

The history of information overload is an important backdrop for understanding our moment's difficulty in establishing truth.

The acceleration of formal knowledge production in the 1600s immediately raised fears of facts out of control, and the worry has not stopped since.

The collapse of the culture-stabilizing image is a key argument of this book.

The "increase in number and diversity of unrelated facts" led people to accept slogans over analysis.

## Promiscuous knowledge

The erosion of firm boundary lines between formally produced knowledge and that asserted by popular (..) mix of the popular and professional.

The condition of promiscuous knowledge means that we **doubt the old containers of knowledge but continue to rely on the work of experts**. (..) it is the mix of distrust and dependency—on images, on facts.

Rather than seeing digital culture as the **apotheosis of the Enlightenment**, whether as grotesque or as a glorious success, it is the **triumph of fuzzy logic, of information loosened—but not freed—from one of modernity's great stabilizers: knowledge**.

What is most characteristic about knowledge in our time is our willingness to ignore the containers of fact or to treat them like canisters.

**Vulgar Foucaultism**  
People intuitively accept that we don't want to get rid of our knowledge regimes. There is no substantial move away from the **avalanche** of information. It is too important a weapon to give up. Might not lead to public enlightnemetn but it is certainly a rich toolbox

## Truth & authority

Shifting attitudes toward truth and authority—different "**truth games**," as Jean-François Lyotard called them.

The key point for understanding knowledge in the contemporary moment is not the proliferation of scientific publications (..) **but the new attitudes**.

### New containers

Building of containers to house the information. These containers—learned societies, classification schemes, disciplines, notions of taste, networks of experts, journals, encyclopedias, digests, laws, customs, schemas, search engines, and institutions such as museums, libraries, the university, and the state.

The most important container is something called "**knowledge**," quite distinct from information. Information versus *ignorance*. However **information threatens to undermine the comforts of knowledge**. One of the containers used to house information is "**image**"  
Without the discipline of facts, political deliberation would be at risk of populist frenzy or poor judgment.

## Victorian Culture and the Diffusion of Learning

250 years ago there were pockets of thick information among aristocratic collectors of curiosities and books.

Emancipation of humanity was tied to the growth of knowledge, a grand story that Jean-François Lyotard considered the very definition of modernity.

We may think the internet unleashed the flood, but people in the nineteenth century lived through equally dramatic waves of knowledge in search of new containers.

### The thick culture of fact

Facts were one answer to the vacuum of trust and orientation left by the disappearance of the old regime of aristocratic oversight.

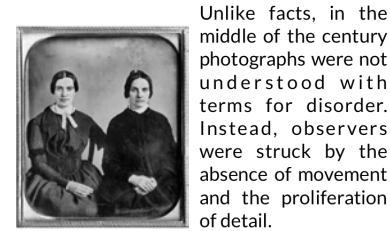
Facts were prized possessions, the foundation of those sciences that were steadily becoming more powerful, the basis of informed judgment about distant civilizations, and the source of wisdom for popular rule.

As the world swelled with information, serious people of all kinds evinced a willingness to pursue detail in ways our age lacks the patience for.

The thick flow of fact remained important, students were still supposed to wade through it, but an organizer built the order they were supposed to intuit. Selection was the key.

## Photograph

The photographic image presented an inexhaustible mine of truth about reality but also a potential for illicit multiplication of fakes.



According to Foucault's understanding of power, power is based on knowledge and makes use of knowledge; on the other hand, power reproduces knowledge by shaping it in accordance with its anonymous intentions.

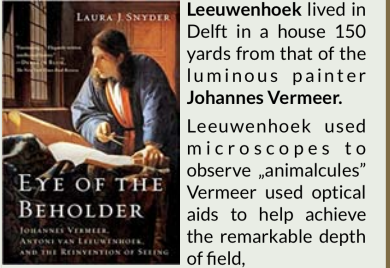
## Lenses

Lenses in the seventeenth century were something like computer code today: the cutting-edge technology. Lenses were the avant-garde technology of the day.

**Spinoza** made his living as a lens grinder (..) the philosopher's engagement with a humble but noble craft, as if he ground lenses in the morning and wrote the Ethics after dinner.

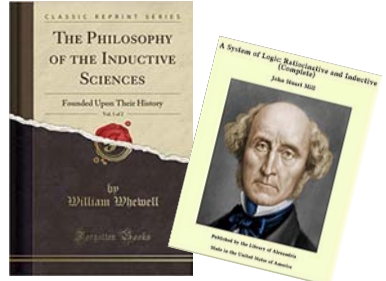
### The idea of idea

Optical-assist devices helped topple unaided vision from its lofty epistemological perch and launch what some have called "the **'idea' idea**" in modern philosophy, the notion that **access to the world is always mediated**, that we perceive **representations, not things**.



**The drops in the river of knowledge**, the Victorian thick culture of fact, "facts" or "specimens," simple bits of information, had a specific role. They were the beginning of learning. (..) there was a deep confidence that knowledge was adding up to something bigger.

Edgar Allan Poe wrote that such detail opened up new paths of understanding. Darwin complained in old age that he had lost the aesthetic delight he had once taken in poetry, painting, and music; he felt he had become "a kind of machine for grinding general laws out of large collections of facts."



**Two of the most important works in Victorian philosophy of science**, Knowledge had meant progress, and progress meant order, the gradual unlocking of secrets, both of nature and of the soul. Could learning now be morphing into a monster of disorder?

### Mugwump

High-minded elites, concerned about the torrent of information spilling into the culture. Victorian attitudes toward the dissemination of knowledge eroded significantly and the mugwump vision of well-ordered knowledge

**Books**  
In 1876 the Harvard Library—then as now the biggest university library in the country—had 227,000 volumes. (Compare that with about 17 million volumes today.)

The Copyright Act of 1870 required that two copies of every book published in the United States be deposited in the Library of Congress.

## Image

The turning point for the modern image is classically the discovery of linear perspective in the Italian Renaissance and the birth of a new kind of realism in depiction. (**Filippo Brunelleschi and Leon Battista Alberti** in fifteenth-century Florence

Images start to change as you step from the XIV to the XV century: horizons, plants, fabrics, colors, and a feeling of depth all leap from the canvas, thanks to the new medium of oil painting and the new technique of perspective.

**Painters looked outward to the world, not inward to spiritual realities, delighting in appearances.**

Vision was a topic at the heart of seventeenth-century science, philosophy, and art.

Kepler's language was ripe with painting metaphors: the image falling on the retina was a *pictura*, and the multiple rays passing through the lens he called *pencilli*.

Erasmus of Rotterdam noted that the German artist Albrecht Dürer painted things that "could not be painted," such as "fire, rays, thunderclaps, thunderbolts, lightning flashes, and even clouds." This interest in **depicting sublunary** things as they appear to the human eye marks a new attitude, a shift from marvels to descriptions, allegories to appearances.

## The Culture of Happy Summary 1920–45

The effort to summarize complex wholes with a single image, number, example, graph, or minimum of words. "**happy**" because of the sense that nothing significant was lost by these abridgments, that they merely crystallized denser truths.

Not everyone could follow the technical details. We would get smarter not by cramming our heads with scientific truths but by reducing the information flow.

## Simplicity

The clean lines of high modernist aesthetics and design found beauty in summary.

*"Simplicity should be the rule rather than the assemblage of too great a variety of objects. . . . To get the best effect from any one thing, it must be massed."*

— Rowley, Taxidermy and Museum Exhibition

Prefabricated narrative rather than individual inquiry was the truly democratic mode.

Extraordinary amount of print, which demands the **greatest economy of expression**," clarity was more important. (..) After the First World War typographers influenced by the **Bauhaus movement** adopted sans serif It lacked any nationalist aura, matched the machine spirit of the age, and was clear and impersonal.

### Organizing Knowledge

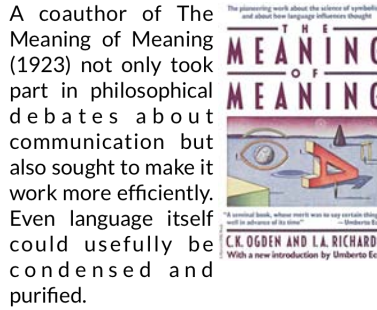
The same principle that once scared Malthus—geometric growth—had moved from populations to information.

Knowledge and information, were crucial to the "completion" of the industrial world: they were the **epitome of modernity**.

Planning would complete the Enlightenment project, aided by new devices of information storage and recall. It was one more midcentury answer to how to build a dike against the floods of information. For the public, there was **summary and popularization**; for the experts, there was **planning and microfilm**.

### Basic

Isotype was to data what BASIC was to language. BASIC consisted of an eight-hundred-word English vocabulary intended to serve as a pared-down universal medium of communication.



A coauthor of The Meaning of Meaning (1923) not only took part in philosophical debates about communication but also sought to make it work more efficiently. Even language itself could usefully be condensed and purified.

Right from the beginning there was the fear that facts could run out of control. There was so much new information. (..) Who could catalog all the flora and fauna of Africa, Asia, and the New World, let alone Europe?

Early modern philosophy came upon the innovative thought that a fact could be "natural." In Scholastic thought, things made by nature or God were necessarily true (*vera*, "true things") and things done or made by humans were contingent matters (*facta*, "things made or done"). The idea of a "natural fact" would have been an oxymoron.

### Facts as monstrosities

Given that so many of the new facts were monstrosities, weird freaks of nature, they proved maddeningly difficult to replicate. Instruments were new, conventions for their use not yet established. It took long training to see tiny creatures through a glass-bead microscope. Experimental procedures were still up in the air.

Facts has to be „disciplined“. By the 1930s, a good guide had to cut through the clutter. It had to tell a story, hopefully with some poetry and pictures to sweeten the facts.

The arts of visual instruction pioneered in movies. Visual delight in learning, some reformers concluded, should be exploited so that museums could rightly be called "Institutes of visual instruction."

## Summary

The "cult of individuating detail"  
Cognitive shorthand was taken not only as legitimate, but as necessary. The notion of "**stereotype**," invented by Lippmann in 1922, at first did not imply a negative generalization

It was a potentially useful epistemic shortcut, a way to slash through the thick brush of sensation

**Gestalt psychology**, whose heyday was the 1930s and 1940s, made summary into one of the basic acts of the human mind. (..) White space now became part of the layout.

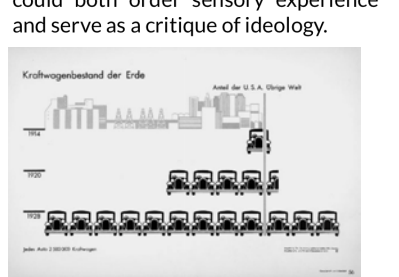
"the increasing complexity of the world" made the new **reporting imperative**. Facts by themselves were just confusing. Interpretive context was necessary (..) It was one early twentieth-century response to the nagging of confusion and overload.

*Reader's Digest*, launched in 1922, was different from interpretive reporting but shared its spirit of information reduction. Digests of current writing were certainly nothing new; Benjamin Franklin started one in 1741 (it didn't last a year).

*"It is not possible for the average busy person to read even a hundredth part of the best books, periodicals and journals, or to discern them readily in the mass of mediocre or worthless matter that comes pouring"*

### Isotype

A 1924 a system of graphic representation of quantitative information that proved influential and is still used in modified form. (..) Isotype could both order sensory experience and serve as a critique of ideology.



Photographs were not adequate because they did not simplify in the right ways; they were prone to the clutter of excess detail. "We have to get rid, on the one hand, of pure abstraction and, on the other, of crude facts."

## Info-lust

Renaissance humanists were possessed of an "info-lust."

**El rey papelero**: In the Spain of Philip II (1527–98), for instance, a new constellation of practices emerged for tracking the treasure, territory, and subjects of the imperial dominion: *padrón real*.

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## The Age of the World Picture 1925–45

*The fundamental process of modernity is the conquest of the world as image.*  
Martin Heidegger (1938)

The „culture of crystallized essence“ depended on the belief that knowledge might be successfully represented in an image, that there was nobility and beauty in an essence. Detail was clutter to be avoided.

Photography was an essential part of the scientific follow-up to nuclear explosions.

## Reality-binding power of the image

The greatest midcentury thinker claiming the reality-binding power of the image was French film theorist **André Bazin**. Bazin in the article „**The Ontology of the Photographic Image**“ provided a deep philosophical context for dominant midcentury popular aesthetics—documentary photography, continuity editing, and zero-degree style.

Humans had an "appetite for illusion," Bazin saw **realism and artifice as partners rather than opponents**. They had always been key dimensions of the visual arts. "*The great artists, of course, have always been able to combine the two tendencies... holding reality at their command and molding it at will into the fabric of their art.*" (..)

The **inhuman quality of the camera** as a recording device allied it more closely to nature than to artifice.

In contrast to paintings, photographs harbored an "**irrational power**," the power to "*bear away our faith*." In some deep way, the photographic image shared the being of the object pictured. "*The photographic image is the object itself, the object freed from the conditions of time and space that govern it.*" This is why Bazin thought photography worthy of the most weighty of all philosophical terms, ontology.

**Snapshot** was originally a term for "a quick or hurried [gun] shot taken without deliberate aim" [OED]. Until cameras sped up, the hunting analogy was only a dream.



Visual Map of the book created on April 10, 2020 by *Benjamin Adams Gonzalez* and quotes from copyrighted work fulfill requirements of the Fair Use Exception.

## Fact

How knowledge handles the **profuseness of information** and the **excess of the image?**  
Helpful work of historian of modern science: Lorraine Daston:



The ancient Greeks had no word for fact. Aristotle knew of *pragmata*, things present to hand, but not of *facta*, a concept it was left to the Romans to devise (their *factum* referred to something done by humans.

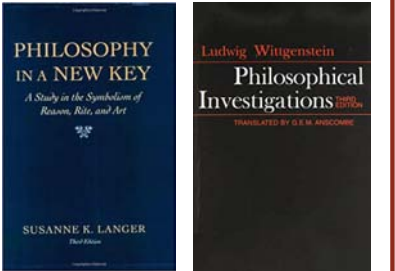
## Philosophy and Image

*the unique thing about the modern world was its status as a picture.* — Heidegger, 1938

*World picture*, when understood essentially, does not mean a picture of the world but the world conceived and grasped as a picture.

The point was that **the world lost some reality when it came to be treated as something to be represented** for and by humans, a momentous shift that he traced to the philosophy of Descartes.

Whereas Heidegger saw the world turning into a representation, Wittgenstein was more interested in the **cognitive puzzles posed by diagrams and pictures**, the funny ways these little devices offered **apertures onto states of affairs**.



**Philosophical Investigations** treated pictures, along with logic, words, and actions, as a main way we knew and engaged with the world.

**Philosophy in a New Key** (1942) drew on the neo-Kantian Ernst Cassirer's philosophy of symbolic forms.

*"incredible wealth of detail and information"* of the photograph compared with verbal descriptions. But these details were contingent and unique. Images lacked a syntax or grammar, a set of general rules by which one patch of light related to another one. The meanings held in images were **radically contextual and self-contained**. *They did not easily survive translation to other mediums*: a picture might well be worth a thousand words, but those words would never exhaust the picture.



**High-speed rapatronic camera, manufactured by Edgerton, Germeshausen and Grier Inc. Boston.**

## Delirious Images 1945–1993

A culture of cynicism arose against happy summaries and pictures of central tendency.

The film abandons an older faith in photography as a trace of reality. It suggests that vision—both mechanized and natural—is always essentially ambiguous, and that if we continue trying to chase down truth exclusively with cameras, we'll always come up just as short (and perhaps as mad) as the film's antihero.

In the new visual culture images were not intensely watched but glanced at casually.

So many of our images had become random and fleeting that we looked less carefully. The new visual culture was a culture of distraction, of **visual Muzak** (*light background music played in public places*) It grabbed our eyes without focusing our minds.

The editors of the Whole Earth Review proclaimed in 1985 that digital manipulation meant "the end of photography as evidence of anything."

By the year 2000, American visual culture differed fundamentally from that of 1945. It seemed more chaotic, more out of control, more full of delirious images. Visual culture seemed less a force of integration than of fragmentation.

### Failure of visual summary

The notion of a single image encapsulating a larger social totality was met with utter disbelief.

1993 Time's cover failure of a composite of different US ethnicities in a single female face.



2002 effort to commemorate heroism 1945-style utterly failed when FDNY's proposed statue used professional models, one of them white, one black, and one Hispanic. The faces and figures of the three white firemen in the original photo were not going to be used.

In a kind of ironic conclusion, the image did finally appear in a public memorial in March 2002: on a commemorative forty-five-cent postage stamp. The resolution on the tiny picture was too poor to make out the ethnicity of the faces in any detail, but the paunch, at least, was restored.

Whereas the culture of happy summary had shored up the authority of professionals, the return to a thicker culture of fact in the 1990s unsettled it. Without experts to soften the blow, people butted up against masses of information more abruptly. Cultural summary became suspect in part because experts made the summaries. New bundles and channels of information allowed do-it-yourself knowledge production.

## Iconoclasm

During the renaissance and early modern period an idea lingered that **images are idols and texts are holy**. Images as not "art" at all: as idolatrous nothings, seductive deviations from the truth.

### Breaching dualism

The debates are ancient: **Is showing something a good way to teach about it?** Or does vision seduce, draw us away from any "serious" reckoning with vital issues?

Television versus book, image versus word, - but that dualism has since been breached: sigtal devices present text and video promiscuously.

## Postmodern image

Visual culture in its postmodern version rejected the earlier idea that the image captured a denser reality. Central to postmodern aesthetics was a **distrust of realism** understood as everyday experience or common sense.

Postmodernism combined deep skepticism about the image with awe about its power. Postmodernism was **paradoxically both "the hypertrophy of the visual" and "its denigration."**

## Visuality & learning

Elsewhere in the culture, in the 1980s and 1990s there was increased respect for the notion that **visuality was related to learning**. Not just simplification, but actual learning.

There was a huge growth of interest in visual intelligence among cognitive psychologists. This echo of Marshall McLuhan contrasts with early twentieth-century behaviorists who dismissed the image.

### Inclusive representation

From the beginning, democracy has always turned on the question of representation. Representation could mean **condensation** (unique views condensly represented in Congress). It could also mean the **inclusion** of all varieties.

Representation could be both **elitist and populist, unifying and scattering, clarifying and obscuring**. The late twentieth-century revolt against the idea of condensation aroused all the old tensions.

We are at the suerance of "**imagology**," the play of images that coursed through our minds and mass media.

Whether the image could no longer hold the facts or the facts themselves had grown too hairy to be contained. The breaking up of the image was a symptom of many other kinds of fragmentation; it is the cultural expression of a much bigger set of shifts.

**Since the 1970s nobody has figured out how to build the new framework to hold the nation or the globe together. At one point in the century, intellectuals, artists, curators, librarians, and politicians sought to do so by means of summarizing institutions, images, and information. In the 1970s and onward most abandoned the project.**

## Promiscuous Knowledge 1975–2000

the most important trends of recent decades has been the blending and blurring of the line separating popular knowledge from expert knowledge.

Promiscuous knowledge is the *ongoing negotiation between elite knowledg producers and those outside the formal system or with no formal accreditation*.

It is the unholy blend of the profane and the professional, the outsider and the expert. It is marked by professionals' inability to maintain the "purity" of knowledge production

Knowledge did not lose its containers altogether, but they increasingly eroded.

Foucault's tales of scientific disciplines as instruments of power fed the antiexpert mood. Foucault was tweaking those who thought rational planning could order the world.

## Digital Promiscuity

New bundles and channels of information allowed do-it-yourself knowledge production, the **disintermediation** — cutting out the middleman.

Digital culture encourages **declining respect for the ethos of the professional knowledge creator**.

In his Rhetoric, Aristotle famously argued that there were three sources of persuasion—**ethos, logos, and pathos**. Distrust of professionals has meant not so much the abandonment of logos as the suspicion of ethos.

(we have not eliminated the knowledge creators, just devalued them—the culture still pays homage to claims of rationality (logos).

Claims blend freely with emotional appeals designed to move us to a point of view—the **pathos** of the world of advertising.

The information age, we would argue, is marked by the strong distrust of ethos.

### Universal Library

In the 1970s Bell and Lyotard despaired of any higher ordering of knowledge. The **mathematical organization of knowledge** is an old dream. Among his other activities, Leibniz was a royal librarian who tried to implement the Renaissance ideal of a universal library.

A universal library faces the vertigo of infinity, since the catalog's description of its contents is potentially inexhaustible and infinite. (..) The most famous imaginative vision of a universal library is Jorge Luis Borges's story "*The Library of Babel*." Borges is one of the patron saints of Google.

What Google does with confused warehouse of the web s truly remarkable, but the last thing Google offers is ultimate organization of knowledge, let alone truth.

### Truth in Our Time

The erosion of professional authority without the collapse of the professions has created promiscuous knowledge, the blurring of formal and informal knowledge, of authoritative and popular learning.

Around the turn of the millennium, we learned to live without the hope of reason, progress, or the growth of knowledge. What, then, is new for us? **Attitude**.

While "knowledge" obviously still matters, "information flows" are most prominent. At stake is the **drift from knowledge, understood as disciplined generalizations** about the social and natural world accepted by authority, to information, the massing of facts on particular topics by dispersed groups.

Knowledge is increasingly marked by blends with the idiosyncratic. Expert classifications jostle with "folksonomies" on the web.

Knowledge gradually drifted away from the high modern faith in rational planning. **The world is an abundant, strange place, and all our efforts to arrange facts and draw pictures of them will fail.**