforms to, but reinforces their tradition, culture, and religion. They achieve these goals through two primary techniques. First they choose technologies that they believe will best promote the values they hold most dear — values like humility, equality, and simplicity. Thus they have rejected the speed, glamour and personal expression of automobiles in favor of modest, slow, and community-building horse-drawn buggies. Second, they deliberately choose tools that are different from those used by the outside world. This differentiation helps them maintain their unique identity, bonds their community, and ensures that they will continue to be able to accept technology on their own terms. The Amish view technologies as value-laden tools and use these tools to reinforce their values and build their community. While many scholars of technology have argued that this is the case, the Amish employ the idea in order to build the world they want to live in.

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Acknowledgment

References

[1] T.J. Meyers and S.M. Nolt, *An Amish Patchwork: Indiana's Old Orders in the Modern World*. Bloomington, IN: Quarry, 2005.

[2] R.E. Sclove, "Spanish waters, Amish farming: Two parables of modernity?" in *Democracy and Technology*. New York, NY: Guilford, 1995, pp. 3–9.

[3] S. Jasanoff, Ed., *States of Knowledge: The Co-production of Science and Social Order*. New York, NY: Routledge, 2004.

[4] M.R. Smith and L. Marx, *Does Technology Drive History? The Dilemma of Technological Determinism*. Cambridge, MA.: M.I.T. Press, 1994.

[5] T.J. Meyers, "Education and schooling," in *The Amish and the State*, D.B. Kraybill, Ed. Baltimore, MD: Johns Hopkins Univ. Press, 1993, pp. 86–106.

[6] Interview with an Amish bishop, Shipshewana, IN, Feb. 3, 1996.

[7] D.Z. Umble, "Who are you? The identity of the outsider within," in *Strangers at Home: Amish and Mennonite Women in History*, K.D. Schmidt, D.Z. Umble, and S.D. Reschly Eds. Baltimore, MD: Johns Hopkins Univ. Press, 2002, pp. 39–52.

[8] J.A. Hostetler, *Amish Society*, 4th ed. Baltimore, MD: Johns Hopkins Univ. Press, 1993.

[9] M. Simons, "Brief and clear confession," (1544) in *The Complete Writings of Menno Simons*, J.C. Wenger Ed. Scottdale, PA: Herald, 1956, pp. 422–454.

[10] D.B. Kraybill, *The Riddle of Amish Culture*, rev. ed. Baltimore, MD: Johns Hopkins Univ. Press, 2001.

[11] Bible, Romans 12:2

[12] Interview with an Amish carpenter, Shipshewana, IN, Jan. 27, 1996.

[13] Interview with a bishop, Seneca Falls, NY, Nov. 21, 1997.

[14] Interview with a businessman, Finger Lakes Region, NY.

[15] E. Stoll and M. Stoll, *The Pioneer Catalogue of Country Living*, Toronto, Canada: Personal Library, 1980.

[16] D.O. Pratt, *Shipshewana: An Indiana Amish Community*, Bloomington, IN: Quarry, 2004.

[17] R. Mabry, Be Ye Separate, *A Look at the Illinois Amish*, Champaign, IL: Champaign News-Gazette, 1989.

[18] V. Larimore, director, *The Amish: Not to Be Modern*, 1986.

[19] T.J. Meyers, "The Old Order Amish: To remain in the faith or to leave," *Mennonite Quart. Rev.*, vol. 68, pp. 378–395, July 1994.

[20] K. Pringle, "The Amish dilemma: The attraction of the outside world," *Champaign-Urbana News-Gazette*, p. E1, Aug. 30, 1987.

[21] Interview with an Amish housewife, Arthur, IL, Mar. 30, 1996.

[22] D.B. Kraybill and S.M. Nolt, *Amish Enterprise: From Plows to Profits*, 2nd ed. Baltimore, MD: Johns Hopkins Univ. Press, 2004.

[23] Interview with an Amish carpenter, Arthur, IL, Mar. 30, 1996.

[24] E. Brende, "Technology Amish style," *Technology Rev.*, vol. 99, no. 2, pp. 26–33, Feb./Mar. 1996.

[25] E. Tenner, "Plain technology: The Amish have something to teach us," *Technology Rev.*, vol. 108, no. 7, p. 75, July 2005.

[26] S.D. Reschly, "'The parents shall not go unpunished': Preservationist patriarchy and community," in *Strangers at Home: Amish and Mennonite Women in History*, K.D. Schmidt, D.Z. Umble, and S.D. Reschly, Eds. Baltimore, MD: Johns Hopkins Univ. Press, pp. 160–181, 2002.

[27] D.Z. Umble, *Holding the Line: The Telephone in Old Order Mennonite and Amish Life*. Baltimore, MD: Johns Hopkins Univ. Press, 1996.

[28] H. Rheingold, "Look who's talking," *Wired*, vol. 7, no. 1, Jan. 1999.

[29] Interview with a young Amish farmer, Arthur, IL, Mar. 30, 1996.

[30] M. Good, *Who Are the Amish?* Intercourse, PA: Good Books, 1985, p. 95.

[31] Interview with an Amish corn and dairy farmer, Arthur, IL.