4 QUALITY EDUCATION

Quality
Education
优质教育

Creativity
创意 2030

United Nations
Educational, Scientific and
Cultural Organization
联合国教科文组织

International Center for Creativity
and Sustainable Development
under the auspices of UNESCO
国际创意与可持续发展中心

Cover children from Denglong Yunhe forest school, Zhonglu Township, Sichuan Province (China) rehearse the natural drama “Mount Murdo”. For details, please refer to “A close look at a Tibetan forest school” (pp 66-68)

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优质教育

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Preface

By **Sarah Orlando**

Creativity 2030 Journal (C2030) is a journal launched by the International Centre for Creativity and Sustainable Development (ICCSD) under the auspices of UNESCO, an editorial venture promoting the achievements of the 2030 Sustainable Development Goals (SDGs) through creativity.

C2030 is not about the latest nor about the newest. It is about practical solutions to social challenges, focusing on actions born out of creative thinking and innovative problem-solving, and with the potential to empower local communities and drive international debate.

The 2030 Agenda has provided a blueprint for shared prosperity in a sustainable world. Nevertheless, in the decade before we reach 2030, many areas will still need urgent collective attention.

This issue of C2030 is thematically anchored by **Social Development Goal #4. "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"**

Education for all has always been an integral part of the sustainable development agenda. In 2005, UNESCO launched the United Nations Decade of Education for Sustainable Development (ESD 2005-2014), presenting "Shaping the Future We Want", and in follow up launching the Global Action Programme (GAP) on ESD. The overall goal of the GAP is to advance the agenda by generating and scaling up actions in five priority areas: policy support, whole-institution approaches, educators, youth, and local communities.

The Sustainable Development Goals Report 2019, the latest update on SDG progress by the United Nations, estimates that 617 million children and adolescents still lacked minimum proficiency in reading and mathematics in 2015, and one third of those children and adolescents were out of school and urgently needed access to education. Despite evidence showing that good quality early childhood education is one of the best investments a society can make in its children, according to the same report, the early childhood education participation rate was only 43 percent in least developed countries.

In 2017, 262 million children and adolescents (6 to 17 years old) were **still out of school**, representing nearly one **fifth** of the global population in that age group, with girls still facing barriers to education in most regions, particularly in Central Asia, Western Asia, North Africa, and sub-Saharan Africa. Furthermore, more than half of the schools in sub-Saharan Africa still do not have basic access to drinking water, handwashing facilities, the internet or computers. And since education enables upward socioeconomic mobility and is key to escaping poverty, it is blatantly clear who is being left behind.

Furthermore, contrarily to the recommendations of the Education 2030 Framework for Action, in May 2019 the UN Economic and Social Council acknowledged that only one third of all countries spend between 15 and 20 percent of total government expenditure on education. The path towards inclusive and equitable quality education is expected to be arduous.

Recent decades have seen improvements in basic reading and writing skills and a steady reduction in gender gaps, but still 750 million adults—two thirds of whom are women—were estimated to be illiterate in 2016. On a more positive note, youth literacy rates are generally higher than those of adults.

While working on this issue of C2030, the **novel coronavirus pandemic** shook our globe. By 2 April, 91.3% of all enrolled learners (approx. 1.6 billion) in 193 countries were affected by school closures caused by Covid-19. On 21 May, 1.3 billion in 163 countries were still at home.

Borrowing the words of the economist Tito Boeri: "Covid-19 is not a democratic virus". This pandemic has indeed the potential to increase inequalities even further and threaten inclusive access to education worldwide.

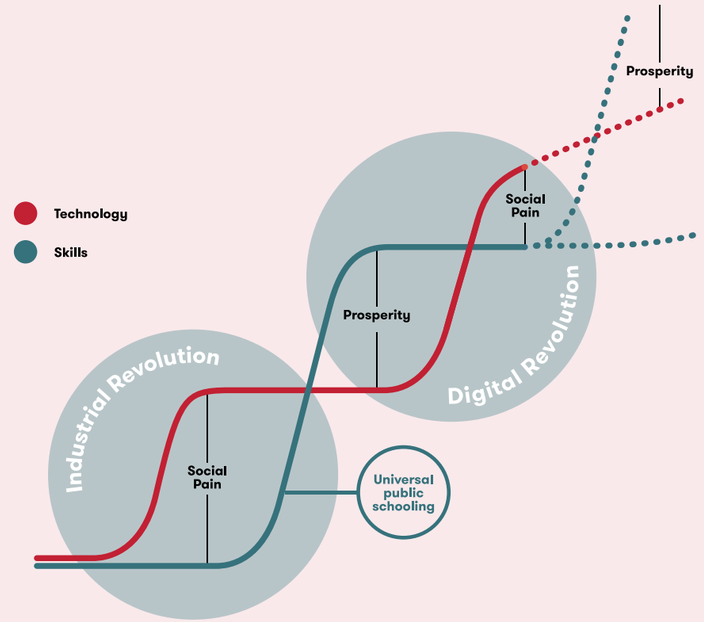
"This is the time to share data and solutions and connect this wealth of knowledge, capacity and talent, guided by the principles of inclusion and equity," writes Stefania Giannini, UNESCO's Assistant Director General for Education, in the opening editorial of this issue.

In fact, what the situation is showing is that it is indeed in the countries with the most advanced digital infrastructure that the fight against the pandemic is having its best results. On this point, the article by Goldberg in the Big Picture section is quite precise in its analysis.

Even before the pandemic's outbreak, the results of the project, "Skills for a Changing World", by the Center for Universal Education at Brookings and the LEGO Foundation, warned how "rapid change can leave large communities behind and fail to maximize every member of society's potential. Today and in the future, we will need young people who are prepared to harness these promises and mitigate these challenges".

Economists Claudia Goldin and Lawrence Katz, in "The race between education and technology," analyze how education plays catch-up during periods of social pain, eventually leading to prosperity that comes from having the right combination of technology and skills.

THE RACE BETWEEN TECHNOLOGY AND SKILLS



Source: Andreas Schleicher. "Skills: Global Trends, Challenges, and Opportunities." Presentation, Ljubljana, April 7, 2016. Inspired by Claudia Goldin and Lawrence Katz's work on "The race between education and technology"

As in every issue of C2030, the core narrative stages dialogue between world-views and localized insights, the main chapters also reflecting such logic: The Big Picture, The Small Picture, China Logs. Serial Innovators. Again in this issue we have chosen to narrate concrete creative projects. We have particularly focused on introducing Chinese perspectives of relevance linking Covid-19 responses to our core thematic pillar, Quality Education, for they indeed hold the responsive capacity to shared global challenges and ambitions.

While trying to stay put on the topic of Quality Education, we were inevitably urged, while working remotely from our homes, to also include topics that would reflect some of the key issues the novel coronavirus has thrown at us.

Hence, in this issue, you will not only find case histories of rural schools, and creative approaches and places where physical space is at one with pedagogical space. We have brought perspectives on government measures, philanthropic efforts, and corporate initiatives, and strenuously chased the latest developments on our core themes, while coming to recognize that technology is the most available and effective way we know to find collective solutions. Not necessarily the best, and surely not the only one, but the best we can activate so far, as human beings who cannot hug, socialize, gather, but as the lucky ones who have a safe-haven where we are still able to think and act, thanks to technology.

We have enjoyed the possibility of remote accessibility to knowledge archives that were made available to all and have thus taken our time to dig in our historically acquired knowledge, and find in the past lessons for our future. The excerpts from old issues of Courier, the Incomplete Manifesto for Growth by Bruce Mau, and the poem by Loris Malaguzzi (Reggio Emilia approach) are a testament to this quest.

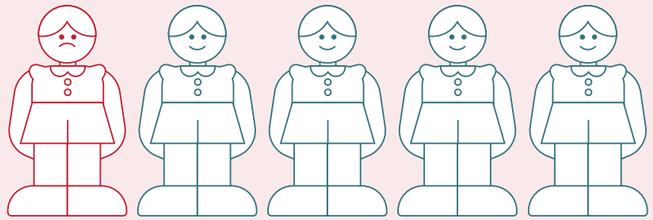
For the Visualize Me section, which acts as a visual crevasse within the journal, we chose to focus on projects that have been developed during the pandemic, or followed the path of exploring the possibilities of an unmaintained world, with a project called The Wild City.

We portray the voices of institutions, academia, corporations, grassroots society organizations and individuals alike, as it is only through the engagement of all stakeholders that real long-lasting change can be made possible globally.

"Someday, all of us will spend our lives in our own school, the world. And education in the sense of learning to love, to grow, to change can become not the woeful preparation for some Job that makes us less than we could be but the very essence, the joyful whole of existence itself." Marshall McLuhan said.

Once the pandemic ends, and our world heals, the route to equitable and inclusive quality education will become clear again. ■

1 OUT OF 5 CHILDREN BETWEEN 6 & 17 YEARS ARE NOT ATTENDING SCHOOL



4 QUALITY EDUCATION

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The Big Picture

大背景

Come Together, Now!

By **Stefania Giannini**, UNESCO Assistant Director-General for Education

We live in times of disruption and uncertainty but this time reference is not made to the digital revolution but to a global pandemic that virtually every country is struggling to contain.

Back in 2015, Bill Gates warned in a prescient Ted talk that the greatest risk of a global catastrophe comes in the shape of a highly infectious virus, warning that we were not ready to fight it.

It is chilling to listen to his words today, six years later, as cities are in lockdown, people in confinement and every day is a struggle to save lives, with public health systems in some of the world's most advanced economies stretched to the limits – and even more so, to a dramatic extent, in fragile countries.

MORE THAN HALF THE WORLD'S STUDENT POPULATION – 1.2 BILLION CHILDREN & YOUTH – FORCED TO STAY AWAY FROM SCHOOLS BECAUSE OF THE VIRUS

BEYOND DEVICES – BUILDING RESILIENCE OF THE HUMAN FABRIC

No one could ever have predicted that in 2020, more than half the world's student population – 1.2 billion children and youth – would be forced to stay away from schools because of a virus.

This is simply unprecedented in history.

In the over 120 countries where schools have closed, every family is affected. The pressures on students separated from their peers, parents, caregivers, teachers and educators are incalculable.

Education systems are already falling short of being inclusive, of empowering students with 21st century skills and giving teachers a fair deal – let alone having the capacity to go virtual.

Now, governments are racing to keep schooling afloat through alternative channels. Every education minister is seeking the most adapted distance learning solutions, ranging from radio and television to virtual classrooms.

But the challenge goes well beyond that of devices, platforms, contents and connectivity – it is one about

the resilience of the human fabric, emotional support and care for the most vulnerable and fragile.

As an international community, we cannot let this crisis accentuate inequalities.

When UNESCO invited education ministers to join a virtual meeting on responses to Covid-19, over 70 countries signed up at short notice – ranging from those where all schools were closed such as China, Japan, Republic of Korea, Italy and Iran, to others putting prevention measures in place, including Mexico, Columbia and Mauritius.

The spontaneous interest manifested the urgency to learn from each other and share solutions under pressure.

Only a multilateral platform can allow this.

Since launching a curated list of distance learning solutions, countless individuals, civil society organizations and companies have stepped forward to freely share their know-how and platforms. An international community of practice has come together, sharing approaches, expertise and challenges through a dedicated series of webinars.

Again, only a multilateral platform can allow this.

This spirit of international solidarity – one that speaks to the value that education carries – now has to translate into tangible cooperation to support countries in their responses.

THE ROLE OF MULTILATERALISM: LEARN FROM EXPERIENCES AND TAKE THEM TO SCALE

Today's global health emergency occurs as an additional 260 million children and youth were not even in school before the crisis, while millions who were in school were not even learning the basics. Many children who were in fragile situation before the crisis, or about to drop out, will certainly never set a foot back in schools after the crisis.

If this crisis fails to convince everyone to invest in stronger and more inclusive education systems – nothing ever will.

This is a time for the global community to rally around inclusive and equitable quality education and lifelong learning – the goal to which every government committed five years ago as part of the 2030 Agenda for Sustainable Development – to leave no one behind.

This is the time to share data and solutions and connect this wealth of knowledge, capacity and talent, guided by the principles of inclusion and equity.

This is the time to come together not only to ensure that learning doesn't stop, but to invest in the transformational power that education carries for individuals, communities and societies. Let us not forget the impact of education on fighting poverty and inequalities, on empowering girls and women, and on improving health because well-being and prevention require knowledge.

Knowledge sharing is already taking place – and is increasing rapidly. UNESCO networks, centers and institutes around the world are fully mobilized and organize webinars, seminars, recommendations and knowledge sharing. While there is much to learn from the wealth of these experiences, the shared challenge is to take them to scale under the pressure of time – and not to deepen human and digital divides.

As part of its responsibility to lead on education, UNESCO is launching a global coalition, bringing partners together to support country responses. The coalition is driven by the conviction that investment in remote learning should both mitigate the immediate disruption caused by Covid-19 as well as establish approaches to develop more open and flexible education systems for the future.

Every night at 8 pm in Paris, the city of UNESCO's headquarters where I live, inhabitants flock to their windows clapping to honour the courage of health workers.

I join them for this ritual, thinking also of the millions of children, adolescents, teachers and parents coping each day with the new reality of home schooling – their determination to share education and keep learning deserves our respect, recognition and above all, support.

We don't know how long this pandemic last. But we know with certainty that we must deal with the consequences today – boldly, innovatively and together. ■

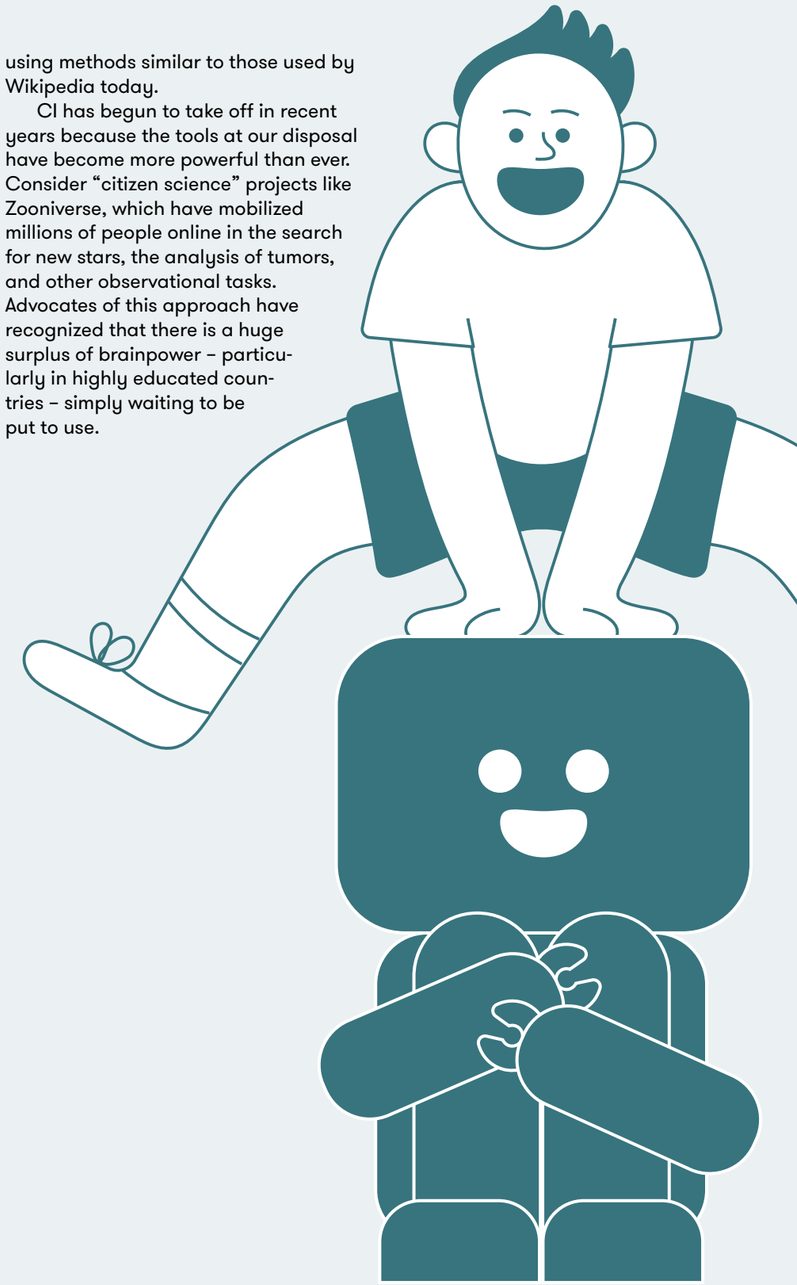
This is the first in a series of articles UNESCO has been posting on the Covid-19 education response (https://en.unesco.org/themes/education-emergencies/coronavirus-school-closures).

UNESCO INVITED EDUCATION MINISTERS TO JOIN A VIRTUAL MEETING ON RESPONSES TO COVID-19, OVER 70 COUNTRIES SIGNED UP AT SHORT NOTICE

The Game Changer Beyond AI

By **Geoff Mulgan**

Illustration by LAVA BEIJING



One might not know it, judging by all the doom and gloom in the press, but there are still parts of the world where technology is regarded as a force for good – even for salvation. A recent survey shows that over 80% of young Africans are optimistic about what technology will do for the continent.

But elsewhere, people increasingly feel as though they are locked in a titanic struggle against technologies that threaten to take their jobs, steal their data, destroy the very idea of childhood, and disrupt democracy. Technology often seems like something that is done to us by distant and unaccountable forces, rather than something that we control. It doesn't help that, for all of the extraordinary hype about artificial intelligence (AI), much of the investment in this domain has focused on military applications and manipulative ways to target propaganda and advertisements. No wonder people feel vulnerable and anxious.

Fortunately, there are still ways for us to develop a better relationship with the extraordinary technologies that are coming online and to the market. One alternative strategy is to develop "collective intelligence" (CI), which, rather than seeking ways to replace people with AI, focuses on combining the best of humans with the best of machines. This approach is becoming increasingly influential in business, science, and government, partly because it works, but also because it embodies the democratic, humanistic values that many of us hold dear.

Anyone who has ever used Wikipedia will already have a sense of what CI entails. Since the 1990s, millions of people have collaborated online to make reliably accurate knowledge about the world accessible to everyone. In some respects, the wiki model isn't new. In the nineteenth century, the Oxford English Dictionary recruited tens of thousands of volunteers to map the shifting meanings of English words, using methods similar to those used by Wikipedia today.

CI has begun to take off in recent years because the tools at our disposal have become more powerful than ever. Consider "citizen science" projects like Zooniverse, which have mobilized millions of people online in the search for new stars, the analysis of tumors, and other observational tasks. Advocates of this approach have recognized that there is a huge surplus of brainpower – particularly in highly educated countries – simply waiting to be put to use.

CI is also transforming health care, with thousands of projects bringing patients together to share data or devise better ways to manage disease. One famous project, prompted by a diabetic patient's frustration with the medical establishment, mobilized volunteers to design a functioning artificial pancreas (insulin pump).

Following these successes, businesses, too, are looking more closely at CI's potential. For example, the education app Duolingo uses volunteers to improve its language-learning offerings. Lego, the iconic toy company, has long relied on fans to help it design new products. And the German conglomerate Siemens uses CI methods to organize how it allocates funds internally, on the principle that its engineers will know better than upper management what projects are most likely to succeed.

Finally, government agencies are also tapping into CI's power. To most people, NASA might conjure an image of hundreds of men in white coats and horn-rimmed glasses in a room in Houston. The US space agency does indeed still employ many scientists, but it has also opened up to the outside world. Whether it is designing a new spacesuit or programming software for rocket launches, NASA will draw on ideas from anyone anywhere, offering financial rewards for those it uses.

The unifying idea here is that by mobilizing data, insights, and ideas from as wide a range of sources as possible, organizations of all kinds will have a better chance of success than if they had relied just on algorithms or on people in house. The best examples of CI combine human brainpower and computers' processing power, rather than treating each as an alternative to the other. AI and CI in collaboration can often achieve more than either system on its own. In "freestyle chess," groups of people working with the help of computers have beaten both the best individuals and the best computers.

Combining AI and CI has far-reaching potential. For example, a program based at Swansea University in Wales allows people in Yemen to upload images of munitions debris, which are then classified by machine-learning algorithms to help build cases for the eventual prosecution of war crimes. Similarly, the city of Jakarta combines citizen-generated data on flooding with data from sensors to create a real-time emergency-warning and -response system. And, more recently, similar methods have been used to track the spread of the Covid-19 outbreak.

Democracy itself is now becoming one of the most promising fields for CI. Many experiments have already shown how technology can be used to improve political inclusion and challenge authoritarianism. Through its new Accelerator Labs, the United Nations has recognized CI as a key to driving progress toward the 2030 Sustainable Development Goals.

Nonetheless, hundreds of billions of dollars will be spent this year on AI for specific, limited tasks such as recognizing faces, formulating product or video recommendations, or winning games of Go. Never mind that most of these applications are themselves heavily dependent on people, whose data is needed to train the algorithms. AI alone is simply not up to the task of dealing with the complex, messy issues that matter most in our daily lives. For these, we need a combination of human and machine intelligence.

Purely technological solutions tend to be overhyped – and then tend to disappoint. The next decade will hopefully be a period when we learn how to use technology to enhance our abilities and not just to replace them. ■

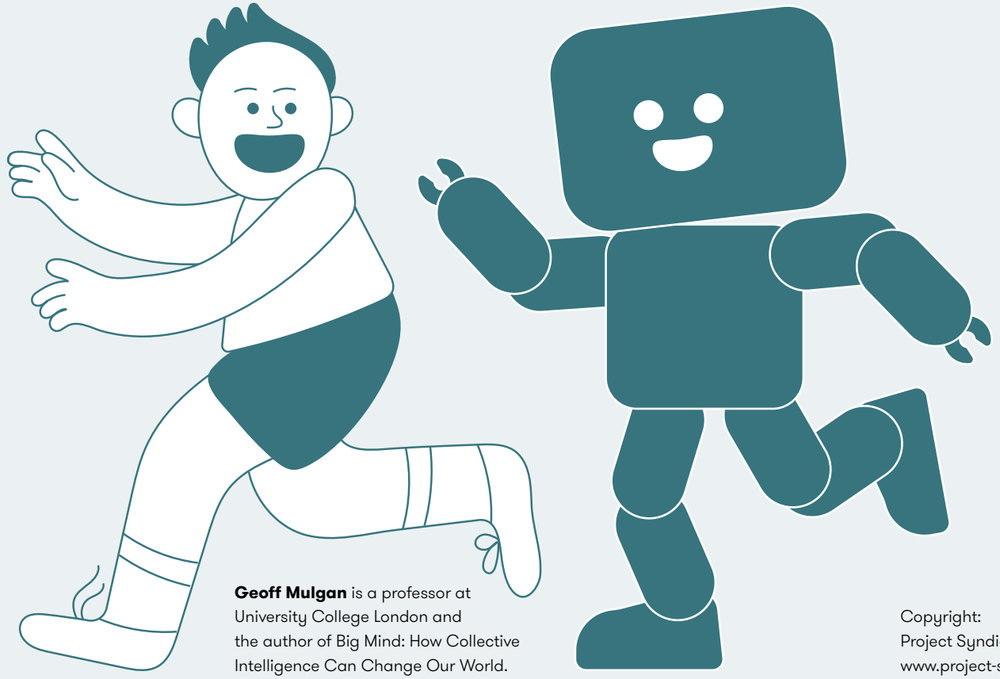


Illustration by LAVA BEIJING

Geoff Mulgan is a professor at University College London and the author of Big Mind: How Collective Intelligence Can Change Our World.

A Silent Hero of the Coronavirus Crisis

By **Pinelopi Koujianou Goldberg**

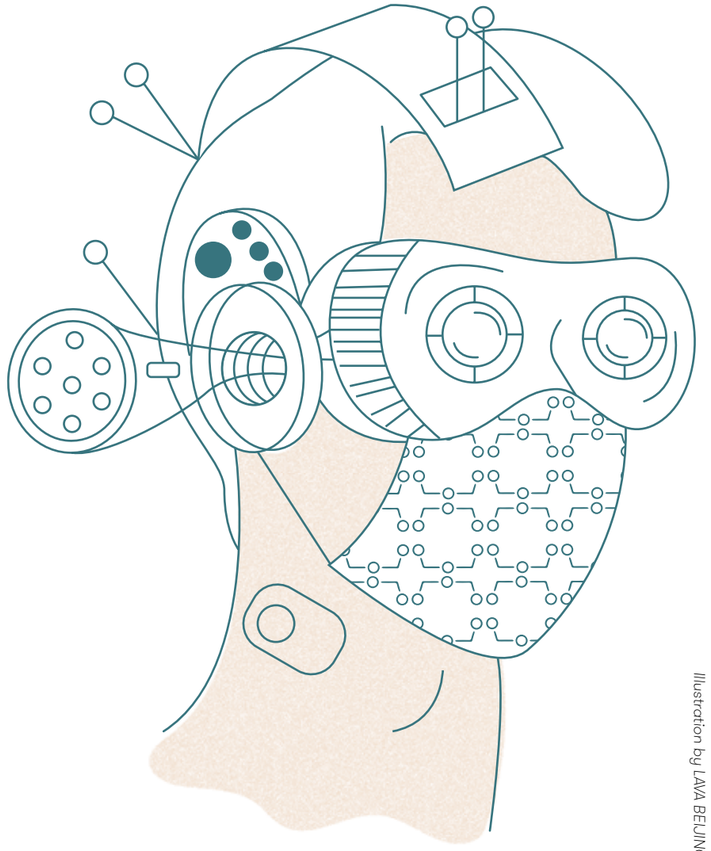


Illustration by LAVA BEIJING

Not to diminish the superhuman efforts of nurses, doctors, and health-care workers worldwide, but sometimes, no matter how hard one tries, and no matter how selflessly one sacrifices, one stands no chance against a more powerful enemy. The new coronavirus, Covid-19, has proved to be such a foe. Were it not for technology, the battle against it would have been lost by now.

Math and technology, to be more precise. I say math, because understanding a concept as basic as "exponential growth" proved crucial for attacking the enemy head-on.

The successful containment of the epidemic in China, South Korea, and Japan has been attributed to strong governments and cultures that put society's good ahead of private convenience. I would add that these countries also stand out for their students' high math literacy. In the 2019 PISA rankings, produced by the OECD, China ranks first in math with a score of 591 out of 600, Japan ranks 6th, and South Korea is 7th. By contrast, Italy is in 31st place, Spain places 34TH, and the United States ranks 37th.

PISA scores may have their shortcomings, but they do provide a rough idea of the math literacy of the average citizen in the countries that take part. And the fact that the countries with the highest rankings seem to have adopted the most effective containment strategies serves as a reminder that, ultimately, the reason we want better training in math and logic is not to land more lucrative jobs, but to make better decisions regarding our lives.

Technology has been the true champion in the fight against the spread of Covid-19. Here, I don't mean the ICUs and respirators without which severely ill patients would not stand a chance. I mean the new data-driven technologies that enabled responsible governments to track the infected, contact them, and quarantine them early. These technologies have been the target of much criticism in recent years. Now, when they are helping us save lives, they deserve our praise.

South Korea's achievement is truly impressive. As of March 17, the country had 8,320 cases and 81 deaths, despite an early bad start. Contrast this with Italy, which at the same time had reported 27,980 cases and 2,158 deaths.

Technology's contribution to pandemic management goes beyond tracking and quarantines. As the US and countries in Europe move toward near-complete lockdown, with potentially disastrous consequences for the world economy, technology offers a glimmer of hope.

Many firms, especially in tech, have closed their offices, mandated that employees telecommute, and provided them with computing and video technology to work remotely. Not only does this keep an important part of the economy going, but it also has had unintended positive consequences. Vehicle congestion, for example, has vanished. The hours harried commuters previously lost in traffic can now be dedicated to work and family. Corporate travel is disappearing, and video conferences are the new norm, with associated reductions in airplane pollution and huge savings in time.

Likewise, educators at nearly every level are scrambling to find online alternatives to in-classroom instruction. Whereas in earlier times, school closings would have implied loss of instruction time, technology is allowing students to continue learning. And the current crisis will advance that process, as a relatively modest group of early adopters in producing online courses is joined by whole universities that have been forced to move to the web.

Obviously, there are challenges to adapting a curriculum intended to be taught in person to the online setting. But with entire faculties experimenting, we are certain to see innovation and rapid improvement in the effectiveness of distance learning. Once students finally return to the classroom, we should continue to leverage these innovations, not only in the developed world, where necessity has forced our hand, but also in developing countries hungry for cost-effective education.

In the retail sector, digital platforms can fill the gap when supermarket shelves empty or self-quarantine makes in-person shopping impossible. And film and music streaming, video chats, and social media have offered avenues to reduce isolation, stay connected, and preserve mental health while locked down.

In these and other ways, the pandemic is accelerating existing technological trends and revealing important benefits, which we should embrace, both now and after the crisis abates. But when normalcy returns, we are also likely to confront once again some tough questions about technological innovation.

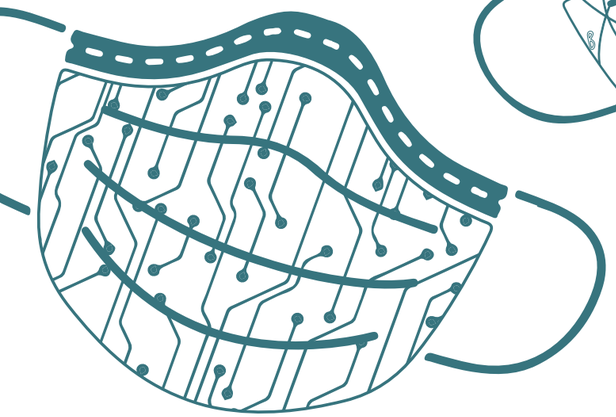
The Covid-19 crisis has revived the tension between privacy and effective targeting. In recent years, we often encountered this debate with respect to major tech platforms using granular information about users to deliver micro-targeted news and advertising. But the same kinds of technology have been used to identify those infected by or most vulnerable to the coronavirus.

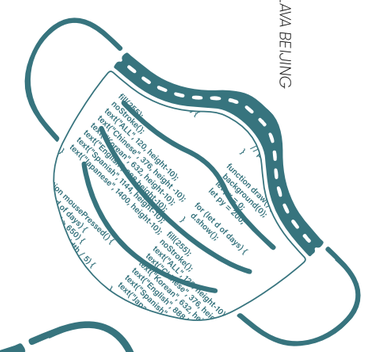
Of course, the tension between privacy and health outcomes is not new: the desire to protect individual histories prevents medical researchers and clinicians from mining the full set of health data to achieve better outcomes. Covid-19 reminds us that we may want to think carefully about the relative benefits of data sharing, as they may sometimes dominate the value of preserving privacy.

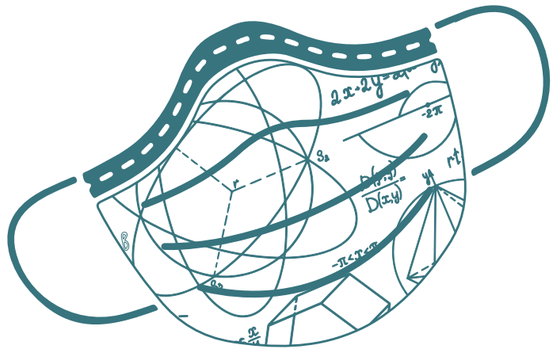
Absent intervention, technological trends will inevitably generate winners and losers. Brick-and-mortar stores that were already losing market share to digital platforms are likely to be decimated wherever self-quarantine and mandatory lockdowns are in effect. And though increased telecommuting, reduced business travel, and distance learning will increase productivity for some, they are significantly disrupting the livelihoods of others, and that disruption will accelerate in the next few months.

So, more than ever, it will be imperative to provide support and adjustment assistance to individuals, firms, or entire communities hit by the crisis. But we should resist the urge to resume our relentless, if fashionable, tech bashing. If there is a silver lining in the current crisis, it is the realization that knowledge – primarily math, science, and technology in this case – is our best weapon. ■

Illustration by LAVA BEIJING







Pinelopi Koujianou Goldberg, a former World Bank Group chief economist and editor-in-chief of the American Economic Review, is Professor of Economics at Yale University.

Novel Coronavirus — a Mysterious Disease

A HUMAN NIGHTMARE DESTROYING GLOBAL, SOCIAL AND ECONOMIC ORDERS

By **Mehri Madarshahi**

Illustration: Yaroslav Danylchenko

A deadly outbreak of a virus of unknown origin has hit the world's community of nations with an amazing speed.

This new and perniciously contagious virus has caused a disease named Covid-19 by the World Health Organization (WHO). So far, the disease has not only had devastating effects on individual health and circumstances, but its deep and unforeseen impacts are felt along the entire socio-economic and political spectrum in every corner of the world.

Authorities worldwide are rushing to contain its spread, as countries outside China continue to experience massive spikes in infections. The virus has reached more than 210 countries and territories, with over 4,605,673 infected and so far it has caused over 310,000 deaths worldwide. Its present epicenters are in the United States (with 1,450,000 infected and over 89,000 deaths), in Asia (outside of China) the Republic of Korea, in Europe Italy,Spain and France, and in Russia. Fears are rising in the Middle East too. Iran has confirmed 8000 coronavirus death cases and 120,000 infection cases. India, Pakistan Lebanon, Israel, UAE, Kuwait and Afghanistan have also reported cases and are bracing for a further spread, and so is the African continent.

German Chancellor Merkel, in her first public TV address to the German people stated that "Given this is a virus for which there is no immunity and no immunization, we have to understand that many people will be infected". This prediction has rattled many in Europe and elsewhere. "Today, the consensus among experts is that 60 to 70 percent of the world population will be infected." (www.worldometers.info)

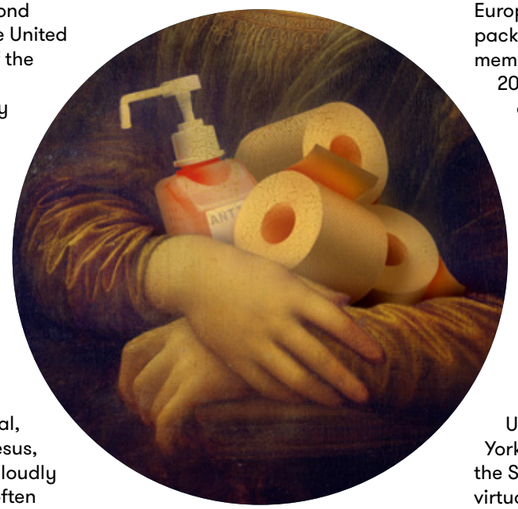
Most countries followed the Chinese approach implemented in Wuhan and the rest of Hubei Province where close to 60 million inhabitants were locked down with only very limited opportunities to leave home. Soon thereafter, a cascade of regulations in other countries was imposed, ranging from total lockdowns of cities and regions to stay-home orders, social distancing and restrictions on gatherings over two people. Spain, Italy, and France took the lead. Partial closures were introduced also in Germany, New York City, San Francisco and other US cities as well as belatedly the United Kingdom and London, before these were gradually reinforced.

Borders between countries were closed and free movement across Europe, the United States and neighboring Canada and Mexico was interrupted. Around the world, schools, universities and all other educational centers were shut down. Many schools resorted to distance learning. These measures marked a turning point in the lives for many people, lives which will suffer disruption for the foreseeable future.

Businesses and investors are adjusting to this new reality, in which everyday social interactions are altered, travel restricted, borders closed and general economic activities seriously curtailed. Observing the advance of a virus that is beyond control, the WHO declared the United States as the new epicenter of the pandemic. Although the term may have been seen as largely symbolic, the decision to use it was a sign of growing concern among public health officials about the failure to contain the virus in the United States, which according to the latest scientific modelings is now predicted to reach to 100,000 deaths by the end of May. (On 30 March, the US reported only 3889 deaths). WHO Director-General, Dr. Tedros Adhanom Ghebreyesus, declared "We cannot say this loudly enough or clearly enough or often enough. […] All countries can still change the course of this development."

With the virus now in almost every country in the world, the WHO resorts to citing "alarming levels of inaction" and urging affected countries to "test, test, test". The WHO hailed the draconian measures taken by China, which seem to have led to a dramatic decrease in new cases at the original center of the outbreak.

Given this unusual "new normal", important international games and sport events have been postponed, including the Tokyo Olympic Games 2020, now postponed to July 2021. Before this was announced, the Olympic torch lighting in Greece was held without spectators in attendance for the first time ever. Likewise world cup ski races in Sweden, figure skating world championships in Montreal, and other international sporting events in Argentina have been canceled until further notice.

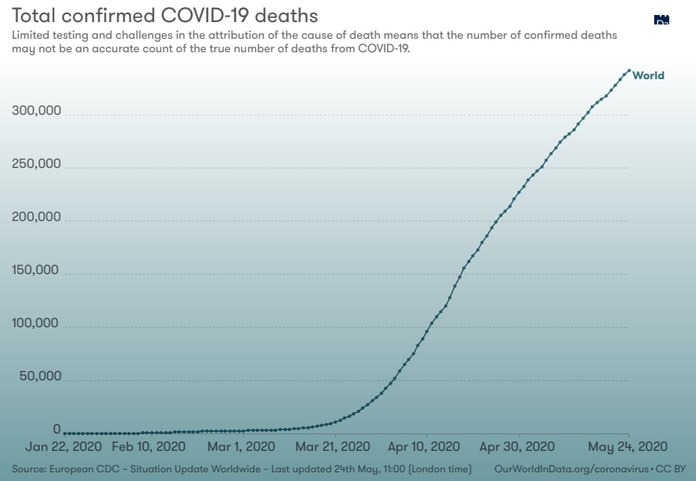


International politics are also affected. COP15 (Conference of Parties) of the Biodiversity Convention planned for the end of October in Kunming, China, has been postponed. COP26 of the Climate Change Convention scheduled for November in Glasgow, UK, and IUCN scheduled for June in Marseille, France, are likewise to be just as affected. Czech Prime Minister Andrej Babis proposed that the European Green Deal, a new policy package that commits European Union member states to zero emissions by 2050 which had just been unveiled at COP 25 in Madrid at the end of last year, should be set aside so that countries can focus on fighting the pandemic.

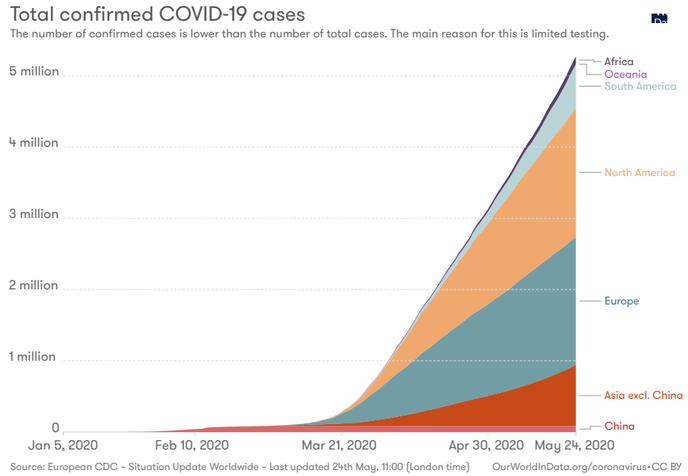
In China, the annual meeting of the National People's Congress has been postponed until the end of May, and the US Democratic Party has changed the voting procedure for pending Primaries to designate a Presidential candidate by postal vote. The United Nations headquarters in New York City are under confinement and the Security Council plans to hold virtual meetings.

The pandemic has sent stock markets into turmoil. The Dow Jones lost in the second week of March close to 12,000 points (25 percent of its value), the Hong Kong Hang Seng dipped over 3,500 points and all other leading markets lost enormous amounts. In April, the US oil futures contract fell below zero for the first time as some traders paid buyers to take oil off their hands. Investment decisions for proposed multibillion dollars liquefied natural gas export terminals have been delayed or canceled in Australia, Mozambique, Qatar, Mauritania, Senegal and the United States in recent weeks. West Texas Intermediate lost in April some 75 percent of its value sinking the oil prices to less than 4 dollars a barrel. The International Air Transport Association expects passenger revenues to drop by 55 percent in 2020 compared with the previous year, as nationwide lockdowns and travel bans attempting to contain the spread of the disease have left the aviation industry grappling with its worst crisis in decades.

This prompted the US Government to adopt the largest support package ever in the history of the country amounting to an injection of 3 trillion US dollars aimed at saving major industries, the banking system small enterprises, hospitals and supporting the over 35 million unemployed. Yet, uncertainty, if not fear prevails and persists, as shown in the continued fluctuations of the stockmarkets.



Fear of contagion has led to drastic measures being implemented by numerous governments at state, provincial and city levels, leading to disruptions of routine practices and denting all social interactions and behaviors. Social Isolation of those afflicted by the virus and withdrawal of those worried about becoming affected has put out everyone's routine. The demands on countries' public health systems have never been experienced. With two-thirds of the world population living under quarantine, damage has already been severe and wide reaching. Telework has become mandatory for innumerable employees and workers. The world's economic and social activities have come to a complete halt. Global supply and production chains have been disrupted and interrupted manufacturing. Major airlines have grounded their entire fleets. Hotel and tourism industries have shut down as all reservations have been cancelled. The cruise industry has experienced a public-relations nightmare with more than 4,200 passengers quarantined aboard the Diamond Princess cruise ship in Yokohama and the Carnival Princess In the Caribbean. Globalization as a whole may need to be revisited. The problematic aspect of the new virus is that it is not yet clear how it is transmitted, how easily, and how lethal it might be, how widely it has and will spread – and when there will be a reliable vaccine and treatment.



As societies adjust to these new realities and cascading governmental regulations, life in many places will no longer be the same for the foreseeable future. Everything is bound to be disrupted and transformed in an unexpected and unpredictable manner - politics, economy, production and consumption, work, transport, everyday social interactions, schooling and learning, health, relaxation, holidays.

Some good news comes from the philanthropic sector that is beginning to allocate substantial resources to tackling the crisis. The Bill & Melinda Gates Foundation has committed up to US$100 million toward efforts to help strengthen detection, isolation and treatment, protect at-risk populations, and develop vaccines, treatments and diagnostics.

Hong Kong investor and philanthropist Li Ka Shing has donated US$13 million to assist Wuhan, where the outbreak had been concentrated. Alibaba founder Jack Ma has committed US$14.4 million, including US$5.8 million to fund research into a vaccine.

As governments face the crisis of a generation, financial markets crash and unemployment peaks.

Public and private scientific expertise is being marshalled to solve altogether new medical challenges arising from Covid-19.

CORONAVIRUS AND CLIMATE CHANGE

For the climate, something strange is happening. In China and Italy, as well as in many other countries, the air has become strikingly clean and pollution levels have dropped dramatically. Venice's Grand Canal, normally suffering from foul water, is beginning to run clearer than ever before in the modern era.

In Seattle, New York, Los Angeles, Chicago and Atlanta, the fog of pollution has lifted. The same holds true for major Indian cities which had been registering the world's highest pollution levels.

The novel coronavirus pandemic has led to an astonishing shutdown of economic activity and a drastic reduction in the use of fossil fuels. In China, February's carbon emissions were 25 percent lower than normal. The Center for Research on Energy and Clean Air estimates that this is equivalent to 200 million tons of carbon dioxide — more than half the annual emissions of Britain.

The drastic nature of governments' responses to the pandemic seems to have had a positive effect on emission levels in the short term.

But in the longer term, will the pandemic help or harm the climate?

As the United Nations Secretary-General recently noted, the threat from the novel coronavirus is temporary whereas the threat from heat waves, floods and extreme storms resulting in the loss of human life will remain with us for years.

Our response to this health crisis will surely influence the climate crisis for decades to come. Efforts to revive economic activity - the stimulus plans, bailouts and back-to-work programmes being enacted now - will help determine the shape of our economies and our lives and lifestyles. The resulting effects on carbon emissions may in the long run reverberate across the planet.

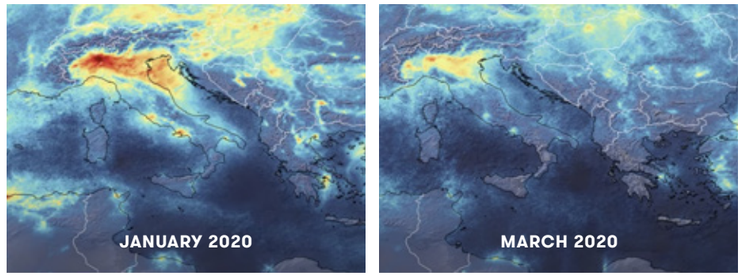
Changes in work habits, personal consumption patterns and travel habits may, in fact, herald the beginning of a meaningful global shift. Sweeping changes in individual habits - particularly in wealthy countries with high per capita consumption - could lead to lower carbon emissions and pollution, which would be an unequivocal good. Which is to say, in order to be meaningful for global emissions, changes in consumption habits would need to extend beyond individuals to the larger structures that shape our lives.

In China, it wasn't simply telecommuting or grounded planes that led to a 25 percent drop in emissions. It was the abrupt halt of industrial manufacturing. It was also a significant reduction in air travel with a concomitant decrease in air fuel emissions. If anything, the short-term positive effects on the climate that we are seeing today serve as a dramatic reminder that changing personal consumption habits and a de-carbonization of the global economy will have an important impact on limiting climate change.

Despite the clean air and the cleaner water in canals which we are observing over the past months, the coronavirus may also have disastrous consequences for the climate. It may lead to a global oil demand surge, given its biggest price contraction in history, discouraging investments in renewable energies. Dips in emissions had also occurred during the 2008 world financial crisis and the oil shocks of the 1970s, after which emission levels bounced back along with economic recoveries. If capital markets lock up, it may become difficult for companies to secure financing for needed solar, wind and electric grid projects.

A global recession as a result of shutdowns and cheaper energy could also slow or stall the shift to clean energy. A large share of the world's solar panels, wind turbines and lithium-ion batteries are produced in China. The clean energy analyst Bloomberg NEF has already downgraded its 2020 expectations for the solar, battery and electric-vehicle markets, signaling a slowdown in the clean energy transition, while we urgently would need to speed it up. Coronavirus is bad for the climate even on most macro levels. Lockdowns and social distancing have slowed climate research around the world or have grounded to a halt. NASA is on mandatory telework. Research flights to the Arctic have been stopped, and fieldwork everywhere is being canceled. No one knows how much climate data will be collected as a result, or when research might be able to start up again.

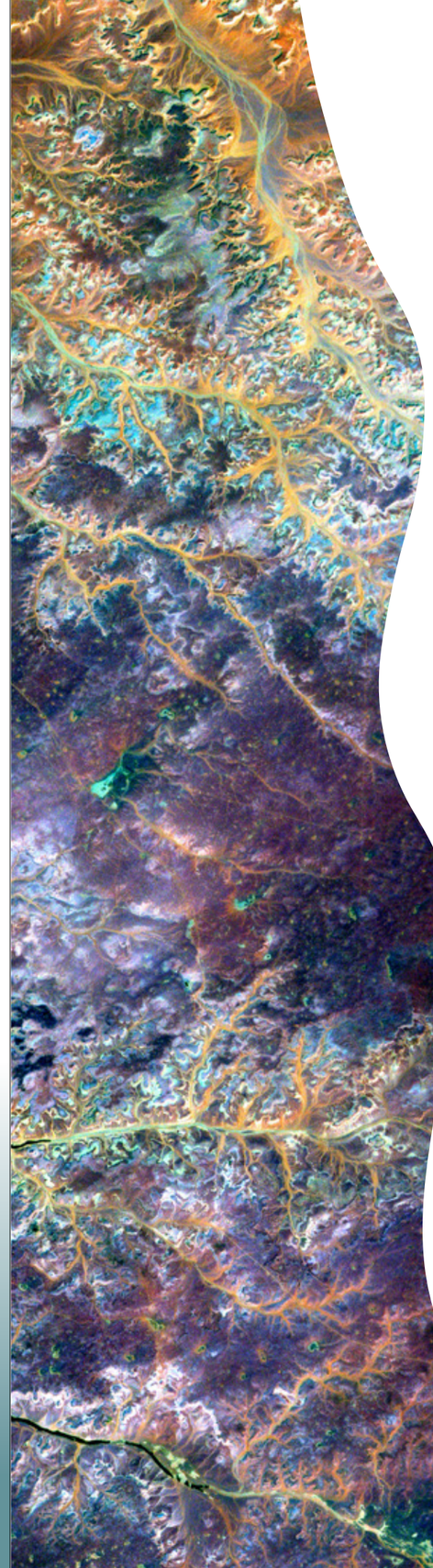
Gatherings of world leaders to address the climate crisis are being delayed or canceled including November's planned COP26 in Glasgow. This might derail already sluggish international climate action, as countries - under the provisions of the 2015 Paris Agreement - are supposed to announce new pledges to reduce emissions.



source: www.esa.int

Going forward, public attention is likely to be diverted from the climate by ballooning fears over health and finances, and climate activism that depends on large public protests is being forced indoors and online. Where and how will all this end? It definitely needs determined and clairvoyant political leadership, reliance and confidence in scientific evidence and advice, and effective international cooperation to overcome all set-backs and tackle the persistent and newly added challenges. ■

Mehri Madarshahi
Member of the Advisory Committee of ICCSD; President of Global Cultural Networks
Vice-Chair of Asia Pacific Exchange and Cooperation Foundation; Visiting Professor, IPP, South China University for Technology



The Fashion Industry Confronts the Challenges of Climate Change — the Need for Creative Solutions

By
Dr. Hans d'Orville

The world is in the thralls of two hecatombic crises: the Covid-19 pandemic and the accelerating climate crisis. Both have enormous consequences for sustainable development. And yet there are numerous challenges confronting us in creating and preserving a sustainable world.

We are witnessing an unheard of number of people succumbing to this novel coronavirus, millions losing their jobs and livelihoods, and a sea change in the survival and relevance of industries and productive sectors in virtually every country. Fashion has been hard hit, with an as yet unfathomable impact on jobs, wellbeing, prosperity, culture and creativity, as well as the environment. Once the Covid-19 crisis is over, the fashion industry will be left with the need to undergo tremendous change for years to come.

Let us first look at the interrelationship of fashion and sustainable development until Covid-19.

Consumers and companies alike worry about how to mitigate against their carbon and resource footprints on the environment. Sustainability is a particular worry for the younger generation. An Environmental Profit and Loss (EP&L) tool has been created to help companies understand their environmental impact by measuring greenhouse gas emissions, land use, water use, water pollution, air pollution and waste across the entire global supply chain.

We live in an age of digital transformation across industries. New markets, new technologies, and shifting consumer needs present opportunities - but also risks. The future of fashion and the potential of fashion cities is shaped by this process. With the Fourth Industrial Revolution, artificial intelligence, 5G communications networks, internet and internet of things, big data, robotics, 3D design and blockchain practises are affecting all segments of the fashion industry and are radically transforming it. Cutting-edge technologies and virtual reality have multiple applications in the fashion world, allowing production and distribution methods to evolve just as quickly as ever-changing tastes and fashion trends.

The fashion industry consists of four levels, with many separate sectors:

❶ the production of raw materials, principally fibres and textiles but also leather and fur
❷ the production of fashion goods by designers, manufacturers, contractors, and others
❸ marketing, distribution and retailing
❹ various forms of advertising and promotion

Until the mid-20th century, there was a clear distinction, now blurred, between
• the fashion industry (making "high fashion" or haute couture)
• the apparel industry (making ordinary clothes or "mass fashion")

The fashion industry is an international and highly globalized industry, with clothing often designed in one country, manufactured in another, and sold in a third. China has emerged as the largest exporter of fast fashion, accounting for 30% of world apparel exports. Americans purchase approximately 1 billion garments made in China every year. In contemporary global supply chains it is retailers and branders who have had the most power in establishing arrangements and terms of production, not factory owners.

The past decades have been an economic success story for fashion. Over that period, the industry has grown at 5.5 percent annually, according to the McKinsey Global Fashion Index, to be worth an estimated US$2.4 trillion. Arguably, fashion would be the world's seventh-largest economy if ranked alongside individual countries' GDP.

However, the textiles and fashion industry greatly jeopardize environmental sustainability. Globalization has made it possible to produce clothing at increasingly lower prices. But however fast and therefore disposable, each item of clothing adds to pollution and generates environmental hazards, in production, use and disposal.

Beyond, the fashion industry needs to take an active stance on social issues (like Benetton did already in the 1990s), satisfy consumer demands for radical transparency and sustainability, and have the courage to "self-disrupt" its own identity and the sources of old success so as win new generations of customers.

In 2019, the UK Parliament's Environment Audit Committee published a report on the future of fashion sustainability, suggesting wide-ranging systemic change, not least government regulation and tax-incentives for sustainable practices, such as lowered VAT for repair services. The report concluded: "Retailers must take responsibility for the social and environmental cost of clothes. They should use their market power to demand higher environmental and labour standards from suppliers. Offering rental schemes, lifetime repair and providing the consumer with more information about the sourcing and true cost of clothing are all measures that can be more widely adopted."

French President Emmanuel Macron launched his new Fashion Pact in 2019, a set of shared objectives the fashion industry can work toward so as to reduce its environmental impact. It was elaborated on by Kering CEO Francois-Henri Pinault who had assembled a "coalition" of brands at an earlier Copenhagen Fashion Summit. At the 2019 G-7 summit in Biarritz, Macron reported that 32 companies (and roughly 150 brands) had joined up thus far. Pinault stressed collaboration and sharing resources rather than exclusivity and secrecy.

The Pact revolves around science-based targets in three areas: global warming (the objective being to achieve zero greenhouse gas emissions by 2050 in order to keep global warming below 1.5 degrees Celsius until 2100), restoring biodiversity (with a focus on restoring natural ecosystems and protecting species), and preserving the oceans (namely by reducing recourse to single-use plastics). Several signatories are already on the right track despite the enormity of the goals. Stella McCartney is eliminating virgin plastic by using recycled polyester. Zegna's Alessandro Sartori is designing his suits with the intention of recycling them. Prada has vowed to use only recycled nylon. Zara is shifting its focus to organic and recycled materials. Nordstrom just launched a Sustainable Style section. Michael Kors, Gucci, and Versace have sworn off fur. Fashion houses of other countries, including China, should join to launch a global collaboration for the sake of the only planet we have.

Putting the environmental perspective at the center, rather than the logic of the industry, is thus an urgent concern if fashion is to become more sustainable. The quest for sustainable fashion is a process of fostering change to fashion products and the fashion system towards greater ecological integrity and social justice. Socially conscious shoppers are embracing the growing trend to "slow fashion" – away from the hitherto prevailing "fast fashion" - which is focusing on sustainable materials and transparent, ethical labor and manufacturing.

The fashion industry should increase the value of local production and products, prolong the lifecycle of materials, increase the value of timeless garments, reduce waste, and reduce production, over-production and consumption. The 2012 book Overdressed: The Shockingly High Cost of Cheap Fashion by Elizabeth L. Cline gives a clear introduction to the rise of disposable consumption of fashion and its impacts on the planet, the economy and consumer relationships with clothing.

The clothing industry has one of the highest impacts on the planet. High water usage, pollution from chemical treatments used in dyeing and preparation and the disposal of large amounts of unsold clothing through incineration or landfill deposits are hazardous to the environment. With growing water scarcity, the current usage level for fashion materials (79 billion cubic meters annually) is very concerning, because textile production mostly takes place in areas of freshwater stress.

THE FASHION INDUSTRY IS RESPONSIBLE FOR UP TO 10% OF GLOBAL CO2 EMISSIONS, 20% OF THE WORLD'S INDUSTRIAL WASTEWATER, 24% OF INSECTICIDES, AND 11% OF PESTICIDES

Since rapid production runs create excessive textile waste, cheaply made apparel harms both factory workers and the environment. According to the US Environmental Protection Agency, some 12.8m tons of clothes are sent to landfills annually. Global textile production emits 1.2 billion tons of greenhouse gases annually (more than international flights and maritime shipping combined). The fashion industry is responsible for up to 10% of global CO2 emissions, 20% of the world's industrial wastewater, 24% of insecticides, and 11% of pesticides used.

There is an increasing concern about microfibers shed from synthetic fabrics that are polluting the earth's waters through the process of laundering. These microfibers are too small to be captured in waste water treatment plant filtration systems and they end up in our natural water systems. One study found that 34% of microplastics found in oceans come from the textile and clothing industry and the majority was made of polyester, polyethylene, acrylic, and elastane. Eliminating synthetic materials in clothing could help prevent harmful fibers ending up in the natural environment and contaminating the food chain.

In the 21st century fabric making is highly automated and carried out by computer-controlled high-speed machinery replacing the sweatshops of the turn of the century. Computer-guided machinery allows the automation of some stages of garment design and assembly, reconfiguring many roles within the industry. Nevertheless, the fundamental process of sewing remains labour-intensive and calls for a continuous search for low-wage environments.

At least 25 million people, the majority women, work in garment manufacture and up to 300 million in cotton alone, in Asia, Central America, Turkey, North Africa, the Caribbean and Mexico. There is also production across Europe, in the UK Midlands and Central and Eastern Europe. The environmental impact of fashion affects communities located close to production sites. Water and land pollution from toxic chemicals used to produce and dye fabrics have serious negative consequences for the people living near factories.

A wartime-style economy is often cited as a potential way to meet carbon emissions agreements. In debates about the fashion industry, the idea of a shift as radical as the one that took place in the second world war is frequently mooted in conversations about sustainability. Clothing was rationed then, but variety or creativity did not come to a halt. There were varying qualities of clothing available at different price points and design was cleverly rethought to minimise waste.

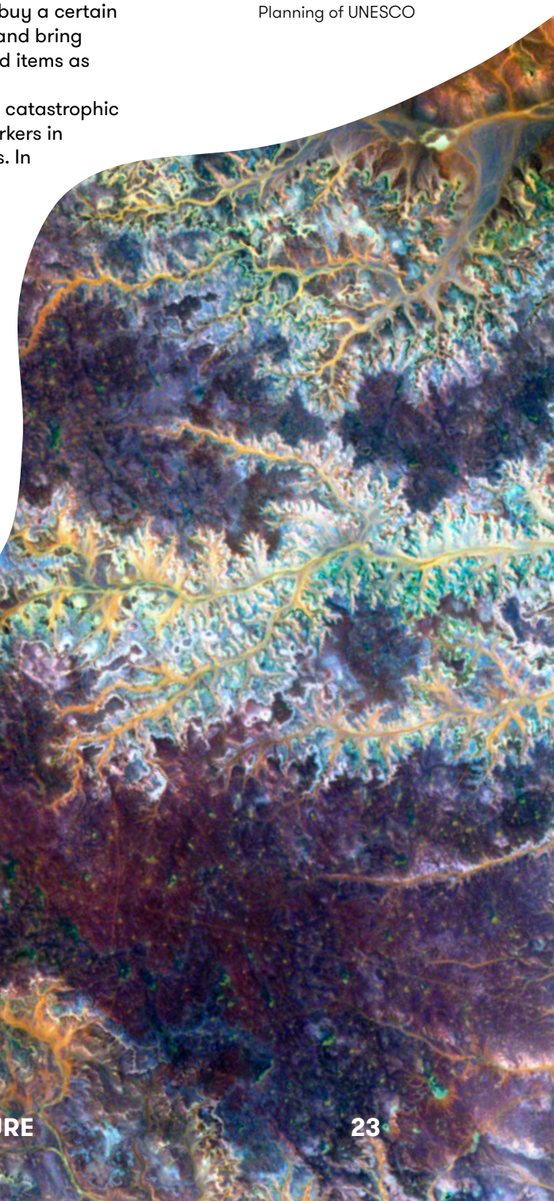
With many people forced into working from home by the current situation, the question of what to wear to the office has suddenly morphed to become what to wear to work in my kitchen, bedroom or living room – thereby dramatically changing the demand picture.

We have no roadmap how to reach the sustainability goals with new business models. Which products and designs will this period generate? What materials will it use to meet societal needs? Is it conceivable that in future, for example, we may only buy a certain amount of new clothing – and bring home as many secondhand items as we wanted?

And finally, there is the catastrophic impact on the garment workers in many developing countries. In Bangladesh, more than a million of workers have been sent home without pay or have lost their jobs after Western clothing brands cancelled or suspended some £2.4 bn of existing orders in the wake of the pandemic, according to data from the Bangladeshi Garment Exporters Association (BGMEA). What prospects for development in the global South! ■

Dr. Hans d'Orville
Chairman of Advisory Committee of International Center for Creativity and Sustainable Development under the auspices of UNESCO.

Former Assistant Director -General for Strategic Planning of UNESCO



The Student of Tomorrow – a Historical Perspective on the Role of Education and Remote Learning

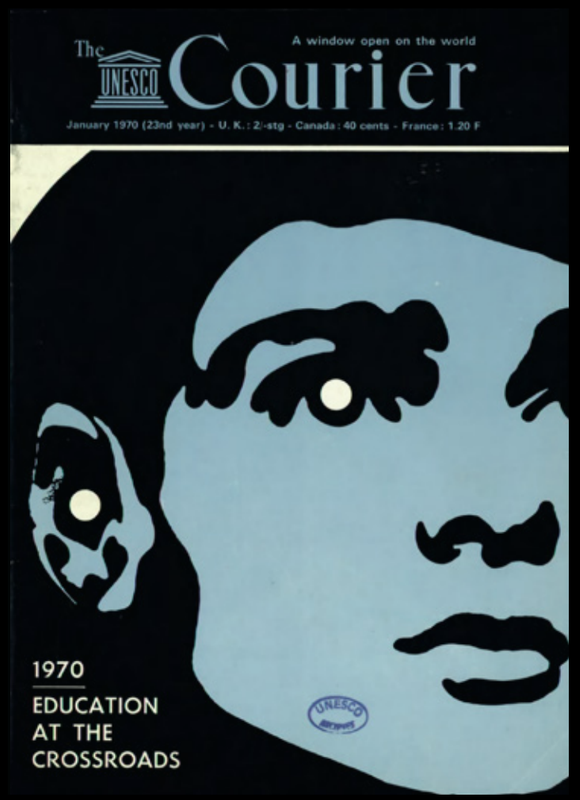
UNESCO Courier magazine has changed a great deal over the years without changing its original mission: promote UNESCO's ideals, maintain a platform for the dialogue between cultures and provide a forum for international debate. Available online since March 2006, it serves readers around the world in the six official languages of the Organization (Arabic, Chinese, English, French, Russian and Spanish), and also in Portuguese, Esperanto and Korean.

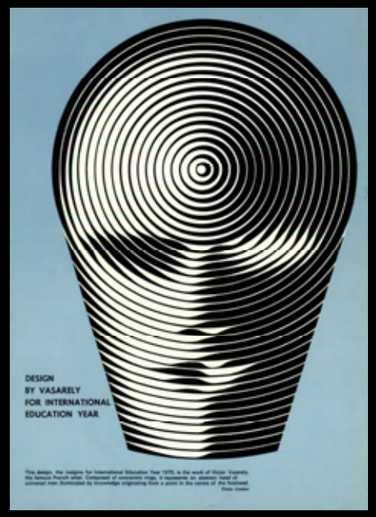
To quote Pierre Rondière, in his article titled "BUT FOR WHOM? ...AND HOW?" published on the 23rd issue of Courier in 1970, "Studies in Washington show that even more important than investment, the major factor for expansion in the United States since 1925 has been the education and training of men and women."

Scavenging throughout the Archives of UNESCO Courier we have encountered many questions and fundamental issues connected to Education and Humanity that are still relevant and urgently meaningful today.

With this Time Capsule we want to bring them alive once again, to remind us that it is indeed in our culture, and our scientists, that we can find many knowledge tools to face today's emergency. For if it is true that those who cannot remember the past are condemned to repeat it, it is indeed a valuable past that thinkers throughout the decades have left for us to work on.

January 1970
1970 was designated as "International Education Year". The cover design of that issue was especially executed for UNESCO Courier by Roman Cieslewicz, Société Mafia. Paris



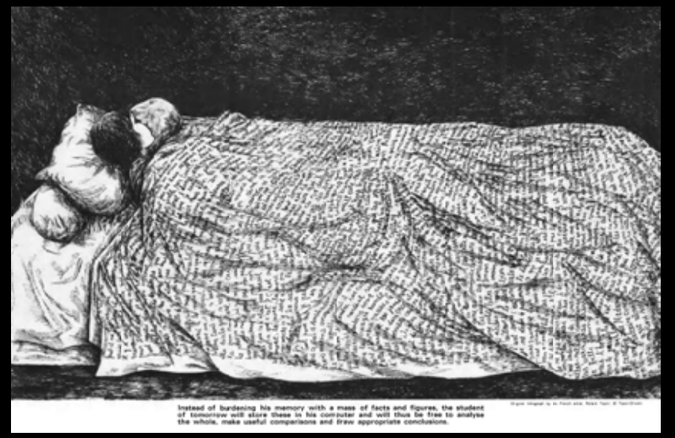


This design, the insignia for International Education Year 1970, is the work of famous artist Victor Vasarely. Composed of concentric rings, it represents an abstract head of universal man illuminated by knowledge originating from a point in the centre of the forehead.

Photo Unesco


THE STUDENT OF TOMORROW – TOWARDS A NEW GLOBAL HORIZON

by René Habachi


Instead of burdening his memory with a mass of facts and figures, the student of tomorrow will store these in his computer and will thus be free to analyse the whole, make useful comparisons and draw appropriate conclusions.

Instead of burdening his memory with a mass of facts and figures, the student of tomorrow will store these in his computer and will thus be free to analyse the whole, make useful comparisons and draw appropriate conclusions.

"How can the function of education be divided between in-school and extra-curricular activities? Could not educational institutions be used as cultural centres for the community?"

"Experience gained from working in factory, field and office is surely just as important to the elaboration of the new educational doctrine as the wisdom of philosophers, the imagination of poets and the theoretical and practical systems of learned men."

From "Education put to the question, by Paul Lengrand, UNESCO Courier 1970

Excerpts from the 1970 issue, The Student of Tomorrow — Towards a New Global Horizon

"What in heaven's name has happened? The fact is we are living in a "paradox" world, or to put it another way, literally a "revolting" world, where the new society which is overwhelming civilization has been created by the older generation itself. But the older generation is paralyzed by routine and fear, and stubbornly refuses to relinquish control. Instead of taking advantage of what they themselves have created, and pushing ahead boldly on the new path they have set, they have stopped dead in their tracks. What are the important features that characterize the new society? I would point to three: First, the shrinking of space, second, the speed of communications and third, the pangs of international solidarity." […]

"international solidarity has taken on such vital importance today. Recognizing himself as a planetary being, man has at the same time acquired a global conscience, or as Jacques Berque and other sociologists have put it a new "worldliness". […]

"To conceive of education as a broadening of horizons to encompass the globe means extending it over the entire life span. Education will no longer be compressed into the early years of life but will continue until the day one dies. This "lifelong education" will mean a reduction of traditional teaching programmes in favour of a constant renewal of learning, for as long as one remains mentally active." ■


EDUCATION PUT TO THE QUESTION

The price paid for

LIFE-LONG EDUCATION
a cartoonist's view

A 21-point programme for a global strategy in education

In 1971, Unesco set up an International Commission on the Development of Education to carry out an unparalleled world-wide inquiry. The Commission's purpose was to devise a global approach to educational problems; to rethink the objectives and methodology of education in the light of development needs and of individual aspirations; and to provide ideas for national educational strategies and for international co-operation. The members of the Commission were Messrs. Edgar Faure (Chairman), Felipe Herrera, Abdul-Razzak Kaddoura, Henri Lopes, Arthur Vladimirovitch Petrovsky, Majid Rahnema and Frederick Champion Ward. Summarized below in 21 points are the conclusions of the Commission's report.

1

Lifelong education should be the keystone of all educational policies in the years ahead, in industrially-developed as well as developing countries.

2

Lifelong education presupposes a complete restructuration of education. Education must cease being confined within school walls. Education should become a true mass movement.

3

Education should be provided in many ways. What counts is not how a person has been educated, but what real knowledge he or she has gained.

4

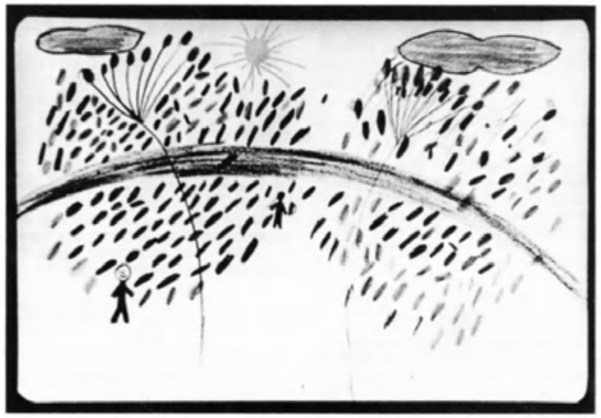
Artificial or outdated barriers between different branches and levels of education and between formal and non-formal education should be abolished.

5

Education for pre-school-age children should be a major objective for educational strategies in the 1970s.

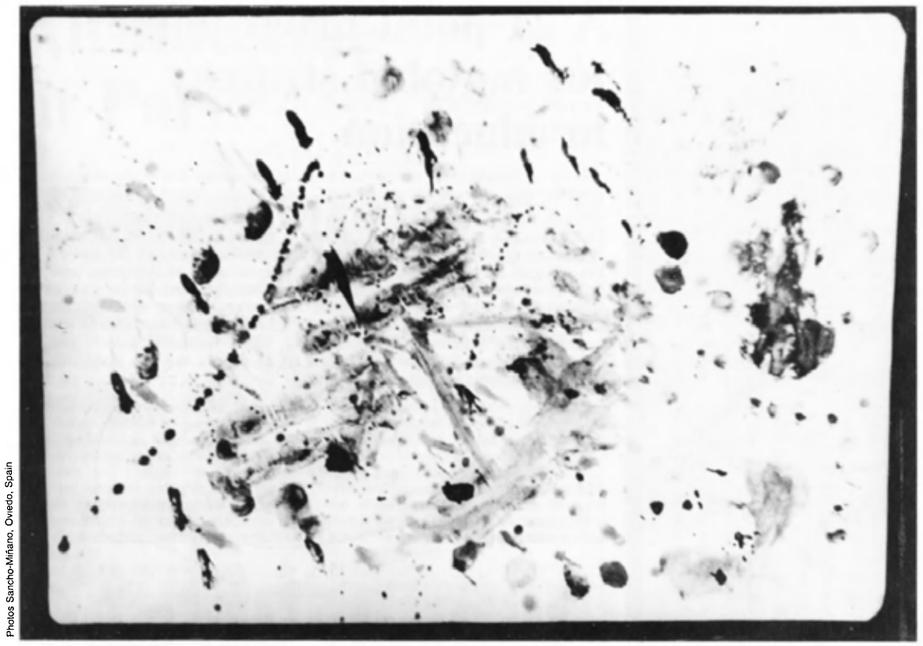
6

Millions of children and young persons are still deprived of education. Universal basic education, geared to national needs and resources, should be a primary objective of educational policies for the 1970s. ▶



Photos Sancho-Miñano, Oviedo, Spain

"Education", says the report of the International Commission on the Development of Education, "has the power to cultivate or stifle creativity." This is what a young Spanish artist and teacher attempted to do in his art class at the High School of Lugones, near Oviedo (Asturias): his pupils listened to a piece of classical music after which, with no further guidance, they drew images and impressions evoked by the music. Their drawings often surprised by their quality, considering that they were the work of culturally underprivileged children of 10 to 12, whose first experience of art was acquired in these classes. Above, "The Rite of Spring" by Stravinsky as seen by 11-year-old Maria Paz Martinez. Right, the same composer's "Fireworks" as interpreted by Leonor Huerta Rodriguez, aged 10.



Photos Sancho-Miñano, Oviedo, Spain

Giving free rein to their imagination, pupils of the High School at Lugones (see caption previous page) express on paper the impressions evoked for them by (above) Johann Sebastian Bach's "Air on the G String" (Miguel Cortina Garcia, aged 11); "Spring" (above right) from Vivaldi's "The Four Seasons" (Maria Pilar Sanjosé Calderon, aged 11); and, (right) "The New World Symphony" by Dvorak (Emilio Prado Sanchez, aged 12).

7

Rigid distinctions between different branches of education should be removed. Education, from primary and secondary levels, should have a combined theoretical, technological, practical and manual character.

8

Education should aim not only to train young people for specific jobs, but also equip them to adapt to a variety of occupations.

9

Responsibility for technical training should not fall exclusively on the school system. It should be shared by schools, business, industry and out-of-school education.

10

Higher education should be expanded and made varied enough to meet individual and community needs. Traditional attitudes towards the university must change.

11

Access to different types of education and employment should depend only on a person's knowledge, capacities and aptitudes.

12

Development of adult education, in and out of school, should be a priority objective of educational strategies during the next ten years.

13

All literacy teaching should be geared to a country's objectives in social and economic development.

14

Aids to self-education, including language laboratories, libraries, data banks and audio-visual equipment, should be integrated into all education systems.

15

Education systems should be conceived and planned in terms of possibilities offered by new educational techniques.

16

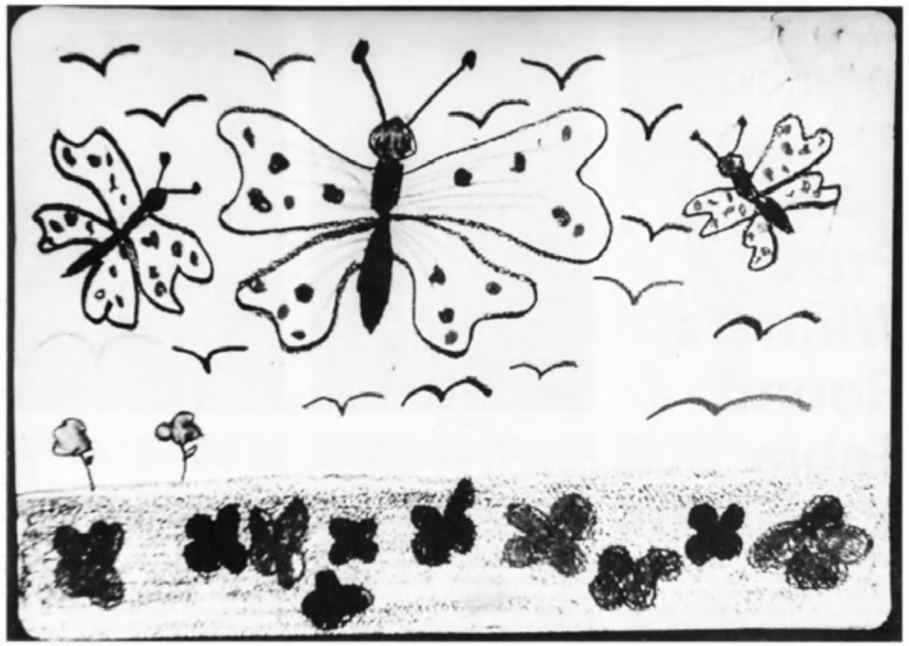
Teacher training programmes should make full use of the latest teaching aids and methods.

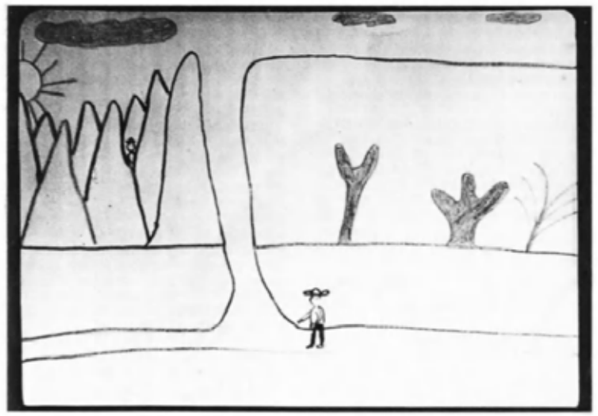
17

All hierarchical differences between teachers in primary schools, technical colleges, secondary schools and universities should be abolished.

18

Teachers should be trained to be educators rather than specialists in the transmission of knowledge.





19

Skilled auxiliaries from the trades and professions (workers, technicians and executives) should be brought in to teach in schools. Students should also participate, educating themselves while teaching others.

20

Contrary to traditional practice, teaching should adapt itself to the learner. The student should have greater freedom to decide for himself what he wants to learn and how and where to learn it.

21

Students and the public as a whole should be given a greater say in decisions affecting education. ■

November 1972

April 1996
Distance should be no obstacle to education.
Established in 1974, the Open University of Israel in 1996 was one of the world's few nationwide distance education universities.

Distance education in the high-tech era

Menahem Yaari, President of the Open University of Israel, talks to Jasmina Šopova

© Open University of Israel, Tel Aviv

The control room of the Open University of Israel's satellite studio.

Established in 1974, the Open University of Israel is one of the world's few nationwide distance education universities. It has a study centre in Jerusalem and almost 90 more scattered throughout the country. In addition to an impressive programme of Jewish and Middle Eastern studies, the university offers nearly 400 courses (in Hebrew) in such diversified fields as the social sciences, the life and natural sciences, mathematics, computer science, music, humanities and art.

■ **How does distance education fit into current educational practice?**

Menahem Yaari: Several kinds of institutions in the world practise it, notably a large number of traditional universities that are gradually opening departments of this kind. They are, you might say, "mixed" institutions. There are also institutions like the National Technological University (NTU) in the United States that operate uniquely as distance education entities but by using the traditional course material of other leading universities. They act as an agent, as it were. There are also about twenty universities like ours that develop their own course material and broadcast it via satellite, thereby using the most up-to-date communication technology.

■ **What is special about the Israeli version?**

M. Y.: We have based our system extensively on the one developed in Britain twenty-five years ago. But we've taken it even further. The British Open University is mostly concerned with the social sciences, while Israel's covers a broader range of subjects, particularly the sciences. Its teaching is much more diversified.

For each subject—there are at present about 400—we set our own course material and ask the most qualified experts Israel has to offer to develop the course. This ensures a very high standard. We can boast of the fact that our courses are used as working documents by a large number of students and professors in other Israeli universities.

From its inception the University used the most modern educational tools available—video, cable television and computers—but we took a revolutionary step in 1994 when we introduced multimedia and interactive studies by satellite.

■ **How does a course by satellite work?**

M. Y.: Unlike other courses, courses by satellite take place live. The professor is in a studio at our broadcasting centre in Tel Aviv. A satellite dish connects him to some sixty receiving centres scattered throughout the country. The studios in the Tel Aviv centre are equipped with a video camera, facilities making it possible to present transparencies and slides directly on the video, a colour scanner, a personal computer for graphic presentation of information and a console enabling the teacher to communicate directly with the students. The teacher also has at his disposal all the relevant information about his students:

how many there are, their names and their academic background. The classrooms are equipped with a large screen, personal computers and telephones so that students can dialogue with their teacher.

■ **All this must demand high-level organization. . .**

M. Y.: Yes. As well as the experts we ask to develop our courses, the Open University of Israel employs its own faculty (teaching assistants, lecturers and professors), like any other university. But instead of giving courses, the professors provide course follow-up by supervising their content. They also have to make sure that assessments, final examinations and teaching materials are up to an acceptable standard.

We are also on the cutting edge of self-evaluation. We are perfectly aware of each course's contents and each student's results. All these data enable us to assess the quality of our teaching. We have direct access to courses, and if something goes wrong, we know about it at once and can rectify it from one day to the next.

■ **Does this kind of organization make the system complicated and costly?**

M. Y.: Just the opposite. The experts who develop our courses work for other institutions. We pay only fees, which considerably reduces our overheads without diminishing the quality of our teaching.

The Open University of Israel now pays for itself. For the first fifteen years of its existence it was sponsored by the Rothschild Foundation, which was its initiator. But for the past few years enrolment and the sale of our own books (some 450,000 per year) provide for 75 per cent of our budget, with the rest coming from the state. By way of comparison, government financial support for other institutions is about 75 per cent. It's true, however, that they are more heavily engaged in research than we are.

Moreover, we don't need a campus. Our study centres are mostly located in the country's primary or secondary schools, which we are able to use when they are not occupied at specific times of the day. In this way distance education becomes one of the least costly educational systems that exist.

Conquering time and space

One message that Unesco is trying to get across is that education does not necessarily mean going to school. Continuing education and distance education are the two key concepts for broadening the scope of traditional education.

Continuing education means giving those who have "outgrown" school-going age a chance to improve their skills or to retrain according to their needs or job-market demands. It also encourages the social reintegration of marginalized young people, like those, for example, who have been demobilized after a war. Unesco has established a training programme of this kind in local languages for young Haitians, Palestinians, Rwandans and Mozambicans, and several scientific, technical and professional training projects for women in sub-Saharan Africa are also on the drawing board.

Distance should be no obstacle to education. China, India and Brazil, which rank among the world's nine most populated and least literate countries, are planning to overcome the problems of distance by using satellites to televise educational programmes. Studies have shown that although this kind of teaching is initially very costly, it may be more economical in the long run than traditional schooling. Unesco is doing all it can to promote effective partnership between governments, non-governmental organizations and business so that these countries can benefit from quality programmes and broadcasting technology.

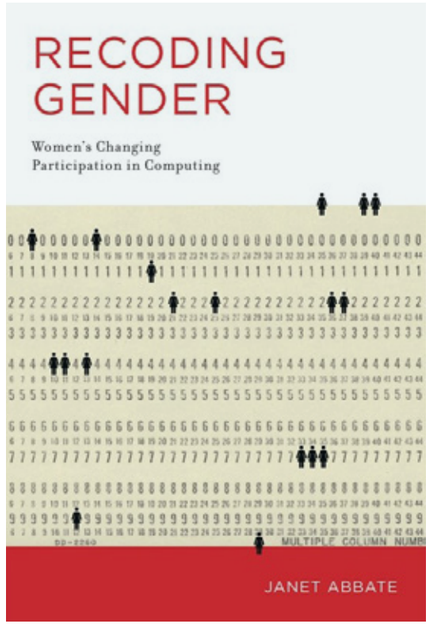
The Open University's satellite programme broadcasting studio.

© Open University of Israel, Tel Aviv

■ **What are the other advantages of distance education?**

M. Y.: Apart from the fact that it enables working people or students living far from university towns to continue their studies near home, it offers the possibility of teaching beyond the borders of any given country. In this regard distance education can become a basic tool for building peace, especially in the Middle East where borders have begun to open up. But opening borders isn't enough. For people to cross them, education is essential. And when I talk about crossing borders I'm not referring only to the physical sense; I mean exchanging ideas and establishing a real dialogue. It is clear by now that with the advance in technology that enables us to reach the remotest villages distance education is the best way to establish this dialogue. It is even likely that this form of teaching will gradually replace the more traditional form, which is for the moment at least still dominant just about everywhere in the world. ■

Recoding Gender: Women's Changing Participation in Computing



From 16 to 18 May 2019, 50 government ministers and vice ministers, as well as around 500 international representatives from more than 100 Member States, United Nations agencies, academic institutions, civil society and the private sector, met in Beijing to discuss the recent trends in the evolution of AI and its profound impact on education and lifelong learning systems. The participants of this meeting, the International Conference on Artificial Intelligence (AI) and Education, underline that the gender gap in digital skills contributes to the low share of women among AI professionals and exacerbates existing gender inequalities.

Today, women earn a relatively low percentage of computer science degrees and hold proportionately few technical computing jobs. Meanwhile, the stereotype of the male "computer geek" seems to be everywhere in popular culture. Few people know that women were a significant presence in the early decades of computing in both the United States and Britain. Indeed, programming in postwar years was considered woman's work (perhaps in contrast to the more manly task of building the computers themselves).

In Recoding Gender (MIT Press, 2012), Janet Abbate explores the untold history of women in computer science and programming from the Second World War to the late twentieth century. Demonstrating how gender has shaped the culture of computing, she offers a valuable historical perspective on today's concerns over women's underrepresentation in the field.

Abbate describes the experiences of women who worked with the earliest electronic digital computers: Colossus, the wartime codebreaking computer at Bletchley Park outside London, and the American ENIAC, developed to calculate ballistics. She examines postwar methods for recruiting programmers, and the 1960s redefinition of programming as the more masculine "software engineering." She describes the social and business innovations of two early software entrepreneurs, Elsie Shutt and Stephanie Shirley; and she examines the career paths of women in academic computer science.

Abbate's account of the bold and creative strategies of women who loved computing work, excelled at it, and forged successful careers will provide inspiration for those working to change gendered computing culture. ■

The Small Picture

微格局

Culture-Oriented Design: Rethinking Design Education in Asia

An interview with Soon-In Lee on his nomination to ICCSD Advisory Committee.

Soon-In Lee Chairman of Asian Design Federation, Executive Managing Director of Seoul Design Center, Member of ICCSD Advisory Committee. Former President of World Design Organization (WDO), former Dean of International Design School for Advanced Studies of Hong-ik University.

Sarah Orlando: How have the last four years been for the design world since the adoption of the 2030 Agenda for Sustainable Development?

Soon-in Lee: I used to be President of the World Design Organization (WDO)[1], and since the adoption of the 2030 Agenda, we have actively collaborated with the UN and UNESCO on the Sustainable Development Goals (SDGs). I've been on the WDO Board for many years, during which we've circled back to these questions many times: How do we integrate our work with these goals? What principles and solutions can design bring? In short, what is design doing?

Setting an agenda has helped us communicate shared issues internationally. Seeking consensus is fundamental. Every country is different, but through the diversity of our board, we have been able to bring different cases and challenges to the table. The SDGs have helped raise the issue and create the possibility of seeking consensus, especially in public actions. There is now more awareness about how design can contribute at a global level and in each corner of the world.

SO: *You* have also been a professor for many years. What do you think of education in the field of design?

SIL: Design education began with Bauhaus[2] only 100 years ago. The movement initiated discussion of how design is good for industry, focusing on a combination of aesthetic principles and functionality, improving efficiency in production, and developing a new formal vocabulary based on experimentation and craftsmanship that would do justice to the industrial manufacturing process.

I studied in Europe and in America. Many Asian professors of design have studied abroad, before coming back to their country to teach, as it is fairly easy to become a design professor in Asia when you have an overseas master's degree. For some Asian countries an overseas degree is even considered a mandatory requirement.

I say this because this means that most of the design professors in Asia teach with a western background. The key principles taught to students are therefore: modernizing, simplifying, and westernizing. Good design becomes synonymous with European style.

Many Asian students have followed and still follow that direction when entering international design competitions. Juries comprise western experts who mostly choose their favourite projects based on their personal liking and background (western). I have sometimes even heard the term, "this is too Asian," with a negative connotation, meaning the style is "not good".

Besides cultural background, there was also an industry approach: the first home appliances producers started producing in the US, for western

[1] The World Design Organization™ (WDO), formerly the International Council of Societies of Industrial Design (ICSID), is an international non-governmental organization founded in 1957 to promote the profession of industrial design. WDO advocates industrial design driven innovation that creates a better world, engaging more than 140 member organizations in collaborative efforts and carrying out international programming—World Design Capital®, World Design Talks, World Design Impact Prize, World Industrial Design Day, and Interdesign. WDO has United Nations Special Consultative Status. Mr Soon-in Lee is a former WDO President (2011-2013) and current Executive Member.

[2] The Staatliches Bauhaus was a German art school operational from 1919 to 1933. The school became famous for its approach to design, which strove to combine beauty with usefulness and attempted to unify the principles of mass production with individual artistic vision.

consumers' needs, meaning western housewives at the time.

This was until Korean companies started to develop their own designs for Korean consumers, focusing on Asia-specific human factors and ergonomics. They asked themselves: what do Koreans and Japanese want?

I teach in Japan, Korea and China. Young people in these three countries are very different. The one thing they have in common is that they follow the West. Why?

Is there a commonality among Asians? I would say the strongest link is that our languages all derive from Chinese characters.

Asia Design Network is the most senior network of design experts from Asian countries.

When we discuss education, we agree that we need to find our own different way, a surprising way, for our people, which is more in keeping with the Asian way of thinking. Part of the debate is that we need to find new textbooks for upcoming generations.

Recorded history in China dates back almost 4000 years ago. More than 2000 years ago, China already had Daoism and Confucianism, and they already had design: their own language, their own concepts, their own forms of daily life and household upkeep. The problem is that such value was neither treasured nor developed sustainably.

Let me try to define sustainability: finding ways to keep the intrinsic value of all that was recorded, in order to rebuild today's value and perceptions, and create new value to hand over to the next generation. Design's role today is to create the value of tomorrow.

Students nowadays absorb and input information as if they were black boxes: they are filled with them. They hardly ask themselves (and we hardly ask of them) what motivates or shocks them?

Design is first and foremost about understanding. Why is it designed that way? You have to understand the design first and recognize its value. This you can think about: do I like it? Or don't I? Then: why don't I modify this for today, improve that value for today, make something for the better? Why don't I create more value for the future?

It is in this way of thinking and critiquing that the desire to make design better starts, and value can be generated. In design education, understanding comes first, then liking, then adding value. I think this approach should be applied to our traditional heritage as well. This is how creativity can contribute to sustainability.

Creativity starts with the desire to add new value. Creating new value for the future: this is sustainability. We need our educational system for the students who study design to match this way of thinking.

We need to invest our resources not only in museums, but also in more close, convenient digital platforms, in tools that can make information easier to access, research, and share. We need to help students better understand, so that they can use that understanding to think of ways to make better design tomorrow.

This is Culture-Oriented Design, Culture-Oriented Innovation.

Western innovation is based on disruption. Asian innovation is culture-oriented. All Asians, like the Chinese, feel the spirit and meaning more than the function. Education should have this sense as well.

SUSTAINABILITY: FINDING WAYS TO KEEP THE INTRINSIC VALUE OF ALL THAT WAS RECORDED, IN ORDER TO REBUILD TODAY'S VALUE AND PERCEPTIONS, AND CREATE NEW VALUE TO HAND OVER TO THE NEXT GENERATION

SO: Can you give us some example of Asian designers or practitioners who already work according to this principle?

SIL: The Japanese were the first to start with their own approach. They were more open to international discourse at the start, but now they just focus for their own identity.

Architects design their own Japanese style. Mid 50s/80s designers (Kenya Hara, Naoto Fukasawa) focus on their own, unique way. Muji, Uniqlo. They are both outstanding corporate case studies, presenting very simple, frank, undecorative items. That is the Japanese way. Korea also seeks its own style for young people, and for now have settled on pop style.

SO: What about China?

SIL: China is still looking. I often teach in design schools in China and say to young students and practitioners: wake up!

There is a very different style of education in the three East Asian countries I know best. Schools adopt very different ways. In China, the educational system is made up of national, public schools, with very affordable tuition. In Korea and Japan, all the good schools are private. Tuition is very expensive. Individual opinions are strongly held. In China, the professor's opinion carries a lot of weight, and students are afraid to bother their teachers, who in turn find it hard to take care of students individually.

Within the Asia Design Network we are trying to find a common language of student independence. We offer them the way to play within guidelines given by their professors but also have some freedom.

INTERVIEW — SOON-IN LEE

We should start with accessibility. In Asian museums you will find limited displays with no interaction, just very expensive pieces, and little information on how to understand them. Asian students don't go to museums on their own because they think they are not interesting, because they don't understand them, and they don't know what's inside. Many students go to Europe and visit museums, and learn a lot. They go to Western museums as they have already studied the works in their books, and can understand what they see.

But culture is not just culture you find in museums, it is life, people, humanity. That is the goal.

Asia now is the new world center, and many beautiful designs are coming from Asia, which means that creating new design also generates new sources of thought. Designed in China, they are also created and originate in China, from China.

When I was Director of the Design Centre in Seoul, we chose Zaha Hadid from five concepts received, because even if it cost three times more than a normal building, we wanted to show to our international audience that Koreans could build something that complex. Zaha's idea was taken from Korean history. From our story, not hers.

If China were able to develop culture-oriented design, it could create new products, new designs, and new trends. All the important new investments, new industries, are happening in Asia now, more than in the West.

This is the time (unfortunately not happening fast enough) to educate our young professionals to make it a priority to create their own style of design. This first requires the education and the resources (platforms, databases) to train students, but this is the way to do it. We are also having this debate within ICCSD.

WE NEED TO HELP STUDENTS BETTER UNDERSTAND, SO THAT THEY CAN USE THAT UNDERSTANDING TO THINK OF WAYS TO MAKE BETTER DESIGN TOMORROW. THIS IS CULTURE-ORIENTED DESIGN, CULTURE-ORIENTED INNOVATION.

SO: Could ICCSD lead the agenda on this?

SIL: ICCSD is a national body supported by UNESCO. They can do promotion and support the creation of further vision. There are very good challenges, and there is a good collaboration with UNESCO. The real issues of these countries are culture and sustainability. And sustainability is never easy.

If you invest to foster industry development, it can have a negative backlash on sustainability. There needs to be balance and a set of common guidelines. I am coming to the conclusion that we should probably focus on creating an evaluation tool. It could be given to cities, companies, and creative schools: a new toolkit of self-evaluation.

In this way each entity could independently control the way they are doing things, the way they are performing: if they are too fast, too slow, if they are doing too much or too little, if they are doing enough research, if they are spending enough time on strategic re-thinking rather than routine activities. If you have an evaluation tool, you can make sure that there is better balance in your actions, and then you can compare your doings with those of others.

SO: Since a few years, the new trend within corporate organizations as well as institutions seems to be "building a design-driven culture." What's your opinion on this, as applied to design education?

SIL: The key principle in design education used to be finding a solution.

Now I say that the definition of the problem is more important than finding a solution. When working with a brand, the solution is supposed to be provided by the company, by the investor. They know their goal. And money is usually an issue that might make a solution non-pursuable. But design is not an agency for finding solutions. And without economic resources, design cannot do anything.

If you instead define the problem, "that" becomes the most important aspect. The real difference that expert research can make is defining if there is a problem or not. That is the most difficult part: finding the origin of the problem. That is the goal of designers: seeking and defining problems. That is how designers can help corporations.

Innovation comes out of the culture-oriented process. This is why Korean home appliances are among the best in the world. To give a practical example: the refrigerator. When analyzing the product, designers found out that Korean housewives had back problems because the vegetable compartments were at the bottom while the freezer was at the top. Once they identified the problem, they could focus on finding a solution. As the problem was clear, the solution became easier.

In designing products, another aspect that should be key is respect and care for the culture and the dignity of the consumer. It is not always about price or aesthetics. Understanding and respecting the future owners of products means putting a focus on the younger generation and their desires. And once again, without understanding there can be no caring. ■

Empowering Africa's Digital Entrepreneurs

By **Perseus Mlambo** & **Lydia Chiseche Ngoma**

Not long ago, big data, the Internet of Things, and artificial intelligence seemed closer to science fiction than reality. And yet, today, these technologies underpin services, products, and solutions that shape virtually every aspect of our lives, from how we communicate and consume information to the ways we save and spend money. But access to them remains uneven, leaving some regions – especially Africa – struggling to seize the opportunities of the technologies driving the Fourth Industrial Revolution.

The Fourth Industrial Revolution differs from the previous three in important ways. Past industrial revolutions – defined by the rise of steam and coal power, mass production, and digital technology, respectively – had clear boundaries, each transforming a particular set of activities separately.

The Fourth Industrial Revolution, by contrast, is all-encompassing, and creates new linkages among various sectors – for example, health and finance, computers and agriculture, or nutrition and transport. This wide-ranging interdisciplinary transformation has produced unprecedented disruption, as well as seemingly limitless opportunities.

But those opportunities are unevenly distributed. The Fourth Industrial Revolution, like its predecessors, is not a monolith that transforms the entire world simultaneously. Some countries – especially those with higher income levels, greater access to resources, and more extensive digital penetration – are at the revolution's frontier, while others lag far behind.

Until Africa catches up to its counterparts in Asia and the West, it will continue to lose out on valuable opportunities to improve efficiency, spur growth, foster inclusion, and drive development. That is why African governments must act to enable the digital revolution to gain traction, which means creating the conditions for private-sector innovation and entrepreneurship.

African entrepreneurs have already proved their capacity for digital innovation, particularly in finance. Capitalizing on rapidly expanding access to mobile phones, the Kenyan mobile-network operator Safaricom created the mobile-payment platform M-Pesa in 2007. Since then, M-Pesa has lifted an estimated 2% of Kenyan households (186,000 in total) out of extreme poverty and transformed the country's economic landscape.

Similarly, Zazu – of which I am founder and CEO – is building an African digital-only bank, beginning in Zambia. One of our products, Zazu 619 – a free text-messaging platform that teaches people about their financial rights – has reached more than a million Zambians in just over a year.

Such digital innovation and entrepreneurship is essential to creating enough jobs for the 11 million young Africans set to join the labor market annually over the next decade. After all, the private sector accounts for 90% of all jobs created in developing countries.

But tapping the private sector's full potential will require governments to do more to establish a supportive business environment. Policies covering a wide range of areas – including payments systems, data privacy, labor and consumer protection, and competition policy – must be designed with the explicit goal of encouraging innovation and enabling small and medium-size enterprises (SMEs) to grow. This will require governments to take the lead, while also creating space for private actors to offer insights and advice.

www.zazuafrica.com

Furthermore, governments must foster investment in financial and digital literacy, which is essential to enable Africans to adopt new technologies, thereby ensuring that the digital revolution is as inclusive as possible. There is little use in introducing innovations, however groundbreaking, to a population that lacks the knowledge or skills to use them. If only a small elite group can benefit, economic transformation and broad-based prosperity will remain out of reach.

In Zambia, private companies like Zazu and development organizations such as FSD Zambia and Asikana Network have been working to promote financial and/or digital literacy and awareness. But this will never be enough. Governments must create incentives for more companies and organizations to launch financial and digital literacy programs.

Equally important, African governments must invest in digital infrastructure. The initial outlays will be substantial, but the returns will be much larger. Only with modern, national digital infrastructure can SMEs provide fair, affordable access to digital innovations.

Africa cannot continue to rely on extractive industries and lower-value-added manufacturing. The Fourth Industrial Revolution is here, and if African economies are to flourish, they must adjust accordingly. That means creating effective legal structures, ensuring reliable connectivity, and enabling equitable access to the digital innovations of today and tomorrow. ■

Perseus Mlambo is the founder and CEO of Zazu, a fintech company simplifying access to financial services in Sub-Saharan Africa. Previously, he worked in the Ethics Office of the United Nations High Commissioner for Refugees in Geneva.

Lydia Chiseche Ngoma is a Zambian writer and poet.

By **Bruce Mau**

Bruce Mau
is a Canadian designer and creative director of Bruce Mau Design from 1985 – 2010 and the founder of the Institute without Boundaries.

An Incomplete Manifesto for Growth

Written in 1998, the Incomplete Manifesto is an articulation of statements exemplifying Bruce Mau's beliefs, strategies and motivations.

1. ALLOW EVENTS TO CHANGE YOU.
You have to be willing to grow. Growth is different from something that happens to you. You produce it. You live it. The prerequisites for growth: the openness to experience events and the willingness to be changed by them.

2. FORGET ABOUT GOOD.
Good is a known quantity. Good is what we all agree on. Growth is not necessarily good. Growth is an exploration of unlit recesses that may or may not yield to our research. As long as you stick to good you'll never have real growth.

3. PROCESS IS MORE IMPORTANT THAN OUTCOME.
When the outcome drives the process we will only ever go to where we've already been. If process drives outcome we may not know where we're going, but we will know we want to be there.

4. LOVE YOUR EXPERIMENTS (AS YOU WOULD AN UGLY CHILD).
Joy is the engine of growth. Exploit the liberty in casting your work as beautiful experiments, iterations, attempts, trials, and errors. Take the long view and allow yourself the fun of failure every day.

5. GO DEEP.
The deeper you go the more likely you will discover something of value.

6. CAPTURE ACCIDENTS.
The wrong answer is the right answer in search of a different question. Collect wrong answers as part of the process. Ask different questions.

7. STUDY.
A studio is a place of study. Use the necessity of production as an excuse to study. Everyone will benefit.

8. DRIFT.
Allow yourself to wander aimlessly. Explore adjacencies. Lack judgment. Postpone criticism.

9. BEGIN ANYWHERE.
John Cage tells us that not knowing where to begin is a common form of paralysis. His advice: begin anywhere.

10. EVERYONE IS A LEADER.
Growth happens. Whenever it does, allow it to emerge. Learn to follow when it makes sense. Let anyone lead.

11. HARVEST IDEAS.
Edit applications. Ideas need a dynamic, fluid, generous environment to sustain life. Applications, on the other hand, benefit from critical rigor. Produce a high ratio of ideas to applications.

12. KEEP MOVING.
The market and its operations have a tendency to reinforce success. Resist it. Allow failure and migration to be part of your practice.

13. SLOW DOWN.
Desynchronize from standard time frames and surprising opportunities may present themselves.

14. DON'T BE COOL.
Cool is conservative fear dressed in black. Free yourself from limits of this sort.

15. ASK STUPID QUESTIONS.
Growth is fueled by desire and innocence. Assess the answer, not the question. Imagine learning throughout your life at the rate of an infant.

16. COLLABORATE.
The space between people working together is filled with conflict, friction, strife, exhilaration, delight, and vast creative potential.

17. _____.
Intentionally left blank. Allow space for the ideas you haven't had yet, and for the ideas of others.

18. STAY UP LATE.
Strange things happen when you've gone too far, been up too long, worked too hard, and you're separated from the rest of the world.

19. WORK THE METAPHOR.
Every object has the capacity to stand for something other than what is apparent. Work on what it stands for.

20. BE CAREFUL TO TAKE RISKS.
Time is genetic. Today is the child of yesterday and the parent of tomorrow. The work you produce today will create your future.

21. REPEAT YOURSELF.
If you like it, do it again. If you don't like it, do it again.

22. MAKE YOUR OWN TOOLS.
Hybridize your tools in order to build unique things. Even simple tools that are your own can yield entirely new avenues of exploration. Remember, tools amplify our capacities, so even a small tool can make a big difference.

23. STAND ON SOMEONE'S SHOULDERS.
You can travel farther carried on the accomplishments of those who came before you. And the view is so much better.

24. AVOID SOFTWARE.
The problem with software is that everyone has it.

25. DON'T CLEAN YOUR DESK.
You might find something in the morning that you can't see tonight.

26. DON'T ENTER AWARDS COMPETITIONS.
Just don't. It's not good for you.

27. READ ONLY LEFT-HAND PAGES.
Marshall McLuhan did this. By decreasing the amount of information, we leave room for what he called our "noodle."

28. MAKE NEW WORDS.
Expand the lexicon. The new conditions demand a new way of thinking. The thinking demands new forms of expression. The expression generates new conditions.

29. THINK WITH YOUR MIND.
Forget technology. Creativity is not device-dependent.

30. ORGANIZATION = LIBERTY.
Real innovation in design, or any other field, happens in context. That context is usually some form of cooperatively managed enterprise. Frank Gehry, for instance, is only able to realize Bilbao because his studio can deliver it on budget. The myth of a split between "creatives" and "suits" is what Leonard Cohen calls a 'charming artifact of the past.'

31. DON'T BORROW MONEY.
Once again, Frank Gehry's advice. By maintaining financial control, we maintain creative control. It's not exactly rocket science, but it's surprising how hard it is to maintain this discipline, and how many have failed.

32. LISTEN CAREFULLY.
Every collaborator who enters our orbit brings with him or her a world more strange and complex than any we could ever hope to imagine. By listening to the details and the subtlety of their needs, desires, or ambitions, we fold their world onto our own. Neither party will ever be the same.

33. TAKE FIELD TRIPS.
The bandwidth of the world is greater than that of your TV set, or the Internet, or even a totally immersive, interactive, dynamically rendered, object-oriented, real-time, computer graphic–simulated environment.

34. MAKE MISTAKES FASTER.
This isn't my idea – I borrowed it. I think it belongs to Andy Grove.

35. IMITATE.
Don't be shy about it. Try to get as close as you can. You'll never get all the way, and the separation might be truly remarkable. We have only to look to Richard Hamilton and his version of Marcel Duchamp's large glass to see how rich, discredited, and underused imitation is as a technique.

36. SCAT.
When you forget the words, do what Ella did: make up something else ... but not words.

37. BREAK IT, STRETCH IT, BEND IT, CRUSH IT, CRACK IT, FOLD IT.

38. EXPLORE THE OTHER EDGE.
Great liberty exists when we avoid trying to run with the technological pack. We can't find the leading edge because it's trampled underfoot. Try using old-tech equipment made obsolete by an economic cycle but still rich with potential.

39. COFFEE BREAKS, CAB RIDES, GREEN ROOMS.
Real growth often happens outside of where we intend it to, in the interstitial spaces – what Dr. Seuss calls "the waiting place." Hans Ulrich Obrist once organized a science and art conference with all of the infrastructure of a conference – the parties, chats, lunches, airport arrivals – but with no actual conference. Apparently it was hugely successful and spawned many ongoing collaborations.

40. AVOID FIELDS.
Jump fences. Disciplinary boundaries and regulatory regimes are attempts to control the wilding of creative life. They are often understandable efforts to order what are manifold, complex, evolutionary processes. Our job is to jump the fences and cross the fields.

41. LAUGH.
People visiting the studio often comment on how much we laugh. Since I've become aware of this, I use it as a barometer of how comfortably we are expressing ourselves.

42. REMEMBER.
Growth is only possible as a product of history. Without memory, innovation is merely novelty. History gives growth a direction. But a memory is never perfect. Every memory is a degraded or composite image of a previous moment or event. That's what makes us aware of its quality as a past and not a present. It means that every memory is new, a partial construct different from its source, and, as such, a potential for growth itself.

43. POWER TO THE PEOPLE.
Play can only happen when people feel they have control over their lives. We can't be free agents if we're not free.

The Global School: Ideas Made-to-Use

The Global School (TGS) is a Beijing-based institution backed by a group of China- based and international professionals in the fields of design practice who explore the ramifications of contemporary innovation intended as a cross-disciplinary, networked system of research in action.

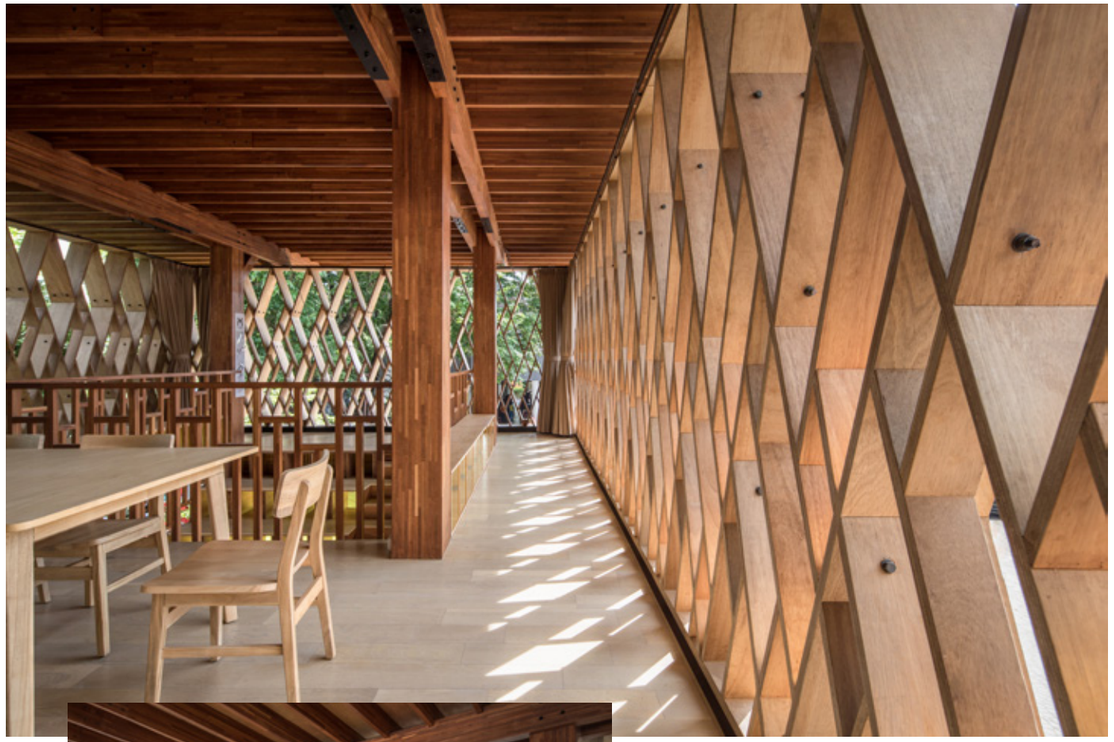
Since its Manifesto, TGS has given curatorial operative support for the project Across Chinese Cities: the Community, Exhibited during the 2018 Venice Architecture Biennale, and for Phoenix Media, for the project "Springtime along the River 2.0" exhibited in Hong Kong in July 2019.

TGS has created an Idea Festival, B/Side Design Festival, launched with the support of Ping Social Entrepreneur Foundation, China's key catalyst and market builder for social innovation. Organized as a high-intensity 5-days lab program that involved 48 fellows with a variety of design and social practice backgrounds, and 49 path-breaking speakers, contributors and ideas-maker from different disciplines, the Festival's labs focused explorations around 3 core subject matters: Rural Imaginaries, The Other Design and Collectivism X.0.

TGS has also supported academic institutions in building symposiums and year-long programs. By co-organizing together with Royal College of Art and Tsinghua University a three-day symposium and workshop around the theme of the Chinese Neighbourhood Unit, within the research project "Collective Forms in China", and by developing a new research venture within The School of Art & Design at Beijing Institute of Fashion Technology (BIFT): the Lab for Network Communities, that consisted in a 10-month long process by the theme: Significant Others – Incomplete by Design, and a curated graduation show in 2019. ■

bside.design/the-global-school

Microlibraries in Indonesia



In 2012, SHAU started the "100 Microlibraries" initiative to increase reading interest by creating socially-performative multifunctional community spaces with environmentally-conscious design and materials, which aim to serve low-income neighborhoods Indonesia. Since 2016, five microlibraries have been built in different locations throughout Indonesia.

Their latest addition, the Microlibrary Warak Kayu, is located in Semarang, Central Java. Designed by SHAU and prefabricated by PT Kayu Lapis Indonesia, this project is a community, private sector and government collaboration – a gift from Arkatama Isvara Foundation to the City of Semarang. The microlibrary charges no entry fee and is run by Harvey Center – a locally-embedded charity group in Semarang – in coordination with the local government.

Architecturally it represents SHAU's passive climate design, material and typology experimentation for the tropical context. The whole building is elevated, like a traditional 'rumah panggung' (house on stilts) so that the space allows various spatial configurations, multiple programs and a wide range of activities. Built at Taman Kasmaran, a public square in the city center, this structure does not only function as library but also becomes a neighborhood and community center, at the same time being used to promote Indonesian engineered wood products and manufacturing capabilities.

SHAU seeks to add value to a place via a microlibrary. They usually choose places which are already in use by a local community. Each microlibrary is uniquely designed to fit programmatic demands of each communities and site potentials. Due to different partners and funding models of specific microlibraries, the design and implementation approaches vary. However, plugging in on top of existing activities and enhancing rather than changing the nature of a place has been the main principle.

The first realized building of the series, the Microlibrary Bima, completed in 2016, is located at a small square at Taman Bima in Bandung. It has a preexisting stage which was already in use by the local community for gatherings, events, hanging out and sports activities. SHAU decided to enhance the open stage by shading it, making it rain protected therefore covering it in form of the floating library box. Perhaps the most unique feature of Microlibrary Bima is the façade made from more than 2,000 re-used ice cream buckets which are arranged in form of a binary code saying: "buku adalah jendela dunia" – books are the windows to the world.

Through community-run microlibraries, SHAU proposes to provide a new scale between the central libraries and mobile libraries into the national system of libraries. In the long run, SHAU envisions the expandability of the microlibraries in Southeast Asia and the Global South – where similar situations are shared – thus opening mutual collaboration with more architects, sponsors, communities and municipalities. ■

For more information, please visit www.miclib.com or www.shau.nl (Instagram: @shauarchitects).

Instituto Campana

CRAFTING FUTURE COMMUNITIES

Founded in 2009 by international star designers Fernando and Humberto Campana, the Instituto Campana – a private non-profit association - has the mission to “promote culture, protection and conservation of historic and artistic heritage and disseminate Brazilian arts, with particular interest in architecture and design.” The Instituto establishes exchanges and cooperation with national and international institutions, companies, public and private entities. The Institute’s archive in Brotas, near Sao Paolo, contains material and textual documentation together with a complete collection of pieces and prototypes developed by the brothers over their lasting career - a repository of craft knowledge and a legacy which a digital research platform will soon make publicly accessible. To date the activities of the Instituto are numerous; they range from social work with rural and underserved communities, to “rescuing” endangered traditional techniques from remote Brazilian regions via the cooperative creation of special editions, educational programs for kids and youths in low income groups, and exhibitions of the collection for the dissemination of otherwise fast disappearing intelligence preserved in vernacular culture and handcrafts. ■

Pictured: Exhibition Campana Brothers at Oscar Niemeyer Museum in Curitiba, Photo by Henrique Towns.

www.institutocampana.org.br

MADE LABS

HIGH-INTENSITY LABS FOR RETHINKING DESIGN DISCIPLINES

MADE LABS is the educational initiative conceived by MADE Program (www.madeprogram.it), the brand-new project of the “Rosario Gagliardi” Academy of Fine Arts, Syracuse (Sicily). During its first issue, in 2017, the guiding theme was Authenticity (or The Unesco Paradox), investigating how design could aid in rethinking of preservation of living urban spaces like the 2750 years old city of Syracuse, a UNESCO World Heritage site. In this year’s fourth edition of MADE LABS that should take place in July 2020 and is curated by Studio Formafantasma and Moncada Rangel Architects, the anchoring theme is Scarcity - Thinking beyond aboundance. The 5-day workshops that constitute the Labs will dive into speculative and practical investigations through which design can aid the reformulation of preconceived positions on design and architecture in the light of the idea of Scarcity, and how, in fact, learning to love and to strive for scarcity might be the best way to help us radically rethink the ways we, as humans, inhabit planet Earth. A roster of international designers and lecturers will contribute, including names like Nacho Alegre, Berger&Berger, Carolien Niebling and Jan De Vylder. ■

www.madeprogram.it www.madelabs.it

iF Social Impact Prize

By **Emma LI**

iThe iF International Design Forum specifically set up the “iF Social Impact Prize” in 2017 to encourage projects and plans that propose creative solutions to social issues and challenges. The total amount of the bonus is as high as 100,000 euros, which will be directly invested into the winning projects. The winning projects are selected by the global iF team and they will be supported by bonuses for continued development. The category of award complies with the UN Sustainable Development Goals and covers topics ranging from fighting hunger and poverty, developing sustainable agriculture to protecting human rights.

The “iF Social Impact Prize” is held twice a year. The second round of competition for 2020 is open for registration. Please upload the project to the “iF World Design Guide” (www.ifworlddesignguide.com) before November 19, 2020.

AWARD-WINNING PROJECTS SUPPORTED BY iF IN 2019 (I)
Project Name: Echo-Hub-Leros | Refugee Community Center on Leros Island
Category / United Nations Objective: Excellent Education
Sponsor: Echo100Plus, Vienna, Austria

Echo100Plus is an Austrian non-governmental organization dedicated to assisting refugees who have been forced to stay in Greece for many years. In October 2016, the organization established Echo-Hub-Leros, a community education center on Leros Island, Greece. It consists of a group of professional teachers and volunteers, aiming to help improving the lives of refugees, including first aid measures, education, employment and leisure activities. This is a special schooling project that provides refugees with practical day-to-day work opportunities and training in different fields. The main purpose of Echo100Plus is to educate schoolchildren and help children start a new life. The project received a prize of 5000 euros.

Review comment: “It is very important to be able to accept music, computer and language courses during the process of refugees' efforts to return to ‘normal’ life. Echo100Plus also played the role of a bridge to mobilize local people to participate in the service of the community center. So the local residents and refugees of Leros Island got along well with each other, which is better than other places. This project is indeed exemplary.”

Award-winning speech: “Nowadays, it is becoming more and more difficult to raise the awareness of the people and reach out to refugees who come to Greece. Since no one is willing to hear any information about the refugees, humanitarian aid is becoming less and less valued. The affirmation of the 2019 iF Social Impact Prize is undoubtedly a strong shot for us. We are very happy and grateful for this honor.” ■

https://echo100plus.com

Tools for All: Fostering Creative and Scientific Education During Lock-down

#architecturefromhome

By Foster+Partners

Given the Covid-19 emergency and school closures, the British architecture studio Foster + Partners has created a series of architecture challenges called #architecturefromhome, with the hope to share fun and learning opportunities with their online communities and to keep children stuck at home well entertained.

The challenges include drawing, making, playing, thinking, reading, watching and other activities to keep children (and adults alike!) entertained.

Online architecture lovers are also sharing the results of their challenges with the studio, who is creating a lively data base of #architecturefromhome projects.

So far the studio has challenged children to build a paper skyscraper, create their own city, draw trees, collectively draw a skyscraper with the whole family, create a photo story and learn how to keep a tall building using tension and compression. ■

fosterandpartners.com

"Playing Together" Manual

By LEGO Foundation

As part of the support strategies to promote the development of Early Childhood Development in Mexico, the LEGO Foundation and partners in Mexico have developed a manual with a great range of play activities, which all illustrate the importance of play and the creation of emotional ties during early childhood in a practical and fun way. The manual is developed for parents and caregivers, and is founded on the concept of "Learning through Play", and specifically "Play for Everyone".

It provides also general considerations to appropriately include children with disabilities. It gives special insights on activities in five main areas of skill development, with a holistic approach: physical, social, cognitive, emotional and creative development.

During Spring 2020, given the unfortunate situation societies are facing, with schools closure and cancellation of community events and activities, such manual has been updated adapting all the activities suggested in the manual so that all families can carry out the activities indoors and learn through play together as a family. ■

legofoundation.com

Challenge Cards

By James Dyson Foundation

Following the closure of schools across the globe due to Covid-19, designers from the James Dyson Foundation have come up with a series of challenges to help kids ages seven and above learn at home during isolation.

Challenge Cards include 22 science tasks and 22 engineering activities that can be completed by children using common household items such as eggs, string and balloons.

From making a balloon-powered car to building a bridge from spaghetti, building a compass and creating your own underwater volcano, each challenge card contains a brief, a method, a list of materials needed, a top tip on how to complete it, and a scientific explanation of how it works.

Born as a tool for entertaining kids while in lock down, they will for sure become an ideal tool for home or in the classroom, also after the pandemic emergency, encouraging inquisitive young minds to get excited about engineering and science. ■

jamesdysonfoundation.com

China Logs

中国日志

Online Innovations Address the Issue of School Suspensions while Class Continues

By **Chen Li**

Chen Li: Professor, doctoral tutor, vice president of Beijing Normal University, director of the National Engineering Laboratory of Internet Education Intelligent Technology and Application, and academic leader of distance education in Beijing Normal University, dedicated to the topic of "Internet + Education".

This article is an abridged version of Professor Chen Li's "Chairman's Lecture of the CPPCC National Committee-Online Live to Fight Against Epidemic Diseases" program on 3 April, 2020.

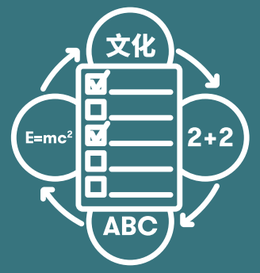
Since early February, almost all the schools in China have used online teaching methods so that students can learn from home. This has been the biggest online learning experiment in history. China is a massive internet hub, and pre-existing educational and teaching resources have laid a solid foundation for the rollout of mass online education. Now more than 200 million students and nearly 15 million teachers do their teaching and learning online. Challenges aside, I think this is a great opportunity.

Internet technologies and platforms has grown at a fast pace since invention, but for school education, they have only ever been used in an auxiliary capacity. The Covid-19 pandemic has made technology the main or only means of teaching. Online teaching is not just a big experiment, but also a practical training ground in information literacy for teachers and students, who have had to learn fast. It is a big test of informatization, and a big test of the latest education reforms. Under strong organizational guarantee and government guidance, and with the effort put in by teachers, online teaching is finding its own identity. Many teachers are adapting to the use of new teaching methods in a situation where teaching and learning are separated in time and space, and we have found nine important practical innovations in online teaching that can be used to further the development of education.

❶ “Teach then learn” has become “Learn then teach”

The most typical process of classroom teaching is that the teacher first talks, students practice to complete knowledge transfer, and then they do homework. However, in the online model, teachers have been adjusting the process, and seeing far more “learning before teaching.” Students are given the opportunity to use original resources and a question bank to learn and practice, before having their understanding refined via targeted explanation in class. Online communication is then used for after class queries. The significance of this is that teachers can use precious direct interaction time to solve problems and help students develop. That is to say, the original main function of the class was to spread knowledge, help students acquire, understand, and remember knowledge. Now, it is about helping students solve weak links and develop high-level applicable abilities in the process of knowledge transfer.

Many teachers have felt their way to such an understanding of online teaching in which students can use their own resources to obtain knowledge and even complete the questioning part of the process. This change in online teaching process is known as the “flip” method used by some teachers, or “mixed learning” method. The shift from “teaching before learning” to “learning before teaching” is of great significance to education and teaching, especially given the effect of face-to-face interaction between teachers and students. As long as online digital resources and tools are fully utilized, teachers can get on with their teaching work in a way that is more conducive to students’ development of higher-level abilities.



❷ Guided autonomous learning

Contrary to the conventional way of thinking that holds students must be accompanied by teachers in their learning, the online teaching process highlights the wonderful performance of students in various school segments. Many children make their own study plans for the day. Children use this practice to take control over their learning, and put teachers in their place as facilitators in the learning process.

The network platform provides not only resources, but also cognitive tools, question banks, learning process management systems, and learning process data analysis systems, which can effectively carry out autonomous learning. Of course, self-directed learning requires different guidance from teachers in different periods. In primary and middle schools, teachers need to give more detailed and close guidance, whereas the method and rhythm of guidance at university level will be different. Overall however, guided self-directed learning has become an important form of home learning for more than 200 million Chinese students.

Self-directed learning requires particularly high self-management ability, but self-directed learning will be the most important method of carrying out lifelong learning. Some university students in high school courses said in the survey that they hoped to continue to use this method to complete their studies after the outbreak, and firmly believe that the method did not affect the effect of learning. I think this is an innovation of learning methods, a practical innovation in learning method from concept to experience to ability.

❸ Changes in teaching management

In online teaching, all teaching and learning behaviors will leave traces, which means we can monitor the process based on the data, analyze the personalized learning process, and provide personalized support. The support provided by the Beijing Advanced Education Center for Advanced Education to online teaching can provide comprehensive diagnosis and analysis for students based on the learning situation of different disciplines, and can track the completion of homework and mastery of knowledge, with a detailed analysis of the situation. This will enable teachers to discover problems as they occur in the linkage chain. If students do not do well in a math problem, it may simply be that they do not understand the question instead of lack ability. The internet provides unprecedented functions for process monitoring, accurate diagnosis, and personalized guidance. These functions will be the focus of the next stage of education information platform construction.

❹ Innovations in course format

Cloud platforms enable teachers and students to share the same course on the same platform across classes and schools. Using the self-organizing features of the internet, not only can teachers guide students, but students can guide students too. The cloud as understood earlier is all about computing power and storage capacity. Now we see that cloud can also hold course capability. Future courses are not necessarily based in schools, but instead in regions or countries. A good teacher can use the internet to serve more students over a larger region. While the teacher is the original force behind teaching, the internet allows students and parents to become teaching forces as well. With further expansion, elites from all walks of life can become teachers online. Therefore, the internet can integrate resources of society and serve learners together. This cloud service model can break down the original school education wall and enable the integration of education and society.

❺ Innovations in curriculum concept

A curriculum is used to plan what knowledge a teacher passes on to a learner. Arranging the curriculum according to this concept the basis of education. But in the field of adult education and higher education, it is outdated. Instead, the internet can provide a community for learning, allowing learners and practitioners to interact and gain experience alongside each other. We call such a course a community-based one.

Such courses have played a huge role during this outbreak. There are various communities for teacher training on the internet, and some areas organize teachers to prepare lessons together before teaching students separately. There has even appeared a model where some teachers are responsible for speaking and others for providing guidance. To complete knowledge production through the gathering of group wisdom, and to spread knowledge during the gathering process, each learner is both a contributor and a beneficiary. This is a new lesson format, and upholds new ideas, primarily that the teacher is no longer the carrier of knowledge, but rather the builder, promoter and supporter of community building, as well as learner and practitioner.

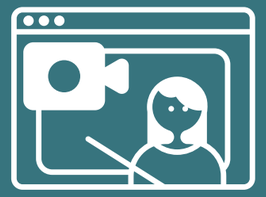
❻ Innovations in curriculum development

In the past, the development of a curriculum, including in the early days of the outbreak, meant teachers recorded video lessons. It felt that gathering resources and building a new curriculum were the teachers’ own business, which made things really hard for them. Because the production of learning resources is hard, it cannot be simply done by recording a video. Because resource development and curriculum construction are capital-intensive, large investment is required at an early stage. Moreover, the requirements for the organization of learning resources development are different. It requires not only the ability to present content, but also the ability of media and design. The internet provides us with new curriculum construction possibilities, that is, joint construction and sharing. You can take out the most essential things in each school and let all students share them through the internet. This not only ensures the quality of the resources, but also reduces the burden on school investment, and allows high-quality resources to benefit all students.

Illustration by LAVA BEIJING

❼ Changes to the organization of teaching activities

Many people mistakenly think that online teaching is simply about moving traditional classrooms online, but in fact that is not teaching. That is just sharing lectures. Online teaching is a pipeline model, entirely different from the traditional classroom teaching. It has technology in it, and it is completed through certain means of education. Labor is divided. Many primary and secondary schools have found their own ways through this epidemic. They have divided up the functions of teachers. Some teachers are responsible for lecturing. All students listen to the lesson being given by the same teacher. The other teachers provide guidance and answer questions and correct homework. Many parents also undertake the function of learning support. In fact, the teacher can do the same in the future. Not all teachers should take lecturing as the main function. They can do learning guidance or process management. In other areas, students are re-arranged based on the academic level of the pre-stage students, and different teachers will teach students at the same academic level. This is also a change in the way teaching is organized.



❽ A new resource construction model

We see that some teachers will record the process of online interaction with students, and then show it to other students. I think this is a very important innovation in resource development, and it is called a generative resource. Because teaching is not just about content presentation, the process of teacher-student interaction and the constraints, incentives, and help students receive during the interaction are actually the most precious. Record the interactive process as a resource, so that it not only has the attribute of content presentation, but also the attribute of interactive process. Just like some students do not ask questions in the classroom and instead watch others ask the teacher, they may not answer questions in the classroom and instead watch others answer questions. This is called alternative interaction. By observing the interaction of other students and teachers, you can complete your interaction with the teacher. With the support of this kind of resources, when students use their own resources to learn, it is the same as participating in the course learning in the classroom, so this is a new resource construction model.

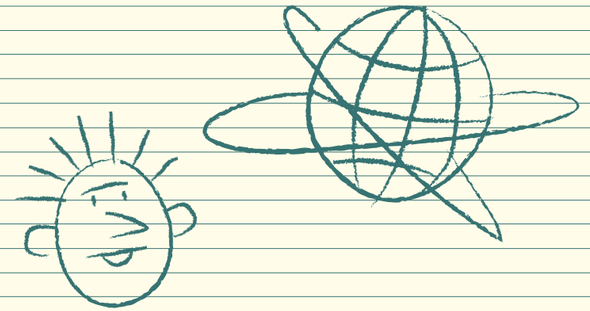
❾ High-level information environment

Online teaching depends on a stable and high-quality information environment. The construction and support of a future information environment requires the coordination of the whole of society. Government-enterprise cooperation and school-enterprise cooperation are important models. In the future, education and teaching reform based on information environment means exploring how to effectively carry out long-term sustainable cooperation, so that enterprises can actively provide us with high-level information support services.

These are some of the innovations of educational practice we have seen during the epidemic. Online teaching is an expedient measure that allows us to "suspend school but continue class" during the pandemic, but it is also a trend. With the rapid progress of society, everyone hopes that they can obtain personalized, high-quality, flexible life-long educational services. It is difficult to satisfy such educational services if the original school's organizational form, classroom teaching methods, and traditional knowledge transfer courses are all one has. The internet is an information space apart than the original physical space and social relationship space inhabited by people. As a new space, it provides an unprecedented possibility for building a new education system that meets needs and for training successors and workers who adapt to the new era. Internet + education explores what kind of models, methods, and systems and mechanisms are used to build an education system that serves life-long learning under the support of these three spaces. The epidemic has accelerated this transformation process. After the epidemic, we should collectively summarize these models, pour these models into the education system, and accelerate the development of a new education organization system, a new education teaching model, and a new education management system. ■

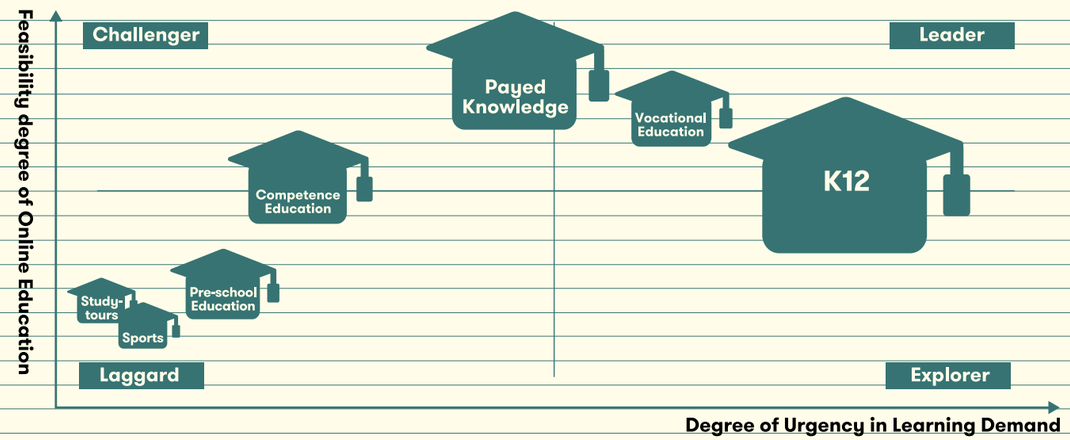
Adaptive Change in K12 Training Institutions

By **Yang Biqiong**



Just as 2020 started, China was confronted with a severe test. The novel coronavirus epidemic had a sudden impact on the education industry, especially K12 education, and will continue to have far-reaching implications. From January onwards, schools have not reopened, and offline training has been suspended. Elementary and middle school students have been strictly prohibited from participating in group activities. On February 12, the General Office of the Ministry of Education and the General Office of the Ministry of Industry and Information Technology issued the "Notice on Work Arrangements in Primary and Secondary Schools for "Stopping classes without stopping studying." A national primary and middle school network was established with a cloud platform and TV classes to provide free local independent use of learning resources. "Suspending classes while continuing learning" and "online learning" were suddenly the hot new key words in education.

Practicability of Long-term Online Education

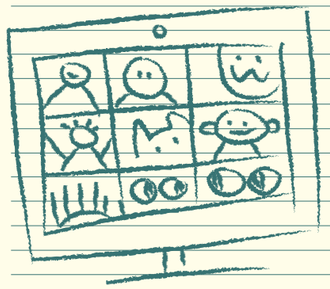


K12 EDUCATION AND TRAINING IN CHINA: RMB 100 BILLION NEEDED FOR RAPID ONLINE DEVELOPMENT

K12 refers to the entire span of compulsory education from primary to high school. Steered by national conditions, K12 provides a path of learning from entry level primary education right the way through to high school entrance examinations and college. Under the pressure of ever higher education levels, outside of school education, tutoring as an important means of advancement, and has also become something of a necessity. Tutoring among K12 students is very prevalent, with a market worth RMB 100 billion. The 2017 China Education Finance Family Survey shows that 48.3% of families participate in extracurricular tutoring for their primary and secondary school offspring, paying an average of RMB 5,616. The rate is constant for high school students at 48.2%.

In addition to providing private schooling, extracurricular tutoring, and childminding services, the K12 education and training sector should not underestimate the types, methods, and scale of online education even before the outbreak. According to a 2018 China K12 Online Education Industry Report released by Shanghai iResearch, from 2013 to 2016, the growth rate of China's K12 online education industry was consistently over 30%. By 2017, growth had climbed to 51.8% and the market was worth 29.87 billion yuan. This was the first year in which K12 online education realized its scale possibilities.

Despite strong demand for K12 provision, due to the high cost of trial and error at this stage, parents remained cautious online users, which meant that K12 online education accounted for only a low proportion in the early stages of development, only 9% in 2012. With the new generation of parents in the "post-80s" and "post-90s" generation, awareness and consumption picked up, and the new generation of children grew up in a naturally online habitat. This, coupled with an online education scene, hardware upgrades and promotions in recent years has brought about rapidly accelerating acceptance of K12 online education by parents and students alike. It now makes up 21.3% of the K12 market. That being said, the novel coronavirus outbreak has made parents far more aware of online education that even a year ago.



DURING THE EPIDEMIC: EXPLORATION OF THE OFFLINE TO ONLINE OPERATING MODEL

This epidemic period has been frustrating as offline institutions have had to completely redesign their business plans and undergo massive changes. The reward however has been that demand for online education has surged.

On March 9, Aixuexi and Tengyue 360 surveyed 2,000 K12 education and training institutions in 31 provinces and cities across the country, and published a report on the impact of the epidemic on K12 education and training institutions. In this report, 87% of the interviewed organizations indicated that they have been hugely affected in the negative. The three biggest factors were reduced revenue, high rental pressure, and high labor costs, with 60% expecting a fall in net revenue in the first half of the year of more than 50%. Many training institutions will be pinning their hopes on the summer. Summer schools face the pressure of doubling their revenue.

Teachers and venues are the two essentials of any K12 extracurricular tutoring business. iResearch said that for a typical bricks-and-mortar institution, teacher salaries and venue rent amount to 60% of revenue. The devastation brought by this black swan can be imagined. However, many organizations expressed optimistism about the third quarter of 2020. Wen Xin, vice president of Aixuexi said, "If we refer to the 2003 post-SARS period, offline training institutions are likely to experience the kind of rebound in autumn enrollment that will make up for the first part of the year…"

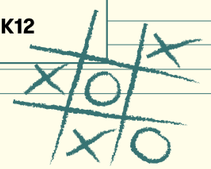
But until the turnaround arrives, self-help must continue. Many organizations are fully transforming into online learning platforms, working hard to explore new online operational strategies that work for their own development.

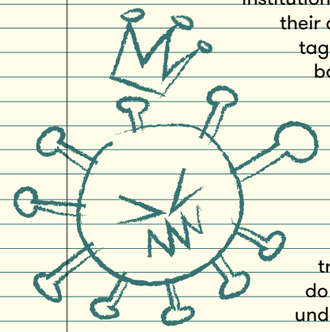
Traditional K12 institutions have suddenly shifted online and face a range of new challenges. Data from various institutions shows the issues parents care about include students' attention in class, teacher-student classroom interaction, online teaching level, and online class content. For educational institutions that have been forced to change course and switch online, many lack an understanding of the online education model, and their offerings may not need online teaching support capacity or teacher-student interaction demands, resulting in a poor student learning experience and eventual loss of traffic. The data shows that more than 90% of institutions have chosen to cooperate with third parties in their transformation. Among them, large institutions prefer to cooperate with third parties that can partner with them in teaching research + teaching + tutoring. Small and medium-sized institutions usually partner in live broadcasting first, before considering third party coopertion in teaching research and teaching.

TOP 5 Companies in the Education Industry Sector for Financial Capital Investment in Year 2019

Company Name	Financing Amount	Financing Round	Investor	Industry category
Zhangmen 1to1	350.000.000 USD	E	Haitong Intl, China Investment Corporation	K12
DaDa	255.000.000 USD	D	TAL Education, Yonghua Capital	K12
VIPKID	150.000.000 USD	E+	Tencent Investment	K12
KNOWBOX	150.000.000 USD	D	Alibaba Group	K12
AIXUEXI	140.000.000 USD	D	Warburg Pincus	K12

Source: EO Intelligence, "Covid19 impact analysis report on education industry", April 2020





Most education and training institutions are loathe to give up their original market advantage, and prefer to take on board an online-offline OMO (Online-Merge-Offline) model. However, according to analysis by iyiou.com, judging from the current business and methods of various training institutions, most do not have a unified understanding of the concept, as "OMO is not so much a model as a ecology." In an Analysis Report on the Impact of Covid-19 on the Education Industry released in April, institutions are divided into four categories:

1. Independent online and offline business lines. From a corporate perspective, these education institutions have both online and offline business. The two sides may intersect in the specific teaching process, but in organizational terms they belong to different teams. For example: New Oriental Offline and New Oriental Online, Jingrui One-to-One and Jingrui Online, TAL Education Peiyou and TAL Online.

2. Online and offline course packages. Online and offline courses are sold together as a course package. Of the two learning media, live broadcast is the mainstay. A common practice is to concentrate on offline classes on weekends, and use online classes during the week. The balance varies, and the teacher may be the same for both. Examples are: Jinghan Education and You Win Education.

3. Double teacher classroom, foreign teachers live broadcast, etc. B-end service providers (specially serving training institutions) such as Aixuexi, Alo7, TAL, provide other institutions with dual teacher live broadcast, foreign teacher live broadcast, online evaluation and other services that incorporate offline teaching.

4. AI recording and broadcasting courses are used as teaching aids. In addition to cooperation between the two parties, there are cases of tripartite teaching. For example, the OMO English product FlyUp has offline Chinese teaching, online AI teaching, and online foreign teaching.

"POST-EPIDEMIC" ERA: OMO WILL BECOME THE MAINSTREAM IN THE INDUSTRY

As China's prevention and control capacity strengthens, the country will move assuredly out of a state of emergency and into a new post-epidemic era. This means gradually restore normal education and teaching. As of May 11, a total of 31 provinces (autonomous regions and municipalities) and parts of Xinjiang have started returning to school. The K12 education and training sector has experienced a baptism of fire in online learning, and the model is now ready for what comes next. Although the schedule for K12 institutions to resume offline teaching has become clearer, what used to be an offline learning scene has gone online. Free training user habits are hard to break, and preferences for learning will continue to some extent. Moreover, the epidemic also accelerated R&D investment in hardware and software related to online education. These factors may boost the further development of K12 online education.

Tencent Advertising pointed out in its report, "Insights into the New K12 Online Education Market Under the Influence of the Epidemic" that there are five categories of people for whom new opportunities have been created in this period: 1. Existing customer growth: those who used online education before the outbreak, and increased their frequency or period of use; 2. Offline customer inflow: previous offline customers moving to online tutoring first the first time; 3. Completely new inflow: customers with no record of tutoring service use who used online learning for the first time; 4. Offline sampler: customers who previously only used offline services but now showed a high level of willingness to try online learning products; 5. Brand new samplers: those with no offline learning experience who developed a high willingness to try online products during the epidemic.

Online education is a generally expanding trend, but the pure online model clearly cannot meet all the needs out there. Through these months of experiment, the disadvantages of online learning for students are exposed, such as the lack of immediate feedback, and the effect of online learning is difficult to track; for teachers, online teaching has to adapt to a new content output method and reduce teaching expectations; for parents, the high cost of supervision is a major factor. Students and parents urgently need K12 institutions to resume offline training.

In this way, an OMO model of multi-platform integration and online and offline interaction may become a solution that meets the needs of all parties. But as mentioned above, the education sector's understanding of the OMO model is still quite disparate, and exploration is still in its infancy. Large educational institutions have chosen to work with third party business providers. Managers of traditional K12 institutions that have switched to online now have first-hand experience of how to transform the OMO model and use OMO teaching products. They will have come to the realisation that OMO teaching products require strong technology, products, teaching research, and teaching power. This will prompt them to work more actively with third parties to complete their transformation to OMO.

For business providers, the trend towards switching to an OMO mode presents an opportunity and a challenge. If stable technology platform, mature product system, continuous operation guidance, short transformation period, low investment, and quick start OMO teaching solutions are possible to develop, the entire K12 education sector will be changed, and it is even possible that new learning habits will emerge. ■

Illustration by LAVA BEIJING

What Should a Virtual Classroom Be Like?

By **Berlin Fang**

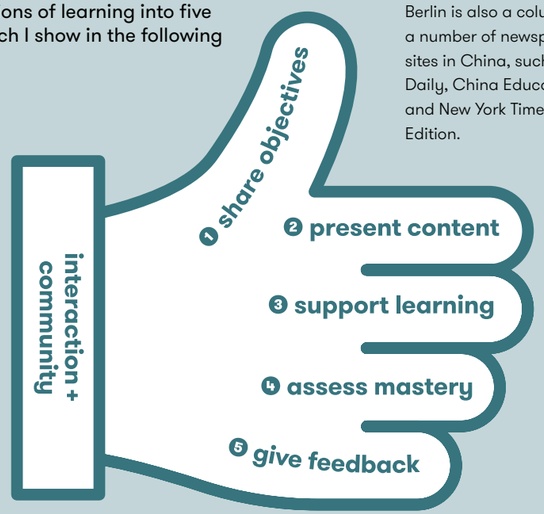
Berlin Fang is the Director of Instructional Design at Abilene Christian University. Berlin graduated from Syracuse University with an M.S. in Instructional Design, Development and Evaluation. He also holds an M.A. in English Literature from Nanjing University. Berlin is also a columnist for a number of newspapers or sites in China, such as China Daily, China Education News, and New York Times Chinese Edition.

LAUNCHING EDUCATION INTO THE CLOUDS

Online teaching often takes place on an educational platform and ideally uses the instructional design theory of Robert M. Gagné. In The Conditions for Learning, Gagné described nine instructional events as basic building blocks of optimal teaching: 1) gaining attention; 2) informing learners of the objective; 3) stimulating recall of prior learning; 4) presenting the stimulus; 5) providing learning guidance; 6) eliciting performance; 7) providing feedback; 8) assessing performance; 9) enhancing retention and transfer.

Using Gagné's theory to perform an anatomy of face-to-face teaching, we find that teachers probably use any combination of these events without really knowing it. Gagné's theory combines cognitivist (such as retrieval and generation) and behaviorist (stimulus and reinforcement) understanding of human learning. The application of these processes requires prior knowledge of certain psychological concepts that may not be widely known by teachers. The nine events are also complex and prone to misunderstanding in China, especially in their common translation into Chinese. Providing stimulus is often translated into tigong ciji 提供刺激, which can mean "providing thrill." Distortion through translation may lead teachers to believe in the use of melodramatic and gimmicky methods in the teaching process, including jokes, eye candy and flashy transitions, which do not necessarily help learners. In some cases, they harm through distraction. Gagné advocated the Pavlovian sense of stimulus and response which holds that teachers ought to consider how to optimize the presentation of their content for effective learning. This means the chunking and sequencing of content, as well as the selection of media. Gagné's conditions of learning include learners' internal conditions: whether they care about their learning, and whether they have the prior knowledge, skills, and attitude required for their current learning.

I simplified the instructional events for conditions of learning into five steps, which I show in the following figure:



Share objectives: In each learning module or synchronous session, the teacher informs students of what will be covered, what activities should be completed, and what objectives students are expected to reach. Without such information, students may be at a loss about the learning purpose. The teacher should also learn from sharing learning objectives and aligning them to other parts of their learning, to help them reflect on the development of instructional strategies.

Present content: In this process, the teacher uses reading material, audio, video, games or other content-sharing tools to present their understanding of the subject matter. This process is similar to face-to-face lectures. If the teacher intends to use video, consider recording short videos around specific topics instead of trying to replicate a 45-minute class completely online.

Support learning: Provide assignments or activities to support student learning. Such support activities may include discussions, exercises, drills, games and other activities to reinforce mastery of the specific subject matter.

Assess learning: Use quizzes and discussions to test student' mastery of the content. This may overlap with the step before, except that step is for formative assessment, while this step is for summative assessment.

Give feedback: Use a page or video to provide feedback to the entire class, groups, or individual students. Feedback ought to follow the submission of assignments or tests. In traditional teaching, teachers frequently give feedback to an entire class. However, students may face different challenges to make personalized feedback for attractive. I recommend using audio or video to give feedback, because it is often faster to speak than to write. When a technology platform is no longer the issue, it saves time to leave spoken feedback. In Canvas, a learning management system, teachers can use the media comment feature to leave comments for students.

Interaction and community: Learning is incomplete without social interaction. Learning solo can lead to shallow learning and narrow understanding. We encourage the creation and maintenance of a vibrant online learning community that can promote student-teacher and student-student interaction. Online discussion is one of the tools for interaction, but teachers can also use collaborations and chats for rich interactions as well. Text alone can deprive a community of the richness of human interaction; I encourage the use of synchronous conferencing to promote community formation.

DESIGN PRINCIPLES FOR ONLINE TEACHING

Most face-to-face teaching can be completed online in formats that are different from face-to-face classes. Try to avoid rigid replication methods, such as recording the entire teaching into a video to post online, because student attention span can be limited. For online and blended courses, Dr. Ruben Puentedura proposes the SAMR model, an acronym for substitution, augmentation, modification, and redefinition. Augmentation and modification are difficult to untangle as two distinct constructs. By merging these two, I simplified this model into substitution, augmentation, and redefinition.

Substitution: This model only changes the medium of delivery and seeks to clone teaching methods in face-to-face settings. 1) Teachers record their classroom teaching and make the recordings available to their classes without further modification. 2) Students use paper and pencil to complete their assignments, scan or photograph them, to send to their teachers. 3) Even though it is more difficult to create a substitute for offline assessment, some teachers try to replicate it by asking students to visit testing centers or use designated proctors for testing at a specific time and place, in order to imitate what is often done in face-to-face settings.

Augmentation: With this model, teachers try to use the instructional methods of face-to-face classes, incorporating functions and features of online tools to enhance teaching. Here are a few examples: 1) Teachers use synchronous sessions to teach but use online votes to enhance the lecture experience, or use mute/unmute functions for classroom management. 2) Teachers require students to submit assignments to their learning management systems to grade online, utilizing tools for annotation and audio/video feedback. For assignments with multiple drafts, teachers require students to review each other's work as peers before they collect and grade their final drafts. 3) Design online quizzes for students to take online at their own convenience. Teachers can set the time of availability of an exam to be an entire day, while reducing the clock time to a shorter period, such as 30 minutes. Online quizzing is an enhancement as teachers can also use question banks to push varied versions of a quiz to different students. Quizzes can also be released to different individuals with different timeframes, similar to the way ACT and SAT exams (entrance exams for American colleges) are administered.

Redefinition: With this model, teachers take advantage of a learning management system, other technologies and artificial intelligence, to reinvent teaching methods. Examples include: 1) Teachers innovate in the way they present content, using synchronous sessions as well as recorded videos to allow students to access content anytime, anywhere. Design engaging learning experiences using games, simulations, and digital stories. Use external resources as the main source of content while teachers serve on the side answering questions and providing guidance. 2) Use creative ways for students to process the content. For instance, allow students to produce online quizzes, group discussions, games, and contests. Teachers can also use constructism in their teaching by incorporating students' own background, geographies, knowledge, and skills to enrich classroom teaching. 1) Broaden student assessments beyond quizzes and exams, but include project-based assignments, presentations, and authentic tasks. Teacher education majors, for example, can be asked to develop course syllabi they could use in the future.

VIRTUAL CLASSROOMS CHANGE THE COMMUNITY, INCLUDING THE METHOD OF INTERACTION BETWEEN PARENTS, STUDENTS, TEACHERS AND SCHOOLS

These three levels progress from the one to the next. Generally speaking, the substitution model should only be used for rapid online teaching. It should not be used as the norm for online teaching as it is not sustainable. Turning a course into an online course should not be a cloning process with only delivery method changed. When courses are launched online, both teaching and learning processes are fundamentally changed. Based on the Activity Theory of Lev Vygotsky, when a human activity is mediated with a tool, it will alter the subject, object and the outcomes of the activity. Later on, Dr. Yrjö Engeström from the Center for Research on Activity, Development and Learning (CRADLE) of the University of Helsinki would extend the theory by stating that tools would also change the community, rules, and division of labor associated with the activity.

The Extended Activity Theory offers new ways to view virtual classrooms. When classrooms become virtual, it changes divisions of labor: Teachers will work now with instructional designer and educational technologists. Virtual classroom also changes the community, including the method of interaction between parents, students, teachers and schools. Virtual classroom also created or changed rules of the community, including rules for muting/unmuting speakers in a synchronous session and online etiquettes for discussion forums.

As an instructional designer, I am pleased to see online teaching booming, though of course no one hoped it would start with a pandemic. In China, large, reliable, and sophisticated learning management systems are still lacking. After the pandemic, I hope investment in online learning infrastructure will result in the births of players as impactful as Tencent or Alibaba. I have seen how fast things are moving. Tencent Meeting, for instance, has only been online for a few months, but is already showing the promise of being as user-friendly as Zoom. In the meantime, high entry barriers and the lack of competition are spoiling some existing educational technology players who do not respond quickly to customer needs. Blackboard, for example, has been in China for sometime, and has been growing, but it is difficult for the Chinese users to adopt such systems more broadly. While vendors need to make improvements adapting to new environments, teachers and students have far to go to become totally comfortable with learning in the new virtual systems. For Chinese companies, opportunities as well as challenges will continue to abound. ■

Technology Powers Online Education

According to UNESCO's monitoring and statistics, as of early May, Covid-19 has led to the suspension of classes in 191 countries, which means a total of 1.58 billion students or 91.3% of all students, have been affected. While the traditional classroom-based education has had to be suspended, online education powered by technology has expanded. UNESCO convened an emergency meeting of education ministers in March to discuss how to carry on teaching activities while promoting fair education. Online teaching is currently seen as the most effective alternative and UNESCO is supporting countries in launching large-scale distance learning services and encouraging wide access to digital apps and platforms.

In China, online teaching has been rolled out for 265 million students and 16 million teachers, monumental in the history of education. The pandemic has catalyzed an already fast-growing online education industry. In March, iiMedia.cn released a "Monitoring Report on the Operation of Online Education in China's Primary and Secondary Schools in Q1 2020" which showed that the market size of online education had grown to RMB 68.06 billion in the first quarter of 2020, a year-on-year growth of 3.9%. What has fueled such vigorous growth of the industry in harsh times is undoubtably the strong support of technology company resources and technological expertise.

At the beginning of February, the Ministry of Education issued a notice on "Suspending classes while continuing learning." Online education platforms have facilitated effective large-scale remote classes in line with teaching laws. With technological capability developed over time and experience in the field of online Weducation, Tencent has effectively built a core technical framework and designed livestreaming capacity in line with Wuhan Education Bureau's teaching plans, providing rich online classroom functions for the city's primary and secondary schools. During the pandemic, Tencent launched its Online Education Toolbox, which offers various products and solutions that cater to the needs of education authorities and schools. For example, Tencent Classroom Speed and Classroom in the Air provide online education services for schools across China.

These two online education solutions have attracted a large number of users due to their simplicity, stability and smoothness. With the help of Tencent Classroom Speed, a mobile phone is the only equipment a teacher needs to run a class. Classroom in the Air is built on the capabilities of Tencent Smart Campus and Corporate WeChat. Teachers and students complete lectures, homework and tests on Corporate WeChat. The use of online tools has inspired teachers to innovate. Some have introduced high-quality MOOC resources as a supplement to online courses, others have integrated online and offline classes by flexible use of teaching tools to optimize teaching results. By combining various online tools and selecting functions as they see fit, teachers are able to enliven online classes.

Punctuality is a must for online classes. So, unlike the short surges of narrow-bandwidth traffic during the Spring Festival Gala or November 11 Shopping Gala, online classroom traffic experiences instant peaks. Coupled with the fact that any offline activity that can has migrated online during the pandemic, network traffic is unimaginably large. With its rich array of technologies and resources, Tencent has expanded its capacity up to dozens of times in a short timeframe, ensuring that its online education platform can support more than one million people at once, steadily enabling concurrent live Q&A, large classes and real-time interaction between teachers and students.

The large-scale online education experiment in China over the past few months will serve as important references for those developing educational reforms and innovations. Lessons drawn from these practices may shed light on ways to narrow educational gaps across regions and between rural and urban areas to drive the goal of "Ensuring Inclusive, Fair and Quality Education." However, it is impossible to achieve the popularization of quality education by online education alone. As online education is still in its infancy, technology companies and governments need to work together to come up with new solutions. ■

The Beauty of Uncertainty in the Era of Artificial Intelligence

By **Wang Min**

Bauhaus was born one hundred years ago to cope with the opportunities and challenges machines were bringing to humans. Now we have a new set of machine-related issues to content with. Deep machine learning, brain-computer connections and other techniques and concepts are gaining traction. AI has also brought uncertainty. Some people say it will enhance future design, while others say it will destroy humankind and end design. I want to believe that AI will be the partner of designers, and robots will work for designers and liberate them from repetitive technical work. Because of big data, computing power is ever stronger which means design will be used for social innovation and sustainable development instead. Can we forecast what such a future will look like based on the past?

Wang Min used Adobe Illustrator to freely arrange letters for the first time (1987). Adobe Illustrator at that time could not run color processing and these two works were first printed out by Wang Min with a black and white laser printer, before thermal transfer was used to realize the color effects.

DESIGNER AND MACHINE

We know the desktop publishing revolution starting at the end of 1980s was a technical revolution affecting design publishing and communication. It completely changed the working pattern of the design industry, working procedures of the printing industry and operations of the publishing industry. At that time, this technical revolution brought about many challenges. For example, 1980s were used for initial font design digitization. The aesthetic factors of font and typesetting were often ignored by operators and engineers, which meant that text typesetting and printing generated by early desktop publishing were poor and despised by professional designers.

People began to say that anyone could be a designer and designers would lose existential value. Typesetting, photo color processing and draft printing were all performed by the professionals before, but the desktop publishing revolution eliminated these jobs. Now, it seemed that anyone could make a leaflet or brochure. Before 2000, only 15% of the graduates who specialized in graphic design in the US could find a job after graduation. But soon, people started to cherish their memories of hand-set type and prints, like urbanites missing and yearning for rural scenery. At the beginning, the designers of Adobe tried to simulate the work pattern and aesthetic characteristics of the traditional tools with new technical means of erasing traces of computerization.

But, with the emergence of the internet and multimedia, technologies produced more opportunities for the design industry and designers. Within a short period, the machine had caused a loss of design aesthetic quality, missing specialty and the disappearance of an occupation. But it also had a kinetic energy in the design industry. The technologies brought about a new wave of development in the industry and altered designers' way of doing things. After desktop publishing eliminated the need for technicians to do typesetting, photo touch-ups and black / white draft creation, designers changed from merely providing ideas and preparing drafts to becoming both creator and technician. The designers needed time to learn computer skills and needed to know how to use various types of software and hardware and understand about technical and creative issues.

PEOPLE BEGAN TO SAY THAT ANYONE COULD BE A DESIGNER

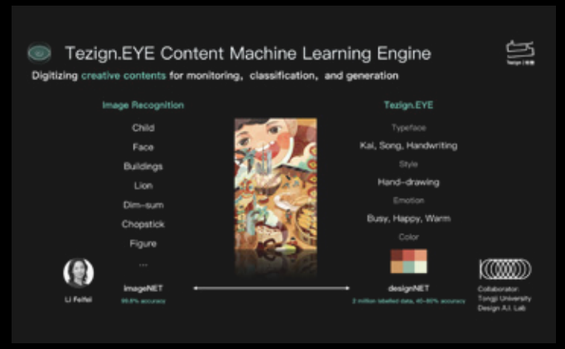
Now, technologies will release designers from these issues again. The development of AI allows us to leave things for the machine and let the designer focus on ideas. In some sense, the designer's status from before desktop publishing has been restored. But the means of making a design is more diverse, more effective and more powerful.

AI AS TOOLS TO IMPROVE WORK EFFICIENCY

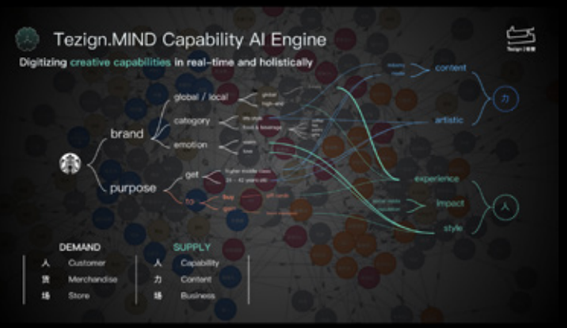
In the past thirty years and more, technologies by the companies such as Adobe and Apple, have greatly improved the efficiency of image making and design production. Many works have realized more and more automatic operations by virtue of the machines (including software) which can be reflected in the evolution process of tools such as Photoshop and InDesign. In 2003, my last project in Silicon Valley was to design templates that could be applied globally for Adobe which included software package, marketing brochure, leaflets and web pages. The templates were designed with Adobe InDesign and stored in the central server of Adobe. Any subsidiary or office in any region can use Adobe InCopy to enter the local language and characters against market demand, then InDesign can automatically produce the packages and other files. Compared with systems based on a template today, this automation design based on template was certainly far behind, but their purposes were the same. Now, as the underlying technology of Adobe creative design software, the Adobe Sensei technology significantly improves the work efficiency of users.

There are also many other similar tools. For example, Font Map is an interactive font search tool of IDEO which can help users quickly find an appropriate font. Fontjoy is a pair of neural network systems developed by the freelance designer and engineer Jack Qiao which allows the users to more easily decide on a font during website building or a graphic design project. The fonts of AliHYAiHei.ttf are mainly designed by the font designer Huang Zhenyuan of Hanyifonts and the font library is generated by computing power self-learning in synergy with Ali human-computer nature interaction laboratory. The design generation techniques based on template have been widely applied in design scenes. There are many systems based on templates at home and abroad such as Brandmark, Logo Crunch, Logopony, Looka, Tailor Brands, Canva and AIKie. Through the application of AI, these image generation techniques can significantly improve design generation methods and efficiency.

Image from Canva.com



Tezign's designNet



Enterprise AI operation scheme of Tezign

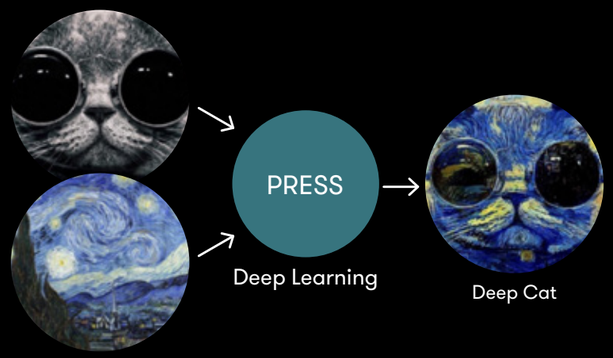


Diagram by Professor Ge Wang from Stanford University.
Ge Wang, Humans in the Loop: The Design of Interactive AI Systems, October 21, 2019, HAI Stanford

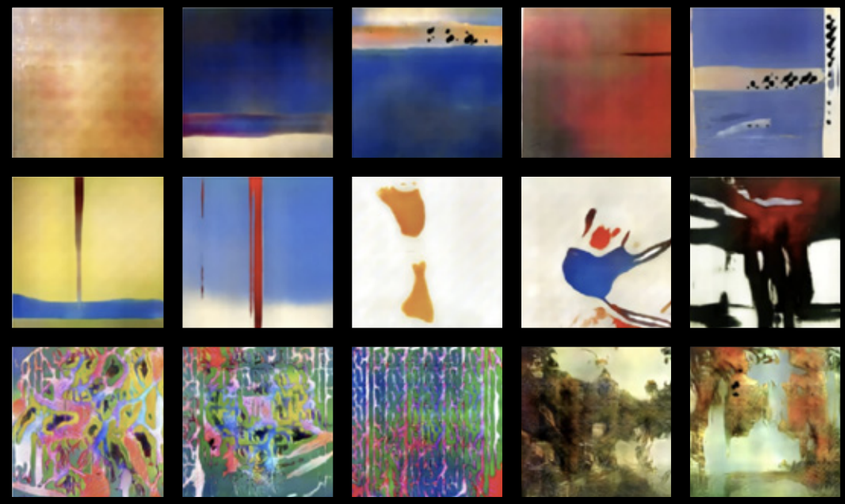
AI AS THE DESIGNER'S PARTNER

The trick to AI is enabling machines to grasp cognitive ability. But design requirements, scenes, ideas and humanity are diverse, and cannot easily be done with AI. If AI technologies can be improved and strengthened, the abilities of designers will extend via automated, augmented and extended intelligence.

AI can integrate big data, computing power and designer's imagination into design and produce more power. For example, Tezign not only builds a platform for enterprises and designers in recent years, but is also developing a design-related AI system called designNet, which will continuously collect designers' work to form a big data bank, teaching machines to learn different design methods and different design styles. In this way, AI systems can get smarter and become better partners for designers.

Machines can help us to live and work better. But designers still need to get involved to create a better future. Every design has its own purpose and is the generated based on targeted human needs. AI should be human centered and driven by human will. Such machines will integrate big data, computing power and designers' imagination and thus serve social innovation and sustainable development requirements. In this respect, Professor Li Feifei of Stanford University is influential. She established the Human-Centered AI Institute at Stanford with three core principles: AI technologies should be inspired by human intelligence, AI development should be guided by its influence on people, and the applications of AI should enhance rather than substitute people.

DESIGNERS STILL NEED TO GET INVOLVED TO CREATE A BETTER FUTURE



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AI AS CREATOR

Can AI develop its own consciousness some day and become an independent creator? Let's review the development of AI in artwork creation.

So far, the image generation techniques of AI are mainly "pattern transfer," sometimes referred to as "style transfer," which teaches AI to understand and duplicate artwork created by people and uses AI to go on and create artworks. This technology uses deep neural network to duplicate, recreate and mix patterns found in artworks. For example, DeepArt can convert a photo using famous styles in art history, show four original artworks selected at every corner by itself, and generate different levels of style mixing at different positions. The central image is the result of evenly mixing all four parts. Professor Ge Wang from Stanford University, who works on connecting science and music has a diagram to graphically illustrate this process.

But it has already been possible for a machine to create independently rather than based on a given style. Researchers from the Art and Artificial Intelligence Lab of Rutgers University in New Jersey creates an AI system, AICAN, used to generate artworks. "This system involves no creation process of human artist but the learning process of human creative products."
They left the machines to decide the work's style and create independently by first allowing them to learn the works of different styles at different eras. Finally, they did a quiz to allow the audience to make a choice
between the works made by machine and human artist. As a result, many people selected an artwork by machine and thought that the artworks by machine were more purposeful, and that both color matching and photo composition were good. It indicates that AI as independent designer is not far from us. Once a machine grasps some cognitive abilities and has the functions of memory, language, understanding, reasoning, learning and expressing and especially pattern recognition, it will slowly gain the ability of independent creation. However, it still needs instructions from humans and a purpose set by humans.

In the future, designing forms will emerge from humans and machines working together, and designers will trace back humanity's origins during the game process with computing power. In the future, it will be not just the market and technical power, but also creative and imaginative power, that will drive the development of artificial intelligence. In other words, this is the power of future-type design education. ■

AI AS INDEPENDENT DESIGNER IS NOT FAR FROM US

Wang Min: formerly Dean of China Central Academy of Fine Arts, Cheung Kong Scholar Chair Professor and Doctoral advisor

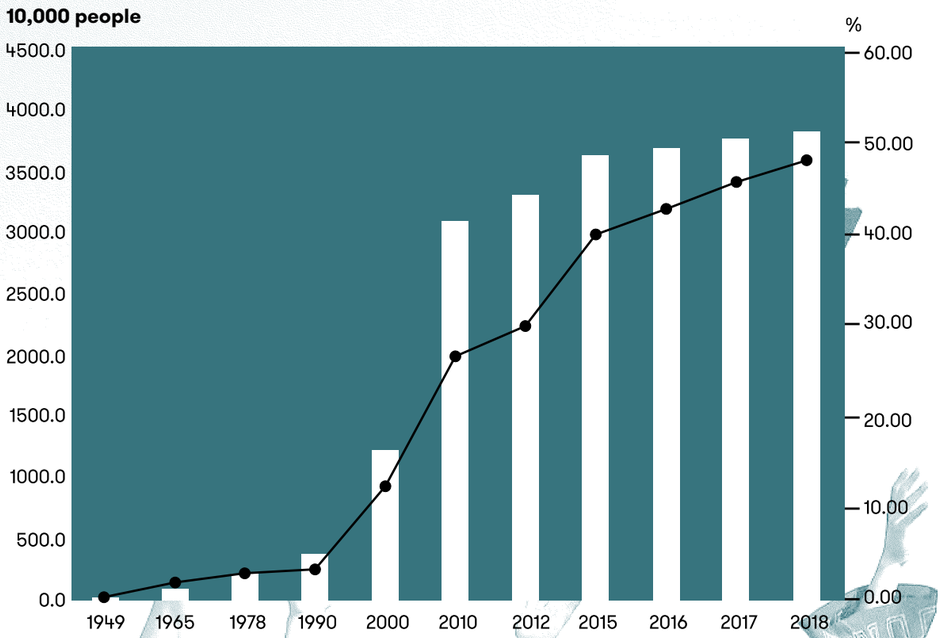
This article is organized based on the lecture of "After hundred years of Bauhaus - Beauty of Uncertainty in AI Era" by Professor Wang Min on the "International Symposium to Commemorate the 100th anniversary of Bauhaus" on Oct. 26 of 2019. The words are excerpted from No. 24, 2019 of "Design" magazine.

China to Strengthen Education in Fields Serving National Strategy and People's Livelihood

On February 28, China's Ministry of Education revealed that enrollment for postgraduate students in 2020 would be expanded to an increase of 189,000 over the same period last year.

According to public data, the number of graduates from colleges in the country this year will be 8.74 million, and the number of applicants for master's degree examinations will reach 3.41 million, with an increase of 510,000 from previous year, and also a record high.

Vice Minister Weng Tiehui said areas that are urgently needed to serve the national strategy and the people's livelihood would be heavily invested in. The expansion will focus on majors such as clinical medicine, public health, integrated circuits, and artificial intelligence, aiming at professional degree training, mainly high-level application-oriented professional degrees. ■



	1949	1965	1978	1990	2000	2010	2012	2015	2016	2017	2018
student scale	11.7	109.5	228	382	1229	3105	3325	3647	3699	3779	3833
net enrollment rate	0.26	1.95	2.7	3.4	12.5	26.5	30.0	40.0	42.7	45.7	48.1

Higher education population and enrollment rate in mainland China, 2018
The total population receiving higher education nationwide (including all forms of higher education: graduate school, regular zhuanke/benke, adult zhuanke/benke, online zhuanke/benke, and zhuanke/benke self-study programs) was 38.33 million, of which 85.8 million were postgraduates. The gross enrollment rate of higher education was 48.1%.
Source: 教育部《2018年全国教育事业发展统计公报》PRC Ministry of Education

Dami & Xiaomi Education Center

By **Jeremie Lichtfus**

Dami & Xiaomi Education Center approached us with the mission of creating a new flagship center in the city of Beijing. The school focuses on children with Autistic Spectrum Disorder (ASD).

The center needed to have a reception area, a waiting area for parents, offices for staff and advisors, a training room and all different classrooms. The rectangular-shaped (almost square) floorplan direct us to grouped functions and keep control of each type of visitors in the school. The main concept rotates around a striped-wood main core area. We aim to provide a unique yet functional wooden core serving all the horizontal and vertical circulations and offering diagonal views for children to play safely. All the rest of the education center remains simple white spaces giving all the attention to the central wooden space. Materiality and colors had been carefully selected to offer the most optimal conditions for these children to thrive. ■

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Learning at Play: Notes from the Field

By **Anouchka van Driel**
People's Works Innovation Lead,
People's Architecture Office

The Plugin Learning Loft is an initiative started by People's Architecture Office (PAO) to research the potential of loft spaces to drive cognitive and social development in young learners through an open and collaborative design process. The project is established against the backdrop of significant changes taking place in China's education landscape1. Aligning with new ambitions and education policies, the project facilitates the implementation of STEAM and other innovative curricula with more opportunities for self-directed learning and learning through play.

Since 2018 People's Architecture Office has been investigating the education landscape through working on several school design projects in both urban and rural China. Through understanding the context and difficulties a design proposition emerged – what if there was another factor that could support the ambitions for more creative education without having to rely too much on the development of educators, large scale school overhauls and expensive innovation curricula. What if the spatial environment could be more intensely used as a third teaching dimension, through small scale spatial interventions. As such, spatial learning tools and formats that can be easily replicated, could allow teachers to leverage the important link between space and learning, and more easily integrate innovative learning methods. This relation between the design of spatial environments and the learning results is more than just speculation and is also backed by recent scientific studies. A 2015 research showed that modifying certain key elements of classroom design would improve student learning outcomes by 16 percent.[2]

Responding to this proposition PAO developed the Plugin Learning Loft. It works as a modular system that stimulates creativity and learning through play within a product and spatial design solution. This spatial learning format is currently aimed at early childhood education where there is less emphasis on testing and more opportunity for innovative and play-based learning. It is also an age where the limited motor skills of students mean there are fewer options for creative learning tools.

Sunshine Kindergarten, Xian County, Hebei Province / Photograph: People's Architecture Office

This is now the third trip to Xian county, Hebei, where the Sunshine kindergarten is located. Nearly 500 children aged 3–7 are divided over a classic school courtyard with classrooms on either side. The school is part of a larger NGO-driven project to upgrade school curricula and learning environments led by the Leping Social Entrepreneur Foundation. Walking around the kindergarten there is evidence of recent teacher training sessions, as well as a variety of DIY tactics and creativity stemming from limited means and budgets. A long line of string spans the length of a courtyard walkway from which dangle various old pots and pans, lids and other discarded metal items, the basis of an activity exploring sound, music and play. Elsewhere empty boxes of curriculum kits form an architecture and building exploration area inside the classroom. On a pink and green wall are pasted an array of drawings depicting the various parts and mechanisms of everyday machines.

Upper age group classroom, Sunshine Kindergarten, Xian County, Hebei Province / Photograph: People's Architecture Office

Courtyard scene, Sunshine Kindergarten, Xian County, Hebei Province / Photograph: People's Architecture Office

The Plugin Learning Loft is currently a design in progress. It consists of a basic structure and infill materials that connect to it. The sturdy structure addresses safety issues and provides a framework for attachments. Infill options are highly flexible to ensure the Loft is able to meet a very wide range of spatial and functional needs, providing ample options for customization and flexibility.

Throughout the design process the loft is being tested through workshops and environments where the design in process is tried out and improved. PAO has partnered with schools and experts in China and the USA to conduct on-site testing of design concepts. The testing context has a wide reach across the educational spectrum, and not only focuses on working with schools and inside classrooms but also engages with more informal settings such as cultural spaces and festivals. These sessions and outcomes are evaluated and are integrated back into the design through improvements and upgrades.

On this third trip to the kindergarten we bring along several size and scale tests that are to form the basis of the Plugin Learning Loft. With the aims to create something flexible, scalable, ergonomically suitable for the target age group, as well as a structure that encourages collective activities and play. Headmaster Ming was eager to support us in this endeavour and we set them up in the classroom. Two groups of 6–8 children aged 4–6 are invited to engage in whatever way they want with the structures. With only some minimal prompts from the headmaster the children start to explore the structures and the possibilities of some of the basic infill attached. Some play collaboratively and some individually, and soon we see that likely the sizes we are starting out with are too small for more engaging collective and social play. Though with all the excitement going on the activity goes far beyond a simple test of scale, sparking further explorations into size, function and use.

Testing the scale models, Sunshine Kindergarten, Xian County, Hebei Province / Photograph: People's Architecture Office

Still image from video of Plugin Learning Loft first prototype tests, Sunshine Kindergarten, Xian County, Hebei province / Credit: People's Architecture Office

Workshop at the Pop-Up Campus as part of the 2019 UABB, Longgang, Shenzhen / Photograph: People's Architecture Office

Early partners in the project are the Leping Social Entrepreneur Foundation and Sunshine Kindergarten in Xian County, Hebei. Leping is working on teacher training and curriculum upgrades and Sunshine Kindergarten is collaborating as a key testing ground for the Plugin Learning Loft in its classroom spaces. In this way we analyze and work with both the needs and desires of the teachers as well as the direct interests of early learners, and engage with the wider network of management and parents, finetuning the design based on interaction and user input. Through trial and error and an iterative co- design process we are able to gain insights and find more ways of leveraging design for positive social impact across the board.

About half an hour before we start, we are still engaged in a long discussion on the exact way and the different steps of how we'll present the task to the group of 18 5–7-year-olds. Working with the experienced team of facilitators from 'More than Architect' we discuss the amount of freedom we hope to permit and how this might play out through using a limited or wider number of tools. For the workshop we focus on working with one of the Plugin Learning Loft accessory kits, allowing participants to build their own structures. We decide on leaving one of the more structural parts out of the kit in order to allow more space for imagination, which turns out to be a successful move. Then in the second part of the workshop we are genuinely surprised at what starts to take place, parents as much as their kids get increasingly eager and join in the assignment to create a collective self-built structure from the assembled panels. The result not only surprises us, but everyone involved seems to feel a sense of pride at this unexpected structure that they themselves have created all on their own.

In the US the Loft forms the focus point of the study "Making Learning Vertical": An Investigation of Loft Spaces in Early Childhood Classrooms by Dr. Caitlin Malloy and James Shen in cooperation with the Newtowne School, a Reggio Emilia-inspired preschool. Part of the objective there is to gain more data sets and allow for a wider cultural input for the development of the Loft, as well as the wider implications of how space design further informs learning outcomes.

Workshop during "Social Design: Learning at Play" exhibition, Design Society, Shenzhen / Photograph: People's Architecture Office

Workshop at the Pop-Up Campus as part of the 2019 UABB, Longgang, Shenzhen / Photograph: People's Architecture Office

Artist's impression of the Plugin Learning Loft used in a classroom setting / Illustration: People's Architecture Office

Ultimately, be it on the scale of classroom tools or the larger scale of school building design and campuses, PAO's goal is to create innovative learning environments that foster five key characteristics in children, students and learners throughout the learning landscape: agency, curiosity, individualization, being socially connected and connected to the world. On a changing and transitioning planet, we perceive these traits as crucial for dealing with the complexities to come, both as individuals and as a society on the whole. ■

The Plugin Learning Loft is being developed with the kind support of: Leping Social Entrepreneur Foundation, Sunshine Kindergarten, Design Trust, Design Society, Newtowne School, More than Architect, UABB, Narada Foundation and Future Plus.

At the same time PAO welcomes further support and expressions of interest for collaboration and co-development. Interested parties can get in touch through: anouchka@peoples-architecture.com

1. Didi Kirsten Tatlow, " MANUFACTURING CREATIVITY AND MAINTAINING CONTROL - China's schools struggle to balance innovation and safeguard conformity" (Berlin: Mercator Institute for China Studies (MERICS), February 14, 2019), Available from: https://www.merics.org/en/china-monitor/manufacturing-creativity-and%20maintaining-control
2. Peter Barrett, Fay Davies, Yufan Zhang, Lucinda Barrett, "The impact of classroom design on pupils' learning: Final results of a holistic, multi-level analysis" (Amsterdam: Elsevier, Building and Environment
Volume 89, July 2015, Pages 118-133) Available from: https://www.sciencedirect.com/science/article/pii/S0360132315000700

A Close Look at a Tibetan Forest School

Longterm sustainable developer Liu Xian was invited to Zhonglu township in Sichuan in 2015 to investigate the education situation there, and in the course of the trip came up with the idea of establishing a forest school. The plan was for it to be set up in a mountainous region next to the river valley in a provincial nature reserve. Houses in traditional Tibetan Jiarong villages are stacked up against the mountainside, with ancient towers scattered in their midst. The forest school was to be positioned at the highest point, between a well-preserved Tibetan-style residential house and another residential house, on a four *mu* open space. In October 2018, the school opened with the name Denglong Yunhe, meaning Lantern and Cloud, having been fully planned, designed and renovated.

When the plan for a forest school first came up in 2015, founder Liu Xuan hoped it could be used to demonstrate nature education and build community while working towards ecological protection. Over the past five years, the forest school has achieved a lot in nature education, social enterprise and rural revitalization, winning credit as a "Sichuan Nature Education Base", and "Sichuan Primary and Middle School Experimental Research Base" and earning a "Rural Ecological Contribution Prize" and "Plateau Social Enterprise Award." With the combined effort of villagers, Zhonglu township has turned into a rural revitalization demonstration base.

NATURE EDUCATION: WHOLE PERSON DEVELOPMENT AND URBAN RURAL INTEGRATION

From the beginning, nature education was the direction Liu Xuan was interested in for the school. She wanted to cultivate a harmonious relationship between people, and between people and nature and for local students to be the main beneficiaries. She wanted education at the school to be global, not just about China, as nature conservation concerns the whole world. She also wanted to establish a unique curriculum that would focus on whole person development.

Five years on, and the forest school has a clear identity now. It is a future-focused endeavor that practices local innovative education and conducts interdisciplinary deep learning. The school tackles four themes in its own curriculum: the study of nature, self-exploration, free change and local education centered on natural ecology and environmental protection, allowing learners to use logical and rational scientific thinking, explore inner wisdom, learn to solve practical problems, and have a positive impact on the world. The learners include students at home and abroad, parent-child duos, young innovators, new farmers, wise elders, local villagers, and returning youth.

In a beautiful environment with rich natural resources, the school has launched a series of natural education courses and activities for children. Local children can learn all about their hometown, and visiting children have the chance to experience nature. They learn to identify plants and pick mushrooms with a guide. They can climb the watchtower to learn about local history. They can learn embroidery and weaving with folk craftsmen. The school conducts research and practice on a series of eco-environmental issues such as eco-toilets, new energy utilization, sewage and garbage disposal, and ecological agriculture in local villages, and hold a "Crazy Corn Festival" focused on local customs. The school has become a cross-border exchange platform, attracting local residents, policy makers, designers and those in other fields to discuss rural development and environmental protection in China.

COMMUNITY DEVELOPMENT: USING MODERN METHODS TO PROTECT NATURE AND TRADITIONS

For forest schools, community development is still an educational proposition, that is, how to change the behavior of development by changing villagers' perceptions. The forest school promoted the establishment of the first ecotourism-led farm cooperative in Danba county, and used this to promote the "protocol protection" system with villagers. That is, by signing an agreement with the cooperative, community members are encouraged to commit to water protection, garbage classification, and proper land use. These community members will first enter the cooperative for skills training and employment opportunities. This system will allow them to stay in their hometown with dignity and achieve environmental protection and cultural heritage. With this system, the forest school allows local communities to enjoy more development dividends, such as:

❶ Economic benefit flow: During the school's building and renovation, 45 local craftsmen were hired, allowing them to reap the rewards of labor and the opportunity to communicate with outside designers. Each homestay will receive research trip participant, and the school will put on in-depth ecological activities to allow more villagers to participate.

❷ Stronger community capacity: With the help of agricultural tourism cooperatives, the forest school has formed closer cooperation with local communities. While constantly improving the management mechanism, it also guides the tourism industry here to change: let local tourism upgrade from the past farmers 'individual participation to organized and organized The ultimate hope of the collective participation of management is that local communities can achieve independent operation as soon as possible.

❸ Training and promotion: The forest school organizes ecotourism training, nature guide training and local catering training for villagers, focusing on the young people who choose to return to their hometowns after graduation, with the hope of working in local tourism. In view of the most precious traditional culture in Tibetan townships, the school focuses on protection and promotion, including the design of handicrafts during study trips, and the establishment of communication channels for cooperatives.

A play dedicated to the holy mountain of Moerduo

Main area

Lavender harvest

Denglong Yunhe Forest School took five years to develop its own model. At the industrial level, as one of the very few innovative educational institutions in China that has planning and design, architectural design, curriculum development, operational management capabilities and practical experience, they have cooperated with many domestic institutions and enterprises to provide innovative education for business partners. At a content level, they explore local natural and cultural resources, and transform them into innovative educational content through curriculum research and development for schools or local and foreign learners who pay for the experience. At the level of social innovation, based on their professional background, cutting-edge development ideas, diverse expert teams and practical experience in the field, Denglong Yunhe can provide innovative education, rural revitalization, and consultation on tourism and poverty alleviation. Of course, the core of all this remains education. Education is a bridge here, which not only carries the concept of change, but also serves to promote economic and cultural values. ■

More information: yunhecentre.com

First-rate Rural Teachers

By **Yang Biqiong**

We often see or even witness touching stories about rural teachers.
The protagonist may be portrayed as a model teacher or an exemplary person due perseverance and dedication. Rural grassroots teachers are the cornerstone of rural education in China, and for this they should indeed be honoured. While praising them for sticking it out in dedicating themselves in quiet professionalism, they also need our support. First, we need to realize that the contribution of rural teachers is far more than simply an act of selfless dedication.

LONG-TERM COMMITMENT TO THE COUNTRYSIDE

There's a common element to all these touching stories. In this day and age, fewer and fewer people act like this. On January 6 this year, Ren Youqun, director of the Department of Teachers at the Ministry of Education, provided figures at a headteacher's leadership forum: rural teachers now number around 2.9 million. Around 500,000 are junior middle school teachers and only 50,000 or 60,000 are high school teachers. Precious few work in special education and kindergartens.

When the country released its Rural Teacher Support Plan (2015-2020) in 2015, reports indicated there were 3.3 million rural teachers in China. Differences between urban and rural teachers in terms of their establishment, professional status, and working conditions are hindering teachers from taking root in the countryside. The above-mentioned Support Plan specifically put forward a series of measures aimed at establishing a mechanism for talent recruitment and retention. Five years on, it appears we need to redouble our efforts.

Many social organizations, including Green and Shine Foundation, are also making efforts to this end. With its range of supportive projects, Green and Shine provides financial assistance to rural teachers and their children, as well as the conditions for vocational training and lifelong education. By cooperating with county (city) education bureaux, Green and Shine also has a "Happy Gardener Program." Mental health is a priority for the organization, as well as teachers' level of contentment and sense of professional identity.

PAY ATTENTION TO STUDENTS' PERSONALITY DEVELOPMENT

Fan Ying, deputy chairman and secretary general of the Green and Shine Foundation, once said of the children in rural China, "Teach bravery so that the child will be strong and temper their heart; teach knowledge so that the child will understand the world around them and explore the unknown; teach morality, so the child knows everyone is equal and cannot be violated; teach love so the child will know the value of life, be gracious with others and dedicate themselves to others."

This is an incisive elaboration of the "humanistic teacher" mentioned in the Book of Rites. In today's rural reality in China, most children will stay in the countryside. How to instill in such children a grounded personality and the basic ability to make a living and grow?

The first is to keep more students from dropping out of school. The second is to teach children to understand their hometown, cultivate self-identity, and learn to coexist with the environment. Many of the teachers who were selected for Green and Shine's Nanshi Program used natural and cultural resources in their area to design natural or local courses according to local conditions. Some teachers compile traditional ethnic customs into school-based textbooks and integrate them into daily teaching practice; some teachers take students to learn traditional handicrafts, which not only promotes the inheritance of intangible cultural heritage, but may also provides a livelihood in the future.

There is also the problem of left-behind children. Statistics from the Ministry of Civil Affairs show that as of the end of August 2018, there were 6.97 million left-behind children in rural areas. A principal of a primary school in Sichuan once said: "70% or 80% of our students are left-behind... Especially in rural schools like ours, family education really does not play a big role. In some families, even if the parents are at home, the children behave like left-behind children because no one is really taking care of them." In these places, teachers have to be not just promoters of learning, but also caring and considerate guardians, and sometimes elders concerned for the behavior of society's youth.

VALUING THE INHERITANCE OF CULTURAL TRADITIONS

The best traditional culture plays an important role in anchoring the spiritual core of the Chinese people in today's diverse world. This is the backdrop against which the next generation needs to learn about traditional Chinese values, world perspectives and human values. The education industry is implementing this concept to all stages of school education and throughout the process of talent training.

In many parts of China, especially ethnic minority areas, rich traditional folk or ethnic culture plays an important role in livelihoods. Like all contemporary intangible cultural heritage, it is at risk of being lost to modernity. In the protection and inheritance of these cultures, local schools and teachers play an active role, taking on the responsibility of educating the public and stimulating awareness. They compile teaching material of local traditional culture and lead students in gaining knowledge, visiting cultural sites, or practicing their own unique dance, music or craftsmanship. Some teachers educate bilingually, or establish minority language courses to do their part in the sustainability of small languages.

FOCUS ON INNOVATION

The famous educator Tao Xingzhi wrote in "First-Class Educators" that in his opinion, the best teachers were those who dared explore new ideas, had a creative spirit and could navigate boundaries fearlessly. He urged teachers to look deep when creating, and look far when exploring. In short, courage is essential for creative endeavors.

Our rural teachers are not lacking in the courage to innovate, and they make this clear in curriculum design, teaching models and teaching methods. One teacher in Gansu province felt the history represented in the textbook was too far removed from local students, and designed a lesson for students to explore the history of their hometown by visiting village ruins and interviewing the elderly. One teacher in Inner Mongolia was always looking for breakthroughs, not only promoting children's reading (later establishing teacher development camps, connecting well known local teachers and large groups of rural teachers in urban and rural areas), but first setting up group teaching with the aim of bringing in some degree of classroom autonomy and giving the students some choice. These innovations are not only due to the lack of teaching resources in rural areas, but also because rich natural resources are conditional on circumstance. A lot of these rural schools are small, which makes this model successful. Most importantly, these rural teachers are invested in what they are doing, which gives us the support needed to make it work. ■

The Green and Shine Foundation supports continuous learning for rural teachers by way of three types of project: financial support, online learning, and field study visits.
Green and Shine Rural Teachers Program aims to promote teaching ethics and best practice educational methods and innovations. Originally known as the Nanshi Award, it was initiated by Chinese scholar Nan Huaijin before his death and jointly established by the Green and Shine Foundation and the Nan Huaijin Culture and Education Foundation in October 2012.
Between 2013 and September 2019, four program cycles have been carried out, attracting applications from 613 rural teachers nationwide of which 80 were shortlisted and 60 selected. The fifth selection season has now been launched.

For more information see: www.greenandshine.org

Inclusive Education Through Art: Art Brut Culture

Jielin (pseudonym, autism, Guangzhou, b.1994)
"Cosmic Nebula", acrylic on canvas

Jielin is an academic minded autistic young person. In addition to his love of painting, he is also very particular about space and time. He likes to make calendar calculations and use images to record some fragments of space and history, echoing from the depths of time. This "Cosmic Nebula" comes from his vision of the starry sky and the universe. It calls out to those approaching Jielin's paintings, and builds a bridge between the magnificence of the outer world and the mystery of the inner world.

Liu Yi (pseudonym, autism, Shanghai, b.1988)
"Star Monster", oil on canvas

Liu Yi is good at combining shapes and color blocks to form interesting pictures with overlapping layers. He is also a master of comic effect who is skilled at capturing the details of life and the expression of his characters. In this oil painting, Liu Yi blends geometric elements such as stars with portraits, creating a colorful, seemingly abstract "star monster". This is Liu Yi's color scheme and image paradise.

World of Art Brut Culture (WABC) is a barrier-free art foundation established in 2010 with the aim of improving the expressive ability of people with intellectual disabilities by providing art healing services and advocacy. Greater understanding and tolerance allow more people with intellectual disabilities to integrate into broader society. The Foundation is committed to improving people-to-people communication through art, helping people gain self-awareness, caring about human lives, and developing social integration and goodwill. Shanghai Yitu Charitable Foundation (WABC) was formally established in 2016.

Little Dragon (pseudonym, cerebral palsy, Shanghai, b.1988)
"Together at Heart", oil on canvas

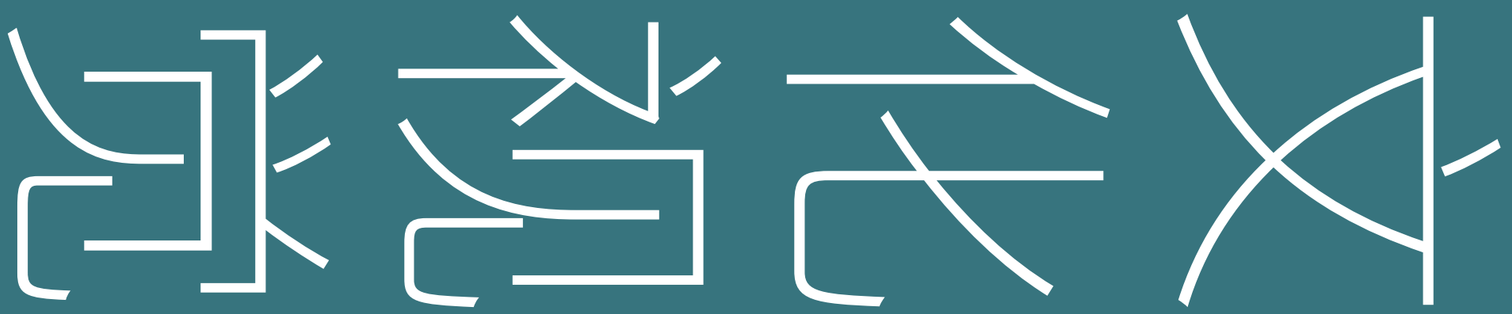
Little Dragon is a sunny and handsome boy. Cerebral palsy has not depressed him. On the contrary, he likes to spread his optimism and happiness around. Xiaolong's works are naive and bold, with bold colors and informal shapes. He is a romantic at heart, and his works often display tenderness and hope. During the epidemic, Xiaolong created a series of paintings on fighting the disease. "Together at Heart" is one of them, showing the determination and courage of global unity and victory.

Little Swallow (pseudonym, intellectual disability, Shanghai, b.1988)
"Everything Lives", marker on paper

Little Swallow's work is full of impossible dreams, enchanting places, and fearsome hellscapes. There are ghosts, elves, aliens, and unidentified beings. Like being given some kind of mysterious power, creative inspiration for her is endless, natural, strange and wild. In her world, there is no essential or sharp difference between good and evil, and the use of "evil" is for play, just like for Baudelaire. Like many other works, "Everything Lives" is complicated to a dizzying extent. The densely combined eyes, feathers, and blades form a girl, wrapped layer by layer. Such an image is enough to make viewers uneasy. In our relationship with the outside world, everything is born and destroyed by the heart.

Chen Yang (pseudonym, mental disability, Hangzhou, b.1990)
"Pastoral Scene", acrylic on canvas

Chen Yang's favorite artistic form is the landscape. Complex graphics and digitally deconstructed images are important features. In this painting, grass, fields, trees and houses are constructed using colorful blocks, whether dense and ordered dots, twisted or irregular, they seem to have vigorous vitality. There is a hustle and bustle hidden in the tranquility of such a landscape, as if from one of Tao Yuanming's poems about distant mountains, or Van Gogh's countryside of southern France.



Visualize Me

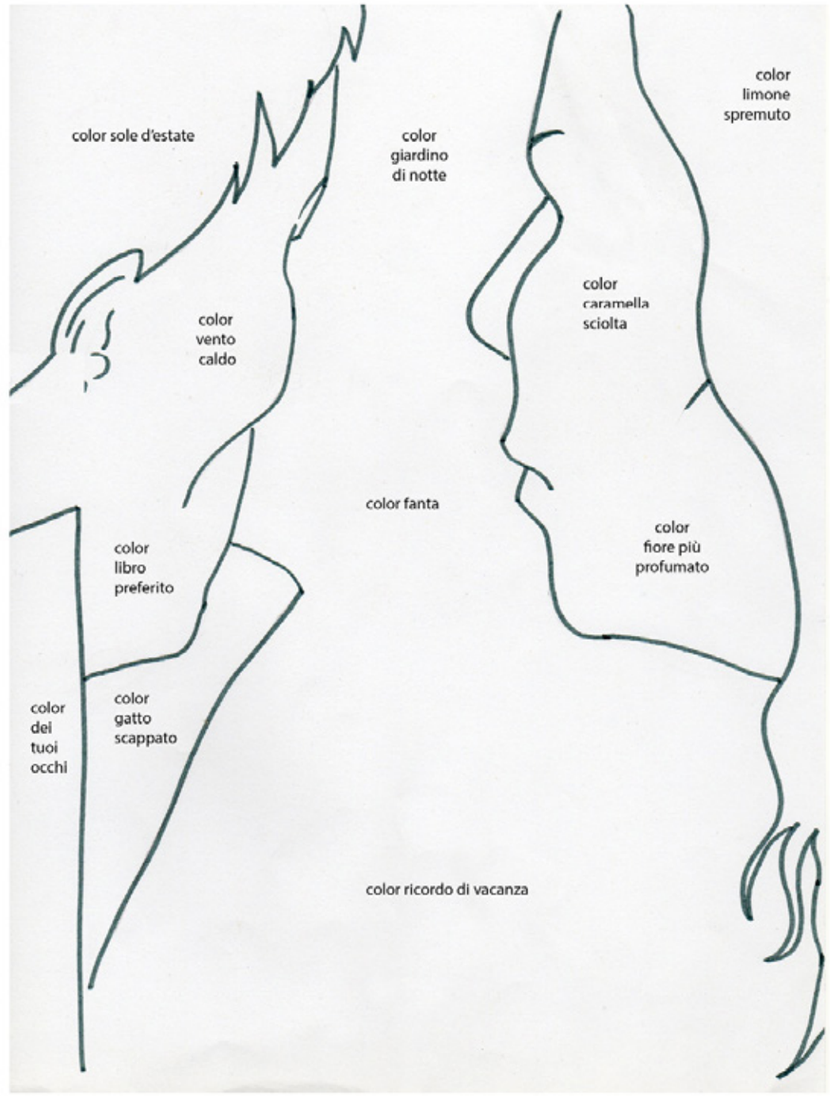
The Coloring Book

Milano Art Guide
2020

To help make distancing and containment a little less burdensome in these challenging times, Rossella Farinotti and Gianmaria Biancuzzi invited contemporary artists from different generations to create “The Colouring Book”.

Everyone from home can browse it, download the A4-sized drawings to their devices or print them. Coloring them shall - we hope - bring a bit of distraction to all of us quarantined at home – whether we’re alone, with family or with flatmates. Generous as usual, artists felt compelled to contribute with their creativity and allow people to engage with artworks in a new, imaginative way. ■

VINCENZO LUCA PICONE
OASIS
#0295
Image courtesy of the artist
© Vincenzo Luca Picone



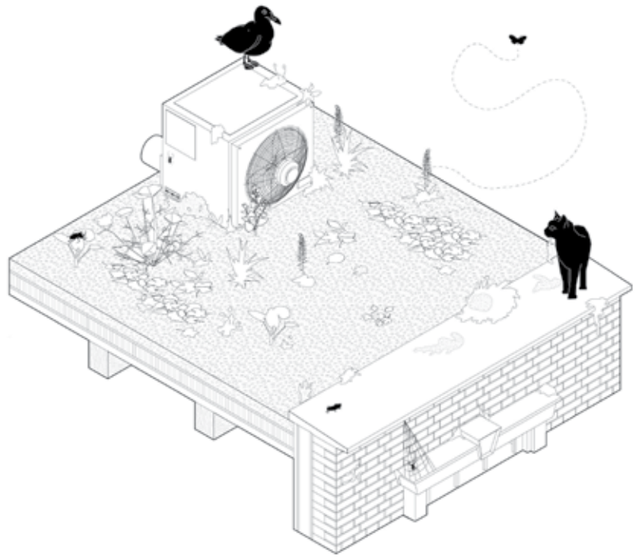
ALESSIA ARMENI
#0157
Image courtesy of the artist
© Alessia Armeni

PIERO CORVA
CORSA SOSPESA
#0008
Image courtesy of the artist
© Piero Corva

VANNI CUOGHI
MALEDETTA PRIMAVERA
#0022
Image courtesy of the artist
© Vanni Cuoghi

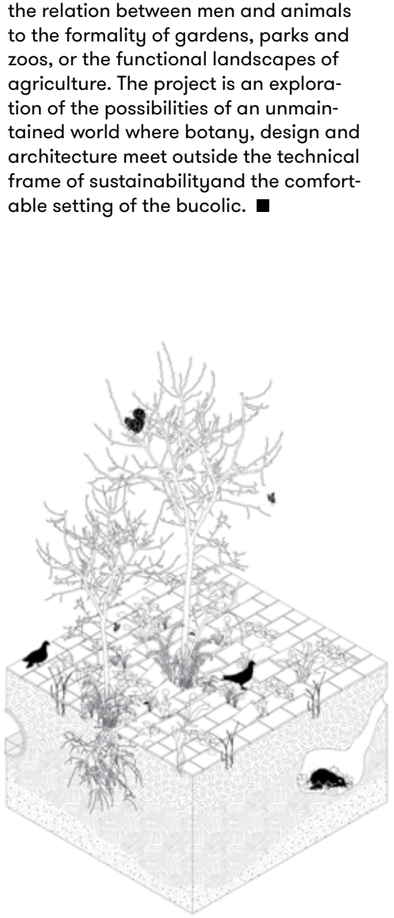
The Wild City

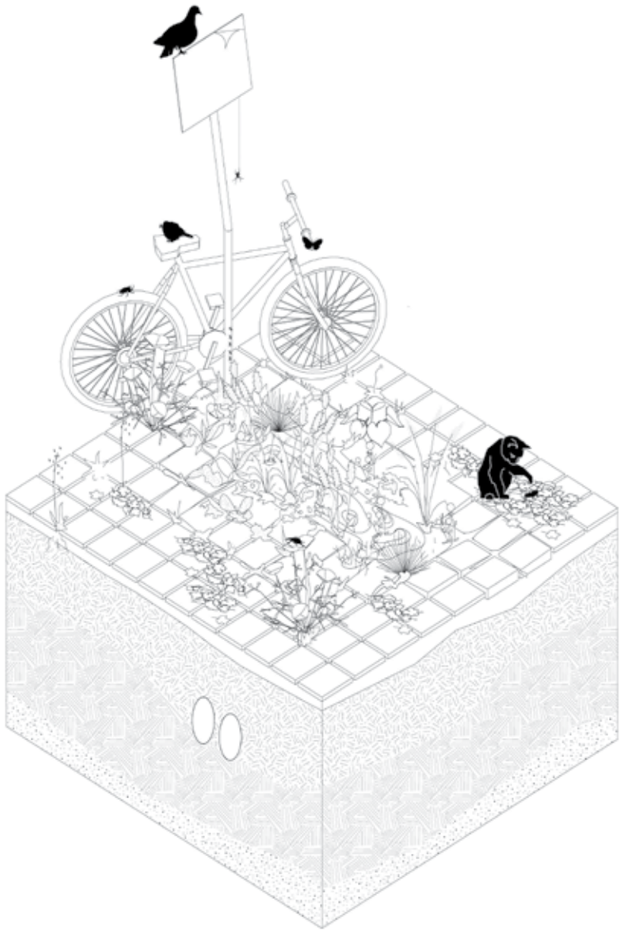
Giovanni Bellotti, Erik Revelle', 2011
The Why Factory Biodiversity Design Studio /
Feliz Madrazo / Wim Schermer / Bas Kalmeijer

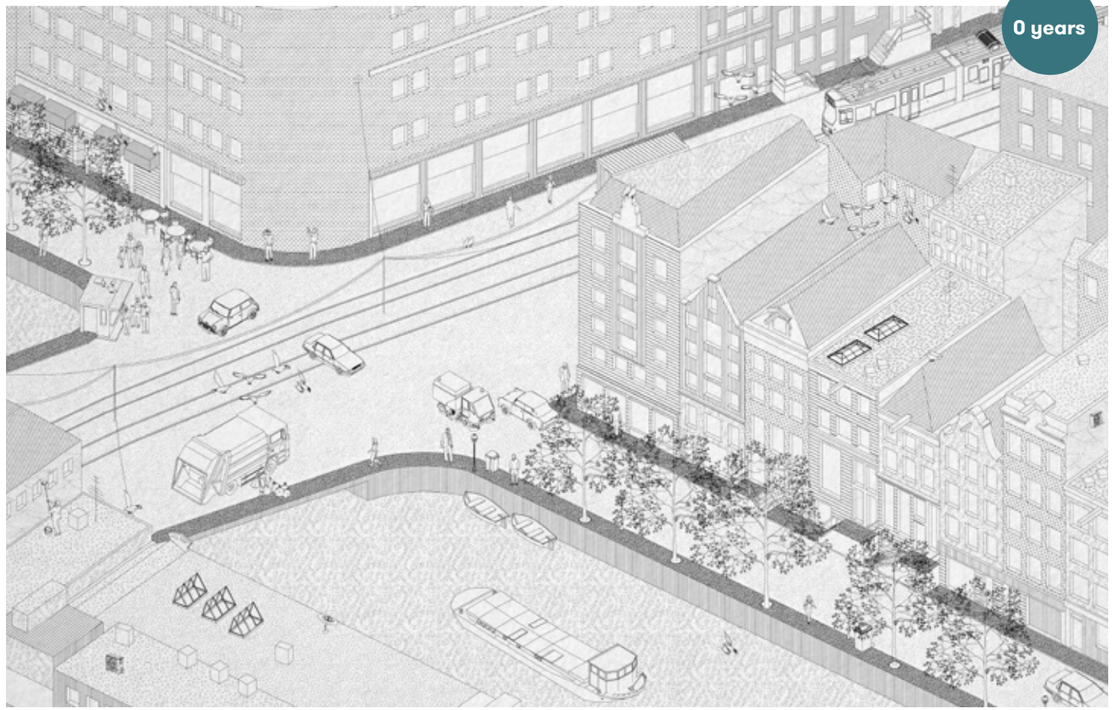


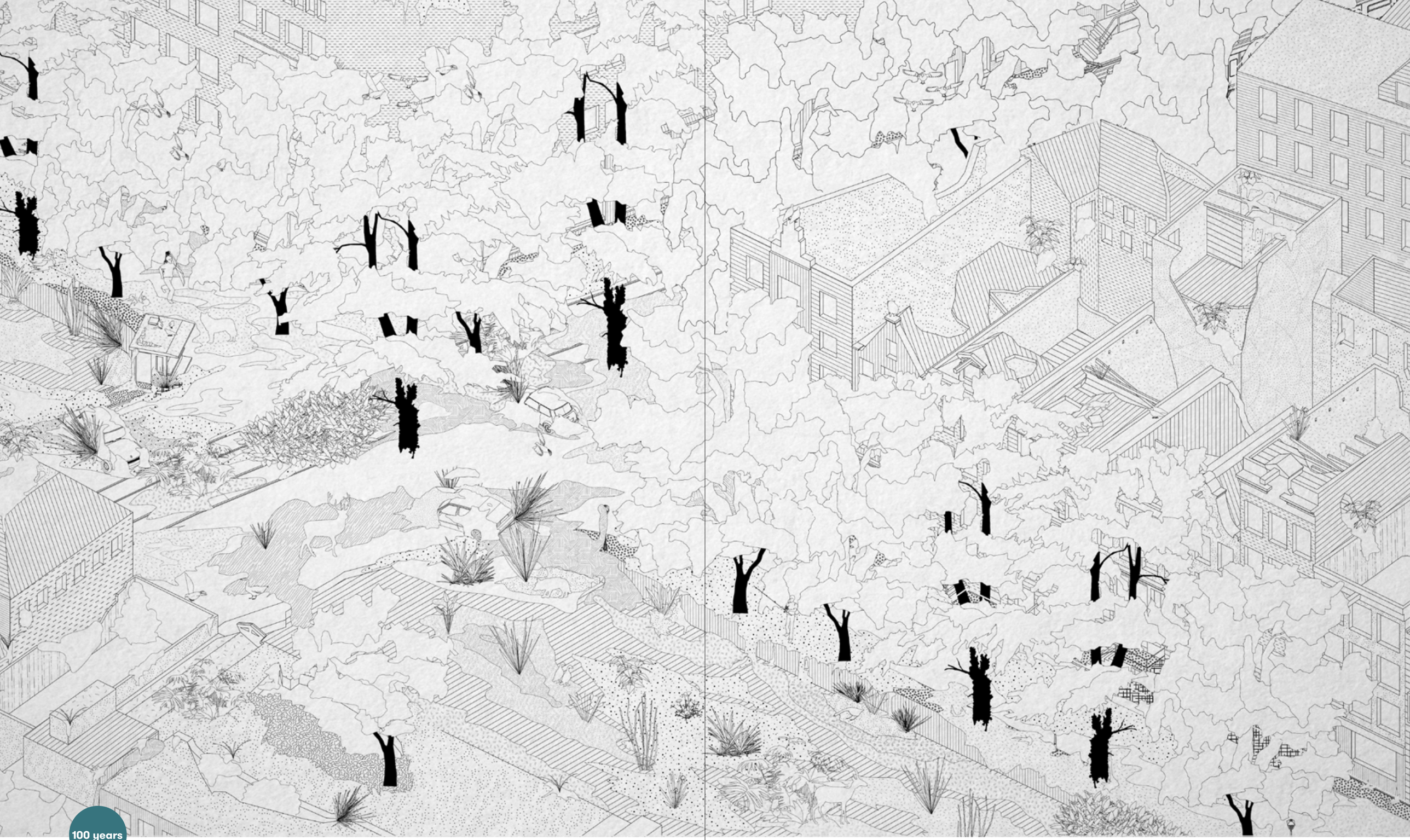
There isn't a patch of land in the Netherlands that hasn't been, one way or another, touched, adapted or protected from other environments.

The "wild", in the Netherlands, disappeared centuries ago, confining the relation between men and animals to the formality of gardens, parks and zoos, or the functional landscapes of agriculture. The project is an exploration of the possibilities of an unmaintained world where botany, design and architecture meet outside the technical frame of sustainabilityand the comfortable setting of the bucolic. ■









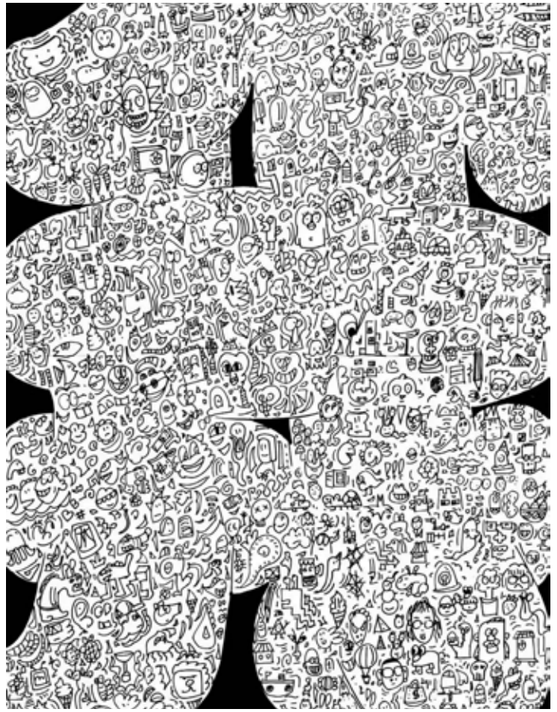
100 years

Moods of 我
Moods of Me

By **Céline Lamée** and **students at BIFT**

What I notice a lot in teaching graphic design students in China is that there is a hesitation to sketch. Most students want to be really sure that what they will be doing is right before starting.

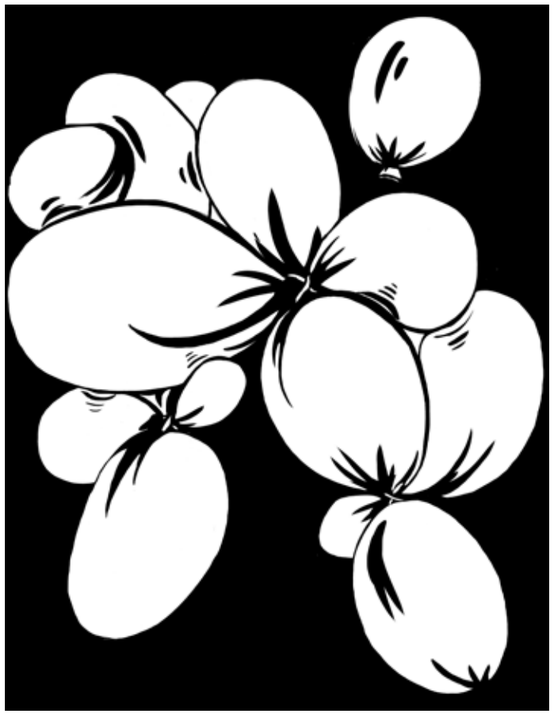
This results in a lot of talking and pre-thinking. Quite the opposite of how art is being taught in the Netherlands, where I'm from. Therefore, I intend to make my second year students at BIFT (Beijing Institute of Fashion Technology) think less and do more. By doing simple and short assignments I hope to get their creative juices flowing. In this particular one I gave all students a mood in which they had to design the character for me (我). The first class they couldn't use computer, just sketching ideas on paper. The second class all worked out their characters in black and white in their computer. Together we chose the best ones and together it resulted in this series of me's. ■



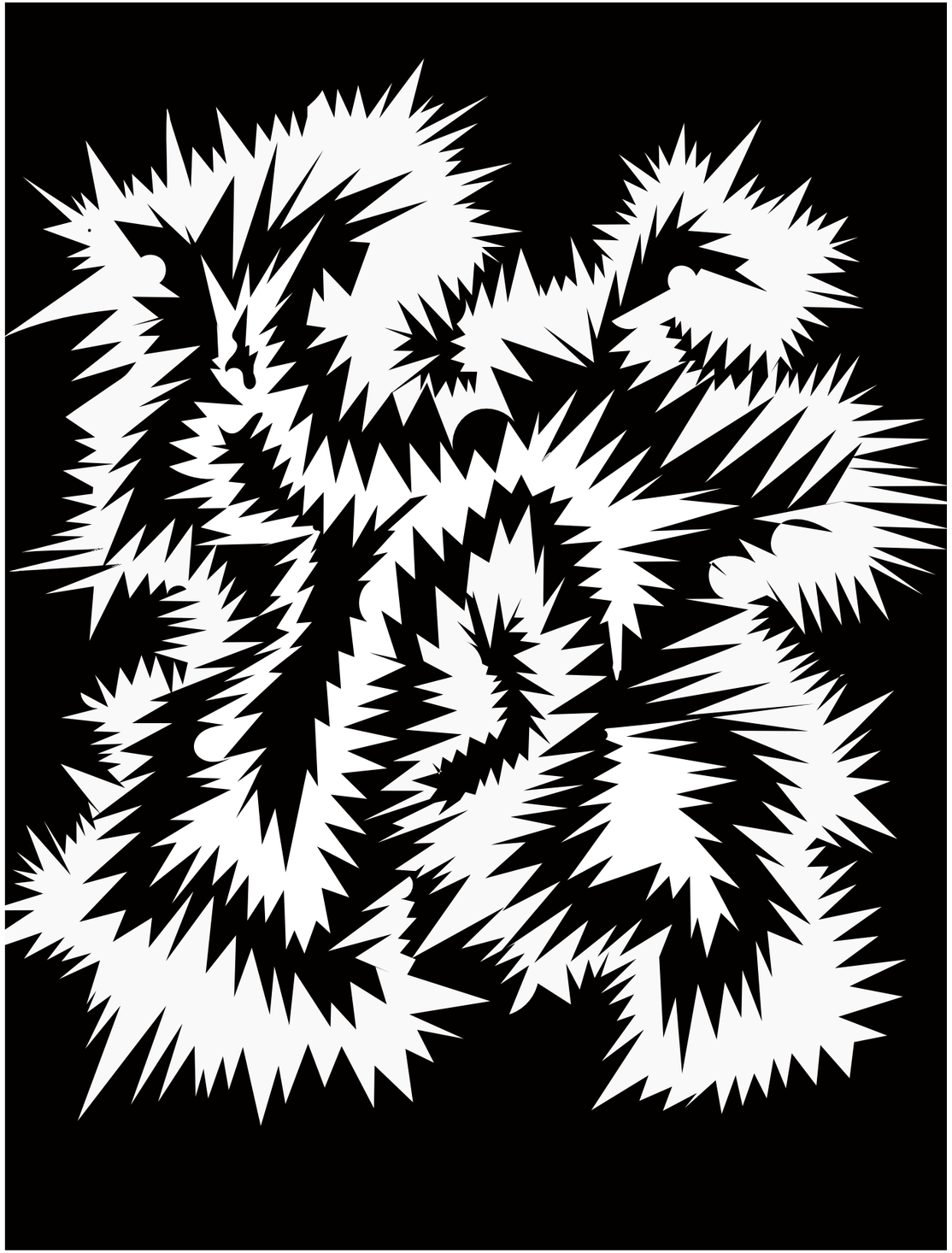
Bored

Enthusiastic

Drunk

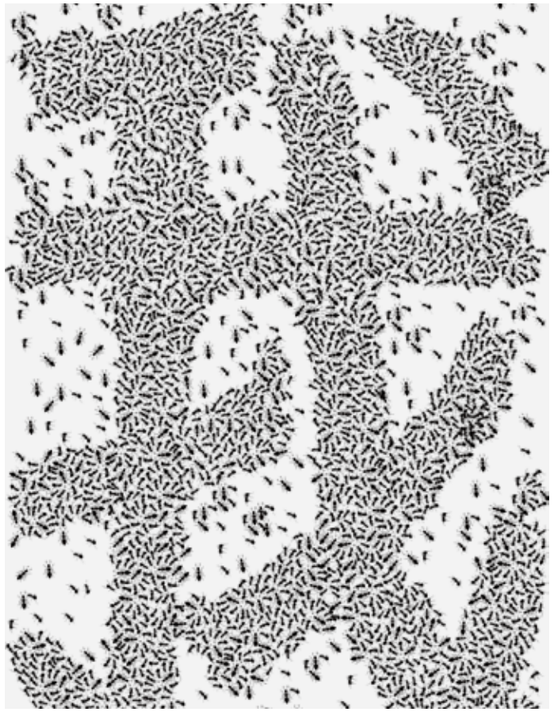


Angry



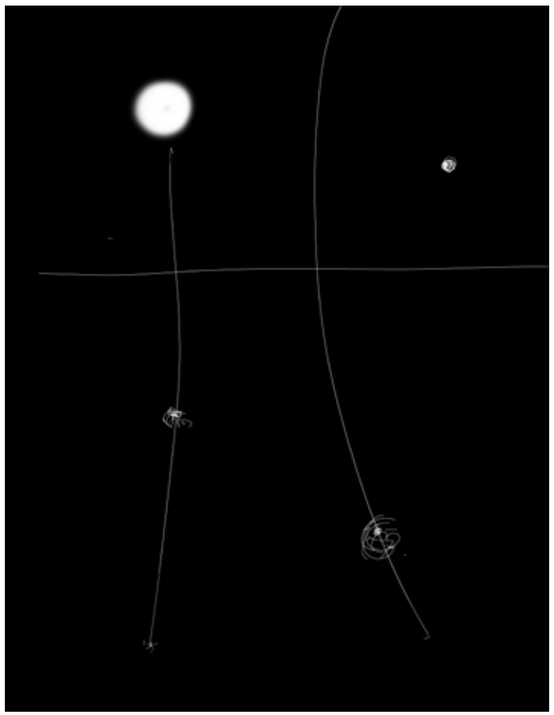
Scary

Dreamy



Hate

Lonely



Lazy

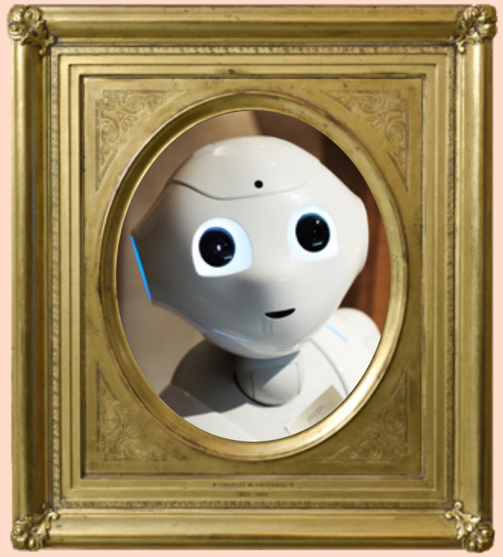
Serial Innovators

对话创新者

The Art of AI

An interview with **Kai-Fu Lee**

A leading figure in the Chinese tech scene and in artificial-intelligence development globally, Kai-Fu Lee earned a PhD in computer science from Carnegie Mellon University in 1988 before serving in executive roles at Apple, SGI, Microsoft, and Google, where he was president of Google China. Now the chairman and CEO of Sinovation Ventures in Beijing, he is the author of AI Superpowers: China, Silicon Valley, and the New World Order. Here, he discusses the global AI race, the current state of the field, and what may – and should – come next.



Project Syndicate: As someone who long worked for US companies and now oversees a tech venture capital firm, you're deeply familiar with the world's two main settings for AI development and research. What are the trade-offs of each R&D environment? What advantages does China offer over the US, and what must policymakers change or improve to achieve China's goal of catching up to and surpassing the US?

Kai-Fu Lee: There is now a clear US-China AI duopoly. AI in China is rising rapidly, boosted by several structural advantages: huge data sets, a young army of technical talent, aggressive entrepreneurs, and strong and pragmatic government policy. The attitude in China can be summarized as pro-tech, pro-experimentation, and pro-speed, all of which puts the country on track to becoming a major AI power.

The big players in China are competing fiercely with their US counterparts, and rapidly catching up in terms of research and scientific expertise, as well as global platform experience. Because China is a latecomer in the world's technology leadership, clear and consistent government policy has also helped accelerate the growth in R&D funding, as well as encouraging the adoption and implementation of AI technologies across the Chinese public and private sectors.

In my interactions with national leaders around the world in the recent years, I have been glad to see more countries adopting national strategies for technology and investment – particular in AI – to advance their economies.

PS: You recently reported that only a few of the roughly 40 investments that Sinovation Ventures has made in AI would actually threaten jobs. That will no doubt surprise many readers, given that labor-replacing automation has been a major focus of attention in media coverage of AI. What are the most promising AI applications that the dominant narrative ignores? What's the best value-enhancing application that no one has ever heard of?

KL: AI has moved from the age of discovery to the age of implementation, and the biggest opportunities are in businesses where AI and automation can deliver significant efficiencies and cost savings. Among our invested portfolios, primarily in China, we see flourishing applications in banking, finance, transportation, logistics, supermarkets, restaurants, warehouses, factories, schools, and drug discovery. But I am most hopeful about the impact of AI on education and health care.

I would highlight education-related applications as an area where China may soon be leading the world. We have companies in our portfolios developing AI solutions to personalize and gamify math learning, to improve English pronunciation, and even to grade exams and homework. This promises to free teachers from routine tasks, allowing them to spend time building inspirational and stimulating connections with the next generations.

In health care, we have companies combining deep learning and generative chemistry to shorten the drug-discovery time by a factor of three or four. We have also invested in a company that uses AI and big data to optimize supply chains, reducing medication shortages for more than 150 million people living in rural China. I feel particularly confident that AI education and health-care applications are evolving in ways that will benefit current and future generations at scale.

PS: Turning that question around, which areas of AI have been overhyped, either by the industry or in the media?

KL: Many dystopian visions of AI predict omnipotent superintelligences, which may or may not spell the end of humankind. To be clear, this sort of superintelligence is not possible based on current technologies. There are no known algorithms for AGI (Artificial General Intelligence), nor is there a clear engineering route to get there.

The singularity is not something that can occur spontaneously, with autonomous vehicles (AVs) running on deep learning suddenly "waking up" and realizing that they can band together to form a superintelligent network. I do feel that AGI is overhyped and creates unnecessary fear among people.

Getting to AGI would require a series of foundational scientific breakthroughs in AI, a string of advances on the scale of, or greater than, deep learning. These breakthroughs would need to remove key constraints on the "narrow AI" programs that we run today, and empower them with a wide array of new abilities: multi-domain learning, domain-independent learning, natural-language understanding, commonsense reasoning, planning, and learning from a small number of examples.

Taking the next step to emotionally intelligent robots may require self-awareness, humor, love, empathy, and appreciation for beauty. These are the key hurdles that separate what narrow AI does today – spotting correlations in data and making predictions.

I cannot guarantee that scientists will not achieve the breakthroughs that would bring about AGI and superintelligence in the future. In fact, I believe we should expect continual improvements to the existing state of the art. But I believe we are still many decades away from the real thing.

PS: Putting aside the complications posed by the current US-China trade/technology war, should there be a global pact for AI along the lines of the Universal Declaration of Human Rights (which has been updated over time to account for scientific advances in genetics and other fields)?

KL: Whether the Universal Declaration of Human Rights is the right vehicle, I cannot say, but it is true that global cooperation is paramount. In my book, I urge us to move beyond competitive instincts to recognize that AI's effects know no borders, and that our common challenges call for solutions that recognize how inextricably intertwined our destinies are across all economic classes and national borders.

Having said that, the idea that we can come up with a single set of global standards for AI ethics and consider the job done is naive, I fear.

There is no one institution with either the mandate to codify basic rules or the power to enforce them. We must recognize that attitudes and visions for AI will be different across regions and countries. We must find a way to work together to reach serviceable solutions (which is a challenge to which I am contributing some of my personal time). But we're still a long way off.

PS: You've said that AI will never be capable of mimicking key human traits such as creativity and empathy. What about human morality? When it comes to vesting AIs with moral decision-making – for example, when an SAE Level 5 AV (one with full autonomy) confronts the "trolley problem" – must governments step in, or could the relevant standards be set by the industry over time?

KL: It's a good question. I tend to believe that these sorts of scenarios, and the "standards" that might be created to solve them, will be based on the accumulation of data, and therefore shaped by the industry over time. Engineers are clearly focused on developing systems that are safe and rigorously tested.

PS: You've said that if we can get AI right, it could liberate us from toil and free up more time for leisure. That's a very old promise, going back at least to John Maynard Keynes; and yet, despite the many labor-saving innovations of recent decades, we seem to be working more than ever. Why should we believe that this time will be any different?

Kai-Fu Lee is a co-founder and CEO of Sinovation Ventures, a leading venture capital firm investing in China and North America.

KL: Simply put: Because AI is bigger – much bigger – than the introduction of the washing machine or the industrial production line. The AI revolution will be at least of the same magnitude as the Industrial Revolution, but probably larger, and definitely faster. Whereas the steam engine replaced only physical labor, AI can perform both intellectual and physical tasks.

For cognitive tasks, the ability to learn means that computers are no longer limited simply to carrying out a rote set of instructions written by humans. Instead, they can continuously learn from new data and perform better than their human programmers. For physical tasks, robots are no longer limited to repeating one set of actions (automation), but instead can chart new paths based on the data they take in (autonomy).

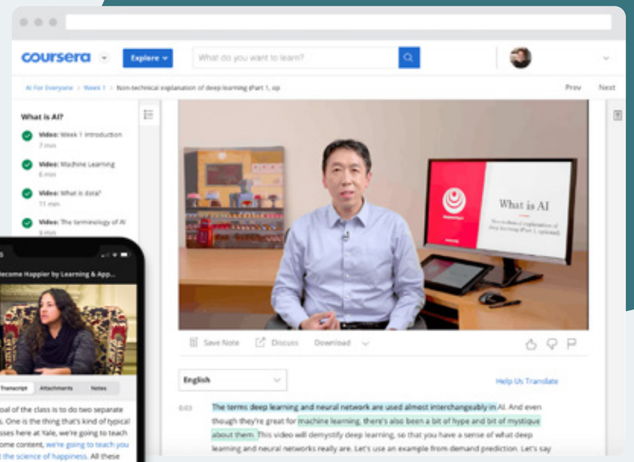
Together, this enables AI to perform countless tasks across society: driving a car, analyzing a disease, providing customer support, and so on. AI's superhuman performance of these tasks will lead to massive increases in productivity and the potential for liberation from toil.

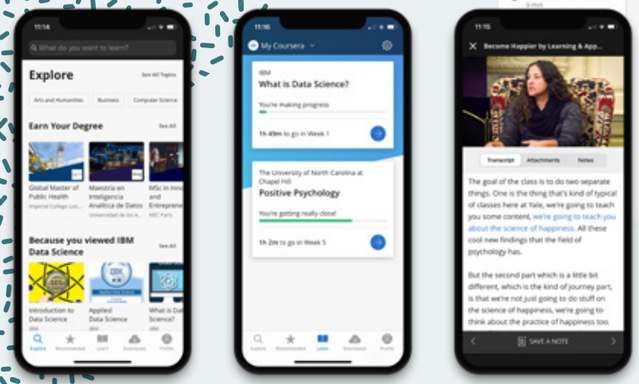
PS: When not AI-ing, what does leisure mean to you?

KL: Spending time with my family is very important to me. ■

Online Education in Response to Global Pandemic: The Case of Coursera

By **Sarah Orlando**





Coursera was founded by Daphne Koller and Andrew Ng with a vision of providing life-transforming learning experiences to anyone, anywhere. It is one of the top online learning platforms in the industry, with 200 university and industry partners, over 2,400 entities using Coursera for Business and – the most striking figure - over 60 million registered learners from around the world, of which 10 million added during the last month, as online education surged due to Covid-19, especially for courses in data science, computer science, business and health care.

The company offers a variety of business models and offers its products at a wide range of prices. There are thousands of courses that are free to audit, some that typically range from USD 39 to USD 89 in the form of a monthly subscription, until the more traditional online degree programs that range from USD 15,000 to USD 30,000.

Coursera is a full digital platform intended as a modern answer to what organizations need today, to develop, measure, and track skills. In fact, one of the most intriguing capabilities of the Coursera platform is its Skills Graph —a series of algorithms connecting learners, content, and careers through a common skills currency, a mineable database to which Coursera applies a set of machine learning algorithms that they use to identify key skill trends and gaps in learner ability, as well as tailored, company-specific benchmarks to help the latter understand the current state of learning in their organization.

These insights have real industry credibility and are being used today by numerous organizations, from the World Economic Forum to the MIT Technology Review. Even Baidu is increasingly using Coursera's assessments for recruiting talent.

Coursera stands out for its size (both in learners and content), maturity, and depth. “As long as the company can maintain their topical appeal and keep its vast dataset fresh, it will be able to maintain its status in the industry as well as its price points, as one of the few "go to" online learning platforms in the industry”, writes the strategist Dion Hinchcliffe.

COURSEMATCH

In March, as the spread of Covid-19 was becoming obvious and the disruption to students’ education was intensifying, Coursera announced a Coronavirus Response Initiative that provided pandemic-impacted universities with free access to the Coursera course catalogue through Coursera for Campus, and has since activated more than 2,600 programs for colleges and universities around the world.

“But with the large demand came a problem” – says Michael T. Nietzel on Forbes. “As more universities went live with Coursera offerings, they needed a solution that would identify courses on Coursera that most closely matched the courses in their own on-campus catalogues.”

In April, Coursera launched the answer to such problem: CourseMatch, a machine learning solution that uses natural language processing techniques to find the semantic similarity between Coursera and institutional courses, and automatically matches Coursera courses to on-campus courses at colleges and universities across the globe. It can handle course catalogues in more than 100 languages and by April 15th the company claimed that 2.6 million courses at 1,800 institutions have already been matched.

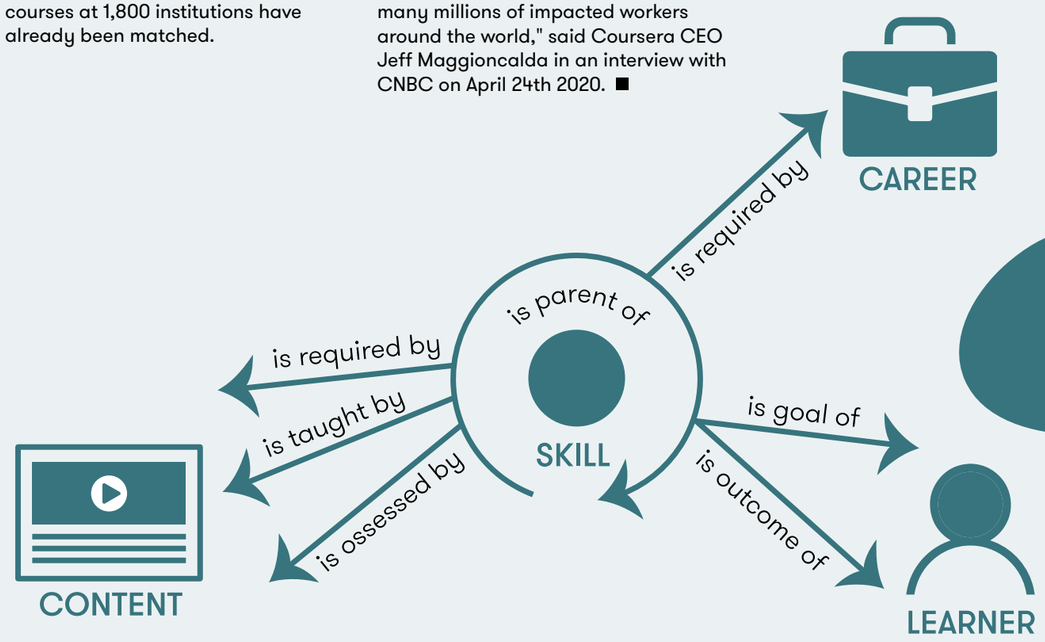
THE COURSERA WORKFORCE RECOVERY INITIATIVE

To assist during the coronavirus outbreak Coursera, through its platform Coursera for Government, in an effort to help countries, states, and cities reskill their unemployed workers to re-enter the workforce, launched the Workforce Recovery Initiative. By teaming up with state governments in the U.S. and the leadership of countries around the world (until now governments of Colombia, Costa Rica, Greece, Malaysia, Panama, Ukraine and Uzbekistan have joined the Initiative), Coursera is offering at no cost over 3,800 courses and 400 Specializations from top universities and corporations, including Amazon and Google. The free courses, which usually cost USD 399 a year, are focused on skills and professional certifications that should help out-of-work individuals find new jobs in high-demand sectors.

Government agencies serving unemployed populations can get Coursera for unemployed workers at no cost, and will be able to offer free access until September 30, 2020 and learners enrolled at that time will continue to have access to finish their courses until December 31, 2020

"We hope this initiative can serve many millions of impacted workers around the world," said Coursera CEO Jeff Maggioncalda in an interview with CNBC on April 24th 2020. ■

Jeff Maggioncalda joined Coursera as CEO in June 2017. He previously served for 18 years as the founding CEO at Financial Engines Inc, a company co-founded by economist and Nobel Prize winner William Sharpe. He holds an M.B.A. from the Stanford Graduate School of Business and a Bachelor's degree in Economics and English from Stanford University.



www.coursera.org/coronavirus

Creative Senses

创意资讯

The 1st Belt and Road Creativity and Sustainable Development Seminar

On December 18, 2019, the first Belt and Road Creativity and Sustainable Development Seminar was held at the Plaza of Design, Xicheng District, Beijing. More than 20 trainees from Asia and Africa participated in this training activity.

TRAINING INTRODUCTION

The Belt and Road Creativity and Sustainable Development Seminar, which was jointly hosted by ICCSD and the School of International and Public Affairs, Jilin University, and co-organized by Beijing Design Capital Development Co., Ltd., has shared China's exploration and experience in creativity and sustainable development with trainees along the "Belt and Road" region and from relevant countries by lectures, workshops, field research, etc., based on creativity, design, technology, urban renewal, sustainable development and so on. The seminar has facilitated cultural exchanges and mutual learning, and jointly promoted sustainable development with creativity.

As a strategic partner of ICCSD, the School of International and Public Affairs, Jilin University has undertaken the degree education task of the Ministry of Commerce since 2014. It mainly recruits government officials from developing countries and government staff engaged in media, culture, education, urban construction, and civil diplomacy and other fields. The project has achieved good results.

COURSE ARRANGEMENT

COURSE 1: HOW DOES CHINA IMPLEMENT THE UN 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

The workshop is lectured by Ms. Yang Baozhen, former consul in France and former senior project officer of the Canadian International Development Agency

On the morning of 18th December, Ms. Yang Baozhen, former consul in France and former senior project officer of the Canadian International Development Agency, introduced China's major achievements in poverty reduction, education, health, woman's status, environmental protection, peace & justice and international cooperation, etc. in recent years, with the theme of "How does China Implement the UN 2030 Agenda for Sustainable Development". China is willing to share experiences and contribute to the early realization of the UN sustainable development goals. The course combines a large number of vivid practical cases, which are highly targeted and enlightening for trainees.

COURSE 2: SUSTAINABLE INNOVATIVE DESIGN OF ARTIFICIAL INTELLIGENCE

The workshop is lectured by Qin Jingyan, professor and doctoral supervisor with the Department of Industrial Design, University of Science and Technology Beijing

On the afternoon of December 18th, Qin Jingyan, professor and doctoral supervisor with the Department of Industrial Design of the University of Science & Technology Beijing, gave a lecture entitled "Sustainable Innovative Design of Artificial Intelligence". The course focuses on the 17 Sustainable Development Goals of the United Nations, introduces quantum innovative thinking, combines quantum computing, artificial intelligence, block-chain technology, and conducts new exploration from technical philosophy, innovative thinking and design techniques.

COURSE 3: SUSTAINABLE CULTURAL DESIGN IN CHINA

The workshop is lectured by He Songfei, associate professor of Beijing Institute of Fashion and Technology

On the morning of December 19th, He Songfei, associate professor of Beijing Institute of Fashion Technology gave a lecture themed by "Sustainable Cultural Design in China". He introduced the achievements and problems faced by China's development, and pointed out that the key to innovation and sustainable development lies in adapting to local conditions, which means to find an appropriate solution socially and culturally according to one's own cultural context and development problems.

COURSE 4: EXPLORING THE LONGTANG MODEL OF RURAL REJUVENATION

The course is lectured by Li Jiachen, Deputy Secretary General of Youcheng China Social Entrepreneur Foundation

On the afternoon of December 19th, Li Jiachen, Deputy Secretary General of Youcheng China Social Entrepreneur Foundation, gave a lecture themed by "Exploring the Longtang Model of Rural Rejuvenation". The rural revitalization project is taken as an example to share the preliminary exploration of Longtang Village in targeting poverty alleviation and rural rejuvenation.

FIELD VISIT

On the morning of December 20th, the trainees went to Zhongguancun Software Park for a field visit of technological and creative development in Beijing, in order to learn about the development, industrial layout and innovative services of the Software Park. In the Park, the trainees felt the vitality of China's technological innovation, came into contact with the development frontier of artificial intelligence and other industries, and communicated with the representatives on the park's industrial layout, dual entrepreneurship, international cooperation, incubation network system, talent training, etc.

On the afternoon of December 20th, the trainees went to Baitasi to learn about urban renewal experience in Beijing. After visiting the transformed courtyard project in the Baitasi area, they had a detailed understanding of the creative design concepts and sustainable transformation measures of each courtyard. The trainees expressed great enthusiasm for sustainable solutions that could integrate traditional culture and modern elements in the area. The innovative practice of the Baitasi renewal project in exploring the old Hutong area also led them to more profound thinking. ■

"I think this is a great opportunity for us. In this training, we can get insights from lecturers in the professional field. As foreign trainees, we are fortunate that we can learn from them. I want to express thanks for this very great training opportunity."

—Muhammad Raihan Ronodipuro Indonesia

"I have received a lot from this training, learned about the poverty alleviation policy, and realized that sustainable development requires the cooperation of the whole society. The world must be cautious about the changes brought by artificial intelligence, because AI may evolve into moral hazard."

—Chausiku Kafuti Kuya Tanzania

"China has undergone such a legendary change in a relatively short time. Its success has given the developing countries a lot of hope, and each of us wants to learn more. Through training, we have learned how to benefit from China's experience and how to benefit from the opportunities offered by the current China model."

—Didier Kamori Mutwale Democratic Republic of the Congo

"This training has benefited me a lot and allowed me to learn more about the series of public policies adopted by Chinese government. I think China is a benchmark, especially for developing countries. The public policies implemented by China incorporate the urban and rural environments and development models, and gain outstanding in achieving the 2030 Sustainable Development Goals."

—Jean Baptiste Chinya Ay Munguromo Democratic Republic of the Congo

"Through this training, we have learned about the inherent links of sustainable development and the measures China has taken to achieve sustainable development. At the same time, it also shows that technological innovation can support the development of the society and enterprises, flourish rural markets and optimize the ecological environment. China has always been advocated foreign cooperation, so as to transfer experience to developing countries such as Africa."

—Mechal Takele Balcha Ethiopia

Short Videos in Solidarity with the “Battle Against Novel Coronavirus”

Xiao Lan

Executive Director of ICCSD, China

In the supposedly festive season of New Year and Chinese Spring Festival, China is experiencing a period of doom and suffering. We are fighting, we are working hard, we have a chance, and we become more confident. Unfortunately, the doom is spreading outside of China, which makes people more worried. One world, one destiny. Come on, China and the world. History has proved that all disasters cannot stop the human development. We firmly believe that tomorrow will be better. Let's work together!

Mehri Madarshahi

Member of ICCSD Advisory Committee, Canada

I'm living in Paris, but often think of China. I certainly hope that this will be a very short-lived and passing problem and soon we can see you all with big smiles adorning your faces and happiness filling your hearts. My best love and regards to all of you, and I hope these sad days will be over, soon.
Take care. All the best!

Hans d’Orville

Chairman of ICCSD Advisory Committee, Germany

Hello, dear friends in China, in this trying times which are overshadowing periods of peace and happiness, which normally would have been a time for celebration during the New Year’s Festival. You need to curb and focus on a malicious virus we call Covid-19. All our love, all our empathy, all our compassion is with the people of China, and with the other cities, fabulous cities and regions, and above all Wuhan, and its citizen, the epicenter of this new epidemic. We hope that all your efforts will succeed and soon the virus can be contained and all of us can return back to normal life. Please be assured that you are always in our hearts, we think of you and we try to assist you to the best of our ability. This is Hans d’Orville, former UNESCO Assistant Director-General, from Paris.

Yann Debelle de Montby

Member of ICCSD Advisory Committee, France

In this new year, full of promises. The terrible virus has brought fear and pain to the world. Toward the people in China where they always welcome me so generously and so kindly, I want to say that you have all my sympathy during this very difficult moment. Together we will eradicate this virus, of course, most of my warmest thoughts go to the people in Wuhan while graciously fighting day after day. To all the citizen, to the doctor, to the nurse, to the family, I want to say that you have all my support and today they make me extremely proud to be part of China and to live in China. Thank you again.

Liu Yuedi

Researcher of Institute of Philosophy, Chinese Academy of Social Sciences, China

Now we need not only the right time and place, but also the right person, i.e. Chinese cooperation between people, because we are in the same boat.

Humans have encountered a new coronavirus called Covid-19 which is now a big challenge for the whole world. At the beginning of this year when the virus was spreading in China, tens of thousands of angels in white, marching against the wind and stepping on all difficulties, started the unprecedented defense battle in Hubei. In this battle, the people of the whole country played a game of chess, with the sentiment of "Nothing in Jiangnan, but a spring", and the sentiment of "different mountains and rivers, but the same wind and moon". In this battle, countries (organizations) stood with China, which was the best interpretation of the community with a shared future for mankind.

The Executive Director of ICCSD, members of the Advisory Board, and experts have recorded videos to express sincere greetings and encouragement to all people fighting against the epidemics. The following is the text content and translation of the video.

Richard Leaver

Professor, England

My name is Professor Richard Leaver, I’m from Cambridge. I’m thinking of all my friends in China and supporting everybody in this fight against the virus. China is my second home, and I’m thinking of you all. We stand together, we are all friends. Good Luck!

Ma Liangwei

Vice President of Beijing Municipal Institute of City Planning & Design, China

Hankou in Wuhan is my hometown, where my grandparents live. My father was born there and grew up there. Many of my uncles, aunts, and cousins are still there. Fortunately, so far no one has been infected. One of my nieces, who is a doctor of medicine, is now involved in the rescue work in a mobile cabin hospital of Wuhan. I wish them all the best! Today is a special day, February 14th. I hope today is an inflection point. I hope the epidemic will pass quickly and our society will gradually get better. Bless Wuhan!

Creativity 2030 Forum “Urban Governance after Pandemic”

Novel coronavirus hit 2020 right from the very start. Initially termed an epidemic, and then renamed by the World Health Organization as a pandemic, the virus and the disease it causes, Covid-19, are the active concern of billions of people in more than a hundred countries. We have learned so much about the disease in the few short months between January and May 2020, and have seen an array of prevention and control measures adapted to various local conditions. As the saying goes, “the rivers and mountains may change, but the wind and the moon unite us daily.” In the era of globalization, responses to the novel coronavirus disaster has highlighted the importance of developing a “community of destiny” and for humankind to strive for unity and cooperation.

From public sanitation policies to urban planning, tech applications to community building, then to environmental protection, global governance, international organizations, governments, and professionals are racing to update response measures, and find ways to encourage public participation. ICCSD organized an online event in May, as part of the Creativity 2030 Forum, it invited local and foreign experts to delve deep into subjects closely related to “urban governance after pandemic”. Specifically, under discussion on effective methods to achieve healthy, safe and sustainable city futures.

The Creativity 2030 Forum, held in Beijing, is an annual occasion for ICCSD. It gives us the chance to interact with hot topics in the fields of creative sustainability to provide interaction, case sharing, and planning of future joint actions for participating cities, business leaders and innovators.

Xiao Lan, Executive Director of ICCSD, made the opening speech. According to Mr. Xiao, Coronavirus had caused tremendous damage to the entire world. Significantly at this specific time in history, the Creativity 2030 Forum focused new spaces and models for development, directions for urban governance in the context of sustainable development. “As a country, China has stepped out of the urban governance model earlier and started recovering faster. We are now getting on with plans to resume work and production, and look to the future.”

The pandemic has also brought many opportunities to cities. Xiao Lan believes the three pillars of technology, education and culture will have a big impact on operations, production and people’s lives. “Scientific and technological breakthroughs in lifestyle and health have played an important role at the frontline of the fight against the virus, bringing a sense of security, health and guidance in the quest to return to a normal state of affairs. Creativity is always born in such a context. It carries new models and changes, huge new challenges and great new opportunities. I hope that with the help of this event, we will inspire and discuss in a smart way, experiment more, and lead people towards a better way of living after the pandemic.” In short, the pandemic will pass, and the sun will come out again.

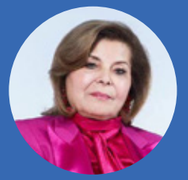
Participants included Prof. Dr. Hans d’Orville, Former Assistant Director-General for Strategic Planning of UNESCO; Mehri Madarshahi, President of Global Cultural Networks; Prof. Dr. Gong Ke, President of World Federation of Engineering Organizations; Li Xinyu, Vice President of China International Council for the Promotion of Multinational Corporations (CICPMC); Dr. Zhang Xiaoming, Researcher of Chinese Academy of Social Sciences (CASS); Pan Fang, Board Member and Vice President of The Tsinghua Tongheng Urban Planning and Design Institute; Duan Yanling, Davos2020 Chairperson for SDG Convergence Association; Michael Curtis Mitchell, CEO of MCM Group and so on. In this event, experts and scholars discussed international cooperation and the post-pandemic economic outlook, shared ideas on urban planning, urban brand and communication, community governance, the smart city and the circular economy, cultural industry, environmental protection, and industry-city integration.

The forum video will be subtitled in Chinese and English, made available on the ICCSD’s communication platform, and shared with forum co-organizers and partnering media platforms. ■

For more information see: http://city.cri.cn/creativity2030forum

Xiao Lan
Executive Director of International Center for Creativity and Sustainable Development under the auspices of UNESCO (ICCSD)

Prof. Dr. Hans d’Orville
Chairman of Advisory Committee of ICCSD, Former Assistant Director-General for Strategic Planning of UNESCO



Prof. Mehri Madarshahi
Member of Advisory Committee of ICCSD, President of Global Cultural Networks

Prof. Dr. Gong Ke
President of World Federation of Engineering Organizations, Chairman of the Academic Committee of Nankai University

Dr. Li Xinyu
Vice President of China International Council for the Promotion of Multinational Corporations (CICPMC)

Michael Curtis Mitchell
CEO of MCM Group, an internationally recognized American planner, designer, lecturer and environmentalist

Chen Wei
Director of Industry City Integration Research Center, Yangtzi Delta Region Institute of Tsinghua University, Zhejiang

Dr. Zhang Xiaoming
Researcher of Chinese Academy of Social Sciences (CASS), Vice Director of China National Center for Culture Studies

Prof. Dr. Xiang Yong
Doctoral Supervisor, Institute for Cultural Industries, Peking University

Pan Fang
Board Member and Vice President of The Tsinghua Tongheng Urban Planning and Design Institute

Duan Yanling
Davos2020 Chairperson for SDG Convergence Association

May East
CEO of Gaia Education, a fellow of UNITAR

Dr. Daniel Christian Wahl
Founder and director of Sustainability Consultancy Innovation Education

Zhang Jieping
Director of Center for Water Quality and Environmental Protection in the Middle Route of South to North Water Transfer

Zhang Hongwu
Long-term Professor, Director of Yellow River Research Center, Tsinghua University

Prof. Dr. Wen Chunying
Doctoral Supervisor of Communication University of China

Prof. Dr. Sun Yu
Doctoral Supervisor of School of Government Management, Beijing Normal University

Dr. Liu Jiayan
Associate Professor of School of Architecture, Tsinghua University

Song Yu
Assistant Research Fellow and Research Assistant of Institute of Sociology, Chinese Academy of Social Sciences (CASS)

Dr. Lang Lang
Researcher-in-Charge of ICCSD

100 languages

NO WAY. THE HUNDRED IS THERE

The child
is made of one hundred.
The child has
a hundred languages
a hundred hands
a hundred thoughts
a hundred ways of thinking
of playing, of speaking.
A hundred always a hundred
ways of listening
of marveling of loving
a hundred joys
for singing and understanding
a hundred worlds
to discover
a hundred worlds
to invent
a hundred worlds
to dream.
The child has
a hundred languages
(and a hundred hundred hundred more)
but they steal ninety-nine.

The school and the culture
separate the head from the body.
They tell the child:
to think without hands
to do without head
to listen and not to speak
to understand without joy
to love and to marvel
only at Easter and Christmas.
They tell the child:
to discover the world already there
and of the hundred
they steal ninety-nine.
They tell the child:
that work and play
reality and fantasy
science and imagination
sky and earth
reason and dream
are things
that do not belong together.

And thus they tell the child
that the hundred is not there.
The child says:
No way. The hundred is there.

— Loris Malaguzzi
(translated by Lella Gandini)
The history of Reggio Emilia's municipal infant-toddler and preschools is profoundly woven with the life and thinking of Loris Malaguzzi. 2020 marks the centenary year of Loris Malaguzzi's birth.

http://reggioemiliaapproach.it

Creativity 创意 2030

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under the auspices of UNESCO
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