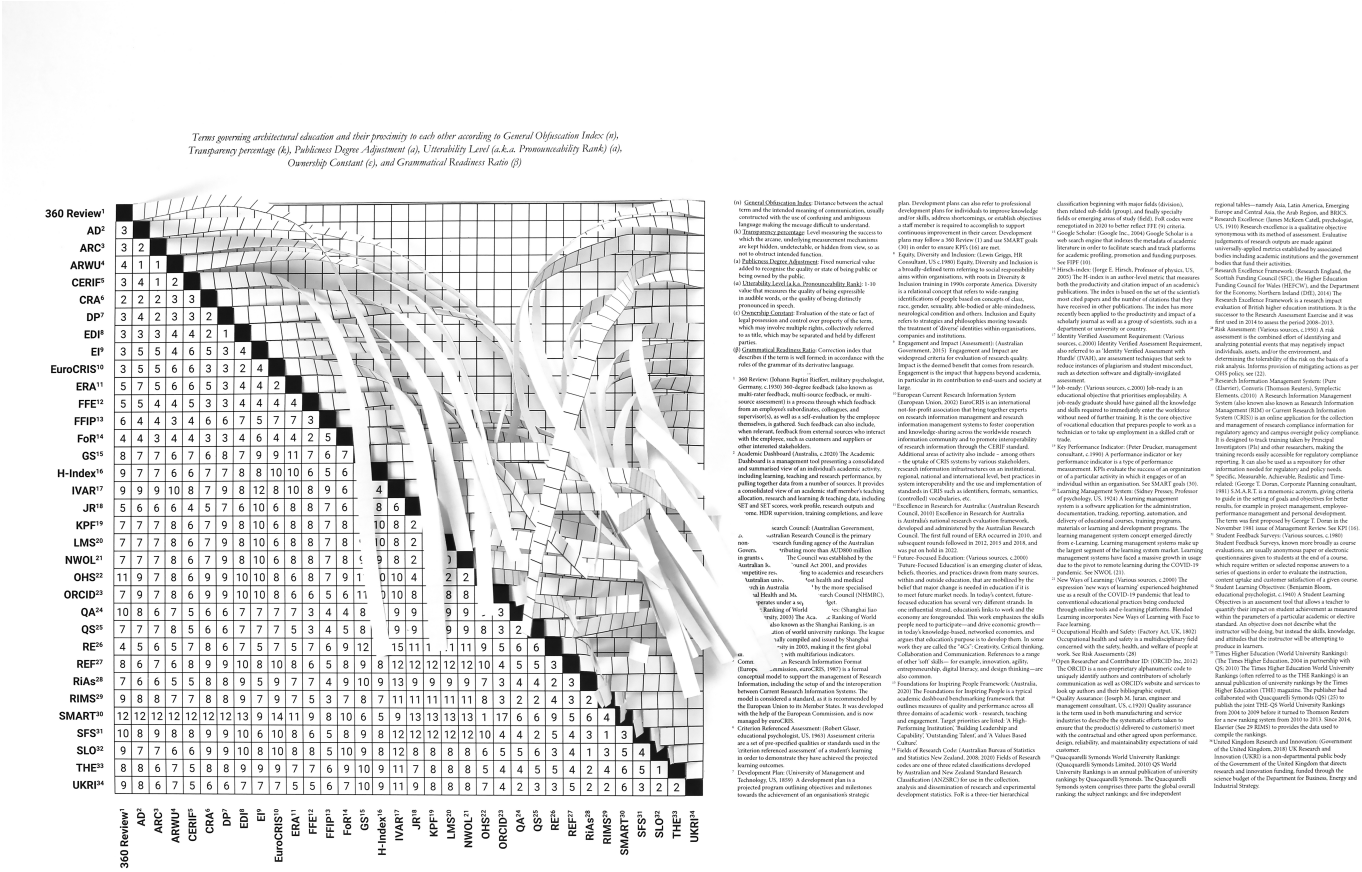
Urtzi Grau and Francesca Hughes

Cul-de-sac

Given that architecture's future is written in its schools, we contend that of the many predictive diagrams that Charles Jencks produced, it was his 1969 dissimilarity matrix of the most future-shaping architects of the day that possessed the keenest foresight.[1] Not in terms of the architects selected, but in terms of the methodological paradigm it espoused: computationally-enhanced prediction, currently impacting the futures of architectural education, and just about everything else too. Appropriating the format of the then-nascent numerical taxonomy—a technique able to process nearly infinite but only visible characters in calculating the relations between a set of unclassified individuals—Jencks's little-known closed square grid of thirty-four columns and rows assigned a numerical value to the dissimilarity or relational distance between pairs of architects from a list of thirty-four.[2] Unlike the phylogenies that numerical taxonomy matrixes sought to replace, this diagram is not a timeline. In its denial of time's passage, it fixes us firmly in Friedrich Kittler's eternal present of computation.[3] Its hermetic nature asserts its exhaustive combinatorial logics. Unlike the bifurcating precedent, no space is reserved for the equivalent of new branches yet to be discovered. Thus it simultaneously denies both any outside and indeterminacy—if a property cannot be counted, it does not count.[4]

But most importantly, for Jencks then and for us now, 1969 marked taxonomy's turn from a forensic art of judgement to a predictive science; from who your parents may have been to who your offspring will be. As taxonomy signed up to the Cold War's newly computerized future, in which the latest metaphor for the gene was the computer "program," being able to predict was deemed more important than being able to see or visually understand relations.[5] Jencks fast retreated from this graphic mode of analysis, evidently considering it a cul-de-sac in his thinking about architecture's own cul-de-sacs, and perhaps deeming it simply not cosmological enough, and likely not metaphoric enough too. He later insisted: "We think with these diagrams (rivers or trees)—you can't think outside of metaphor."[6] The numerical taxonomy matrix, with its sacrifice of the branching isomorphism for predictive prowess, paved the way for the future of its own offspring: spreadsheets, and the very different kind of thinking and relations to time they would install.[7] While the timeline uses classification of the past in order to map the future (and vice versa), the spreadsheet erects an apparently timeless reality in which it has become, paradoxically, the contemporary instrument *par excellence* of prediction. The spreadsheet does not "paint" or "suggest" futures, but determines, in parsimonious fashion, the always already risk-stripped and thus optimized future. No risk or inefficiency escape its relentless analysis, except of course its own.

This predictive chronograph updates Jencks's dissimilarity matrix by substituting the architects that painted architecture's future with thirty-four of the myriad academic managerial instruments/acronyms that



Urtzi Grau and Francesca Hughes, “Cul-de-sac,” 2023. (Click the image to zoom in. Please allow time for the image to load.)

currently determine the education of architects: 360 Review, AD, ARC, ARWU, CERIF, CRA, DP, EDI, E&I, EuroCRIS, ERA, FFE, FIPF, FoR, GS, H-Index, IVAR, JR, KPI, LMS, NWOL, OHS, ORCID, QA, QS, RE, REF, RA, RIMS, SMART, SFS, SLO, THE, and UKRI. Collectively they populate (how democratic of them…) the spreadsheets that increasingly govern all decisions in schools, from academic workload benchmarking and studio staff/student ratios to topics of research, design briefs, timetabling, and lecture length. That their component parameters have next-to-no bearing on anything that really matters to architectural education does not deter them from predicting its future with Oedipal determinism: future student numbers, future academic performance, future research income, future curricular risk amelioration, future student satisfaction, future workforce profiling, future lucrative research income streams and so on. Their collective blind spots (though they are hardly spots) miss the unmeasurable qualities of emergent pedagogical experiments, new forms of knowledge and its exchange, or important but revenue-evading research questions. As with elsewhere, the aim of this metrical saturation of architectural education is to cancel “accidents”—accidents that might derail the rise of mediocrity, amongst others.[8] Hence, unlike the timeline, spreadsheets do not conjure but *avoid* the future. Or to be more precise, they *void* the future. The central interest of their prediction is compliance.

For all its lightning-speed agility and its ever growing list of functions (*f*), the management spreadsheet freezes possibility as it rehearses the sacrifice numerical taxonomy made (of understanding for predictive prowess) and instead blinds us with its “transparency.” This is its formidable rhetorical power. At the same time, the spreadsheet asserts that it is not a diagram. How could it be? Diagrams are rhetorical; they have agency. The spreadsheet propounds to have none. It is simply an organizational tool there to see what we cannot see. Diagrams understand that there is a more complicated world out there. The spreadsheet replaces that world. It never existed. The double power of the arch-diagram that is the spreadsheet is predicated upon its insistence that it is outside of time and that it is not a diagram. Our erupting

dissimilarity matrix is no different.

Its constituent terms, often arriving from distant disciplines, such as management or marketing, and paradigms, such as 1920's psychology or the Industrial Revolution's 1802 Factory Act, each contain a history as idiosyncratic as the logics they enforce in the data they now manage. A latter-day Jencksian might organize them in a river-like timeline that unveils how research indexes shifted from an inconspicuous presence to dictatorial superstructure; why risk assessments started defining design briefs; at which point online management systems became the mandatory communication channel between students and academics. The danger of this is, of course, to fall for their very same promise: to imagine that we too could predict the future, or the demise, of these systems of prediction. To avoid such tautological pitfalls, we choose instead the *cul-de-sac* that Jencks discarded due to its assumed inability to predict. In so doing we do not ask the question of where these terms go or come from, but true to the mission of numerical taxonomy, only what immediate and measurable features connect or separate them.

Their mutual dissimilarity is thus calculated via six new requisite characters: *General Obfuscation Index* (n), *Transparency percentage* (k), *Publicness Degree Adjustment* (a), *Utterability Level* (previously *Pronounceability Rank*) (α), *Ownership Constant* (ε), and *Grammatical Readiness Ratio* (β). The character set has no pretentions to universality or even comprehensiveness, but rather accepts the fragmented nature of our endeavor. Not only have we a limited knowledge of the different systems, brands, and software products that now encumber schools of architecture around the world, we are also well aware that architectural education is not the avant-garde of management thinking, but rather a mediocre parvenu, or worse, a dumping ground. These systems have been well tested in other realms of the corporate world and arrive to our schools late and probably already outdated. We prefer not to know what the future of management reserves for us, and again, to want to would be to accept its very colonial logics: that we can predict each other's future, as so many latter-day matrices now predict ours.

The digital turn arrived as if it had no history, as if "the end of history" was to be taken literally.[9] But instead, it is the future that has ended, or been taken away. Data-driven capitalism, the neoliberal logics it attends to, and the extreme center it upholds, has seen to it that the cones of vision of predictive systems have given us not more but fewer futures.[10] Returning to Jencks's 1969 matrix, its top right-hand triangle simply duplicates the data below the diagonal in tonal shades. Why install such redundancy in a system that is all about reduction for optimization? Does this anticipate some future resistance occupation, able to escape from its teleological cul-de-sac? Or better still, that which quite simply refuses to be predicted? We await its arrival, despite the obstacle race of predictive systems, from within their now extensive spaces of duplication and redundancy, the *terrains vagues* outside of their cones of vision, and from behind their mesmeric, didactic surfaces, in full dysphoric jouissance.[11]

Dissimilarity Matrix Characters used to Calculate Distance between Terms Governing Architectural Education

n, General Obfuscation Index: Distance between the actual term and the intended meaning of communication, usually constructed with the use of confusing and ambiguous language making the message difficult to understand.

, Transparency percentage: Level measuring the success to which the arcane, underlying measurement mechanisms are kept hidden, undetectable, or hidden from view, so as not to obstruct intended function.

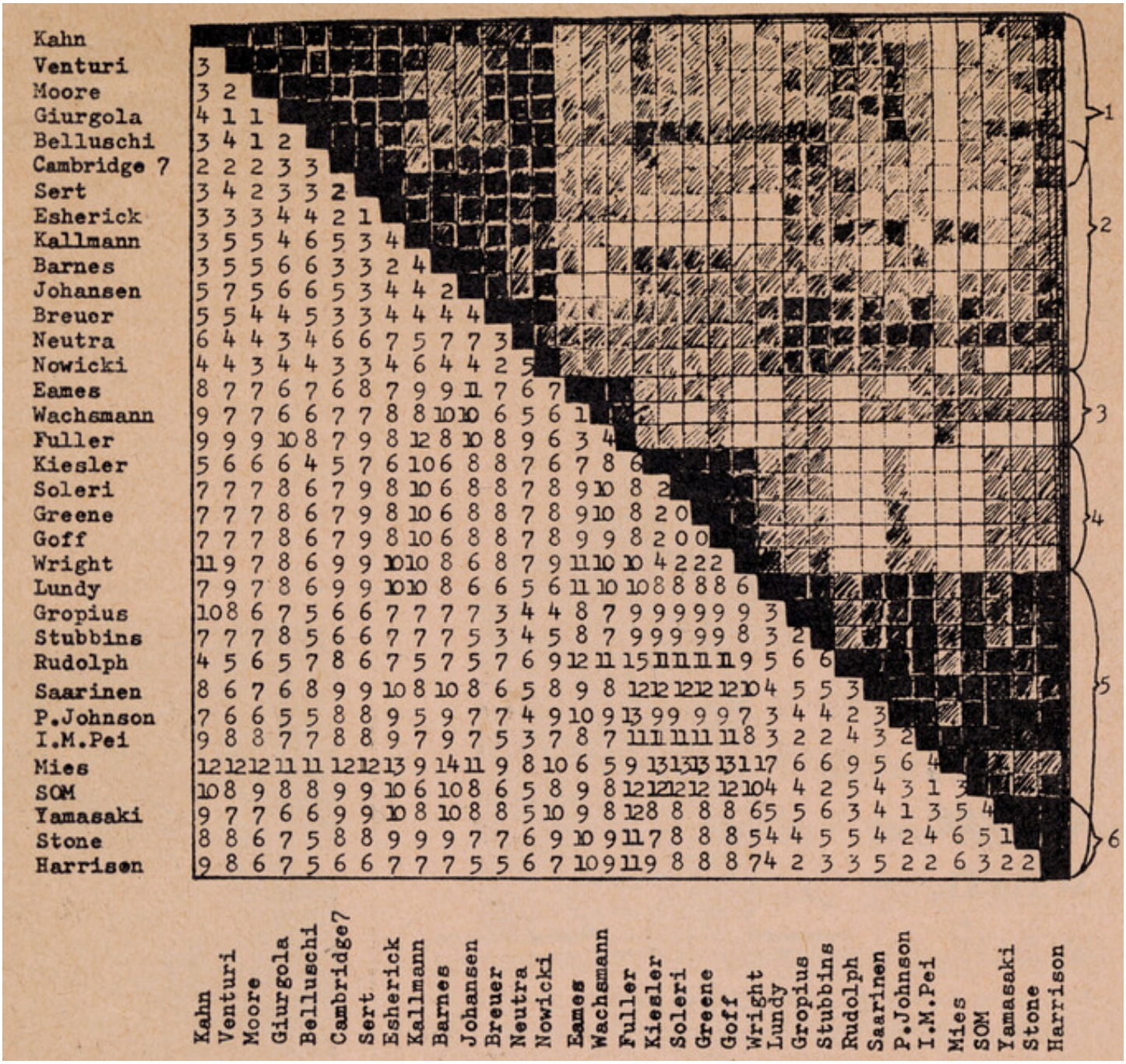
, Publicness Degree Adjustment: Fixed numerical value added to recognise the quality or state of being public or being owned by the public.

α, Utterability Level (a.k.a. Pronounceability Rank): 1-10 value that measures the quality of being expressible in audible words, or the quality of being distinctly pronounced in speech.

ε, Ownership Constant: Evaluation of the state or fact of legal possession and control over property of the term, which may involve multiple rights, collectively referred to as title, which may be separated and held by different parties.

β, Grammatical Readiness Ratio: Correction index that describes if the term is well formed; in accordance with the rules of the grammar of its derivative language.

Definitions of Terms Governing Architectural Education



Charles Jencks, Diagram in “Pigeon-holing Made Difficult,” Architectural Design (November 1969).

X

We’d like to than Janelle Woo for her inestimable help with compiling the Definitions. We hope they have not put her, or you, off academia for good.

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Chronograms of Architecture is a collaboration between e-flux Architecture and the Jencks Foundation within the context of their research program " **'isms and 'wasms**."

1
"Pigeon-holing Made Difficult," *Architectural Design* (January 1969), Vol 11, 582.

2
Ibid. Kahn, Venturi, Moore, Giurgola, Belluschi, Cambridge 7, Sert, Esherick, Kallmann, Barnes, Johansem, Breuer, Neutra, Nowicki, Eames, Waschmann, Fuller, Kiesler, Soleri, Greene, Goff, Wright, Lundy, Gropius, Stubbins, Rudolph, Saarinen, Johnson, I.M.Pei, Mies, SOM, Yamasaki, Stone, Harrison. Jencks explains that each value represents the degree of dissimilarity between two architects calculated by summing the 0-3 scores related to six historical influences, producing a possible minimum of 0 and maximum of 18. Each pairing appears twice as the intersection between Paolo Soleri's column and SOM's row is located in a different cell than the intersection between SOM's column and Soleri's row, yet they both hold the same value. The matrix is however diagonally divided from the upper left corner to the lower right one, cancelling the cells that show the intersection of the architects with themselves, and reserving the bottom-left triangle for numerical values and the top right for grey shades whose saturation is equivalent to the corresponding numerical value – darker colours denote higher values denote greater distance. Jencks cites his Numerical Taxonomy source from which he appropriated the matrix, Robert R. Sokal, "Numerical Taxonomy," *Scientific American,* Vol 215, no 6 (December, 1966), 106-117, 106.

3
Friedrich A. Kittler, *The Truth of the Technological World: Essays on the Genealogy of Presence,* trans. Erik Butler (Redwood City: Stanford University press, 2004).

4
We are reminded that it is only by the utter denial of other criteria, of properties that cannot or will not be measured (yet), that a system can propound to be a 'world' for which, as with all world-building, the final goal is to be hermetic – to exclude not only that/those which it cannot/will not measure, but also its/their futures.

5
See Sokal, "Numerical Taxonomy," *Scientific American.* Sokal offers, we can still 'see' the phenetic distance, or dissemblance, between individuals via a phenogram – a branching diagram, deceptively like its antecedents, but fundamentally different: the x-axis is no longer time but degrees of difference. Time is gone. 109.

6
" *Organizing Tendencies: Charles Jencks and Alejandro Zaera-Polo Compare Diagrams,"* produced by the Canadian Centre for Architecture and filmed in Cosmic House, December 2017, 11:37 mins, https://www.cca.qc.ca/en/articles/issues/25/a-history-of-references/55386/organizing-tendencies .

7
Not unlike the tolerance of complexity that numerical taxonomy had promised, with its incorporation of a near infinite number of characters in giant matrices, allowing the taxonomist to make, as Jencks hoped, "more delicate" classifications, spreadsheets too have instead produced not a space for the articulation of difference promised by computation, but the homogeneity that is the signature of mediocrity. Charles Jencks, "Pigeon-holing Made Difficult," 582.

8
Recent research on the performance of medical and law schools has established that they produce better learning environments and better research when they are managed by their own discipline, by academics interested in the pursuit of knowledge rather than managers interested in the pursuit of profit. For a brief account of the relations between transactional logics, and the metricisation they require, and the rise of mediocrity in architectural academia see Francesca Hughes, "Failing to Fail," *The Architectural Review,* no.1494, (September, 2022), 96-98.

9
We are indebted to our dear friend and colleague Miguel Rodríguez-Casellas for pointing this out to us.

10
On extreme centre see David Graeber, "Graeber on Liberals," *Double Down News* , 2020, https://www.filmsforaction.org/watch/david-graeber-on-the-extreme-center/ .

11
On dysphoria see Paul B. Preciado, *Dysphoria Mundi: Le son du monde qui s'écroule* (Paris, Bernard Grasset: 2022).