

Teaching

Countryside,  
The Future

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GUGGENHEIM

# Teaching

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# Countryside, The Future

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# Introduction

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The exhibition *Countryside, The Future* addresses urgent environmental, political, and socioeconomic issues through the lens of architect and urbanist Rem Koolhaas and AMO, the think tank of the Office for Metropolitan Architecture (OMA). A unique exhibition for the Guggenheim rotunda, *Countryside, The Future* explores radical changes in the vast nonurban areas of Earth with an immersive installation premised on original research. The project extends investigative work already underway by AMO, Koolhaas, and students at the Harvard Graduate School of Design; the Central Academy of Fine Arts, Beijing; Wageningen University, Netherlands; and the University of Nairobi.

This Resource Unit parallels some of the themes in the exhibition and provides techniques for exploring both the visual arts and other areas of the curriculum. Images of the works included in this guide are available on the museum's website at [guggenheim.org/artscurriculum](http://guggenheim.org/artscurriculum) and can be downloaded or projected for classroom use. The images may be used for education purposes only and are not licensed for commercial applications of any kind. Before bringing your class to the Guggenheim, we invite you to visit the museum, read the guide, and decide which aspects of the exhibition are most relevant to your students. For more information and to schedule a class visit, call 212 423 3637.

*Countryside, The Future* is organized by Troy Conrad Therrien, Curator of Architecture and Digital Initiatives, Solomon R. Guggenheim Museum, in collaboration with Rem Koolhaas and Samir Bantal, Rita Varjabedian, Anne Schneider, Aleksander Zinovev, Sebastian Bernardy, Yotam Ben Hur, and Valentin Bansac, with Ashley Mendelsohn, Assistant Curator, Architecture and Digital Initiatives, at the Guggenheim. Key collaborators include Niklas Maak, Stephan Petermann, Irma Boom, Janna Bystrykh, Clemens Driessen, Lenora Ditzler, Kayoko Ota, Linda Nkatha, Etta Mideva Madete, Keigo Kobayashi, Federico Martelli/Cookies, Ingo Niermann, James Westcott, Jiang Jun, Alexandra Kharitonova, Sebastien Marot, Fatma al Sahlawi, Vivian Song, and additional faculty and students at the Harvard Graduate School of Design; the Central Academy of Fine Arts, Beijing; Wageningen University and Research, Netherlands; and the University of Nairobi.

# About the Principal Organizers



Photo: Kristopher McKay

Samir Bantal, Rem Koolhaas,  
Ashley Mendelsohn,  
and Troy Conrad Therrien

“At this point, I barely feel like an architect, [more like] a journalist or an anthropologist.”  
—Rem Koolhaas<sup>1</sup>

Promotional poster for *The Sparkling Metropolis*, an OMA exhibition at the Guggenheim, 1978

Rem Koolhaas was born in 1944 in Rotterdam, a city marred by the destruction of World War II. His father was a writer and filmmaker and his grandfather was an **architect**. At the age of eight, his family moved to Jakarta, Indonesia, for four years, where his father served as the director of a newly formed cultural institute.

After Koolhaas's family returned to the Netherlands, he spent time drawing in his grandfather's architecture studio. In his late teens, Koolhaas began writing for the Dutch weekly *Haase Post*, for which he profiled architect Le Corbusier and interviewed filmmaker Federico Fellini. He also joined a group of filmmakers affiliated with his father and wrote screenplays and fables with animals as characters.

In the early 1970s, after graduating from architecture school in London, Koolhaas received a fellowship to travel and conduct research in the United States. Once there, he became fascinated with New York City and in 1978 published *Delirious New York*, now considered a classic text on modern architecture. Characterized by Koolhaas as a “retroactive manifesto for Manhattan,” the book “describes a *theoretical* Manhattan, a *Manhattan as conjecture*” and a “speculative reconstruction of a perfect Manhattan.”<sup>2</sup> The text also includes a critical reading of the history of Manhattan in the twentieth century. Madelon Vriesendorp (b. 1945), his longtime collaborator, worked on many of the book's drawings and painted its cover art, *Flagrant délit*, which depicts the Chrysler Building and Empire State Building in bed together. The cover reflects Koolhaas's concept of the animated building, or the idea that architecture, like a movie script, can be seen as a series of episodes strung together to create a story. *Delirious New York* served as the inspiration for a 1978 exhibition organized

<sup>1</sup> Edwin Heathcote, “Rem Koolhaas: ‘The Word Starchitect Makes You Sound Like an A’” hole,” *Financial Times*, March 9, 2018, <https://www.ft.com/content/7180ef52-2198-11e8-a895-1ba1f72c2c11>.

<sup>2</sup> Rem Koolhaas, *Delirious New York: A Retroactive Manifesto for Manhattan* (New York: Monacelli Press, 1994), p. 11.

by the Guggenheim Museum called *The Sparkling Metropolis*.

Alongside his influential writing, Koolhaas founded the Office for Metropolitan Architecture (OMA) in London in 1975 with Vriesendorp, his former professor Elia Zenghelis (b. 1937), and Zoe Zenghelis (b. 1937). OMA focuses on architecture designed for a contemporary society, with a special interest in the city. The firm's recent projects include the Garage Museum of Contemporary Art in Moscow (2015); Fondazione Prada in Milan (2015); the headquarters for China Central Television (CCTV) in Beijing (2012); Casa da Música in Porto, Portugal (2005); Seattle Central Library (2004); and the Embassy of the Netherlands in Berlin (2003). Since its founding, OMA has impacted generations of architecture students and emerging architects. Bjarke Ingels (BIG), Jeanne Gang (Studio Gang), Amale Andraos (Dean of the Columbia University Graduate School of Architecture, Planning and Preservation), and her partner, Dan Wood (WORKac), are among the many notable architects who have worked in the office.

Since 1995, Koolhaas has been a professor at the Harvard Graduate School of Design, where he leads a student-based research project. Initially formed to investigate issues affecting the urban condition, the group has researched places around the world—from the Pearl River Delta in China to Lagos, Nigeria.

In 1999, Koolhaas co-founded the research branch of OMA, called AMO. Now led by Samir Bantal, AMO acts as the think tank for OMA, working in tandem to provide OMA's clients with strategic input and cross-disciplinary research in areas such as media, fashion, and communication. For example, for a recent project with Prada, AMO's research on brand identity, in-store technology, and production helped generate OMA's architectural designs for new Prada stores in New York and Los Angeles. While Koolhaas spent much of his earlier career preoccupied with cities, for the last several

years, AMO has focused its investigations on the "countryside," a category incorporating everything that is not urban. This significant shift in Koolhaas's thinking prompted the Guggenheim's latest exhibition, *Countryside, The Future*, which features AMO's research into the countryside.



Guggenheim and AMO exhibition team. Photo: David Heald

# Researching the Countryside



Installation view, *Countryside, The Future*, Solomon R. Guggenheim Museum, New York, February 20 – August 14, 2020. Photo: David Heald

## THEMES

**Social Studies**  
**Visual Arts**  
**Community**  
**Nature**  
**Identity**  
**Place**

## MEDIUMS

**Design**  
**Work on Paper**

“A world formerly dictated by the seasons and the organisation of agriculture is now a toxic mix of genetic experiment, science, industrial nostalgia, seasonal immigration, territorial buying sprees, massive subsidies, incidental inhabitation, tax incentives, investment, political turmoil – in other words more volatile than the most accelerated city.”  
—Rem Koolhaas<sup>3</sup>

In 2007, the United Nations announced that 50 percent of people were living in cities and predicted that by 2050 the percentage would increase to 70. For Rem Koolhaas, this was a wake-up call. For the past couple of decades, Koolhaas writes, we have assumed that one kind of civilization matters—“metropolitan, capital-oriented, agnostic, western”—but we must question the inevitability of that progression.<sup>4</sup> With this in mind, AMO spent the last several years investigating what the countryside looks like today, how it functions, how it is managed, and how we might reanimate it in the future. This exhibition begins in the Guggenheim’s High Gallery, with some of the questions explored by Koolhaas and his team printed on the walls, including:

“Does living in cities promote ignorance?”

“Is democracy our undoing or our redemption?”

“Is architecture always for humans?”

More questions and statements wrap around the underside of the Guggenheim’s ramps.

Koolhaas/AMO’s primary interest has long been the city. However, in recent years they’ve begun to explore a new realm of research as the importance of the countryside becomes increasingly apparent. Indeed, throughout the twentieth century the countryside was the focal point of many notable political agendas, including in the USA, Nazi Germany, and Mao’s China.<sup>5</sup> In the 1960s and ’70s, postcolonial and **revolutionary** thinkers such as Frantz Fanon (1925–1961) and Malcolm X (1925–1965), as well as Arab leaders and the presidents of newly indepen-

dent African countries published **agricultural** tracts as part of their radical ideas. “Countryside was a canvas on which every movement, ideology, political bloc, and individual revolutionary projected their own intentions,” writes Koolhaas.<sup>6</sup>

Koolhaas warns of the dangers of focusing exclusively on the urban: When we ignore the countryside, we ignore major ecological changes caused by climate change. We are trapped in a “self-imposed prison” of technological inventions (such as self-driving cars—or, as Koolhaas puts it, “Silicon Valley’s ever more grim recipe for the Smart City”).<sup>7</sup> We are promised uniqueness through the “experience” economy, when newness and the unfamiliar are more readily found in the vast countryside. This exhibition is an effort to explore the countryside and “experience a realm that we have ignored at our, and its, peril.”<sup>8</sup>

<sup>3</sup> “Countryside” (lecture, Amsterdam, Netherlands, Apr. 24, 2012), OMA, <https://oma.eu/lectures/countryside>

<sup>4</sup> Rem Koolhaas and AMO, *Countryside, A Report* (New York: Guggenheim Museum; Taschen, 2020), p. 2.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

<sup>8</sup> Koolhaas and AMO, *Countryside, A Report*, p. 3.

# View and Discuss

→ Share this quote with the students:

“Currently, countryside discourse is polarized between attempts to keep ‘as is’ and to change ‘everything.’ What we wanted to collect is evidence of new thinking, new ways of paying, new ways of cultivating, new ways of building . . . that are taking place beyond a metropolitan consciousness and that ultimately could make it possible that we all don’t end up unhappily huddled together in cities, and would enable us to experience a realm that we have ignored at our, and its, peril. A base from which to make the world a better place.”

—Rem Koolhaas<sup>9</sup>

Ask students to discuss the quote in pairs. What do they think might be the architect Rem Koolhaas’s aim? What do students think he means when he says we have ignored the countryside “at our, and its, peril?” Ask students what they think we can learn from what is happening in the countryside. How could research about and lessons from life in the countryside improve your life or “make the world a better place?”

<sup>9</sup> Koolhaas and AMO, *Countryside, A Report*, p. 3.

# Classroom Activities

## Architectural Research Questions

In 1999, Rem Koolhaas established a think tank arm of his architectural firm to focus on research, theory, and even utopian ideas about architecture and our world. He wanted to be able to consider issues beyond finding new clients and responding to the market economy. The think tank, AMO, conducts research guided by Koolhaas and his partners’ questions about the world.

Start by reviewing some of Koolhaas’s questions listed below. What do students think about them?

“Does anyone still like cities?”

“Does living in cities promote ignorance?”

“Are data centers more impressive than pyramids?”

Next, ask students to generate a list of questions individually about cities and the countryside. After they are done, come together as a class and try to organize the questions into categories. What questions do the students have? How do they compare to Koolhaas’s? Can they be answered? How?

## Research Exhibition

Ask students to choose an exciting question or a category of questions from those generated in the first activity. Challenge them to research ideas and images related to this question and to present their research in creative ways—whether as a collage, digital exhibition, or even a series of artifacts. For instance, if a question is about how people living in the countryside can stay connected to people around the world, they might show images of what people are already using, or they might imagine new ways of staying connected. They may do this digitally, in 2D, or in 3D.

## Notions of the Countryside

What do students think about when they consider the countryside? What types of buildings, people, clothes, or activities do they imagine? In this exhibition, Koolhaas/AMO spent a lot of time looking at how the countryside and people in the countryside have been portrayed in media and advertising.

For this activity, challenge students to search magazines, newspapers, and the internet for advertising or media about the countryside. They should print, sketch, or cut out what they find and then look at the images together. What do the depictions have in common? Do they fit with what students think about when they imagine the country? How might these images contribute to stereotypes about the countryside?

# Notions of Leisure: From Otium to Wellness



Gathering at the Orchid Pavilion, Qian Gu, datable 1560.

THEMES    **English and Language Arts**  
               **Social Studies**  
               **Visual Arts**  
               **Place**  
               **Nature**  
               **History**

MEDIUMS    **Architecture**  
                   **Design**  
                   **Drawing**  
                   **Painting**  
                   **Work on Paper**

*“Otium and wellness are words that are very close to each other, but . . . they are currently extremely far removed from each other because otium is a kind of intellectual state . . . an ambition to develop the whole person. Wellness is much more . . . limited and focused on yourself, a condition that can never generate that creative existence.”*  
 —Rem Koolhaas<sup>10</sup>

The Romans had a concept called *otium*, which described a contemplative way of life in the countryside. Its opposite was *negotium*, which referred to negotiation, business, and the conditions of city life. *Otium* began as a way of describing the soldier-farmer’s time off from military service and came to mean the time that one controls for themselves. Koolhaas/AMO were fascinated to learn that this Roman concept of the countryside as a space for creative and idealized existence could also be found in China around the same time (roughly the 3rd through 1st centuries BCE).

The parallel Chinese concept, referred to as *xiaoyao* (xiāoyáo), was proposed by Zhuang Zhuo (369–286 BCE) in the third century BCE. Zhou, one of the founders of Taoism, used the term to refer to living in tune with or wandering freely in nature. Both Roman and Chinese poetry from this time describe literary gatherings in the countryside, where social activities such as drinking, eating, and music go hand-in-hand with reading, writing, and conversation.

In contemporary times, the tourism and wellness industries have seized on our desire for contemplation in nature, and free time in the countryside is becoming increasingly commodified. The wellness industry alone is now a 4.5-trillion-dollar business. Koolhaas/AMO argue that wellness is qualitatively different from the cultural and creative ambitions of *otium* and *xiaoyao* because of

its lack of a focus on contemplative and intellectual self-development. In Italy and China, for example, villages have been converted to luxury spas and wellness resorts, and the ancient Roman and Chinese values of self-exploration, creativity, and contemplation have been left behind.

<sup>10</sup> “Rotunda Level 2: Leisure/Escape” Feb. 20, 2020, in *Countryside, The Future*, audio guide, produced by the Solomon R. Guggenheim Museum, MP3 audio, 3:18, Guggenheim Digital Guide, <https://soundcloud.com/guggenheimmuseum/sets/countryside-the-future>



## View and Discuss

→ Share these quotes with students:

“Now if you have a big tree and are at a loss of what to do with it, why not plant it in the Village of Nowhere, in the boundless great wilds, where you might idle by its side, and *xiaoyao* (lie down in blissful repose) beneath its shade? . . . And such tree would not be felled by an axe, nor would anything harm it; with nothing as its useful purpose, how could it experience hardship?”  
—3rd century BCE “Xiaoyao You” (“Wandering in Absolute Freedom”), in the *Zhuangzi* by Zhuang Zhou<sup>11</sup>

“He who does not know how to use leisure has more of work than when there is work in work.”  
—190 BCE Iphigenia by Ennius<sup>12</sup>

→ Tell students that the similar concepts of *otium* and *xiaoyao* existed during the same period in Rome and China, respectively. They each refer to a contemplative way of life. In this exhibition, Koolhaas/AMO contrast these notions with contemporary ideas about wellness and tourism in the countryside.

Ask students to compare these quotes. What ideas do they have in common?

Ask students what they do in their “leisure time.” How does it compare to the free time described in these quotes?

Do students feel like they “know how to use leisure?” Why or why not?

Ask students what they think about when they hear the word “wellness” and what they think about tourism in nature. What does wellness usually entail? How does it compare to the quotes above?

<sup>11</sup> “Otium and xiayao,” wall label, *Countryside, The Future*, level 2.  
<sup>12</sup> Ibid.

## Classroom Activities

### Design Otium- or Xiaoyao-Inspired Architecture

The Roman concept of *otium* described a contemplative way of life in the countryside, away from the business and negotiation of city life. At the same time in history, the Chinese wrote about *xiaoyao*, a similar state of living in tune with nature. These ideals highlighted the need for self-exploration, creativity, and contemplation, and encouraged activities including reading, writing, and conversation, as well as drinking, eating and music.

For this activity, challenge students to design architecture for an *otium*-or *xiaoyao*-inspired life in the countryside. What would a building or community look like with these values as their inspiration?

### Capture Otium or Xiaoyao

What does *otium* or *xiaoyao* mean to you? For this activity, challenge students to capture what these ideals mean for them or look like in their lives through a poem, painting, or some other form of creative expression.

### Commodification of Wellness

Koolhaas/AMO believe that the concept of wellness has been commodified and that it differs from *otium* qualitatively. Challenge students to research what products or experiences are being sold by the wellness industry. Then have them try one. For instance, students might try guided meditation through a podcast, or a yoga routine through YouTube. There are also many apps that claim to improve wellness, such as the Calm app, which issues suggestions like the one below.

Take a walk without a fixed destination, savor a piece of chocolate on the tip of your tongue, plant a seed, doodle aimlessly, turn off your mobile phone for five short minutes. Smile, breathe, and go slowly. —Calm app<sup>13</sup>

After trying one of these wellness products, ask students to reflect on whether their lives have improved. Ask students to discuss other ways to improve their personal wellness.

<sup>13</sup> “Otium and xiayao,” wall label, *Countryside, The Future*, level 2.

# Political Redesign of the Countryside



International Baladna Cow general assembly, Baladna Farm, Al Khor, Qatar. The world's largest rotary milking parlor holds 100 cows. Photo: Petra Blaisse

THEMES **English and Language Arts**  
**Social Studies**  
**Visual Arts**  
**Community**  
**History**  
**Geography**

MEDIUMS **Design**  
**Work on Paper**

“While today, the countryside is largely off (our) radar, an ignored realm, considering its condition and future was a priority as recently as the last century—the Soviet Union, the New Deal, Nazi Germany, Mao, and the EU were experimenting with vast efforts to improve its accessibility and efficiency, and to shape its politics.”  
 —Rem Koolhaas<sup>14</sup>

During the twentieth century, authoritarian leaders like Adolf Hitler (1889–1945), Mao Zedong (1893–1976), and Joseph Stalin (1878–1953) sought to reshape the countryside as part of their broad political agendas. These ruthless leaders were “master country-siders,” writes curator Troy Conrad Therrien, who “left a playbook for resurfacing the countryside through bloodshed, genocide, and ‘landscaping.’”<sup>15</sup> In Germany, the Nazi’s slogan, *Blut und Boden* (Blood and Soil), explicitly bound race and land together. As part of a larger ethnonationalist campaign, Hitler’s government celebrated **agrarian** labor, heroized the farmer, considered the countryside the “real” Germany, and the rural peasant the “real” German. These values eventually led to the development of the Autobahn, begun in 1929, prompting new policies supporting rural work programs and territorial expansion.

In Communist China, Chairman Mao’s two major operations centered on the countryside. The Great Leap Forward (1958–1962) consolidated individual farms into state-run **communes**, while the Cultural Revolution (1966–1976) exiled elite urban intellectuals to the countryside to learn rural integrity from farmers. From the 1950s to the ’70s, these ambitious programs inspired visits from intellectuals, artists, and freedom fighters from the US and elsewhere including Susan Sontag (1933–2004), Che Guevara (1928–1967), and Malcolm X (1925–1965). The result of Mao’s stringent policies, however, were disastrous, leading to widespread famine.

In the Soviet Union post–World War II,

Joseph Stalin issued agricultural plans to address the country’s critical food shortages. To combat environmental conditions such as drought, he dreamed of creating new regional ecosystems and even changing the climate across the nation. His scientists suggested techniques such as forest **shelterbelts** to prevent soil erosion in the steppe region of what is today the Ukraine. Ultimately, though, Stalin’s plans fell short: His bureaucracy left local **collective** farms with little experience in charge while the project’s leader, Trofim Lysenko (1898–1976), rejected the burgeoning science of genetics and failed to produce enough crops with his own methods.

Through each of these examples, which were executed to varying success, Koolhaas/AMO’s project reminds us that political redesign of the countryside is not an enterprise of the past. In recent years, Qatar was forced to rapidly create its own independent agricultural industry in the face of blockades and did so very efficiently.

<sup>14</sup> Koolhaas and AMO, *Countryside, A Report* p. 2.  
<sup>15</sup> Koolhaas and AMO, *Countryside, A Report*, p. 15.

## View and Discuss

→ Share this quote with students:

“When we had already plowed a large number of hectares of virgin lands, terrible dust storms occurred in Kazakhstan. Clouds of earth rose into the air, the soil eroded. If the economy is cultivated in the steppe conditions, then long-known means of erosion control are used that have been tested in practice, including planting protective strips from tree stands: a difficult and expensive business, but justifying itself. . . . People have to reckon with natural processes and adapt to them, contrasting their invention with wild nature.”  
—Nikita Khrushchev (1894–1971)<sup>16</sup>

Ask students to describe the language in the above quote. Is it straightforward, flowery, or technical? In their own words, what does it say?

Tell the students that Nikita Khrushchev led the Soviet Union from 1953 to 1964. Ask them why the leader of a country might be concerned with agricultural processes.

Tell them that the Soviet Union faced serious food shortages after years of war, revolution, and drought. To combat this, Khrushchev launched a campaign called “Virgin Lands” to cultivate land in the far east of the country. The campaign, however, did not fully consider the region’s soil and climate and used flawed farming techniques. In the end, though over a million people moved to work the lands, the effort failed.

What does this quote reveal about Khrushchev’s vision for the Soviet Union’s countryside? Ask students to compare it to the ways the leaders in their own country talk about agriculture and the countryside.

<sup>16</sup> “Political Redesign,” wall label, *Countryside, The Future*, level 3.

## Classroom Activities

### Political Art and the Countryside

In the Soviet Union, the ideas that drove their countryside campaigns are reflected in their art. In one iconic **Socialist Realist** painting, *For the Happiness of the People* (1949), Stalin is depicted looming over a map of forest shelterbelts like a superhuman able to control nature. Later, during Khrushchev’s era, paintings were impressionistic—filled with color, light, and working-class heroes working the Virgin Lands.

For this activity, assign students to different eras and nations, such as Mao’s China, Hitler’s Germany, and Stalin’s USSR. They should then research the art of the time and place and discuss how it was used as political propaganda. They should prepare a presentation that uses art to analyze the government’s aims and beliefs.

### Your Countryside Redesign

As an extension of the previous activity, challenge students to think about what they would like to see in their own country’s rural areas. What do they think their country should value in its rural areas? What projects do they think the government should launch? Ask them to represent these ideas and values on a poster with the aim of convincing other people to share their beliefs. They can look at propagandistic art to gather ideas about how to make their art persuasive.

### A New Society

Authoritarian leaders were not the only people thinking about how to remake the countryside in political ways. French social theorist Charles Fourier (1772–1837) was critical of the exploitation of workers in early protoindustrial capitalism and of the oppression of women in the nuclear family. He wanted to reconstruct society by building collective agricultural and industrial communities in the countryside and housing citizens in shared homes called Phalansteries. He envisioned jobs assigned based on interest, with unpleasant work automated or higher paying. He also wanted everyone to have access to education, childcare, collective dinners, and more.

For this activity, challenge students to envision an ideal society that could be built and situated in the countryside. How would work be distributed? How would families be structured? How would the built environment look? Students should outline these plans in the form of a political platform and then present their visions to the class. Does the class agree on what aspects make an ideal society?

# Experimentation in the Countryside



2018 Voi Central Business District, Kenya. Photo: Anne Schneider

## THEMES

Math and Science  
Social Studies  
Technology  
Visual Arts  
Community  
Nature  
Identity  
Place

“The inevitability of Total Urbanization must be questioned, and the countryside must be rediscovered as a place to resettle, to stay alive; enthusiastic human presence must reanimate it with new imagination.”  
—Rem Koolhaas<sup>17</sup>

## MEDIUMS

Design  
Mixed Media  
Drawings

In recent decades, the countryside has become a place for experimentation and radical thinking. In this exhibition, Rem Koolhaas/AMO present a series of portraits to illustrate what is possible in spaces that are limited in regulation, oversight, and the imposition of norms.

While the most common narrative about China concerns the swift expansion of its cities, its rural areas are also rapidly innovating and growing to keep up with the agricultural and economic demands of its population, as well as to respond to livability concerns in its urban areas. Through new **infrastructure**, a digital service economy, increased agricultural production, and domestic tourism, China's political system has encouraged development in the countryside while also trying to preserve nature and culture. In rural Taobao villages, for instance, residents are managing their own e-commerce ventures with the help of internet connectivity. In Shouguang, where the world's largest greenhouse area produces vegetables for more than 60 million people, farmers live in tower communities that combine urban and rural features. In mountain villages, the economy has transformed from a focus on farming to Airbnb-like tourist hosting.

In East Africa, the countryside has also become a place for experimentation. Experts describe a trend of counter-urbanization assisted by renewable energy, technologies such as M-Pesa (a PayPal for the unbanked), and new jobs in rural tech hubs which attract young innovators.

In the United States, “**off-grid**” groups have a long history of populating the countryside. Many of these groups share the same set of values—an interest in radical ideas (often, utopian visions), a desire for self-governance, a distrust of mainstream authorities, and skepticism about conventional notions of religion, sex, the nuclear family, and property ownership. But for these groups—among them drop-outs, opt-outs, separatists, anarchists, terrorists—geographic isolation is becoming rare and conflicts with the government are on the rise.

In recent decades, the countryside in Europe has been reanimated by the arrival of **refugees** from the Middle East. In the German village of Mannheim, the population dropped for years due to an expanding mine pit and aging population. The government revived the village by resettling Syrian refugees there, while environmental activists worked to stem the growing pit's damage to a nearby forest. In Italy, the village of Riace was dying, with many of its population moving to more populated areas, until a boat of Kurdish refugees was stranded on its shore in 1998. The mayor found funding for housing and offered job training for these new inhabitants. Now, the combined cultures of newly arrived refugees and native Italians produce innovations in areas like pottery and weaving. The traditional Italian village has been reborn.

<sup>17</sup> Koolhaas and AMO, *Countryside, A Report*, p. 3.

## View and Discuss

→ Share this quote with students:

“I use M-Pesa to pay for my Uber ride and bills like rent, electricity, and water. With a simple click of a button, I can buy a single tomato from the corner shop or buy shares of a company. The difference between M-Pesa and, say, PayPal is that all you need is a phone number—no bank account and no physical address required. M-Pesa is a means of financial inclusion for the unbanked, especially nomadic tribes. It goes to show that a lack of infrastructure can accelerate innovation, development, and implementation of radically new technologies that can fundamentally change rural life.”<sup>18</sup>  
—Dr. Linda Nkatha Gichuyia, lecturer in architecture at the University of Nairobi

Ask the students if they have ever used technology to pay for something (e.g., Uber or PayPal) and have them describe what the experience was like.

Explain to the students that these apps require bank accounts or credit cards and that there are many people around the world who do not have either. Have the students consider what challenges someone who does not have either might face.

Dr. Gichuyia’s quote describes a new innovation in Africa that allows people without bank accounts to use technology for financial transactions. How might this kind of invention change lives?

Ask the students to re-read the last sentence of Dr. Gichuyia quote. How can a “lack of infrastructure . . . accelerate innovation”?

<sup>18</sup> “Experimentation,” wall label, *Countryside, The Future*, level 4.

## Classroom Activities

### Counter-urbanization: Design an Alternate Model

Urbanization has been the trend across the world for the last few decades. But what if the coming trend is for counter-urbanization or ruralization? What would this look like? Etta Madeta, a lecturer in architecture at the University of Nairobi in Kenya, describes it as “an alternate model to living in crowded, expensive, dysfunctional cities.”<sup>19</sup>

With students working in small groups, encourage them to imagine what this “alternate model” could look like. They should consider such questions as: What kinds of architecture and layout could a twenty-first century counter-urban community have? How would people make money? What kinds of technology and infrastructure would need to be built? Students should make bird’s-eye view drawings of these new nonurban communities and create a map key to describe its features.

### Refugee Potential

In Europe, the countryside has been losing population for decades. Some villages were nearly abandoned until a wave of refugees arrived from Middle Eastern countries and began to repopulate them. But this influx of refugees has sparked controversy across the continent.

### Inventing for the Future

New experimentation in the countryside is inspiring all kinds of new inventions. In East Africa, innovators have created M-Pesa (a way of digitally transferring money even if one does not have a bank account) and a sonar app for elephant detection. In China, low-tech toilet redesigns and automated drone farming have made rural life more livable.

For this activity, challenge students to think of a problem they might encounter if they lived in the countryside—anything from transportation to plumbing to wildlife encroachment. Then ask them to develop an invention to combat that problem. They can start with a sketch and then build a 3D model of their invention.

For this activity, ask students to write a letter to a member of the government that describes the benefits of a refugee repopulation in nearly abandoned villages or towns. What can a new influx of people from a different culture bring to the countryside? Describe economic, cultural, and artistic changes. Also explore: what challenges might these villages face and what policies can the government put in place to handle them?

<sup>19</sup> “Experimentation,” wall label, *Countryside, The Future*, level 4.

# Preservation of the Countryside



Batagay mega-slump, northern Yakutia, Russia: 260 feet deep and more than a half-mile wide, the crater grows each summer as exposed permafrost in its walls thaws and subsides (2017). Photo: Mammoth Museum of North-East Federal University, Russia

## THEMES

**Math and Science**  
**Social Studies**  
**Technology**  
**Visual Arts**  
**Community**  
**Nature**  
**Place**

“We look at conservation both of cultural heritage but also natural heritage and what the effect of so much conservation is on the substance of the earth.”

—Rem Koolhaas<sup>20</sup>

## MEDIUMS

**Design**  
**Work on Paper**

All around the world, nature is being transformed by human intervention—from habitat destruction and climate change to **conservation** efforts that forever alter the “wild” parts. Rem Koolhaas/AMO researched and profiled three places that illustrate both these changes and the unintended consequences that may come with some preservation efforts.

In Siberia, abrupt warming and an attendant increase in precipitation is causing the rapid thaw of **permafrost**—a term used to define ground that has been frozen for at least two years—but which is often frozen for thousands. Permafrost covers almost a quarter of the land area of the Northern Hemisphere, and its thawing will impact millions of people living on and near it as the ground sinks and landforms transform. These changes will result in damage to the soil, agriculture, and human infrastructure and will impact the climate everywhere. Permafrost thaw releases carbon into the atmosphere, which in turn causes warming, which then causes more thaw. Its destruction could even cause the release of methane when long-frozen organic matter begins to thaw.

In Uganda, Rwanda, and the Democratic Republic of the Congo, nature reserves have been constructed to protect mountain gorillas. While these reserves have been successful enough to move the gorilla population from critically endangered to endangered status, this “radical conservation” has also led to major changes in the land and in the gorillas themselves. Due to tourism on the reserves, the gorillas have become accustomed to

close proximity with humans, a change in their behavior that makes them no longer fully wild. Consequently, some gorillas have ventured outside the reserves, destroying farmland and endangering themselves. In order to stem these changes, conservationists in the Bwindi Impenetrable National Park in Uganda created a Buffer Zone, seeding it with plant species they thought gorillas would not be interested in, to keep them from penetrating the farmland beyond the reserves. Now, however, both humans and gorillas have crossed into this hybrid space—creating an unpredictable cohabitation.

In Patagonia, Argentina—the southernmost point of South America—individuals have bought land as part of private conservation initiatives since the 1990s. Often, however, these investors choose the land based on aesthetic appreciation and acquisition opportunities rather than by which tracts have the highest **biodiversity**. These initiatives have also displaced local and indigenous communities, sparking debates over who should oversee a country’s land preservation efforts.

<sup>20</sup> “Rotunda Level 5: Preservation/Nature,” Feb. 20, 2020, in *Countryside, The Future*, audio guide, produced by the Solomon R. Guggenheim Museum, MP3 audio, 0:59, Guggenheim Digital Guide, <https://soundcloud.com/guggenheimmuseum/sets/countryside-the-future>

## View and Discuss

→ Share this quote with students:

“One could view the **habituated** gorillas as a little less wild than gorillas that are unhabituated. . . But they’re still wild. They’re not like pets. They are not zoo animals. They do not rely on humans for food, but yes, a bit of that wildness has been taken away.”<sup>21</sup>  
—Martha Robbins, a primatologist who studies mountain gorillas in nature reserves

Ask the students to put the above quote into their own words. What kind of change is Robbins describing?

→ Robbins is describing the ways mountain gorillas have changed as a result of frequently seeing tourists in nature reserves. While tourists are supposed to keep a distance from gorillas to avoid transmitting disease, one gorilla recently approached a male tourist and began to groom him.

What might be some of the concerns with gorillas becoming “habituated” or accustomed to humans?

How could these changes alter the wildness of the nature reserves or the countryside and farmland on its edges?

→ Rem Koolhaas said: “Our relationship with animals is changing, but their intelligence is also adapting. We’re looking here at the world as an organism.”<sup>22</sup>

Ask students what they think he means by this quote. Have them come up with other examples in the world around them.

<sup>21</sup> Koolhaas and AMO. *Countryside, A Report*, p. 202.  
<sup>22</sup> Heathcote, “Rem Koolhaas,” <https://www.ft.com/content/7180ef52-2198-11e8-a895-1ba1f72c2c11>.

## Classroom Activities

### Local Conservation Policy

For this activity, encourage students to research a local conservation or preservation effort. Has the conservation effort been met with any controversy or dissension? What are the arguments for and against it?

Challenge students to imagine they are a local councilperson and have them draft a policy that takes into account the concerns on opposing sides.

### Local Species Research

In Central Africa, efforts to preserve the mountain gorilla population have been successful. However, there are caveats. For one, the needs of the growing gorilla population now have to be balanced with the needs of the growing population of people in the area. For another, tourism is booming, and the gorillas’ behavior has changed as a result.

For this activity, students will research a local species in their area. Have there been attempts to preserve its population? Or is it a population that people want to limit? How can concerns about the species be balanced with the needs of people in the area? After they have researched their species, challenge students to create a website, a flyer, or letter to the editor about the issue.

### Permafrost Solutions

In Siberia, where the permafrost is thawing at an alarming rate, no current solution has been sufficient to curb it. Scientists have experiment with solutions from reforestation to elevating structures on concrete piles to prevent heat from leaking into the permafrost below.

Challenge students to brainstorm solutions that might curb the thawing. These could range from architectural innovations and public policies to international diplomacy.

# Rationalism and the Cartesian Grid



Aerial view of the Tahoe Reno Industrial Center (TRIC), Nevada. Photo: Evan Petty

THEMES  
**Math and Science**  
**Social Studies**  
**Place**  
**Nature**  
**Visual Arts**  
**Technology**

MEDIUMS  
**Architecture**  
**Work on Paper**  
**Design**

“I have an instinct that what the twenty-first century has to offer is this new post-human architecture. This is a new sublime. A landscape totally dictated by function, data and engineering. The scale alters, the human becomes almost irrelevant. The paraphernalia of human habitation can be reduced.

We are in a moment of transition now, in a half-human, half-machine architecture. Is this a post-city? If we articulate it properly it could be insanely beautiful.”

—Rem Koolhaas<sup>23</sup>

In the seventeenth century, French philosopher René Descartes (1596–1650) defined a system by which we can describe any point in the universe. The **Cartesian grid**, a system of x-, y-, and z-axes, has since been used to calculate, standardize, optimize, and control space. But this focus on **rationalism** can have consequences, write Koolhaas/AMO. The grid, they argue, can lead us to surrender to technology or ignore signs of nature’s destruction. “We cannot throw away rationalism,” writes Koolhaas, but we have to make the “right rational decisions.”<sup>24</sup>

In this section, Koolhaas/AMO profile “extreme manifestations” of Cartesian thinking in nonurban settings. One example is Tahoe Reno Industrial Center (TRIC), a collection of buildings built for machines instead of humans. These are buildings with few windows (barely 1 percent of the surfaces are transparent), so little daylight reaches inside. The parking lots are small because there are so few workers. Koolhaas/AMO write:

“Thousands of years of architectural and cultural history are ditched. . . . It is post-human. These structures are based strictly on codes, algorithms, technologies, engineering, and performance, not intention.”<sup>25</sup>

Furthermore, because TRIC is in the countryside, few know that this new kind of architecture even exists. As Koolhaas/AMO write, “A new architecture is born and we did not pay attention.”<sup>26</sup>

Industrial greenhouses provide another example of an “extreme manifestation” of Cartesian rationale. In Westland, a greenhouse conglomeration in the Netherlands, these new structures optimize and automate all the elements plants need to grow: sun, soil, and water. Even the light spectrum is limited to only what is best for photosynthesis—a combination of red and blue wavelengths that appears pink to the human eye. These automated greenhouses allow farmers to be freed from concerns over the soil, seasons, or weather. Koolhaas/AMO describe this new level of technology as “the reorganization and optimization of nature itself. Nature, perfected.”<sup>27</sup>

In another example experimental “pixel farms” operate with plots smaller than 2 x 2 feet allowing scientists to test a variety of interactions between different crops in an efficient area. Farming with one crop at a time—called **monoculture**—strips the soil of nutrients, harms bird and insect populations, promotes pests, and requires fertilizer. Pixel farming seeks to restore ecological balance and is inspired in part by the kind of farming done by Mayans in the pre-Columbian era.

<sup>23</sup> Heathcote, “Rem Koolhaas,” <https://www.ft.com/content/7180ef52-2198-11e8-a895-1ba1f72c2c11>.

<sup>24</sup> “Rotunda Level 6: Cartesian Euphoria,” Feb. 20, 2020, in *Countryside, The Future*, audio guide, produced by the Solomon R. Guggenheim Museum, MP3 audio, 2:39, Guggenheim Digital Guide, <https://soundcloud.com/guggenheimmuseum/sets/countryside-the-future>

<sup>25</sup> “Cartesian,” wall label, *Countryside, The Future*, level 6.

<sup>26</sup> *Ibid.*

<sup>27</sup> *Ibid.*



## View and Discuss

→ Share this quote with students:

“I perceived it to be possible to arrive at knowledge highly useful in life . . . and thus render ourselves the lords and possessors of nature.”<sup>28</sup>

—René Descartes, *Discourse on Method*

Have students discuss the phrase “render ourselves the lords and possessors of nature.” What are their reactions to this phrase?

Ask them to consider ways in which humans have tried to become “the lords and possessors of nature.” What are the benefits and consequences of these behaviors?

Do students think humans should strive for these roles? Why or why not?

Descartes was a philosopher in the seventeenth century whose ideas such as the Cartesian grid have helped humans control nature. What ideas or inventions today might have consequences we have not fully considered?

<sup>28</sup> René Descartes, *Discourse on Method*, vol. XXXIV, Part 1, The Harvard Classics (New York: P. F. Collier & Son, 1909–14), quoted from [www.bartleby.com/34/1/](http://www.bartleby.com/34/1/).

## Classroom Activities

### Post-human Architecture

In the Tahoe-Reno region, a collection of buildings has been built without humans in mind. Instead, this architecture is built for machines.

Ask students to think about how architecture built for machines or robots might be different than architecture built for humans. Encourage them to think about lighting, scale, layout, and surroundings. Then, using cardboard, cardstock, and tape, students should build a structure for machines or robots. Ask them to imagine what would happen in that kind of space and how it would feel for a human to enter it.

### Cartesian Grid

Mathematician and philosopher René Descartes invented the Cartesian grid—an essential concept in mathematics.

For this activity, they can make x width, y length, and z height. After they have plotted these elements, see if their classmates can guess which elements they plotted based only on their coordinates. In what ways do students think Descartes’s invention might have changed the world? How could the grid help in different areas of life?

### The Future of Farming

What will farming look like in the future? Rem Koolhaas/AMO researched new forms of farming around the world, including pixel farming and greenhouse conglomerations (described in the previous essay).

Ask students to think about and research the challenges facing farmers today. These problems include pests, changing climate, and growing populations. How could these problems be solved in the future? Through a combination of research and imagination, ask them to come up with solutions. Then have students write and illustrate a pamphlet entitled “The Future of Farming” in which they present these ideas.

- **Agrarian:** of or relating to fields or lands
- **Agricultural:** of or relating to the science, art, or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products
- **Architect:** a person who designs buildings and advises in their construction
- **Authoritarian:** of, relating to, or favoring a concentration of power in a leader or an elite not constitutionally responsible to the people
- **Biodiversity:** biological diversity in an environment as indicated by numbers of different species of plants and animals
- **Cartesian:** of or relating to Descartes, his mathematical methods, or his philosophy, especially with regard to its emphasis on logical analysis and its mechanistic interpretation of physical nature. In the exhibition this concept is pushed further, illustrating that this degree of rationalism can have many outputs.
- **Collective:** to organize by a political or economic theory advocating collective control especially over production and distribution
- **Commune:** an often rural community organized on a communal basis
- **Conservation:** a careful preservation and protection of something, especially: planned management of a natural resource to prevent exploitation, destruction, or neglect
- **Habituate:** to make used to something; accustom
- **Infrastructure:** the system of public works of a country, state, or region, also: the resources (such as personnel, buildings, or equipment) required for an activity
- **Monoculture:** the cultivation or growth of a single crop or organism especially on agricultural or forest land
- **Off-grid:** not connected to or served by publicly or privately managed utilities (such as electricity, gas, or water)
- **Otium:** an ancient Roman term roughly translating to “leisure”
- **Permafrost:** a permanently frozen layer at variable depth below the surface in frigid regions of a planet (such as earth)
- **Rationalism:** a view that reason and experience are the fundamental criteria in the solution of problems
- **Refugee:** one that flees, especially: a person who flees to a foreign country or power to escape danger or persecution
- **Revolutionary:** of, relating to, or constituting a fundamental change in political organization
- **Shelterbelt:** a barrier of trees and shrubs that provides protection (as for crops) from wind and storm and lessens erosion
- **Socialist realism:** a Marxist aesthetic theory calling for the didactic use of literature, art, and music to develop social consciousness in an evolving socialist state
- **Utopian:** proposing or advocating impractically ideal social and political schemes
- **Wellness:** the quality or state of being in good health, especially as an actively sought goal

## Books for Adults

Koolhaas, Rem. *Delirious New York: A Retroactive Manifesto for Manhattan*. New York: Monacelli Press, 1994.

Koolhaas, Rem, and Bruce Mau. *S M L X L*. New York: Monacelli Press, 1997.

Koolhaas, Rem. *Elements of Architecture*. New York: Taschen, 2018.

## Video

Harvard Graduate School of Design presentation by Rem Koolhaas on Countryside research, 2015  
<https://www.youtube.com/watch?v=shVxB6wRH00>

Guggenheim Museum's *Countryside, The Future* preview video: <https://www.youtube.com/watch?v=eTbH5RWb660>

## Websites

NASA Climate Kids on Permafrost:  
<https://climatekids.nasa.gov/permafrost/>

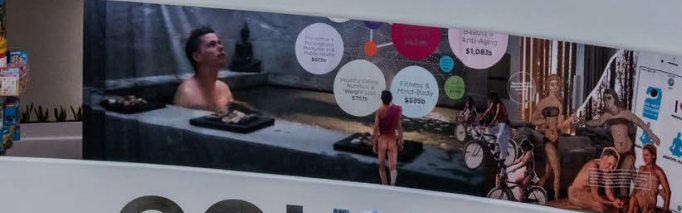
The UN Refugee Agency on Teaching about Refugees:  
<https://www.unhcr.org/en-us/teaching-about-refugees.html>

National Geographic for Kids about Mountain Gorillas:  
<https://kids.nationalgeographic.com/animals/mammals/mountain-gorilla/>

The Art Story on Social Realist Art:  
<https://www.theartstory.org/movement/social-realism/history-and-concepts/>

Britannica Kids on Mao, Stalin, and Khrushchev:  
<https://kids.britannica.com/kids/article/Mao-Zedong/353423>  
<https://kids.britannica.com/kids/article/Joseph-Stalin/353807>  
<https://kids.britannica.com/kids/article/Nikita-Khrushchev/353335>

Wellness Industry example:  
Calm.com  
<https://www.calm.com>



# COUNTRYS

