METRICS OF UTOPIA
Optionality, Aesthetics and Patrick Geddes' Ideal of Synoptic Utopia

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My dissertation, 'Periodicity and Rural Urban Dynamics', hypothesizes that *the simultaneous experience of strongly contrasting sensations is pleasurable,* and that *'abrupt urbanism' can enhance both rural and urban experience.* This article investigates the dual dimension of Geddes' survey, physical and social, highlighting the importance of the principles of 'synoptic vision' and 'vital budget' introduced in his *Cities in Evolution*, and their relation to the concept of Utopia – to which Geddes gives an original and effective meaning as evolutionary and deeply contextual. Both the notions of synoptic vision and vital budget are based on an organic dimension, addressing body-related metrics in town and country as tools for design and, finally, for establishing democracy. In order to reanimate Geddes for Horizontal Metropolis, the article considers these two concepts and their metrics by inscribing Geddes' theory and statements into a wider chronological trajectory, looking at his legacy as evidenced by his relations with contemporaries, and more recent affirmations of his proposed associations between the body, energy, mobility, metrics and democracy.

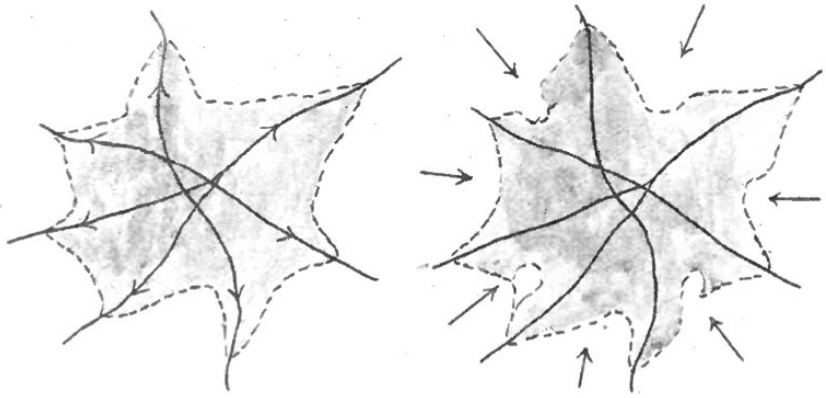
UTOPIAN LEGACIES

While the word 'utopia' has more recently come to be understood as rather naïve, meaning 'an imagined place or state of things in which everything is perfect,' Sir Patrick Geddes (1854-1932) – Scottish biologist, sociologist, and geographer – characterized his own interest in the evolution of cities as 'frankly eutopian'. Geddes conceived of the current state of cities as transitional and as susceptible to improvement by the use of alternative metrics commensurate with his ideal of 'synoptic utopias'. Thomas More's *Utopia*, published in Latin in 1516, is 'a frame narrative primarily depicting a fictional island society and its religious, social and political customs' (More 1516). The book introduced the term Utopia both as the book's title and as the name of the invented nation described therein. In the preface to his first book, *The Story of Utopias*, (1922) Lewis Mumford – who was then Patrick Geddes' protégé – attributes to Geddes the observation that Sir Thomas More was a punster, and asserts that in coining the term Utopia he was playing on the implications between the Greek terms *outopia* – 'no place' – and *eutopia* – 'the good place.' (Mumford 1922, 1) But in considering this play between meanings we can see another virtue in the term utopia as a potential synthesis of the two implications. Mumford writes of 'one-sided utopias', asserting that both the initial attraction and the perceived failure of utopian ideals are attributable to their tendency toward authoritarianism, uniformity, conformity, homogeneity and the exclusion of alternative modes of life. He observes that the most striking commonality of historic utopian visions is a kind of technological determinism, the implicit ideal of conquering nature. Together these characteristics of 'one-sided utopias,' while generally forwarded as an expedient of security and control, have the cumulative tendency of diminishing attentive observation, isolating individuals from one another and from their environments.

Indeed, in *Cities in Evolution* Geddes himself writes, "In our present phase, town-planning schemes are apt to be one-sided, at any rate too few-sided. One is all for communications, another for industrial developments. Others are more healthily domestic in character, with provision for parks and gardens; even, by rare hap, for playgrounds, that prime necessity of civic survival: but too many…plans mingle both exaggerations and omissions with their efficiency: in their too exclusive devotion to material interests they dramatically present the very converse of those old…cities, which seem almost composed of churches and monasteries. To avoid such exaggeration, yet incompleteness, what is the remedy? Clearly it awaits the advance of our incipient study of cities. For each and every city we need a systematic survey, of its development and origins, its history and its present. This survey is required not merely for material buildings, but also for the city's life and its institutions, for of these the builded city is but the external shell." (Geddes 1915, 255) Indeed, the systematic social and physical surveys referred to here were actively developed and subsequent actions taken in his own city, Edinburgh, and then in various 'cities, great and small, British and Continental'.

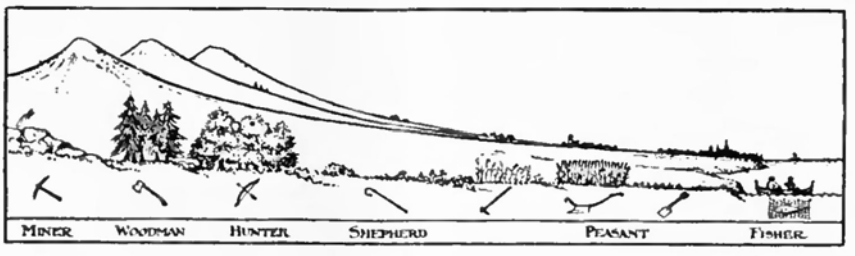
Mumford acknowledges that *The Story of Utopias* is in large part the result of his interpretation of Geddes' ideas, and was written in consultation with him. Indeed, Geddes' work is dense, and requires some interpretation. As regards Geddes' written work Michael Batty opines: "In fact, Geddes' major problem was that he was not a clear communicator. His book *Cities in Evolution*…is much more focused on ideas of regionalism, ecology, civics and participation as well as the longstanding notion of survey before plan, but not on evolution *per se.* As it was, Geddes failed to spell out explicitly his application of evolution." (Batty 2009, 557) A large part of the extensive correspondence between Geddes and his protégé Mumford pertains to the elder scholar's hope that Mumford would become his close collaborator, organizing his material and assisting

him in producing his 'Opus Syntheticum.' (Novak 1995) This did not come to pass, but as Batty writes, "Despite Geddes' failings, he can nevertheless be regarded as the first to imprint the analogy with evolution on our study of cities, and in his early years developed many insights into the biology of cities which resonate strongly with current developments. In fact, in his concern for morphology summarized in his massive and learned entry to the ninth edition of the Encyclopaedia Britannica (1883), he articulated the view he held all his life that physical form held the major key to evolution." (Batty 2009, 557-558) He goes on to cite 'a particularly prescient section' in *Cities in Evolution* where Geddes asserts, "…towns must cease to spread like expanding inkspots and grease stains: once in true development, they will repeat the star-like opening of the flower, with green leaves set in alternation with its golden rays." (Geddes 1915, 97) Geddes precedes this formal description with the statement, '…we, with our converse perspective, coming in from country towards town, have to see to it that these growing suburbs no longer grow together, as past ones have too much done," and these are illustrated in the book with a diagram titled "Town>Country: Country>Town". [fig.1]



[fig.1] This diagram, originally labeled "Town>Country: Country>Town" (Geddes 1915, 96) reflects Patrick Geddes' conception of the expansive tendency of cities, and the reciprocal tendency of the countryside to push back, these two tendencies resulting in an articulated and elongated edge condition of directly adjacent, opposite qualities that imply a positive condition I refer to as 'abrupt urbanism'.

The diagram reflects Patrick Geddes' conception of the expansive tendency of cities, and the reciprocal tendency of the countryside to push back, these two tendencies resulting in an articulated and elongated edge condition of directly adjacent, opposite qualities of rural and urban territories. The diagram appears in chapter 5, *'Ways to the Neotechnic City,'* which opens with a summary describing some deeper implications of what the diagram illustrates: "The cleansing of the city; starting from its mountain and moorland water-supply area, and proceeding inwards to meet townplanning extensions. These extend naturally star-wise along main thoroughfares, leaving unbuilt rustic areas between. These kept from growing together by here placing schools, playgrounds, allotments, gardens, etc. Value of opportunities of activity for youth, and for citizenship: civic volunteering…Such minor changes prepare for greater." (Geddes 1915, 84) It is interesting that among the fifty-eight illustrations in *Cities in Evolution*, this is the only diagram – the rest are photographs or plans. Certainly the first sentence of this description, 'starting from its mountain and moorland', perfectly describes another of Geddes' diagrams, his famous 'Valley Section.' [fig.2]



[fig.2] Valley Section, illustrating Geddes' notion that cities evolve through an idealized valley section that is both a geographic cross-section and a temporal sequence. Note: ambiguity of initial publication date, generally referred to as 1909, while Geddes' archives hold an undated watercolor matching the description in Civics, and the first verifiable publication date I've found is 1925, also note legacy vis Smithsons, etc. Source: *The Valley Plan of Civilization*, in The Survey magazine, New York (Geddes 1925a)

Viewed side by side these two diagrams reinforce one another – the 'valley section' could be taken from any of the 'star-wise' thoroughfares – verifying the consistency of Geddes' ambitious formal conception of regional dynamics in plan and section, as in space and in time. These two diagrams, stable images indicating explicit dynamics, effectively illustrate the city's formal *imageability*, and provide an aid – even an armature – for design. (Lynch 1960) Such a synthetic reading of the city can provide the spark of contextual formal design – design having to do with conceptual coherence, as distinct from planning, which is focused on implementation and logistics. Geddes' diagrams make an important point about the *horizontal metropolis:* having low or medium population densities it is somehow more difficult to conceptualize, and design is about the mental image – it is about the initial stage of conceiving and outlining the main features of a plan. (Terzidas 2011, 18) Geddes helps us not to lose wholeness, and uses diagrams to memorably illustrate such rules-of-thumb. By embodying abrupt dualities, strong contrasts, Geddes diagrams emphasize these polarities of the small town and rural countryside together, side by side. Again, Geddes' valley section inspired subsequent generations, notably including Alison Smithson (1928-93), to see rural and urban as polarities *in situ*. This is crucial because neither Geddes' *synoptic utopia* nor *horizontal metropolis* are produced by remote planning, *per se*, but rather by the diverse aspirations of actors physically present – relating to the collective dimension – again highlighting the fundamentally democratic nature of this ideal. To this end, both Geddes' *vital budget* and *synoptic vision* function as transverse notions relevant to *horizontal metropolis* for the democratic design of the city, from a collective point of view.

SYNOPTIC VISION

Citing Aristotle as the 'founder of civic studies,' Geddes reflects on his insistence upon "seeing our city with our own eyes." He urged that our view be *synoptic*, "…a seeing of the city, and this as a whole…Large views in the abstract…depend on large views in the concrete." (Geddes 1915, 13-15) Synoptic, meaning 'seen together,' implies simultaneity, but also suggests the situated experience, rather than an abstract or disembodied concept. Geddes 'synoptic vision' emphasizes the collective, civic dimension of rural and urban as complementary polarities, and is explicitly temporal – evolutionary – as well as formal. Synoptic vision is a way of seeing the city and its relationship to the region with an eye to the whole: thereby relating both open spaces (or 'no places') and urban spaces (or 'good places'). As he writes:

"Despite our contemporary difficulties industrial, social, and political, there are available around us the elements of a civic uplift, and with this, of general advance to a higher plane…civic awakening and the constructive effort are fully beginning, in healthy upgrowth, capable not only of survival but of fuller cultivation also, towards varied flower and fruit flower in regional and civic literature and history, art, and science; fruit in social renewal of towns and cities, small and great. Such renewal involves ever-increasing domestic and individual well-being…art may again vitalise and orchestrate the industries, as of old. Nor is this 'merely utopian,' though frankly eutopian. In matters civic, as in simpler fields of science, it is from facts surveyed and interpreted that we gain our general ideas of the direction of Evolution, and even see how to further this; since from the best growths selected we may rear yet better ones." (Geddes 1915 v-vi)

Geddes' optimistically relies upon his 'frankly eutopian' synoptic ideal, as instrumentalized through the metrics of his physical and social surveys, to bring about the evolution of synoptic utopias consisting of rural and urban districts in abrupt proximity to one another. Thus synoptic vision is the culmination of the perceptual and rational act together.

VITAL BUDGET

Patrick Geddes asserted that in order to transcend the ills of industrial era cities, and to enable cities to evolve into humane places, another new set of metrics must be developed: 'vital budget.' The notion of a 'vital budget' is one of the key ideas presented in *Cities in Evolution*, and it provides fundamental insight into the metrics he has in mind for the progressive evolution of cities. His first use of the term appears in the introductory summary of chapter 4, *Paleotechnic and Neotechnic: The Industrial Age as Twofold,* in which Geddes reflects on dualism and Utopia. He argues that the conception of Utopia is 'indispensible to social thought', providing as it does the means to 'escape' – arguing that society must transition from money wages, which tend to dissipate energies toward individual gains at the expense of both natural and cultural qualities, to a 'vital budget' which facilitates "…conserving energies and organizing [the] environment towards the maintenance and evolution of life, social and individual, civic and eugenic." (Geddes 1915, 60)

His second use of the term is preceded by a reflection on the 'meanness' of the gains resulting from traditional economic efforts, contrasting actual natural resources - again, taking the example of trees (see also Geddes 1925b) and financial credit as pertains to quality of life in the evolving, 'aristo-democratized' city:

But when these fine results come to be "realized" - in the material sense as distinguished from the financial sense - what are they? What is there to show beyond the aforesaid too mean streets, mean houses, and stunted lives? Chiefly documentary claims upon other people's mean streets elsewhere, and upon their labour in the future. Debts all round rather than stores, in short, a minus wealth rather than a plus. Per contra, the neotechnic economist, beginning with his careful economisation of national resources, his care, for instance, to plant trees to replace those that are cut down, and if possible a few more, is occupied with real savings. His forest is a true Bank, one very different from Messrs Rothschild's "credit"- that is, in every ultimate issue, our own, as taxpayers. Again, under the paleotechnic order the working man, misdirected as he is, like all the rest of us, by his traditional education towards money wages instead of Vital Budget, has never yet had an adequate house, seldom more than half of what might make a decent one. But as the neotechnic order comes in its skill directed by life towards life, and for life - he, the working man, as in all true cities of the past, aristo-democratised into productive citizen he will set his mind towards house building and town planning, even towards city design; and all these upon a scale to rival - nay, surpass - the past glories of history. He will demand and create noble streets of noble houses, gardens, and parks; and before long monuments, temples of his renewed ideals, surpassing those of old. (Geddes 1915, 69-71)

In chapter 6, *The Homes of the People*, Geddes elaborates his concept of 'vital budget' in the opening summary by situating it in relation to the conventional economic metrics that he argues it is to displace: "The Biological View of Economics – 'There is no Wealth but Life.' Contemporary transition from 'money wages,' through 'minimum wage,' to 'family budget,' and thence to Vital Budget." (Geddes 1915, 109)

Physics is thus not the only science which criticizes the traditional paleotechnic economy into its essential resultants of dissipated energies, of dust and ashes, however veiled in glittering gossamers of money statistics. Biology too has its word to say: and just as for the physicist there is no wealth save in realised and conserved energies and materials, so for the evolutionary biologist, exactly as for Ruskin before him, "there is no Wealth but Life." Is it replied, "We have all to live as best we can"? That is a characteristic phrase of pseudo-economics, which misleads capital and labour alike into its acceptance, its repetition everywhere. But taking it biologically, as normal evolutionists, resolute not to be deteriorisers, our problem is to live at the best we can, as well as we can, through our twenty-four hours a day in the first place, and for as many days as we can in the second. Our full normal expectation of life should be in advance therefore of that of the past simple industries not falling short of it, as ill housed and underfed (when not overfed) paleotechnic communities have done, and are still doing. Towards thus living out our days, certain conditions are fundamental; and first, a certain life–maintaining minimum of real wages, experimentally determined by physiologists. Their experimental results have lately been coming into application in everyday life in this country, as notably to the working folk of York, by its eminent neotect, and corresponding neoeconomist, Mr Seebohm Rowntree. His achievement has been to get definitely below the money terms of paleotechnic wages, and to define clearly for the first time, as "primary poverty," that line of real poverty, physiological poverty, below which organic efficiency cannot be maintained.

This stage of biological economics once reached, this concrete way acquired of looking below "wages" to budget, below "wealth" to weal, there is of course no harm, but immediate convenience and advantage, in comparing the physiologist's minimum ration – the proteids, fats, and amyloids, which the labourer and his family require, and its real and permanent statistical notation of heat and work units, "calories" – with the fluctuating money notation of the trader and his economist. For this notation will now also serve us, instead of mastering them; it can no longer go on blinding us all to the physical and physiological facts behind it. We are getting, in fact, towards our "minimum wage": yet the moment this fascinating and handy cash sum begins again to be thought of as being "for practical purposes" the goal of the workman, instead of as a mere book-keeping notation recording the details of how he may have got the said rations, then of course prices will begin to be worked up again by the commercial interest; and this until he is in deeper primary poverty than ever. (Geddes 1915, 109-111)

It is interesting that Geddes takes the extraordinary step of citing Seebohm Rowntree's book *Poverty: A Study of Town Life* (1901) as a footnote. Indeed, it is the only reference treated this way in the entire book. When researching *Poverty*, still considered a seminal work of empirical sociology and the first use of a poverty line in sociological research, Rowntree and his assistants studied in detail the lives of over 46,000 residents of York (over two-thirds of the population). At the time of its publication, poverty was considered largely an urban problem, particular to major cities like London, and Rowntree's survey revealed that even in a relatively small city like York, 28% of people lived in 'absolute' poverty (defined as the inability to acquire even basic necessities such as food, fuel and clothing). Given his detailed research, one could no longer claim that it was poor people's fault that they were poor, and Rowntree's research helped change attitudes towards poverty, culminating in the British Liberal reforms of 1906-1912. (Fawcett 2014)

Geddes' proposal that metrics ought to evolve from 'economic budget' to 'vital budget' was clearly informed by Rowntree's own survey metrics in *Poverty*, which proceed from those associated with the former – addressing average weekly earning and expenditure, etc. – to those associated with the latter – finally addressing dietary and caloric requirements. (Rowntree 1901)

FROM METRICS TO HEURISTICS

Let's try to deal with current urban discourses and trends, considered through the same lenses as Geddes. Some sixty years after Geddes' *Cities In Evolution*, Ivan Illich develops the idea of alternative metrics in *Energy and Equity* (1973 – incidentally first published with some fanfare in serial form on the front page of the French journal *Le Monde*, based in Paris: arguably the home of the great *flâneur* tradition), emphasizing the relation between low energy use and increased social and environmental quality: "A low energy policy allows for a wide choice of lifestyles and cultures…Participatory democracy postulates low energy technology." (Illich 1973, 4) Conversely, he states, "I argue that beyond a certain median per capita energy level, the political system and cultural context of any society must decay." (Illich 1973, 6) Echoing Geddes' proposal for a 'vital budget,' he frames his argument according to energy use, "A people can be just as dangerously overpowered by the wattage of its tools as by the caloric content of its foods, but it is much harder to confess to a national overindulgence in wattage than to a sickening diet." (Illich 1973, 7-8) As Geddes emphasized how a 'vital budget' could address poverty and *social mobility*, Illich emphasizes how a 'time budget' can be used to improve *physical mobility* – arguing that cities prioritizing motorized transit, uncritically regarded as advantageous, have been conceived of as too one-sided, overemphasizing speed: "Once some public utility went faster than 15 mph, equity declined and the scarcity of both time and space increased. Motorized transportation monopolized traffic and blocked self-powered transit." (Illich 1973, 11) Expanding on the industrialization of traffic, he writes: "Enforced dependence on auto-mobile machines then denies a community of self-propelled people just those values supposedly procured by improved transportation." (Illich 1973, 16) Illich then elaborates the practical implications of this idea of a 'time budget', pointing out that model Americans put in 1,600 hours to get 7,500 miles: less than five miles per hour. "In countries deprived of a transportation industry, people manage to do the same, walking wherever they want to go, and they allocate only three to eight per cent of their society's *time budget* to traffic instead of 28 per cent." (Illich 1973, 19) "It is vital that he come to see that the acceleration he demands is self-defeating, and that it must result in a further decline of equity, leisure and autonomy."(Illich 1973, 26) Illich argues public transit alone is not the solution:

"Imagine what would happen if the transportation industry could somehow distribute its output more adequately: a traffic Utopia of free rapid transportation for all would inevitably lead to a further expansion of traffic's domain over human life. What could such a Utopia look like? Traffic would be organized exclusively around public transportation systems. It would be financed by a progressive tax calculated on income and on the proximity of one's residence to the next terminal and to the job. It would be designed so that everybody could occupy any seat on a first come, first-served basis: the doctor, the vacationer and the President would not be assigned any priority of person. In this fool's paradise, all passengers would be equal, but they would be just as equally captive consumers of transport. Each citizen of a motorized Utopia would be deprived of the use of his feet and drafted into the servitude of proliferating networks of transportation." (Illich 1973, 48)

The essence of his argument is a statement that is memorable and evocative: "High speed is the critical factor which makes transportation socially destructive. A true choice among political systems and of desirable social relations is possible only where speed is restrained." (Illich 1973, 12) As with the metric of speed, other conventional metrics are demonstrably, and often radically, decontextualized. Gross Domestic Product (GDP), for example, measures net outcomes of unaccounted for 'resource exchanges' between nations, while financial industries 'externalize' risks, effectively institutionalizing risk, monitoring and cultivating certain risks over others. (Constanza 2009) The insurance and legal industries corroborate such cultivation of risk by attributing the term *force majeure* or 'acts of God' to human induced crises, such as earthquakes and landslides – faith is, in this way, used as a pretense by which to further externalize culpability. (Skjonsberg 2011, 234)

In contrast to the propensity for high-risk abstraction inherent in such one-sided metrics, Nassim Nicholas Taleb forwards the use of heuristics. Heuristics are relational, even analogical – *analogy* coming from the Greek for 'proportion'. Taleb, formerly a career quantitative analyst, specializing in the application of mathematical and statistical methods to financial and risk management problems, writes in *Antifragile: How to live in a world we don't understand*, "In institutional research, one can selectively report facts that confirm one's story, without revealing facts that disprove it or don't apply to it—so the public perception of science is biased into believing in the necessity of highly conceptualized, crisp, and purified…methods. And statistical research tends to be marred with this one-sidedness." (Taleb 2012, 217) He goes on, "This one-sidedness brings both underestimation of randomness and underestimation of harm, since one is more exposed to harm than benefit from error." (Taleb 2012, 311) "[A fundamental] heuristic is that we need to build redundancy, a margin of safety, avoiding optimization, mitigating (even removing) asymmetries in our sensitivity to risk." (Taleb 2012, 397) A practical precedent validating the heuristic value of this observation can be found in the 'regeneration guidelines' proposed by Wolfgang Sachs, et al, in *Greening the North-A Post-Industrial Blueprint for Ecology and Equity* (1997): "No more of a renewable resource should be utilized than can regenerate in the same period. Only that amount of materials should be released into the environment as can

be absorbed there." The heuristic for 'throughput guidelines' is similarly concise: "Throughputs of energy and materials must be reduced to a low-risk level." (Sachs 1998)

Taleb singlehandedly recapitulates each of the themes we've covered from Geddes to Lévy to Illich, including his use of diagrams and heuristics, and he is the last figure we'll consider in light of Geddes' utopian legacy. "What I propose is a road map to modify our man-made systems to let the simple—and natural—take their course," Taleb concludes. "Heuristics are simplified rules of thumb that make things simple and easy to implement. But their main advantage is that the user knows that they are not perfect, just expedient, and is therefore less fooled by their powers. They become dangerous when we forget that." (Taleb 2012, 11) There is a limit to the threshold of utility in heuristics, analogous to the limits of verbal meaning itself, in describing these phenomena – less is more, but only when more is too much. Regarding this threshold between less and more in relating metrics and heuristics, Taleb writes, "So here is something to use. The technique, a simple heuristic called the *fragility (and antifragility) detection heuristic*, works as follows. Let's say you want to check whether a town is over-optimized. Say you measure that when traffic increases by ten thousand cars, travel time grows by ten minutes. But if traffic increases by ten thousand more cars, travel time now extends by an extra thirty minutes. Such acceleration of traffic time shows that traffic is fragile and you have too many cars and need to reduce traffic until the acceleration becomes mild…" (Taleb 2012, 310)

Under the heading *Where Simple Is More Sophisticated*, Taleb writes: "A complex system, contrary to what people believe, does not require complicated systems and regulations and intricate policies. The simpler, the better." (Taleb 2012, 11) As an example, he reflects, "I realized that there existed a simple definition of fragility, hence a straightforward and practical testing heuristic: the simpler and more obvious the discovery, the less equipped we are to figure it out by complicated methods. The key is that the significant can only be revealed through practice." (Taleb 2012, 208) This statement points to the strength of Geddes' identification of 'synoptic vision' and 'vital budget' as significant metrics informed and qualified by first-hand experience - and the value of their *hermeneutic* interpretation as heuristics. (Norberg-Schulz 1980) The strength of moving from metrics to heuristics is to learn operable, flexible, low-risk 'rules-of-thumb', as Taleb writes, "a small number of tricks, directives, and interdicts—how to live in a world we don't understand, or, rather, how to not be afraid to work with things we patently don't understand, and, more principally, in what manner we should work with these. Or, even better, how to dare to look our ignorance in the face and not be ashamed of being human…But that may require some structural changes." The first of these changes implied by the importance of first-hand experience is a renewed significance for the aesthetic dimension of design.

AESTHETICS OF UTOPIA

Paralleling utopia's contemporary connotation of naiveté, in recent times the term *aesthetics* has come to carry the connotation of being superficial, or for appearances only. The Greek root of the term, *aisthesis* (αἴσθησις), points to the cumulative effects of sensory perception and intuition, along with the logical or cognitive knowledge gained from that which is sensed. *Aisthesis* deals not only with the anatomic composition of our five sensory organs, but also with our cognitive sensibilities, which are of great significance in the evolution of our social structures, built environments and artifacts. These sensibilities in turn are shaped by the experience of one's environment – largely the 'second nature' environment we inhabit through physical infrastructures and social institutions, which themselves exert a reciprocal influence on the development of our sensibilities. Over time, these exchanges – based in direct bodily perception – come to define our very attitudes toward life. In short, sensibilities inform our ethics: our expectations of propriety, integrity, wellbeing and justice. (Skjonsberg 2011, 227) As Geddes wrote, "The beauty of cities is of no mere sentimental interest: the aesthetic factor is recognised in war, in medicine, as at once a symptom of efficiency and health, and an aid to them." (Geddes 1915, 84)

Jacques Lévy's proposal for *virtuality* has an affinity with Geddes' synoptic vision, sharing a similar concern for the first-hand experience of contextual plurality, but through walking, not only through seeing – thus broadening the aesthetic experience. (Lévy 1999 2001) Lévy relates this to the idea of 'contextual speed', noting a shift in urban attitudes towards pedestrianism, asserting that formerly walking was considered less dignified than to be transported by mechanical, animal or water power, whereas now walking has regained a kind of prestige. (Lévy 2008 2014) This isn't the first time pedestrianism has been 'rediscovered'; one need only consider the 19th century image of the urban *flâneur*. Indeed, both then and now the renewed appreciation of the act of walking has been related to an acknowledgment of urban qualities and the pleasures obtained by taking the time to observe one's surroundings – as well as those attendant to the parallel activity of people-watching, an activity that satisfies a primal social drive. Of course, walking in nature as an activity facilitating well-being through reflection, even meditation, has been long acknowledged in many cultures and philosophies.

Lévy's notion of *virtuality*, the desirability of which has to do with the ability to choose between a known variety of experiences and spaces accessible within a certain proximity – is a concept also closely related to Taleb's notion of *optionality,* which he states is derived from Aristotle, as he describes, "This ability

to switch from a course of action is an option to change…at the core, an option is what…allows you to benefit from the positive side of uncertainty, without a corresponding serious harm from the negative side." (Taleb 2012, 189) He also makes the explicit connection with the *flâneur*, which he defines as "…someone who…makes a decision opportunistically at every step to revise his schedule (or his destination)...being a flâneur is…'looking for optionality.'" (Taleb 2012, 440) Expanding on this, he relates the 'rational flâneur' to 'rational optionality' which he defines as, "Not being locked into a given program, so one can change his mind as he goes along based on discovery or new information." (Taleb 2012, 444)

Geddes, like Taleb, often developed heuristics, rules-of-thumb which characterized a principle, and his heuristic dictum 'survey then plan' was among his most famous. Again, it is worth emphasizing that for Geddes a complete survey was both geographical and social. Such contextual knowledge, enhanced by first-hand aesthetic experience, thus fundamentally enhances optionality. When complemented with modes of mobility at 'speeds that matter' (Lévy 2008) it promotes individual and community well-being and enjoyment, directly contributing to the evolution of more humane, more frankly utopian, cities. Further verification of this can be seen in two recent characterizations of individual modes of mobility. One of these is 'soft mobility,' which is generally associated with ecological corridors and wildlife habitats, the other is 'active mobility,' which emphasizes human health and safety. Both 'soft mobility' and 'active mobility' focus on replacing motorized, carbon-dependent modes of mobility with individual physical activity, whether walking or cycling, as a means of accessing everyday destinations. The correlation echoes Geddes' statement championing the 'value of opportunities of activity for youth, and for citizenship.' It is interesting that this tendency is consistent with contemporary research that demonstrates a strong correlation between economic wealth and the presence of trees in urban areas. (De Chant 2012) Indeed, the metrics of active and soft mobility – 'abrupt' spaces relating rural and urban areas while providing for first-hand aesthetic experiences that enhance well-being – are proving to be rather utopian. As Illich wrote, in a statement apropos of a genuinely Utopian ideal, "Participatory democracy demands low energy technology, and free people must travel the road to productive social relations at the speed of a bicycle." (Illich 1973, 12)

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