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How to See the World

A PELICAN INTRODUCTION



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INTRODUCTION

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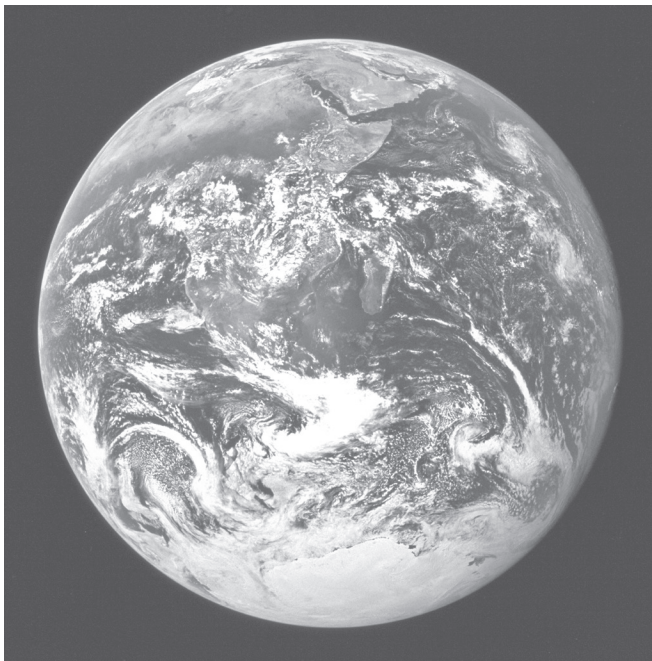


Figure 1 – NASA, *Blue Marble*

In 1972, the astronaut Jack Schmitt took a picture of Earth from the *Apollo 17* spacecraft, which is now believed to be the most reproduced photograph ever. Because it showed the spherical globe dominated by blue oceans with intervening green landmasses and swirling clouds, the image came to be known as *Blue Marble*.

The photograph powerfully depicted the planet as a whole, and from space: no human activity or presence was visible. It appeared on almost every newspaper front page around the world.

In the photograph, Earth is viewed very close to the edge

of the frame. It dominates the picture and overwhelms our senses. Since the spacecraft had the sun behind it, the photograph was unique in showing the planet fully illuminated. The Earth seems at once immense and knowable. Taught to recognize the outline of the continents, viewers could now see how these apparently abstract shapes were a lived and living whole. The photograph mixed the known and the new in a visual format that made it comprehensible and beautiful.

At the time it was published, many people believed that seeing *Blue Marble* changed their lives. The poet Archibald MacLeish recalled that for the first time people saw the Earth as a whole, ‘whole and round and beautiful and small’. Some found spiritual and environmental lessons in viewing the planet as if from the place of a god. Writer Robert Poole called *Blue Marble* ‘a photographic manifesto for global justice’ (Wuebbles 2012). It inspired utopian thoughts of a world government, perhaps even a single global language, epitomized by its use on the front cover of *The Whole Earth Catalog*, the classic book of the counterculture. Above all, it seemed to show that the world was a single, unified place. As Apollo astronaut Russell (‘Rusty’) Schweickart put it, the image conveys

the thing is a whole, the Earth is a whole, and it’s so beautiful. You wish you could take a person in each hand, one from each side in the various conflicts, and say, ‘Look. Look at it from this perspective. Look at that. What’s important?’

No human has seen that perspective in person since the photograph was taken, yet most of us feel we know how the Earth looks because of *Blue Marble*.

That unified world, visible from one spot, often seems out of reach now. In the forty years since *Blue Marble*, the world has changed dramatically in four key registers. Today, the world is young, urban, wired and hot. Each of these indicators has passed a crucial threshold since 2008. In that year, more people lived in cities than the countryside for the first time in history. Consider the emerging world power Brazil. In 1960, only a third of its people lived in cities. By 1972, when *Blue Marble* was taken, the urban population had already passed 50 percent. Today, 85 percent of Brazilians live in cities, no less than 166 million people.

Most of them are young, which is the next indicator. By 2011, more than half the world's population was under thirty; 62 percent of Brazilians are twenty-nine or younger. More than half of the 1.2 billion Indians are under twenty-five, and a similar young majority exists in China. Two-thirds of South Africa's population is under thirty-five. According to the Kaiser Family Foundation, 52 percent of the 18 million people in Niger are under fifteen and in most of sub-Saharan Africa, over 40 percent of the population is under fifteen. The populations of North America, Western Europe and Japan may be ageing, but the global pattern is clear.

The third threshold is connectivity. In 2012, more than a third of the world's population had access to the Internet, up 566 percent since 2000. It's not just Europe and America that are connected: 45 percent of those with Internet access are in Asia. Nonetheless, the major regions that lack connection are sub-Saharan Africa (other than South Africa) and the Indian sub-continent, creating a digital divide on a global level. By the end of 2014, an estimated 3 billion people were

online. By the end of the decade, Google envisages 5 billion people on the Internet. This is not just another form of mass media. It is the first universal medium.

One of the most notable uses of the global network is to create, send and view images of all kinds, from photographs to video, comics, art and animation. The numbers are astonishing: one hundred hours of YouTube video are uploaded every minute. Six billion hours of video are watched every month on the site, one hour for every person on earth. The 18–34 age group watches more YouTube than cable television. (And remember that YouTube was only created in 2005.) Every two minutes, Americans alone take more photographs than were made in the entire nineteenth century. As early as 1930, an estimated one billion photographs were being taken every year worldwide. Fifty years later, it was about 25 billion a year, still taken on film. By 2012, we were taking 380 billion photographs a year, nearly all digital. One trillion photographs were taken in 2014. There were some 3.5 trillion photographs in existence in 2011, so the global photography archive increased by some 25 percent or so in 2014. In that same year, 2011, there were one trillion visits to YouTube. Like it or not, the emerging global society is visual. All these photographs and videos are our way of trying to see the world. We feel compelled to make images of it and share them with others as a key part of our effort to understand the changing world around us and our place within it.

The planet itself is changing before our eyes. In 2013, carbon dioxide passed the signature threshold of 400 parts-per-million in the atmosphere for the first time since the Pliocene era about three to five million years ago. Although

we cannot see the gas, it has set in motion catastrophic change. With more carbon dioxide, warm air holds more water vapour. As the ice-caps melt, there is more water in the ocean. As the oceans warm, there is more energy for a storm system to draw on, producing storm after ‘unprecedented’ storm. If a hurricane or earthquake creates what scientists call a ‘high sea-level event’, like a storm surge or tsunami, the effects are dramatically multiplied. Record-setting floods have followed around the world from Bangkok to London and New York, even as other areas – from Australia to Brazil, California and equatorial Africa – suffer unprecedented drought. The world today is physically different from the one we see in *Blue Marble*, and it is changing fast.

For all the new visual material, it is often hard to be sure what we are seeing when we look at today’s world. None of these changes are settled or stable. It seems as if we live in a time of permanent revolution. If we put together these factors of growing, networked cities with a majority youthful population, and a changing climate, what we get is a formula for change. Sure enough, people worldwide are actively trying to change the systems that represent us in all senses, from artistic to visual and political. This book seeks to understand the changing world to help them and all those trying to make sense of what they see.

To get an impression of the distance we have come since *Blue Marble*, consider two photographs from space taken in 2012. In December 2012 the Japanese astronaut Aki Hoshide took his own picture in space. Ignoring the spectacle of Earth, space and moon, Hoshide turned the camera on himself, creating the ultimate ‘selfie’, or self-taken self-portrait.



Figure 2 – Hoshide, 'Untitled', selfie

Ironically, any trace of his appearance or personality disappears in this image as his reflective visor shows us only what he is looking at – the International Space Station and below it, the Earth. Where *Blue Marble* showed us the planet, Hoshide wants us to see just him. It is nonetheless an undeniably compelling image. By echoing the daily practice of the selfie, the camera and the picture make space real and imaginable to us in an even more direct way than *Blue Marble*, but with none of the social impact of the earlier image. The astronaut is invisible and unknowable in his own self-portrait. There is, it seems, more to seeing than being in the place to see.

In that same year, 2012, NASA created a new version of *Blue Marble*. The new photograph was actually a composite assembled from a series of digital images produced by a satellite. From the satellite's orbit, approximately 930 kilometres (580 miles) above the surface, the full view of the

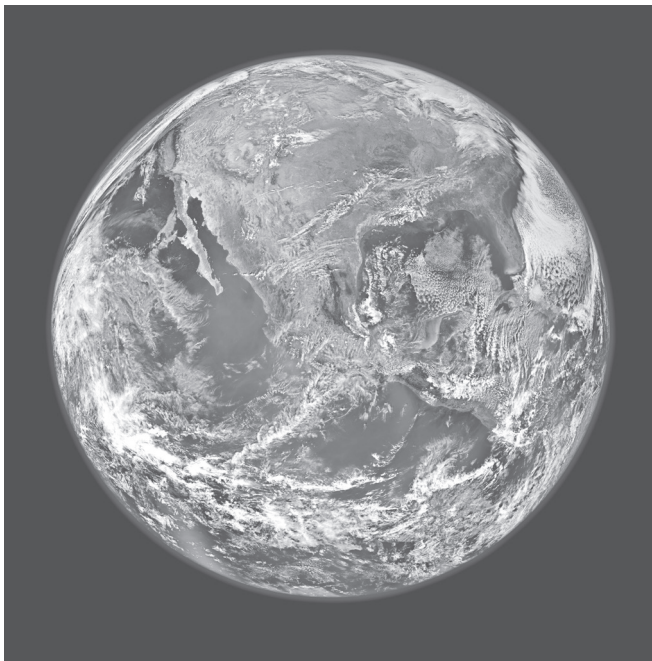


Figure 3 – NASA, *Blue Marble 2012*

planet is not in fact visible. You have to go over 11,000 kilometres (7,000 miles) away before the entire globe can be seen. The resulting colour-corrected ‘photograph’, adjusted to show the United States rather than Africa, is now one of the most accessed images on the digital photo archive Flickr, with over five million downloads.

We can ‘recognize’ the Earth from *Blue Marble*, but only the three-man crew of Apollo 17 have ever actually seen this view, with the earth fully illuminated, and no one has seen it since 1972. The 2012 *Blue Marble* is made to seem as if it was taken from one place in space but it was not. It is accurate in

each detail, but it is false in that it gives the illusion of having been taken from a specific place at one moment in time. Such ‘tiled rendering’ is a standard means of constructing digital imagery. It is a good metaphor for how the world is visualized today. We assemble a world from pieces, assuming that what we see is both coherent and equivalent to reality. Until we discover it is not.

A striking demonstration of how what seems to be a solid whole is actually a composite of assembled pieces came with the 2008 financial crash. What mainstream economists and governments alike had asserted to be the perfectly calculated, global financial market collapsed without warning. It turned out that the system was so finely leveraged that a relatively small number of people, who were unable to keep up with their mortgages, set in motion a rolling catastrophe. The very connectedness of the global financial market made it impossible to contain what would once have been a local misfortune. The crisis shows that it is one world now, like it or not.

At the same time, ‘one world’ does not mean it is equally available to all. Moving country for personal or political reasons is often very difficult, and partly depends on your passport. A British-passport holder can visit 167 countries without a visa. An Iranian passport, however, gets you into only 46 countries. Money, on the other hand, can move wherever it wants at the click of a keyboard. Prior to 1979, it was illegal for Chinese citizens to even possess foreign currency. Today China dominates global trade. There is globalization in theory, which is smooth and easy. And there is the uneven, difficult and time-consuming experience of

globalization in practice. The ads and the politicians tell us there is a single global system now, at least for financial affairs. Our daily lives tell us otherwise.

Visual culture

This book is designed to help you see the much-changed and changing world. It is a guide to the visual culture we live in. Like history, visual culture is both the name of the academic field and that of its object of study. Visual culture involves the things that we see, the mental model we all have of how to see, and what we can do as a result. That is why we call it visual culture: a culture of the visual. A visual culture is not simply the total amount of what has been made to be seen, such as paintings or films. A visual culture is the relation between what is visible and the names that we give to what is seen. It also involves what is invisible or kept out of sight. In short, we don't simply see what there is to see and call it a visual culture. Rather, we assemble a world-view that is consistent with what we know and have already experienced. There are institutions that try to shape that view, which the French historian Jacques Rancière calls 'the police version of history', meaning that we are told to 'move on, there's nothing to see here' (2001). Only of course there is something to see, we just usually choose to let the authorities deal with the situation. If it is a traffic accident, that may be appropriate. If it is a question of how we see history as a whole, then surely we should be looking.

The concept of visual culture as a specific area of study first began to circulate at a previous moment of vital change

in the way we see the world. Around 1990, the end of the Cold War that had divided the globe into two zones, more or less invisible to each other, coincided with the rise of what was called 'postmodernism'. The postmodern changed modern skyscrapers from austere rectangular blocks into the playful towers, with kitschy and pastiche features, that now dominate skylines worldwide. Cities looked very different. A new identity politics formed around questions of gender, sexuality and race, leading people to see themselves differently. This politics was less confident in the global certainties of the Cold War period and began to doubt the possibility of a better future. In 1977, at a time of social and economic crisis in Britain, the Sex Pistols had pithily summarized the mood as 'No Future'. These changes were accelerated by the beginnings of the era of personal computing that transformed the mysterious world of cybernetics, as computer operations had been known, into a space for individual exploration, named in 1984 by science fiction writer William Gibson as 'cyberspace'. Visual culture burst onto the academic scene at that time, mixing feminist and political criticism of high art with the study of popular culture and the new digital image.

Today there is a new world-view being produced by people making, watching and circulating images in quantities and ways that could never have been anticipated in 1990. Visual culture is now the study of how to understand change in a world too enormous to see but vital to imagine. A vast new range of books, courses, degrees, exhibitions and even museums all propose to examine this emerging transformation. The difference between the concept of visual culture

in 1990 and the one we have today is the difference between seeing something in a specific viewing space, such as a museum or a cinema, and in the image-dominated network society. In 1990, you had to go to a cinema to see films (except reruns on TV), to an art gallery to see art, or visit someone's house to see their photographs. Now of course we do all that online and moreover, whenever we happen to choose to do so. Networks have redistributed and expanded the viewing space, while often contracting the size of the screen on which images are viewed, and deteriorating their quality. Visual culture today is the key manifestation in everyday life of what sociologist Manuel Castells calls 'the network society', a way of social life that takes its shape from electronic information networks (1996). It is not just that networks give us access to images – the image relates to networked life on- and offline and the ways we think about and experience those relations.

Simply put, the question at stake for visual culture is, then, how to see the world? More precisely, it involves how to see the world in a time of dynamic change and vastly expanded quantities of imagery, implying many different points of view. The world we live in now is not the same as it was just five years ago. Of course, this has always been true to some extent. But more has changed and changed more quickly than ever and, because of the global network society, change in one location now matters everywhere.

Rather than try to summarize the immense quantity of visual information available, this book offers a toolkit for thinking about visual culture. Its way of seeing the world centres on the following ideas:

- All media are social media. We use them to depict ourselves to others.
- Seeing is actually a system of sensory feedback from the whole body, not just the eyes.
- Visualizing, by contrast, uses airborne technology to depict the world as a space for war.
- Our bodies are now extensions of data networks, clicking, linking and taking selfies.
- We render what we see and understand on screens that go everywhere with us.
- This understanding is the result of a mixture of seeing and learning not to see.
- Visual culture is something we engage in as an active way to create change, not just a way to see what is happening.

While the present day is the focus, much of this book is nonetheless historical, as it traces the roots of visual culture today, both as a field of study and a fact of everyday life. The emphasis is no longer on the medium or the message, with apologies to Marshall McLuhan (1964). Instead, the emphasis is on creating and exploring new archives of visual materials, mapping them to discover connections between what is visual and the culture as a whole, and realizing that what we are learning to see above all is change on the global scale.

The book begins by looking at the evolution of the self-portrait into the omnipresent selfie. The selfie is the first visual product of the new networked, urban global youth culture. Because the selfie draws on the history of the self-portrait, it will also allow us to explore the creation

of the academic discipline of visual culture that emerged around 1990. How we see ourselves leads to the question of how we see, and the remarkable insights of neuroscience (Chapter 2). Human vision now seems like the multi-faceted feedback loop that visual artists and visual culture scholars have long assumed it to be. Seeing is not believing. It is something we do, a kind of performance. What this performance is to everyday life, ‘visualizing’ is to war (Chapter 3). Battlefields were visualized first in the mind’s eye of the general and then from the air by balloons, aircraft, satellites and now drones. These views of the world are not experienced directly but on screens. So Chapter 4 looks at two examples of the creation of networked worlds: the view seen from a train and the creation of motion pictures; and today’s ubiquitous networked digital screens. Those screens appear to offer unlimited freedom but are carefully controlled and filtered views of the world.

The key places in these networks are the global cities, where most of us now live (Chapter 5). In these immense, dense spaces, we learn how to see – and also not to see potentially disturbing sights – as a condition for daily survival. Global cities have grown up around the remains of the imperial and divided Cold War cities that preceded them. They are spaces of erasure, ghosts and fakes. The creation of the global city world has come at tremendous cost. Now we have to learn how to see the changing natural world (Chapter 6). Or more exactly, we have to become aware of how humans have turned the planet into one enormous human artefact, the largest work of art ever made or ever possible.

At the same time, the global city has also become rebel-

lions, the site of permanent unrest (Chapter 7). Here the youthful majority in cities use their connections to claim new ways to represent themselves on social media that are transforming what politics means, from the city revolts in the developing world, such as those in Cairo, Kiev and Hong Kong, to the separatist movements in the developed world, from Scotland to Catalonia. Do we live in cities? Or regions? Or nations? Or power blocks like the European Union? How do we see the place where we live in the world?

The time of change

Though the transformations of the present may appear unprecedented, there have been many similar periods of dramatic change in the visible world before. The nineteenth century was famously described by the historian Jean-Louis Comolli as a ‘frenzy of the visible’ because of the invention of photography, film, X-ray and many other now forgotten visual technologies in the period (Comolli 1980). The development of maps, microscopes, telescopes and other devices made the seventeenth century another era of visual discovery in Europe. And so we could continue back to the first cosmographic representation of the world on a clay tablet from 2500 BCE. But the transformation of the visual image since the rise of personal computing and the Internet is different in terms of sheer quantity, geographic extent and its convergence on the digital.

If we look in a longer historical perspective, we can perceive the extraordinary pace of change. The first moving images were recorded by the Lumière brothers in France in