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LEGIBILITY.

The world is bigger than the boxes we put it in.

An illustrated companion to an interactive documentary about classification, maps, measurement, bureaucracy, public health, identity and the limits of modelled sight.

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Sahil Tayal · https://sahiltayal.com/legibility/

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CONTENTS / NAVIGATION

A field guide to the incomplete world

01 / The proposition: what legibility means

02 / How names, registers and systems evolved

03 / Four competing lenses

04 / The Legibility Engine: method, cases and reflections

05 / Case study: when a forest became timber

06 / Case study: a checkbox is a decision

07 / Counterexample: when a map saves lives

08 / Connections and consequences

09 / What This Does NOT Show

10 / Private reflection exercise

11 / Annotated source ladder

Reading note

Read this as an independent conceptual synthesis, not an original empirical paper. Square-bracket references correspond to the annotated bibliography. Historical claims are sourced; diagrams and the interactive machine are clearly illustrative.

01 / THE PROPOSITION

Every system begins with an act of selection

A hospital triage form. A forest inventory. A search index. A census question. A child's report card. None contains the whole world. Each contains an answer to a narrower question: what must be made visible for this particular decision?

Legibility is the process by which complex reality becomes recognisable to a particular observer or institution through names, categories, measures, records and standards. This is an analytical definition, not a universal technical formula. James C. Scott developed a powerful account of state legibility in his study of administrative simplification [1].

Legibility has a double character. It makes coordination possible, yet can flatten local knowledge, context and ambiguity. The ethical question is not whether simplification can be avoided altogether. It is who chooses the simplification, for what purpose, and who can challenge its errors.

BOUNDARY This production does not claim that all categories are harmful, that data is inherently oppressive, or that lived experience always overrides systematic evidence. We examine trade-offs rather than an anti-measurement doctrine.

02 / A SHORT HISTORY

A civilization of making things count

BEFORE MODERN STATES

Names, lists, boundaries

Tax records, property boundaries, registers and calendars have long helped administrators and communities coordinate. Their meanings vary by place and period; the general tension between local life and recorded abstraction is older than digital technology.

19TH CENTURY

Administrative and statistical sight

Standardised surveys, public-health records, and scientific management expanded the ability to compare populations and places. John Snow's cholera investigations reveal how a selective map can illuminate a public danger [4, 5].

20TH CENTURY

The classification becomes infrastructure

Large organisations embedded categories in forms, files, and automated systems. Bowker and Star argue that classifications are consequential social infrastructures, not merely neutral filing cabinets [2].

21ST CENTURY

The model becomes the interface

Recommendation systems, eligibility engines and AI tools depend on representations of behaviour, language and groups. The machinery grows more flexible, but the questions of purpose, measurement, exclusion and contestability remain.

03 / THEORETICAL FRAMEWORK

Four lenses, none complete

01 / COORDINATION

To act together

Shared standards enable comparisons, safer communication, interoperability and allocation. A classification can be liberating when it finally makes a neglected need visible.

STRENGTH: collective action. BLIND SPOT: who picked the standard?

02 / STATE LEGIBILITY

To administer at scale

Scott shows how state simplifications can displace context-sensitive local knowledge when imposed through rigid plans [1]. But the argument does not invalidate all planning.

STRENGTH: power and context. BLIND SPOT: benefits of fair administration.

03 / INFRASTRUCTURE

To make reality durable

Bowker and Star foreground the work hidden inside supposedly natural categories and their consequences for those who do not fit [2].

STRENGTH: invisible design choices. BLIND SPOT: no single universal remedy.

04 / INDICATOR EFFECTS

To evaluate—and sometimes distort

Campbell explored why evaluation indicators can be difficult to interpret in changing systems. Targets also create incentives to change what is counted, sometimes instead of the underlying condition [3].

STRENGTH: feedback and incentives. BLIND SPOT: not every metric is gamed.

The four lenses disagree in emphasis. Their most useful shared question is: what happens after the representation starts governing the world it describes?

04 / THE SIGNATURE EXPERIMENT

The Legibility Engine

The model gives a reader a taste of a difficult public decision: which fictional neighbourhood receives attention first when the institution has limited information?

Why this can teach something that a paragraph cannot

Change a representation and an institution’s ordering can change. That is more memorable when the visitor performs the change and sees the explanation. The result is only a designed demonstration of sensitivity to variable selection. It is not an impact evaluation, a prediction, a risk assessment, or evidence about a real population.

Instructions

1. Choose a fictional purpose: initial heat-safety visits or neighbourhood shade investment.
2. Select exactly two of four indicators: reported heat exposure, lack of shade, access barriers, or resident testimony.
3. Apply the transparent mission weights below. Compare the ranked list with the four-indicator weighted reference, keeping in mind the reference is not truth.
4. Re-run with different inputs. Ask who would have been omitted if the institution relied on one data budget.

Illustrative weight table

Purpose	Heat	Low shade	Access	Testimony
Heat safety	1.20	0.70	1.30	1.00
Shade investment	0.80	1.60	0.65	1.00

Fictional teaching data (0–100; high means more of the named indicator)

District	Heat	Low shade	Access	Testimony
Ash Ward	94	80	25	32
Canal Bank	58	46	95	90
Old Mill	77	72	44	47
Ridge Steps	52	33	90	82
Station Yard	86	65	37	68
Garden Edge	41	28	62	75

Formula: selected priority = (sum of indicator × mission weight) / (sum of selected mission weights). The comparison computes the same formula with all four indicators. The mission weights were authored for pedagogy, not estimated from any real decision process.

Worked example

On a heat-safety mission with heat and shade selected, Ash Ward = (94 × 1.20 + 80 × 0.70) / (1.20 + 0.70) = 88.84 (rounded to 2 decimals). Canal Bank = (58 × 1.20 + 46 × 0.70) / 1.90 = 53.58. With access and testimony instead, Canal Bank receives a much higher model priority. These numbers reveal the selected model’s behaviour; they do not identify who actually needs help.

Discussion

- What did the two chosen indicators make easier to decide?
- Which neighbourhoods shifted when a different pair was chosen?

- Does “four indicators” necessarily represent four times the truth? Why not?
- Who could tell the institution the data was wrong?
- Would your answer differ for an emergency visit and a long-term infrastructure investment?

05 / REAL-WORLD CASE I

When a forest became timber

To an official planning wood production, a forest can be converted into counts of commercially useful trees, growth rates and harvest schedules. That representation may help plan a harvest. It also excludes much of what makes a forest a forest.

What the system could see

Scott's historical account of European scientific forestry describes a drive to make forests manageable from an administrative viewpoint: legible species, orderly plantings and measurable yields [1]. The point is not that every historical forest followed one design, but that administrative sight was increasingly organized around selected outputs.

What receded

Understory plants, biodiversity, complex soil interactions, local gathering practices and long-term resilience could become secondary to timber yield. A simplified system may be efficient in terms of one measure and fragile in terms of another.

Conceptual diagram: diverse forest relationships → administratively simplified tree inventory. This is a metaphor, not a historical reconstruction.

LIMIT This is an interpretive case drawn from Scott, not a claim that monocultures always fail or mixed forests always outperform them. Specific forestry outcomes depend on species, ecology, management and time horizon.

06 / REAL-WORLD CASE II

A checkbox is a decision

A statistical category can help reveal discrimination, resource needs and social change. It can also misdescribe people whose identities do not fit the available

boxes. Neither consequence is hypothetical in the design of public records.

In March 2024, the United States Office of Management and Budget revised its federal race and ethnicity data standard, replacing the 1997 standard. Among other changes, it called for a combined race-and-ethnicity question that permits multiple responses, and introduced Middle Eastern or North African as a minimum category [6]. This was a formal attempt to revise an existing classification, not proof that the new system perfectly captures identity.

The administrative benefit

Common categories allow statistics collected by many agencies to be compared, subject to how consistently definitions and procedures are followed. Without some common language, visibility into population-level patterns can deteriorate.

The human remainder

Identity is not exhausted by a single government form. The standard itself describes its categories as sociopolitical constructs rather than biological definitions [6]. More granular and multiple-response options can improve description while bringing new practical challenges for comparability, privacy and interpretation.

> *The humane question is not whether a box exists. It is whether the box can be revised—and what happens when a person does not fit.*

LIMIT The 2024 revision is presented as a documented administrative design decision. Its long-run effects must be evaluated empirically; this production makes no claim about them.

07 / THE SERIOUS COUNTEREXAMPLE

When a map saves lives

In the 1854 cholera outbreak in Soho, London, physician John Snow mapped deaths near water pumps. The pattern of cases, combined with investigation of water use and other evidence, helped support an argument for contaminated water transmission [4, 5].

The map did not capture every person's illness, every pathway of exposure, or every detail of London's sanitation. It represented a narrower question very powerfully. Snow's work, including investigation with the Reverend Henry Whitehead, is a reminder that a well-chosen abstraction can guide urgent action, even before mechanisms are fully understood [4, 5].

Popular retellings sometimes make the map a solitary genius's instant proof. That is too simple. Snow's theory predated the outbreak, his evidence included comparison and testimony, and the development and acceptance of understanding took time. The map was influential; it was not the whole investigation.

John Snow historical map: https://wellcomecollection.org/works/dx4prdbj

The counterargument: if a simplification is transparent about purpose, tested against evidence, and open to revision, it can be extraordinarily useful. The alternative to bad measurement is often better measurement—not no measurement.

08 / CONNECTIONS

Where the same tension appears

01 / AI

Representations

Models operate on encodings of text, images or behaviours. Strong performance on a benchmark is not a universal guarantee of understanding or fairness.

02 / EDUCATION

Grading

A single mark makes some academic outcomes comparable while missing curiosity, circumstance, collaboration and forms of learning outside the examination.

03 / ECOLOGY

Monitoring

What can be counted—species, canopy, temperature—must be linked carefully to ecological processes that cannot be reduced to one indicator.

04 / ORGANISATIONS

KPIs

Metrics help coordination; once incentives attach, teams may optimize the measure rather than the purpose. Campbell's work offers an evaluation lens [3].

05 / URBAN LIFE

Planning

Zoning and transport maps can reveal infrastructure gaps while smoothing away informal use, accessibility differences and the varied meanings of a street.

06 / SELF-KNOWLEDGE

Identity labels

A label can provide recognition and vocabulary. It can also become too tidy a story about a changing individual. Neither identity nor suffering is fully exhausted by a category.

THE PROMISE

Consistency. Coordination. Visibility.

Comparable standards make errors detectable, public claims contestable, and some formerly invisible problems actionable.

THE RISK

Exclusion. Surveillance. Target fixation.

Unappealable classifications can misallocate resources, intensify monitoring, or create misplaced confidence in apparently precise outputs.

THE RESPONSIBILITY

Revision. Appeals. Context.

State the purpose, audit omitted cases, preserve human testimony, and design legitimate mechanisms for correcting mistakes.

09 / LIMITS

What This Does NOT Show

- That making things measurable is necessarily harmful, or that unmeasured claims are automatically true.
- That the fictional Legibility Engine predicts actual heat vulnerability or identifies the right neighbourhood for investment.
- That all historical examples of administrative classification share the same causes or outcomes.
- That every disputed category can be eliminated without costs to coordination, comparability or rights enforcement.
- That AI systems, census practices or institutions are inherently fixed; their designs and effects can change over time.
- That these sources establish one universally correct philosophical account of what reality is.

What this project does show is a repeatable conceptual pattern: representations select, decisions use them, and the selected view can change behaviour. The actual consequences require domain-specific evidence.

10 / YOUR PRIVATE FIELD NOTE

Audit a box you live inside

Choose an ordinary category you encounter: a productivity metric, a college grade, a building rule, an app recommendation, a budget label. There is nothing to submit, and no personal data leaves this browser.

Private field note: describe a rule, score, category or indicator you encounter.

01 What does the category make easier to notice?

02 What important situation may it hide?

03 Who can ask for an exception or correction?

04 What would count as evidence that the measure works?

My note: _____

_____

_____

_____

_____

_____

11 / THE READING LADDER

Sources you can verify

[1] FOUNDATIONAL / THEORY

James C. Scott — Seeing Like a State

1998; Yale University Press. A major account of administrative simplification, top-down planning and the importance of local practical knowledge. Read critically: not all public coordination is high-modernist coercion.

https://yalebooks.yale.edu/book/9780300078152/seeing-like-a-state/

[2] FOUNDATIONAL / INFRASTRUCTURE

Bowker & Star — Sorting Things Out

1999; MIT Press. The social and technical consequences of classifications and standards. Especially useful for understanding why a category can disappear into ordinary infrastructure.

https://doi.org/10.7551/mitpress/6352.001.0001

[3] METHODS / EVALUATION

Donald T. Campbell — Assessing the Impact of Planned Social Change

Originally 1976; later editions and reprints. A careful examination of how to assess social interventions amid changing conditions and multiple competing causes. Relevant to indicator design, not a universal indictment of numbers.

https://jmde.journals.publicknowledgeproject.org/index.php/jmde_1/article/view/297

[4] HISTORY / INTERPRETATION

Royal College of Surgeons — Snow and Cholera

An accessible institutional account of the 1854 outbreak, Snow's reasoning, investigation, and the importance of contaminated water.

https://rcseng.ac.uk/library-and-publications/library/blog/mapping-disease-john-snow-and-cholera/

[5] PRIMARY MATERIAL

John Snow map — Wellcome Collection

Historic map and description associated with the 1855 cholera inquiry, marked Public Domain by Wellcome. Inspect the artefact itself; distinguish what its marks show from what later retellings imply.

https://wellcomecollection.org/works/dx4prdbj

[6] PRIMARY POLICY DOCUMENT

U.S. OMB — Revised Statistical Policy Directive 15

March 2024, Federal Register. Explains the revised federal race and ethnicity categories, their definitions, purpose and implementation expectations. A real example of reclassification through public administration.

https://www.govinfo.gov/app/details/FR-2024-03-29/2024-06469

Research method: source claims are identified in square brackets; conceptual diagrams and interactive neighbourhood data are original pedagogical illustrations, not field observations. Information and links checked 31 October 2026. This project is interpretive public education, not a peer-reviewed original study.

LAST NOTE

Make a map. Use the map. Remember what is not on it.

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