

Where Sociology Might Live

A Reflection on Mathematisation, Computational Methods, and the Ontological Turn in the Social Sciences

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Problema novum ad cuius solutionem sociologi invitantur. — after Johann Bernoulli, *Opera Omnia*, I.67

§1 · Prolegomenon: An Open Letter to Those Who Wonder What To Do With an Ontology of Society

When the *Ontology for Computational Sociology* (OCS) was made public in late 2025¹, it was sent — modestly, hopefully — to twenty-two addresses across European and North American universities. From twenty-one of these, no reply arrived. From the twenty-second, a candid question from a German professor: "*What am I supposed to do with this?*"

The question deserves a serious answer. Not a defensive one, not a dismissive one — a serious one. This essay is that answer, written for sociologists who have heard the words *ontology*, *Semantic Web*, *computational sociology* without quite knowing whether they belong to the same conversation, or to several mutually unintelligible ones.

The essay's thesis can be stated plainly. **Sociology is a mature discipline that has, in pockets, absorbed mathematical and computational methods to remarkable effect — but it has so far almost entirely neglected one particular layer of formal infrastructure: domain-level ontology in the technical sense.** That neglect is not innocent. It costs sociology interoperability, cumulability, and a measure of the disciplinary self-respect that comes from being able to say, in formal language, what one's central concepts *are*.

What follows is divided into ten short sections. They move from a brief archaeology of where scientific knowledge has historically been *stored* (§2), through the recurring question of what *mathematisation* means for a discipline's maturity (§3), to an honest inventory of what computational methods sociology already possesses (§4) and the one specific thing it does not yet possess at scale (§5). The OCS is then introduced as a first specimen (§6), followed by a concrete reply to the German professor's question (§7). The essay closes with reflections on the persistence of C. P. Snow's two cultures inside the academy (§8), an outlook (§9), and a short coda on Wittgenstein's *Tractatus* 5.6 (§10).

§2 · Where Science Lives: A Brief Archaeology of Knowledge Storage

Before asking what *kind* of knowledge sociology is, it is worth asking *where* knowledge — any knowledge — has been kept. The history of science is, among other things, a history of storage media², and changes in storage are never neutral with respect to content.

2.1 · The Folio and the Library

For most of recorded intellectual history, knowledge lived in *codices*: bound manuscripts, then printed folios, gathered in *libraries*. The library has a precise epistemic function: it juxtaposes works that were never juxtaposed by their authors, and so makes possible a kind of synthesis their authors never intended. The Library of Alexandria, the *Bibliothèque du Roi*, the Bodleian, the Library of Congress — each is, viewed sociologically, an *aggregation device*. But the indexical poverty of folio-bound knowledge was severe. To know whether some author had ever written on some topic, one needed a librarian, a memory, and time.

2.2 · The Index and the Catalogue

The remedy was the catalogue. The Dewey Decimal Classification (1876), the Library of Congress Classification (1897), the Universal Decimal Classification (1905 — heir of Dewey, developed by Otlet and La Fontaine in Brussels) gave libraries *structured access*. These are, in a recognisable sense, *proto-ontologies*: hierarchies of subject classes intended to render the universe of recorded knowledge navigable. They are taxonomies without axioms — flat trees rather than reasoning structures — but they introduced the crucial move of *separating the conceptual scheme from the stored content*. Every later development in knowledge engineering rests on this separation.

2.3 · The Relational Turn

In June 1970, E. F. Codd, then at IBM San José, published *A Relational Model of Data for Large Shared Data Banks*³. The model was algebraic, austere, and astonishingly successful: relations as sets of tuples, operations as algebra,

integrity constraints as logical predicates. Within fifteen years, the relational database had become the standard substrate for administrative, scientific, and commercial data. Sociology, like every other empirical discipline, came to live increasingly inside relational systems — census tables, survey databases, longitudinal panels. But the relational model has a known limitation: it represents *facts about entities of a fixed schema*, not *the schema itself* in any reasonable formal sense. The meaning of a column is conventional; it lives in the data dictionary, which is to say, in prose.

2.4 · The Distributed Turn

The late 1990s and 2000s brought distributed data architectures — federated databases, data warehouses, eventually NoSQL stores and document-oriented systems. Sociology benefited: cross-national surveys (ESS, ISSP, WVS) became routinely queryable in standardised form; administrative microdata became (in some jurisdictions) linkable across registers. But distribution multiplied the same problem the relational turn had bequeathed: *whose schema, in whose language, with which definitions?*

2.5 · The Semantic Web

In May 2001, Tim Berners-Lee, James Hendler, and Ora Lassila published *The Semantic Web* in *Scientific American*⁴. The vision was that the Web, until then a network of documents readable by humans, would become a network of *statements* readable by machines. The technical scaffolding — URIs as universal identifiers, RDF as a triple-based assertion language, OWL as a logic-grounded ontology language, SPARQL as a query language — was developed across the following decade. The Semantic Web has not displaced the document Web; it has, however, produced a remarkable subterranean infrastructure of *linked data*. Government statistics, library catalogues, museum collections, biomedical knowledge bases — these increasingly speak RDF underneath their human-facing interfaces.

2.6 · Ontologies and Networks of Ontologies

Within the Semantic Web stack, *ontologies* are the explicit, formal specifications of conceptual schemes — what classes of thing exist in a domain, what properties relate them, what logical constraints govern their behaviour. The decisive feature is that an ontology is *machine-actionable*: a reasoner can use it to derive new statements from old, to check the consistency of a knowledge base, to expose hidden assumptions.

Crucially, ontologies have begun to organise themselves into *networks*. In the life sciences, the OBO Foundry⁵ coordinates over two hundred interoperable ontologies, all aligned (in principle) under the Basic Formal Ontology, ISO/IEC 21838-2:2021. The NCBO BioPortal⁶ hosts more than one thousand ontologies of varying provenance and quality. The Gene Ontology alone is cited in well over a hundred thousand scientific papers. Biomedical research has *operationalised* the dictum of Whewell, that progress in science is the progress of *consilience* — the bringing-together of facts under common conceptual structures.

The present author is, in parallel, engaged in the development of a substantially larger ontology in this same tradition: the *Vitis Vinifera Ontology* (VVO), a BFO-aligned formal vocabulary describing the grapevine across its morphological, phenological, qualitative, and dispositional dimensions. Comprising over three thousand annotated classes organised under a strict taxonomic hierarchy, the VVO is being prepared for integration with the wider network of life-science ontologies. It is mentioned here not for its own sake, but as a working example of the same methodological commitments that animate the present essay — and as quiet testimony that the ontological turn need not remain confined to one corner of the scholarly world.

2.7 · The Asymmetry

It is at precisely this point that the sociological reader is invited to a sobering observation. The number of OBO-grade ontologies covering the *natural* sciences runs into the hundreds. The number covering general sociology, at the time of this writing, can be counted on the fingers of one hand⁷. Sociology's knowledge still lives, by and large, where it lived a century ago: in monographs, in survey codebooks, and in the heads of senior scholars. This is not a complaint. It is a description. Whether it should remain so is the question of the present essay.

§3 · Mathematisation as a Marker of Disciplinary Maturity

It was Auguste Comte — himself a sociologist, indeed the one who named the discipline — who proposed that sciences mature in a definite order: mathematics, astronomy, physics, chemistry, biology, and finally *sociology*⁸. Comte's hierarchy is a creature of its time, but its underlying intuition deserves serious engagement. Why has mathematisation correlated with disciplinary maturity?

3.1 · Physics, Chemistry, Biology

Physics achieved predictive precision through mathematical modelling: from Galileo's parabolas through Newton's *Principia* to Maxwell's equations and the Hilbert-space formalism of quantum mechanics. Chemistry mathematised

more slowly — through stoichiometry, then thermodynamics, then quantum chemistry. Biology mathematised most haltingly of all: Mendel's ratios, Hardy–Weinberg equilibrium, Fisher's population genetics, Volterra's predator-prey equations, and eventually the *molecular* mathematisation that produced bioinformatics. Each mathematisation involved finding the *right* mathematical objects for the domain. Newton needed calculus; Mendel needed combinatorics; Fisher needed statistics; molecular biology needed graphs and string algorithms.

3.2 · Economics — A Cautionary Case

Economics offers a cautionary counterpoint. Few social sciences have mathematised as enthusiastically; few have been more chastened by the experience. Walras, Pareto, Samuelson, Arrow, and Debreu built a magnificent edifice of mathematical economics; the 2008 financial crisis (and the dismal performance of standard macroeconomic models in its prediction) prompted serious internal reflection on whether the mathematics had displaced contact with the world rather than enhanced it⁹. The lesson is not *against* mathematisation. It is that mathematisation must remain in continuous dialogue with the phenomena. Formal sophistication without empirical traction is *scholasticism* in the medieval sense, however elegant.

3.3 · Network Science — A Recent Positive Example

Within the last quarter-century, *network science* has emerged as a discipline that bridges mathematics, physics, computer science, and the social sciences. The Hungarian-American physicist Albert-László Barabási, with the discovery of scale-free networks (Barabási & Albert, 1999)¹⁰, gave the field one of its founding empirical-mathematical results. Network science is now applied to social networks, transportation systems, biological pathways, the economy, and the Web itself. It is, in a real sense, what a successful late-twentieth-century mathematisation looks like: it found the right object (the graph), the right invariants (degree distributions, clustering, betweenness, community structure), and it kept its eye on the data.

3.4 · The Inference

The pattern across these cases is consistent. Mathematisation enhances a discipline when it (a) finds the right mathematical objects for the domain, (b) maintains traffic with empirical phenomena, and (c) does not pretend to be more than it is. The question for sociology is not *whether* to mathematise but *which* mathematical structures are appropriate to which sociological questions.

§4 · What Sociology Already Has: An Honest Inventory

Here this essay must pause and correct a temptation. It would be tempting — and rhetorically convenient — to portray sociology as a discipline that has slept through the computational revolution. This would be untrue. A careful look reveals that **computational and quantitative sociology have substantial, established traditions, and to overlook them would be both inaccurate and unjust to those who have built them**. The genuine lacuna is more specific, and the case for OCS is sharper when stated against an honest backdrop.

4.1 · Quantitative Sociology

The Lazarsfeld-Stouffer tradition (Columbia, Chicago) established mid-twentieth-century survey methodology and the statistical tools that go with it. Through Blau, Duncan, and Goldthorpe, sociology developed mobility analysis, status attainment models, and a substantial statistical apparatus. Causal inference in the Rubin–Pearl tradition is now routinely deployed in sociological research¹¹.

4.2 · Social Network Analysis (SNA)

Moreno's sociograms (1934) anticipated a programme that flowered with Harrison White's Harvard school, Mark Granovetter's *Strength of Weak Ties* (1973), and the work of Wasserman, Faust, and many others¹². SNA gave sociology its first thoroughly mathematical sub-language for representing relational data. Today, packages such as *igraph*, *NetworkX*, and *statnet* are standard in sociological work.

4.3 · Agent-Based Modelling (ABM)

Thomas Schelling's segregation model (1971) showed that strikingly macro-social outcomes can emerge from minimally specified individual preferences¹³. Joshua Epstein and Robert Axtell's *Growing Artificial Societies* (1996), Robert Axelrod's tournaments on the iterated Prisoner's Dilemma, the work of Nigel Gilbert and Klaus Troitzsch¹⁴, the JASSS journal, and the contemporary contributions of Flaminio Squazzoni and the ESSA community make ABM a recognised methodological pillar of contemporary sociology.

4.4 · Analytical Sociology

Peter Hedström, Petri Ylikoski, Gianluca Manzo and others have articulated *analytical sociology*¹⁵ as a programme to combine mechanism-based explanation with formal modelling. This is, in spirit, the tradition closest to ontology work, because it insists that sociological explanation be reconstructible in transparent conceptual primitives.

4.5 · Computational Social Science (CSS)

David Lazer and fifteen co-authors published *Computational Social Science* in *Science* in 2009, marking the public arrival of a research programme leveraging digital trace data, large-scale online experiments, and machine learning¹⁶. Matthew Salganik's *Bit by Bit* (2018) gives an accessible synthesis. Major sociology departments now host CSS subgroups; doctoral programmes increasingly include computational coursework.

4.6 · The Hungarian Note

It should be added — and Hungarian readers will not need the reminder — that Hungary has contributed quite disproportionately to this lineage: from Barabási's network science to the work of Csaba Pléh in cognitive social science, from Tamás Vicsek in collective behaviour to the Budapest school of mathematical sociology.

4.7 · The Real Lacuna

So what *does* sociology lack? The answer is: a formal ontological layer — a layer at which the *concepts themselves* of social analysis are made explicit, machine-readable, axiomatised, and interoperable. ABM has *agents* and *rules*, but no shared formal vocabulary of what an "agent" *is* across studies. SNA has *nodes* and *edges*, but no shared formal definition of what those nodes denote sociologically across studies. CSS has *data*, in abundance, but it does not have an agreed conceptual schema in which to deposit and link that data across studies. Biology, by contrast, has the Gene Ontology, the Cell Ontology, the Disease Ontology, the Human Phenotype Ontology — and these are *talking to each other*, formally, through alignments at the OBO Foundry. Sociology does not have the equivalent. **That** is the gap into which the OCS steps, and it is a much narrower — and much more defensible — claim than "sociology has no computational methods."

§5 · What Sociology Has Not: The Ontological Layer

5.1 · What an Ontology Is, Concretely

In knowledge engineering, an *ontology* is a formal, explicit specification of a shared conceptualisation of a domain¹⁷. Concretely:

- It enumerates *classes* — kinds of things the domain admits (e.g., *Social_Group*, *Norm*, *Institution*, *Deviance*).
- It enumerates *properties* — relations that hold between things (e.g., *belongsTo*, *influences*, *legitimises*).
- It states *axioms* — logical constraints that must hold (e.g., every Institution is realised in some Practice; *belongsTo* is irreflexive; *legitimises* implies *isPerceivedAsValidBy*).
- It is written in a formal language (typically OWL 2) such that a *reasoner* can check the resulting knowledge base for consistency and derive entailed statements.

This is not metaphysical bookkeeping. It is *engineering* of conceptual schemes — comparable, in spirit, to what mathematicians do when they axiomatise a structure they had previously handled informally.

5.2 · Why Biology Invested

Biology invested heavily in ontology because biology had a coordination problem. Genes were being annotated in dozens of databases using locally idiosyncratic terms; comparing results across databases was an exercise in lexical archaeology. The Gene Ontology (2000) imposed a shared vocabulary; the OBO Foundry (2007) extended this discipline to entire networks of ontologies. The result is that, today, when a paper says a gene is involved in *positive regulation of inflammatory response* (GO:0050729), that string is not a label — it is a *handle* on a class with a precise machine-checkable definition, position in a class hierarchy, and millions of computable inferences.

5.3 · Why Sociology Has Not

The reasons are several, and worth naming honestly.

First, sociology has historically prized **interpretive richness** over **formal closure**. The Weberian tradition of *Verstehen*, the Geertzian *thick description*, the Bourdieusian sensitivity to context — these traditions are wary, by training, of operations that flatten meaning. A reasonable wariness. But ontology work need not flatten meaning; it makes one *explicit layer* of the conceptual scheme machine-actionable, leaving every other layer of interpretive work untouched.

Second, the **technical entry cost** is high. Ontology engineering uses formalisms — description logic, OWL 2 syntax, BFO partitioning — that are unfamiliar to most sociologists. The few sociologists who do learn them rarely find collaborators in their home departments.

Third, the **community infrastructure is absent**. Biology had funding agencies (NIH) that *required* ontology-aligned annotation as a condition of data deposit. Sociology has no comparable institutional pressure.

Fourth, the **disciplinary self-image is at stake**. To accept ontology work as a legitimate sociological activity is to accept that sociology is, at least in part, the kind of thing one *engineers*. For some sociologists, this is unwelcome; it sounds like an admission that what is happening in their domain is closer to what is happening in biology than they would prefer.

5.4 · The Modest Claim

The claim of this essay is *not* that ontological methods will or should replace any existing sociological practice. The claim is that there is room, on the methodological shelf, for one more tool — and that this particular tool happens to address a specific weakness (conceptual interoperability across studies, traditions, and languages) that sociology has otherwise not addressed at all.

§6 · The OCS as a First Specimen

The *Ontology for Computational Sociology* (OCS) was developed as a first attempt to provide such a layer. Its details have been described elsewhere¹⁸; here it is described only in the service of the broader argument.

6.1 · What OCS Is

OCS is an OWL 2 ontology comprising **701 classes** (665 sociological, 36 inherited from BFO 2020), **254 object properties**, **78 data properties**, **201 n-ary causal relations**, and approximately **2,400 annotation axioms**. It is aligned under Basic Formal Ontology 2020 — an ISO standard — and uses six top-level BFO categories to partition the sociological domain: *Sociological Material Entities*, *Sociological Qualities*, *Sociological Concepts and Theories*, *Social Roles*, *Social Science Dispositions*, *Social Processes (General)*, *Social Spatial Regions*, and *Collective Causal Events*. It is open-source, distributed under CC BY 4.0, and is currently hosted on the NCBO BioPortal.

6.2 · What Is Genuinely Novel

Three features of OCS deserve mention as genuinely novel contributions, not duplicating prior work.

First, OCS is, to the author's knowledge, **the first foundational ontology of general sociology aligned with BFO 2020**. There exist domain-specific ontologies for particular social phenomena — friend-of-a-friend (FOAF), the Semantic Web for Research Communities (SWRC), some specialised crime or terrorism ontologies — but none provides general sociological coverage under a rigorous upper-ontological commitment.

Second, OCS implements an **n-ary causal relation framework** (described in §5 of the technical paper) that addresses a long-standing weakness of binary-predicate ontology languages when applied to complex social causation. By reifying causal events as first-class individuals (instances of *Collective_Causal_Event*), the framework expresses that multiple causes jointly produce multiple effects — and attaches certainty, evidential support, and theoretical-source annotations to the causal claim itself rather than to its participants. This is, at modest scale, what an ontology of social causation needs to look like.

Third, OCS is **distributed as a fully working software system**, not merely as an OWL file. The accompanying Java codebase (60+ classes, BFO-aware OWL generation, database management scripts, LaTeX documentation generation) makes the ontology *extensible* by other researchers without locking them to proprietary tooling.

6.3 · What OCS Is Not

It is equally important to state what OCS does *not* claim.

- It is **not exhaustive**. Sociology is a vast discipline; 701 classes are a beginning, not a completion. Important areas (e.g., gender studies, post-colonial theory, the sociology of science itself) are underrepresented and await specialist contribution.
- It is **not theoretically neutral**. Every ontology embeds theoretical commitments; OCS is no exception. Its BFO 2020 alignment commits it to a broadly realist, mereologically-explicit metaphysics. A Foucauldian or strongly constructivist sociologist might prefer a different upper ontology, and they would not be wrong to do so.
- It is **not a substitute for empirical sociology**. It is conceptual infrastructure. Conceptual infrastructure is necessary but never sufficient.

In the modest spirit of the OCS abstract: it is a *first swallow*. The Hungarian proverb is honest about what a first swallow can and cannot do. *Egy fecske nem csinál nyarat.*

§7 · A Reply to the German Professor: What Is Such an Ontology *For*?

This is, in the end, the operative question. Here are five concrete answers.

7.1 · Federation of Sociological Knowledge Across Studies

The single most chronic complaint of sociologists who attempt meta-analysis or systematic review is that *concepts mean different things in different studies*. Survey A's "social trust" is not Survey B's "social trust." Study X's "deviance" is not Study Y's "deviance." A shared ontology, against which study-specific definitions are *aligned* (with explicit `skos:exactMatch`, `skos:closeMatch`, or `skos:narrowMatch` predicates¹⁹), enables federated querying across heterogeneous studies. This is exactly the gain biology realised with the Gene Ontology, and it is precisely the gain sociology has been denied.

7.2 · Linking Sociological Concepts to Other Domains

Once sociological concepts are formalised under BFO, they become *interoperable* with biomedical ontologies (e.g., for medical sociology and public health), with environmental ontologies (e.g., for the sociology of climate change), with information science ontologies (e.g., for digital sociology). A query of the form "*find all populations with risk factor X and social condition Y*" becomes formally expressible across sources. The applied research community — public health, urban planning, education policy — needs exactly this affordance.

7.3 · Theory Reconstruction and Comparison

Sociological theories are, very often, *informal ontologies* — sets of conceptual claims about what kinds of social things exist and how they relate. To formalise a theory in an OWL fragment is to make its commitments visible. *Where does Bourdieu's field live in the BFO partition? What is the difference, formally, between a Weberian legitimacy and a Habermasian one?* These are not invitations to flatten the theories; they are invitations to render them transparent enough that students of the theories — and machines acting on their behalf — can compare them.

7.4 · Computational Reasoning over Social Causation

The n-ary causal relation framework allows formal reasoning over patterns of social causation: *conjunctive* (multiple causes jointly producing effects), *disjunctive* (alternative pathways), *threshold-dependent*, *interactional*, *recursive*. SPARQL queries can be written that traverse such causal structures, identifying chains, feedback loops, or causal communities. The resulting analyses are *not* substitutes for empirical investigation, but they sharpen the questions empirical investigation asks.

7.5 · Teaching and Curricular Integration

Finally, a foundational sociological ontology is a *pedagogical* artefact. A graduate seminar can use it to introduce students to the conceptual architecture of the discipline. A doctoral student can use it to position a thesis. An interdisciplinary collaborator (the public health researcher, the climate scientist, the urban planner) can use it to learn *what sociologists mean by what they say* before launching into joint work. Sociology has rich textbook traditions; ontology adds a navigable, queryable, machine-checkable companion.

The German professor's question, then, has an answer: *one uses such an ontology the way a biologist uses the Gene Ontology* — as conceptual infrastructure that does not replace one's research but underwrites its integration with the work of everyone else.

§8 · The Two Cultures, Revisited

C. P. Snow gave his Rede Lecture *The Two Cultures and the Scientific Revolution* in May 1959²⁰. His diagnosis was that the literary–humanistic and the scientific–technical cultures had drifted into mutual unintelligibility, to the impoverishment of both. Sixty-seven years on, his lecture reads as both prescient and incomplete. The two cultures still exist; they have refined the rituals by which they avoid one another.

A formal sociological ontology lives at the precise frontier where the two cultures fail each other. The ontology engineer who looks at sociology and says "*there are no axioms here, only narratives*" has not read enough sociology. The sociologist who looks at OWL and says "*this flattens what cannot be flattened*" has not understood what OWL is doing. Both are guilty of a category mistake; both are, in some measure, defending professional self-images at the cost of intellectual range.

The work described in this essay rests on the wager that the two cultures can be made to *traffic with one another* on this terrain — that conceptual rigour and interpretive depth are not in zero-sum competition. The wager may not pay off; the wager may pay off only slowly. But it is the wager that motivates the OCS, and it is the wager invited to a wider circle of collaborators here.

§9 · Outlook

Several lines of work follow naturally.

First, community extension of OCS into specialist subfields — economic sociology, sociology of religion, the sociology of science, gender studies, post-colonial sociology — through collaboration with disciplinary experts who would not need to learn OWL themselves but would contribute the substantive conceptual content.

Second, alignment with neighbouring ontologies — biomedical (for medical sociology), environmental (for sociological work on climate), educational, governmental. The mappings can be made using SKOS predicates; the technical pattern is now well-established.

Third, integration with empirical data infrastructures — survey codebooks, longitudinal panel datasets, administrative microdata, social media corpora. The aim would be not to *replace* such infrastructures' native schemas but to *map them* into the shared ontological space.

Fourth, publication discipline. Future computational-sociological papers might begin to include, as an appendix or supplementary file, a small OWL fragment formalising the central conceptual commitments of the paper. This is what biology now routinely does. Sociology could begin to.

Fifth, pedagogical adoption. Methods sequences in doctoral programmes might include a unit on ontology engineering, parallel to the existing units on statistics, SNA, and ABM.

These are not radical proposals. They are continuous with everything sociology has already done over the past century. They simply add one more layer — *the layer of the explicit conceptual scheme* — to the discipline's working equipment.

§10 · Coda: Tractatus 5.6

Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt. — Wittgenstein, Tractatus Logico-Philosophicus, 5.6

What an ontology offers a discipline is, in part, an explicit reckoning with the limits of its language — a place where its primitive concepts are written down, in some standard logic, in such a way that the *shape* of its world becomes visible to itself. This is not a substitute for the philosophical and humanistic labour of asking whether those primitive concepts are the *right* ones. That labour remains.

But there is an honesty in writing down what one's working concepts are. There is also, perhaps, a small intellectual pleasure in seeing one's discipline reflected — not exhaustively, not unproblematically, but *legibly* — in a form that other disciplines, and other minds, can read.

To the question with which this essay opened — *what is one supposed to do with an ontology of society?* — the answer is, finally: *one is supposed to use it as a place where sociologists, and those who would speak with sociologists, can find each other.* The OCS is a small contribution toward that place. It is offered in that spirit.

Notes and Further Reading

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The author declares no conflicts of interest. Correspondence may be directed to: edithlaszny@gmail.com

Footnotes

1. NCBO BioPortal listing: <https://bioportal.bioontology.org/ontologies/OCS/>. The technical paper is available at <https://www.hlaszny.com/OCS/data/OCS.pdf>.
2. For a magisterial treatment, see Ann M. Blair, *Too Much to Know: Managing Scholarly Information before the Modern Age* (Yale University Press, 2010). For the longer arc, Peter Burke, *A Social History of Knowledge* (Polity, 2 vols., 2000 and 2012).
3. E. F. Codd, "A Relational Model of Data for Large Shared Data Banks," *Communications of the ACM* 13(6), June 1970, pp. 377–387. One of the most consequential thirteen pages in the history of computing.

4. Tim Berners-Lee, James Hendler, Ora Lassila, "The Semantic Web," *Scientific American* 284(5), May 2001, pp. 34–43. For the engineering follow-up, see Dean Allemang and James Hendler, *Semantic Web for the Working Ontologist* (Morgan Kaufmann, 3rd ed., 2020).
5. OBO Foundry: <https://obofoundry.org>. See Barry Smith et al., "The OBO Foundry: coordinated evolution of ontologies to support biomedical data integration," *Nature Biotechnology* 25(11), 2007.
6. NCBO BioPortal: <https://bioportal.bioontology.org>. The technical paper of record is Whetzel et al., "BioPortal: enhanced functionality via new Web services," *Nucleic Acids Research* 39 (W1), 2011.
7. One can find FOAF (Friend-of-a-Friend), some specialised crime ontologies (e.g., for forensic or counter-terrorism applications), and a handful of subject-specific schemas. To the author's knowledge, OCS is the first general-coverage, BFO-aligned ontology of sociology hosted on a public ontology portal.
8. Auguste Comte, *Cours de philosophie positive*, 1830–1842. See Mary Pickering, *Auguste Comte: An Intellectual Biography* (Cambridge UP, 3 vols.) for serious modern engagement.
9. See, for an internal critique, John Kay and Mervyn King, *Radical Uncertainty* (W. W. Norton, 2020); from another angle, Dani Rodrik, *Economics Rules* (W. W. Norton, 2015).
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12. Stanley Wasserman and Katherine Faust, *Social Network Analysis* (Cambridge UP, 1994). For a contemporary synthesis, Stephen Borgatti, Martin Everett, and Jeffrey Johnson, *Analyzing Social Networks* (SAGE, 2nd ed., 2018).
13. Thomas C. Schelling, "Dynamic Models of Segregation," *Journal of Mathematical Sociology* 1, 1971, pp. 143–186. A model of how to write a model.
14. Joshua Epstein and Robert Axtell, *Growing Artificial Societies* (Brookings/MIT, 1996). Nigel Gilbert and Klaus Troitzsch, *Simulation for the Social Scientist* (Open UP, 2nd ed., 2005). Flaminio Squazzoni, *Agent-Based Computational Sociology* (Wiley, 2012). For the journal of record, *JASSS — Journal of Artificial Societies and Social Simulation*.
15. Peter Hedström and Petri Ylikoski, "Causal Mechanisms in the Social Sciences," *Annual Review of Sociology* 36, 2010, pp. 49–67. Gianluca Manzo (ed.), *Research Handbook on Analytical Sociology* (Edward Elgar, 2021).
16. David Lazer et al., "Computational Social Science," *Science* 323(5915), 2009, pp. 721–723. Matthew Salganik, *Bit by Bit: Social Research in the Digital Age* (Princeton UP, 2018, with companion website).
17. The classical formulation is Thomas R. Gruber, "A Translation Approach to Portable Ontology Specifications," *Knowledge Acquisition* 5(2), 1993, pp. 199–220. For the textbook treatment used in this paper, Robert Arp, Barry Smith, and Andrew D. Spear, *Building Ontologies with Basic Formal Ontology* (MIT Press, 2015).
18. Edit Hlaszny, *OCS: A Foundational Ontology for Computational Sociology* (technical paper, October 2025), available at <https://www.hlaszny.com/OCS/data/OCS.pdf>.
19. SKOS — Simple Knowledge Organization System — is a W3C Recommendation: Alistair Miles and Sean Bechhofer, eds., *SKOS Simple Knowledge Organization System Reference*, W3C, 2009.
20. C. P. Snow, *The Two Cultures and the Scientific Revolution* (Cambridge UP, 1959). Still worth the evening it takes to read it.

