Stroll'n'Draw, All Inclusive
Let us embrace contingency to visualise and to reinforce the uniqueness of places

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Abstract

In this paper, I discuss the education of inclusive urbanism as the inclusion of the environmental awareness genesis, attitudes toward urban design, cognitive biases and the acceptance of contingency. How do places 'happen' to become what they are? What characterises their potentially unreducible singularity in light of general planning laws?

I suggest educating along a didactic triangle of rules, novelty and singularity in a spatialisable tabular fashion. In addition to using the methods presented here in teaching, these approaches can also be used to create more inclusion in urban development processes as a whole. With a 3D visualisation matrix of analogue, hybrid and digital methods, I proceed to four exemplary multi-methodological teaching modes to tackle the ever-bygone *status quo*, to introduce research methodology and, thereby, the defeasibility of both the premises and the conclusions in all-too traditional urban design.

I focus on abductive reasoning between the unique locality and the general space of possibility as trial acting and "plan-b thinking" to dialectically shuttle within didactic triangle and visualisation matrix. The curriculum allows for principal and exemplary multi-methodological cross-linkage. Open projects serve as stepping stones into the broad variety of non-algorithmic human occupations in 21st century urban planning. Let us understand our own multiple personal urbanites way beyond professional applicability.

> *"I do not know if things will become better if they change. Yet they have change in order for things to change for the better."*
> Georg Christoph Lichtenberg[1]

Western art, philosophy and literature differentiate between four attitudes towards nature (Fig. 1). The rather *passive flâneur* in the tradition of Charles Baudelaire in 19th-century France remotely ponders about the world in general by walking it by. The *flâneur* relies on the stone paved *trottoir* of Georges-Eugène Haussmann's Paris urban renewal programme. Previously, he would have sunk into the mud in bad weather. As city dweller, he transforms into a nonchalant customer as Poe (1846) observed. "He entered shop after shop, priced nothing, spoke no word, and looked at all objects with a wild and vacant stare." (p. 225)

Throughout the 19th century, rather neutral artists romantically depict nature as lost and desirable beauty as passive criticism of the Industrial Revolution. Then, Futurism develops an enthusiastic aesthetic embrace of technology in the early 20th century. According to Radkau (2011), urbanisation pushes environmental awareness in time frames. First, romantic nature conservancy and city hygiene demands emerge between 1875 and 1914 (pp. 55–58). They are followed by 'ecological revolutions', culminating in the 1972 Club of Rome report on 'Limits of Growth' (pp. 124-133), as well as environmental concerns caused by the 1986 Chernobyl disaster and the 1992 'Rio de Janeiro Earth Summit' on Environment and Development (pp. 488-498).

Urban planners follow the linear consequence of the Age of Enlightenment, as Pinker (2018) points out in reference to Nagel (1997): "Foremost is reason. Reason is non-negotiable" (p. 8). On the plus side, the Age of Enlightenment raises awareness of individual means of influence: Citizen, do care about your environment! On the minus side, reactionary ideologies want to freeze development, dream about the *status quo ante*, all the way to political Conservatism that ranges from liberal to authoritarian, from full throttle capitalism to climate change denial: Let us conquer other planets.

Parallel to the rise of rather *deliberate and reflective* environmental awareness, rather *opportunistic*, parachute-in-to-intervene-on-short-notice planners and developers in commercial urban design extend their vocabulary. A "super-creative core" (Florida, 2003, p. 8) creates a new surge for uncritical place branding. Whereas 20th century development was about general "International Style", 21st century urban design aims at uniqueness and trade-

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1   Lichtenberg (1994), p. 450: „Ich kann freilich nicht sagen, ob es besser werden wird, wenn es anders wird; aber so viel kann ich sagen, es muß anders werden, wenn es gut werden soll." Translation by the author.

mark architecture, "instagrammability".
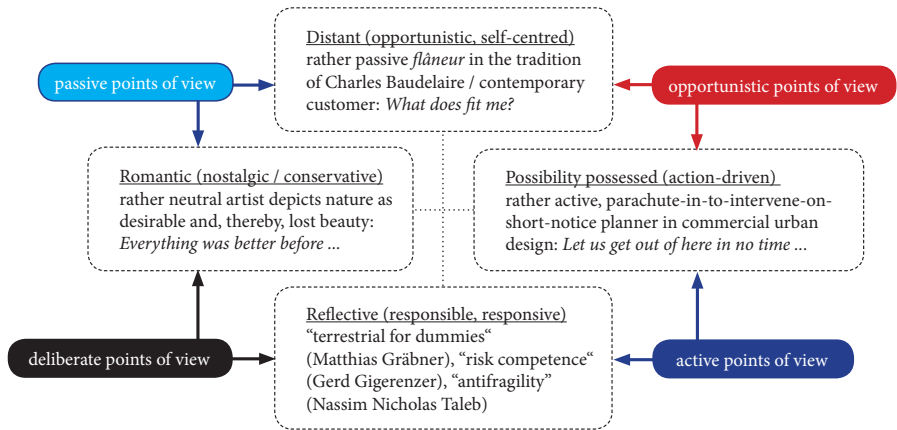
Figure 1. Four ambivalent attitudes to urban design in polar pairs: Distant (opportunistic / self-centred), possibility possessed (action-driven), reflective (responsible, responsive), romantic (nostalgic / conservative).

In between, two valuable bodies of work emerge. Lucius Burckhardt (2015) develops the "science of Strollology" as emphasis on the path to something at "the pace of thought" with the "mind at three miles an hour" (Solnit, 2000, p. 2 f. and p. 14):

"*Strollology examines the sequences in which a person perceives his surroundings. For it is not as if we find ourselves "beamed" all of a sudden to Piccadilly Circus or the Cancelleria; instead we find our way there, one way oranother.*" (p. 225)

Hermann Knoflacher (2006) tackles the anti-urban impact of the automobile as a "virus" and their "story of destruction" to the city. He asks, "What if pedestrians needed the same space as cars?" He invents a wooden strip "walking tool" for pedestrians with the same footprint as a parked car (p. 394) to illustrate his quest for "restructuring parking provision."

Two mental slides call for congruence: We have to understand our impact on earth, the "Anthropocene" (Paul J. Crutzen), and what Latour (2018) calls the „Terrestrial, with a capital T to emphasise that we are referring to a concept, and even specifying in advance where we are headed: the Terrestrial as a new political actor" (p. 40). He defines it as a "critical zone", "a minuscule zone a few kilometres thick between the atmosphere and bedrock. A biofilm, a varnish, a skin, a few infinitely folded layers" (p. 78). We are stuck in a self-induced "metamorphosis of the world" (Beck, 2016) that requires, according to Lübbe (2005), a new „civilization ecumenism". We do not objectify distant places; we plan ourselves.

> *"Rule 10: We are breaking all the rules, even our own rules,*
> *and how do we do that? By leaving plenty of room for "x"*
> *qualities."*
> John Cage (1967–68)

In order to advance to an inclusive urbanism, we shall object our subjectivism with its blind spots. Let us calculate our cognitive biases that evolution orchestrated for us and that propel us through life: We favour the current state of affairs (*status quo bias*). We assume that we are unswayable (*bias blind spot*). We indulge the *illusion of control* since it seems to allow us – a big trap for beginners entering any field of expertise – to sort the new and the arbitrary into our existing knowledge patterns at hand. We conclude what seems to make sense to us (*belief bias*) in conjunction to the *confirmation bias* that makes us reason, to select and to appreciate what seems to be believable.

What does that mean for education in urban design?

1. **Let us be aware of the contemporaneity of challenges.** Students in urban design, a mix of the four attitudes in itself, have to synchronise their individual *status quo* world and their cognitive biases with general planning routines that are *new* to them in order to proceed to a *site-specific* amalgam of 'is' and 'shall be'. How, then, do we teach basic principles, case-study originality and the increasing quest for personal non-interchangeability (singularity) at the same time?

2. **Let us be aware of the naturally amateurish part-time student cartography in urban design with subliminal presumptuousness.** Whereas design in architecture relates to rather well-known scales of room, house and street, internalised throughout our upbringing, urban studies require scaling of distances and areas from a bird's eye view that evolution has not imprinted on us.

3. **Let us be aware of the error-prone Styrofoam crumb urban design studio "Lego" for grownups.** Evolution told us "the bigger the more important" (the lion in front of me is scarier than one on the horizon). Urban studies – in their meta-scientific case study neutrality – propose an omnipotent, yet frightening, "Lego" for real mode. That *abstract* mode – gladly executed with *manageable* Styrofoam crumbs emblematising city blocks – extends into the effortless, if potentially erroneous *concretion* on high-resolution computer screens with infinitely scalable windows.
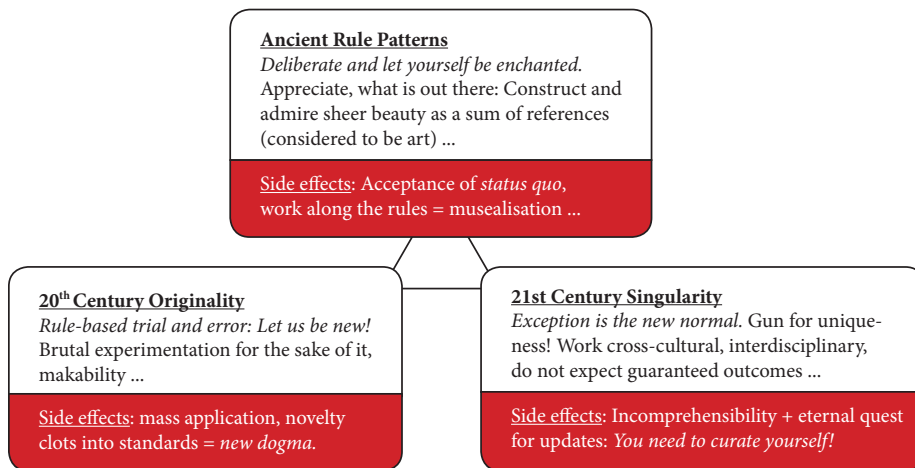
I suggest blending the four approaches towards the world – *flâneur*, artist, environmentalist and urban planner – into three inclusive urbanism patterns, a didactic triangle of rules, novelty and singularity with side effects (Fig. 2):

a. **Ancient rule patterns. How do we understand urban beauty and grace?** Let us go out – on excursion! In the terrain, we see how contingency overrides (and thereby confirms) rules on beauty that in reality is usually surrounded by mediocrity and "the Architectural Uncanny" (Anthony Vidler). Thus, we learn how "architecture depends" and how "mess is the law" (Till, 2009, p. xi), full of "wicked problems" (Horst W. J. Rittel). We balance the "art of travel" (de Botton, 2002) in tradition of the 17th and 18th century "Grand Tour" with the clear understanding of "the importance of armchair travel" (Bayard, 2016) to foster fantasy.

b. **Uniform novelty in the 20th century: Newness by following rules?** 20th century Modernism broke with the paradigm 'right or wrong?' after the Age of Enlightenment discarded the ancient paradigm in terms of 'what is an old truth interesting for'? The success of 20th century Modernism petrified into an "International Style" (Hitchcock and Johnson, 1932) across continents and climate zones. Contemporary inclusive urbanism, like a fault detection device, should belly dance around the Modernist city to show how rigid and how outdated Modernist patters have become and how to update them in view of urbanisation, demographic transition and global climate change.

c. **The 21st century quest for "singularity" in the eponymous society (Reckwitz, 2017)**. Let us teach "rules for mavericks" (Beadle, 2017) like a new, yet to be formulated rule of the exception. De Wilt (2017) gives us permission "think like an artist" to pursue pure, uninhibited experimentation, all the way to the Old Italian saying "*Impara l'arte, e mettila da parte*" – "learn the craft, and then set it aside" (Csíkszentmihályi, 1996, p. 90). Let us see how the formerly "collidingworlds" of science and art can conjoin as "the coming of a third culture" (Miller, 2014) to visualise invisibility: "In fact, both artists and scientists have always been engaged in trying to fathom the reality beyond appearances, the world invisible to our eyes." (p. 342)

Ancient Rule Patterns
Deliberate and let yourself be enchanted.
Appreciate, what is out there: Construct and admire sheer beauty as a sum of references (considered to be art) ...

Side effects: Acceptance of *status quo*, work along the rules = musealisation ...

20th Century Originality
Rule-based trial and error: Let us be new!
Brutal experimentation for the sake of it, makability ...

Side effects: mass application, novelty clots into standards = *new dogma.*

21st Century Singularity
Exception is the new normal. Gun for uniqueness! Work cross-cultural, interdisciplinary, do not expect guaranteed outcomes ...

Side effects: Incomprehensibility + eternal quest for updates: *You need to curate yourself!*

Figure 2. Didactical triangle of rules, novelty and singularity with side effects. Let us productively navigate a didactic 'Bermuda Triangle' consisting of status quo rules, new dogma and incomprehensibility: Excursion on beauty and contingency + permission to brutal experimentation in design case studies within set frameworks of rules + quest for incomprehensible uniqueness = the perfect "Hurricane Alley" for learning.

Is there a way to backlight urban design by augmented sustainability, a robust "antifragility" (Taleb, 2012) in order to prevent Latour's "Terrestrial, with a capital T" to not fall apart at the current rate?

3.   Discussion: Tackling the Ever-Bygone status quo in Joint Research Methodologies

> *"...sometimes I wonder how all those who do not write, compose, or paint can manage to escape the madness, melancholia, the panic and fear which is inherent in a human situation."*
> Graham Greene (1980, p. 10)

I suggest teaching units that integrate the fundamentals of traditional nature studies and descriptive geometry via freehand drawing ready to go digital (Fritsche, 2012), with spatial design and visual communication to form a 3D visualisation matrix (Fig. 3).
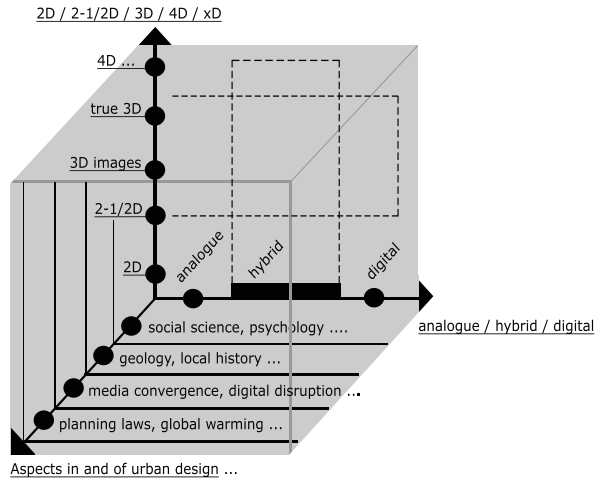
Figure 3. 3D visualisation matrix in urban design. The range between accuracy of plan drawings and the clearness of perspective drawings via isometric projections as the perfect combination defines a first axis between 2D and 3D. A second axis spreads between analogue and digital work with hybrids in-between. A third axis lists aspects of urban design, political science, local history, media convergence and contemporary drawing as it became an autonomous branch in the arts during the 1990s, a "vitamin D" as in "drawing" (Dexter, 2005).

The three axes allow exemplary multi-methodological cross-links, dialectical shuttling in urban design education as the main topic of my paper. In urban design education, cross-linking as applied visual logic should confront the three logical forms from the general to the specific (deduction), from the specific to the general (induction) and "generalising from the interactions between the specific and the general" in a way that Peirce (1966 [1901]) pragmatically called abductive reasoning and "abduction":

"Accepting the conclusion that an explanation is needed when facts contrary to what we should expect emerge, it follows that the explanation must be such a proposition as would lead to the prediction of the observed facts, either as necessary consequences or at least as very probable under the circumstances. A hypothesis then, has to be adopted, which is likely in itself, and renders the facts likely. This step of adopting a hypothesis as being suggested by the facts, is what I call abduction." (p. 121 f.)

Let us not so much aim for the likely explanation of observations but for pragmatic plausibility. In urban design, we want to find out by trial acting what might work before the design will 'happen'. Bryman and Bell (2015) put it according to Peirce: "Abduction starts with a puzzle or surprise and then seeks to explain it" (p. 27). I want to rephrase that, by trial acting in design, we find out if our presumptions on novelty *worked*.

3.1 Height and depth: Spatial drawing discovery mode from the inside out and emptiness in-between

Let us start to stroll and draw rather small environmental motifs such as stairs, ramps, layers of depth and the differentiation of 'old' versus 'new' to facilitate fundamental confidence in 3D drawing skills and to detect urban issues. The key is spatial drawing of architectural features, i.e. a toolbox of prospective design patterns.

a. **One example for the 'from inside-out' mode of drawing:** The Parliament of the Free State of Saxony in Dresden, Germany. The entry stair arrangement in front of the public entrance quotes Mies van der Rohe's Farnsworth House design and – less obvious – the Baroque reflecting basin. We augment the visible with rather invisible building history with its two chevrons: the 1920's tax office turned House of Deputies and the diagonally mirrored 1993 extension for the new Parliament by Peter Kulka. We stroll and draw how the Kulka's implementation triggered the doubling of the Dresden City waterfront in length with a new Congress Centre to form what now is called "New Terrace" in appreciation of the Baroque "Brühl's Terrace", nicknamed "The Balcony of Europe" (Fig. 4 a-c). Let us not forget the political ramifications: The Parliament decides on educational policy and university funding; thus affecting our students' modes of studying.
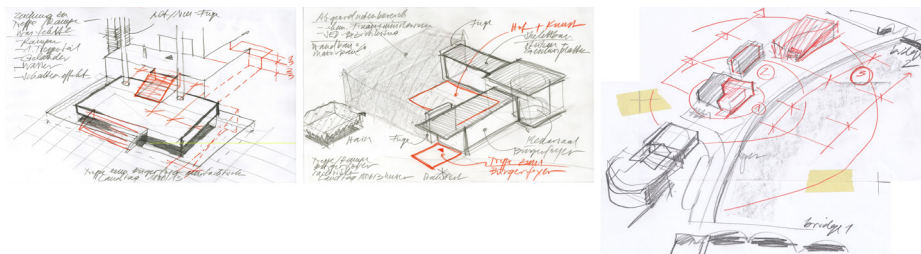
Figure 4 a-c. Introductory sketches to the "public entrance to the Parliament of the Free State of Saxony in Dresden" seminar. [a] The stairs mark the entry to the new chevron that consolidates a city block [b] that, in turn, serves as a trigger for the extension of the Dresden waterfront [c] while serving as a reminder that, and how, the policy that is decided here has impact on universities and their students, 2018. Pencil and coloured pencil on paper, 29,7 x 42 cm and multiples.

We emphasise the differentiation between drawings as a compositional undertaking from the 'outside in' and from the 'inside-out'. Even children calculate (deduct) if and how their *general* painting surface (the sheet of paper) fits to depict what they want to draw *specifically* (Edwards, 1999, p. 67-81). In urban design, we usually project from the outside, the given field of land, in. We subdivide the planning area with a street grid in the within area. We define housing block characteristics within the city block. At the end, intend-

edly so, the way of living in any given domicile is a top-down logic, deduction, or subordination, from the overall scheme. The part (singular) signifies the whole (singular), *pars pro toto*, unequivocally.

Bohning (1981) differentiates between "autonomous architecture" and "participatory construction". Drawing and designing from the outside in certainly apply to "autonomous" subdividing. "Participatory" adding outlines the opposite, to design from the inside out, *totum pro parte*. With the from-the-inside-out drawing and design mode, bottom-up parts (plural) constitute the whole(s). They become semi-autonomous, *abductively* independent while the parts remain related. Practically speaking: If you reach the edges of your sheet of paper, just tape a new one to it.

b. **Depth layers in landscape architecture – see the proverbial tree groups in the middle of landscaped architecture.** I introduce the concept of vistas in landscape(d) architecture, how plan(t)s are the result of the gardener's imagination of views in time. How well does the characteristic silhouette in the rear define (reconfirm) where we are? We talk about image composition to frame the view with tree trunks in the foreground. The rather *empty* middle ground signifies the prospective panel of construction in architecture and the forest clearance in landscape architecture (Fig. 5 a-c).

Figure 5 a-c. Introductory sketches to the "empty middle ground" seminar at the Great Garden in Dresden. Foreground, middle ground and distance can and have to be separated in order to combine image composition and recognisability of the prospective design, 2018. Pencil and coloured pencil on paper, 29,7 x 42 cm.

Let us consider the middle ground as a stepchild in urban planning and architecture ultimately worth extra parenting. It mysteriously withdraws from Western emphasis of substance-esteem (buildings), size appreciation (the bigger the better) and figure-ground duality (considered an academic sophistry). Therefore, the middle ground may turn out an ideal practice area for *abductively* generalising from the *specific* in terms of object(s) like houses and the *general* in terms of context(s) like the city.

3.2 Places and their multiple essences: Excursions on contingency

There are two fundamental, almost polar ways to educate in urban design. In the scientific open way, we build the foundations by *general* agreed-upon knowledge that is contingent on the terms of the prospective applicability. In the referential predetermined way, we teach great examples as a picture book of what people applaudably achieved under *specific* and obliging circumstances in the past, therefore contingent on the terms of prospective applicability as well.

Drawing excursions are a fantastic impromptu format to tackle general and referential contingencies. There are at least three ways to decide on where to go: Most commonly, we travel to places full of gorgeous references in close proximities. Also quite common are drawing excursion destinations where we aim for picturesque environments if not pure unbridled nature for the open, unbiased discovery of personal motifs. As a third way, I try to pick places of lesser "instagrammability" but areas *in transition*. I aim at a mixture of *open* motifs to discover and introduction-worthy second-tier *references* Here, I briefly introduce three examples of joint research methodologies:

1. **Endangerment of a river valley.** Shall we, according to the scenarios of Anders and Fischer (2017), maintain, exploit, give up or alter the fifty-kilometre-long flood-prone marshy grounds of the Oder river valley on the border between Poland and Germany? Let us mind map and scrapbook the *per se* incomprehensible distance shared by two countries (Fig. 6 a) before we proceed to a "flipped classroom" project about confrontations, potentials, pushovers (games) and social criticism …
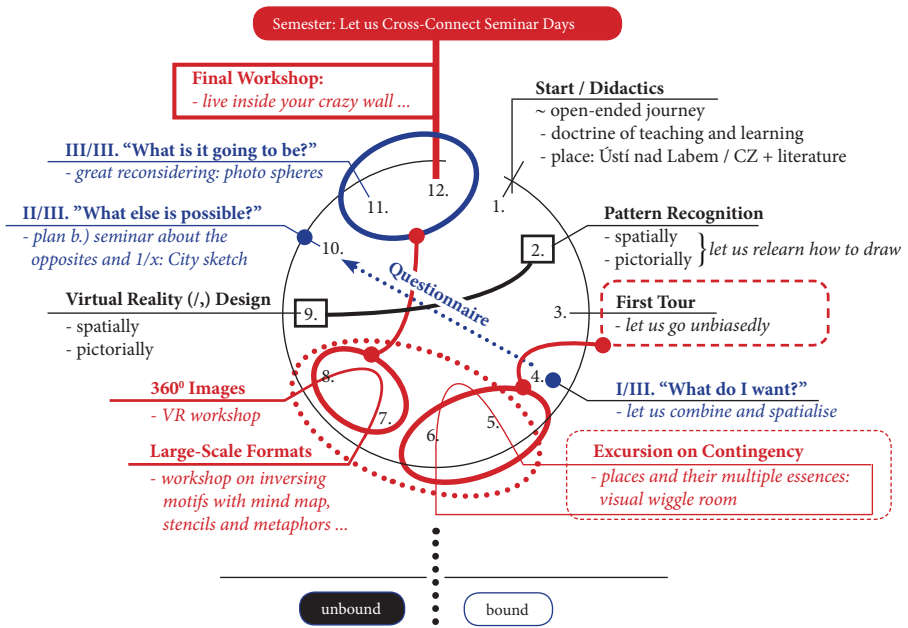
2. **Reorientation of a city.** Ústí nad Labem in the Czech Republic with a rather torn political history less than 20 kilometres from the Czech-German border expects a new high-speed rail through the Ore Mountain Range. That calls for a new railway station with a fundamental reorientation of the T-shaped city. We start with a 'we-can-move-through-our-own-picture' image (Fig. 7 b, 20 b). Students proceed from pattern recognition to "flipped classroom" projects about new motives from *'what do I want to explore?'* via *'what else would be conceivable?'* to *'what I would like to pursue further.'*

3. **Unheroic diversification.** After 200 years of breath-taking urbanisation, coal mining stopped altogether in the Ruhr district, the largest urban area inGermany, in 2018. The district underwent a socially and structurally fairly successful transition from exploiting steam engine capitalism via Rhine capitalism (social market economy) to bipolar post-industrial diversification. That calls for transition metaphorsketches atop of word clouds and mind maps (Fig. 6 b) to isolate, to layer and to merge them.

Figure 6 a. Association and content collage based on a map, 2013: How to maintain, give up or alter the marshy ground of the Oder river valley on the border between Poland and Germany with extra consideration of intensive agriculture and excessive wind farming? Collage, 90 x 150 cm.

Figure 6 b. Visual and linguistic transition metaphors based on motifs, omissions, contingencies and contradictions, assembled during the Ruhr drawing excursion, 2018. Pencil on paper, detail, 38 x 42 cm.

Let us stroll and draw these fields of interests from opposite angles:

– **Firstly, we deduct where we are geographically from scientific knowledge to situational awareness:** A *general* topography type "x" leads, in our current, *specific* application, to *this* unique coincidence as a mixture of happenstance and congruity.

– **Secondly, we induct what happened here historically.** Rather contingent historical data (must have) somehow led to the political situation of today.

– **Thirdly, we abduct how applied topography type "x" (as a [singular] specification) encouraged general urban features (types, in plural).** We also generalise (*abduct*) how generations of settlers took advantage of the settings.

We shape our individual urbanistic *fault detection, isolation, and recovery system.* Whereas deduction of topography and induction of history leave only lamellar scopes of work, *abductively* generalising from the interactions between the specific and the general allows to ask what can, and what ought to change, on a broader spectrum with regard to the urban design studio.

Figure 7. Flowchart to augment the visible with invisible information along a panoramic image to form a timeline with node flags and explanatory nodes. 270-degree panoramic drawing from of the City of Ústí nad Labem in the Czech Republic as seen from Větruše hill, 2017. Pencil, coloured pencil, 74 x 168 cm.

With 'we-can-move-through-our-own-picture' images (Fig. 7, 8, 9), another new abductive horizon of visualization opens up. Like in a hidden object game designed for kids, we discover motives. Only that it was we who drew the chaotic image with the hidden motives in it.

Figure 8. Ústí nad Labem excursion circular cross-connection scheme for the semester in 12 weeks: Clusters of consideration with the imperative to cross-connect as well as to go back and forth, 2017.

Layers of history crash into layers of concise communal planning and inward-looking private property. That allows thwarting all too primitive expectations on the future of simple rules in in an altogether algorithmised urban planning while reinforcing Burckhardt's "Strollology" ("the sequences in which a person perceives his surroundings").

The role of the "private car use in cities in high-income nations" (Knoflacher) serves as another great subject area for abductive reasoning in terms of "Utopia for Realists" (Bregman, 2018) and crisp "plan-b" thinking: How should our living environment look without the excessive "private car use"? The same applies to city tree patterns in climate change scenarios, urban gardening and the urbanistic incentives for the "Do it yourself" (DIY) economy.

Figure 9. Ústí nad Labem city essence sketch to illustrate productive (and coherent) contradictions as a means of condensed large-scale scrapbooking, 2017. Pencil on paper, 70 x 100 cm.

From there on, we train to imagine *(deduct)* alternative town histories: Did our unique place with general topography type "x" have chances to develop along alternative paths in different directions in comparison to what happened? Thereby, we learn about argument terminology. We *deduct* in terms of "valid" and "invalid", a decidedly uncreative bandwidth of harsh, *absolute* judgement. It, nevertheless, confirms datamining as basis of our joint research methodologies. We *induct* to conclude stronger and weaker probabilities, a *relative*, sometimes fuzzy differentiation. That opens up a potentially creative margin of slack if we agree that cogency does not have an "un-cogent" counterpart.

Figure 10 a-c. Extension of singular via panoramic views into total projection: Central perspective (vanishing point in the middle of the picture) and two vanishing point perspective (vanishing points at the edges of the picture) form the globe of immersion, 2005. Pencil and coloured pencil on paper, 21 x 29,7 cm.

Within the 3D visualisation matrix (Fig. 3), we can link freehand drawing with virtual reality (Fig. 10 a–c) and hybrids thereof. With a 360-degree camera app, we produce panoramic data (Fig. 11 a, b) that can be drawn over, scanned (or photographed) in order to be reviewed as 3D images with a shared VR lens. From here, the unreal border between drawing the visible and designing the new becomes a low-threshold tool for visualising perspective images in an easy-to-do fashion: Pencil sketches and acrylic paint, analogue haptics altogether, become *work-in-progress VR.* Finally, an immersive view looks like a design to be worked on, a sharable process (Fig. 11 c).

a

b

c

Figure 11 a-c. [a] Oder River marsh excursion montage with the indications of dams, 2013. 17 x 67 cm.
[b] Freehand drawing turning augmented virtual reality: 360-degree images in 2D with the marvellous string of two lenses, forming the infinity symbol that transforms into an immersive 3D projection: Masaryk Lock at Střekov Castle, Ústí nad Labem, 2017. Photo by Tim Häring, 28 x 56 cm.
[c] 3D reflection word cloud / scrapbook on local metaphors based on the visit of "Gallery Armaturka" in Ústí nad Labem, 2017. Acrylic on paper, 70 x 100 cm.

Similarly, the Ruhr drawing excursion in 2018 allowed students to witness an ecological rollback: We can museumise some remnants of industrialisation like "Landschaftspark Duisburg-Nord" designed by Peter Latz (1989-99), where it is possible to climb an amazing blast furnace simply left standing. We, nevertheless, ask how an extensive post-industrial cityscape like The Ruhr district with an east to west extent of over 50 kilometres could look in the field for their inhabitants at close range.

3.3 Visual paragraphs in a row: The town hall presentation tool

In the 1970's, a fundamental change in the perception of the future occurred. Ubiquitous "International Style" urban planning in deduction frenzy – celebrations of an unbiased, heavenly futuristic future for everybody everywhere – had crashed into Mitscherlich's 1965 "inhospitality of our cities" of the present. According to Skog, Wimelius, Sandberg (2018), current "digital disruption dynamics" have added a widespread sense of insecurity. Together with a '*the customer is always right*' attitude, new urban design proposals are met with a new, polarised public scrutiny, often resulting in hostile camp thinking (Fig. 12).
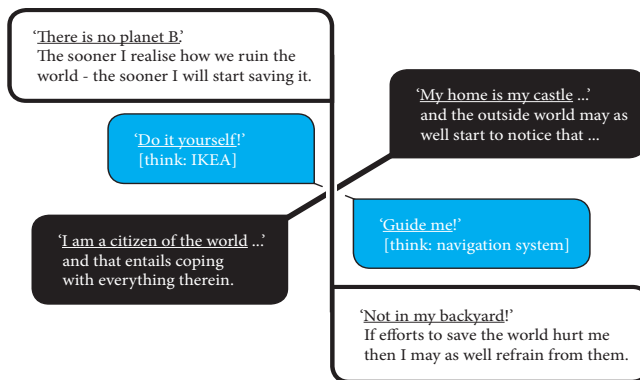
Figure 12. 3-axis polarisation in urban design: 'I am a citizen of the world' (at least when it comes to cruise ship travel arrangements) versus 'my home is my castle' (and the world may as well leave me alone). 'Do it yourself!' ("DIY") attitude [think: IKEA] versus 'Guide me' [think: navigation system] and "There is no Planet B" [think: Greenpeace] versus "NIMBY!" ('Not in my backyard!').

After witnessing various open councils with disastrous outcomes on a variety of urban topics – most infamous the de-listing of the Dresden Elbe river valley as a UNESCO World Heritage Site in 2009 – I developed a general presentation form slash method called "simultaneousness plan" as wall-size self-explanatory delineation of architectural and urban projects for public presentations (Fritsche, 2018). How do we *abductively* generate a presentation form that interacts between general public understanding level of planning

and map cognition with the specific sensitivities about the site at hand?

Let us delight the audience from anxious mayor via antsy planner to sceptical audience with a print out – visible from the typical town hall viewing distance – that carries the essential steps in consideration between *status quo*, concerns about it and design approaches with chances for improvement, side effects and consequences as well.
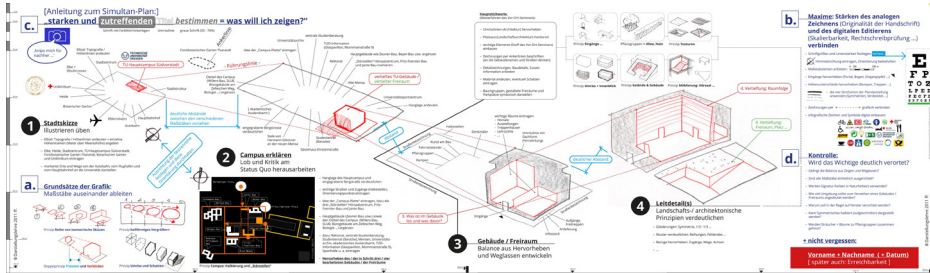
Figure 13. Didactic structure of a four-plus step simultaneousness plan: 1. City sketch: Where are we? 2. Explain site context: What context features do we rely on in our design? 3. New building and / or urban open space: Emphasise what you intend to do! 4. What design essences do you want people to keep in mind? A: Graphic principles. B: Hybrid between analogue and digital creation. C: Catchy title: What do I want to show? D: Monitoring: Did we highlight importance properly? Digital print, 145 x 490 cm (2017).

What do we have to keep in mind? Let us step back and judge for ourselves what works as "data-ink ratio", "the non-erasable core of a graphic", and what will rendered "chartjunk" (Tufte, 2001, p. 93).

A central focus on the visual paragraphs is what I call "isometric Nolli Maps" (Fritsche, 2018): Let us recombine, as Giambattista Nolli did in 2D, the city map with X-ray vision of important (but not all of them) interior spaces with the add-on of verticality, the third dimension (Fig. 13). With the focus on first time viewer, the outer shape of a building is important for recognition, with the style of the roof and the entrances to what the visitor usually looks for in the first place as the main features. Therefore, highlight landscaped urban open space and arrival features such as bus stops, mark the selection of the most important (not just any) spaces, emphasise contour lines of architecture and plateaus in landscape architecture. It is crucial to outline the scope of change to be proposed.
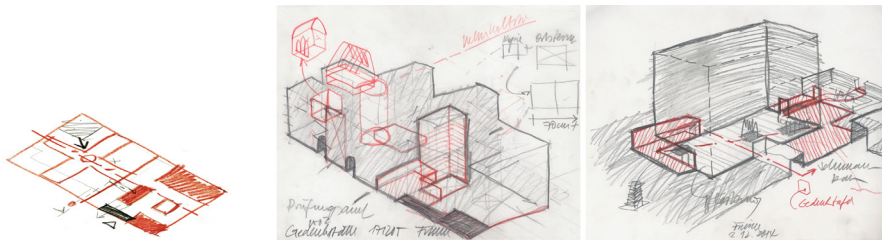
Figure 14 a-c. Simultaneousness Plan, introductory sketches to the TU Dresden Georg-Schumann-Bau campus building: Simplified footprint (left), "isometric Nolli Map" of the building complex (middle) and detail of the historical site "Münchner Platz Dresden Memorial" within the complex (right), 2015-18. Pencil and coloured pencil on paper, 29,7 x 42 cm.

The quest for simplification recoups the training of freehand drawing with *on-site* sketches and the help of *online* geodata with frequent *hybridisation* via trace paper (Fig. 15).

Figure 15. Simultaneousness plan dummy to illustrate how small on-site sketches can be photocopied, worked over, and inserted in desktop publishing and typesetting software applications, 2017-18. Pencil on paper, trace paper and photocopies, 125 x 300 cm.

I teach simultaneousness plans as a communication device in conjunction with the theming of the TU Dresden university campus in its entirety. Yet, we not only learn about university structure and history. Throughout evolution, humans memorised places of opportunity (where the berries grew last year), where danger looms (sabre-toothed tiger) and how to get from point 'a' to point 'b' with the previous two issues in mind. Now, crucially important for an unbiased posture in urban design, students stroll, map the campus and learn to look through walls (Fig. 14 a-c).

3.4 Intellectual wiggle room: Unrulish singularity and dialectical shuttling between form, content and message

Based on the "triangle of meaning" (semiotic triangle) by Ogden and Richards (1923), I suggest a visual triangle of autonomies for open projects where form, content and message respectively work as interdependent companions and as stand-alone actors.

Content (data)
Bright side: Assume that data is selected by unselfish authors with ethic intentions according to scientific standards.

Dark side: The selection of data almost always is, and has to be considered biased. *Allow yourself to think of what might be missing (what was omitted intentionally).*

Formats of presentations
Bright side: Let us allow to be echanted and inspired *as well as disgusted and not taken seriously ...*

Dark side: Be aware of different levels of comprehension and background knowledge. *Seldom one form fits all ...*

Messages
Bright side: Feel free to see what has been catered to you. - Please also note what is beeing delivered on the expense of other parties.

Dark side: Be aware of ideology as well as commercial and private interests. *Human communication remains interest-driven ...*

Figure 16. Open project visual tringle of rudimentarily autonomy: Dialectical shuttling between the bright and dark sides of presentation formats (effective self), content (data) and messages (understandability).

A corridor opens up. On the one flank, Ulrich Sonnemann coins the expression of the "tyranny of the eye" (Rötzer, 1987, p. 276) – dissecting Modern age fixation on, if not the obsession with, visuality. On the other side, the functionalistic underpinning of Modernism governs where form has to follow function according to Louis H. Sullivan, extending Tufte's "data-ink ratio" imperative.

There are two new aspects: Firstly, we assume that images have "lives of their own" in urban design, as Mitchell (2005, p. 2) concluded for the arts:

"We can ask if a picture is a good or bad, living or dead specimen, but with an image, the question is, is it likely to go on and reproduce itself, increasing its population or evolving into surprising new forms? The life of images, therefore, is often connected with the life of a class or genre of representational practices –portraiture, landscape, still life, devotional icons – or with even larger classes such as media and cultural forms." (p. 90)

Secondly it is new, that, by *abductively* trying out presentation formats, we allow, according to Bryman and Bell (2015), dialectical shuttling as a "hermeneutic circle". Understanding, then, is a "continuous dialogue between the data and the researcher's preunderstandings" (p. 27) as a productive opposition to the obsessiveness with rules and customs. That feeds back to the famous concept of the "reflective practitioner" (Schön, 1983).

1. **Development vector: Let us accept and visualise the uniqueness of a place by comparison.** Often, a first inventory delivers a lasting message. Let us put *status quo* ('old') and 'new' *simultaneously* next to each other from the beginning (*Fig. 17 a*). Alternatively, and in quotation of construction documents, the palimpsest, layers of trace paper in design, double exposures in modern photography and digital layering, we develop the story of design in layers on top of each other, *successively* discoverable by the audience, like a pile of carpets or pages of a large-scale coffee table book (Fig. 17 b). In the following – the great potential of this methodology becomes clear through the inclusion of citizens as part of the audience and in corresponding planning and urban design processes. The approach can increase curiosity, and encourages individuals to experience and participate in the planning process resulting in an inclusive atmosphere.
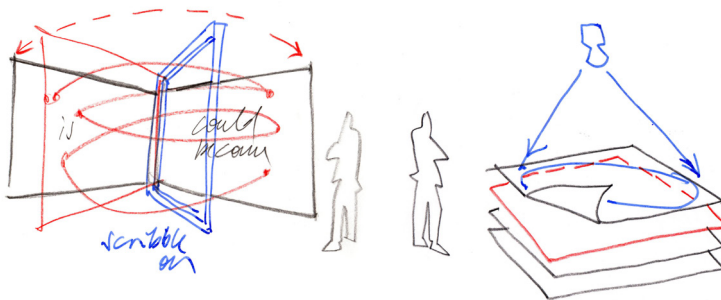
Figure 17 a,b. 1:1 comparison of 'is' ("old") and 'could be' ("new") with a movable "window of wishes" panel in-between (left). Layers drawings on top of each other in quotation of construction documents, the palimpsest, layers of trace paper in design, double exposures in modern photography and digital layering (right).

2. **Divergence, convergence and overlaps: Let us visualize either-or, as-well-as and more-or-less arguments.** On the fundament of mind map and morphological box, we compare divergent and convergent ways of thinking in a participatory fashion (Fig. 18 a). Let us separate *successive* variants of *simultaneous* categories as if we flip pages off from a tabular flip chart (Fig. 18 b) to switch from categorical *either-or* to rather incorporating *as well as* and *more-or-less* arguments, and, therewith, from deductive to inductive reasoning.
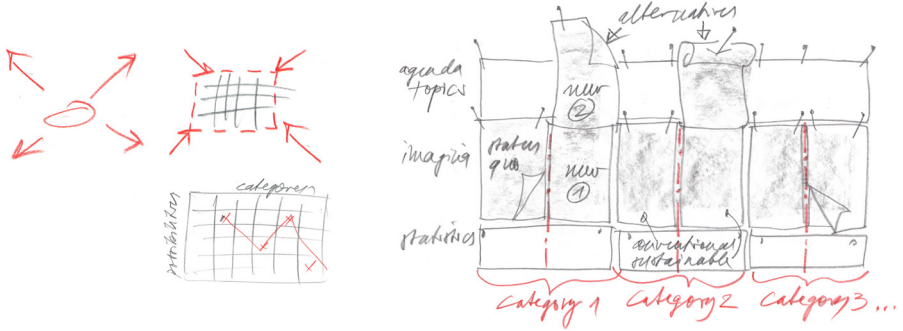
Figure 18 a,b. Mind Map and Morphological box to illustrate divergent and convergent ways of thinking in categories and possibilities (left). Flip chart with multiple columns that allows trying out parallel variants on landscape features such as the growth patterns of energy crops, wind and solar power installations as well as scenarios on possible catastrophes and avoidances thereof (right).

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3. **Rearrangability: Let us illustrate the equal rights of low and high key ideas.** We present visual thought chapters via large-scale leporellos (zigzag walls) with front and rear sides, window effects and like shutters and turn windows inclusive. We scrapbook on door-size "book page" chapters on repositionable panels as a mix of time-distance diagram, mood board and visual Hypertext Markup Language. That counts as authentic work-in-progress exhibition, a borrowing of criminalistics mappings ("crazy walls") and "Post-It Procedural" (Richard Benson) as process documentation like a construction site diary (Fig. 19).
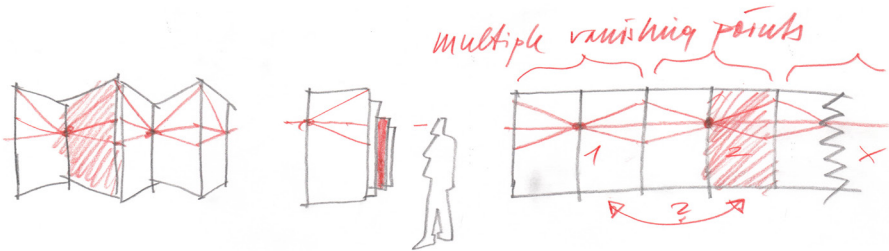
Figure 19. Leporello (zigzag presentation) (left). Separate door-size "book pages", forming a potentially two-sided wall like a proof copy that allows altering number and sequence of boards with a system of vanishing point projections to illustrate parallel histories of things to come on the respective left and right side pages (right).

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4. Imply! Leave things to the audience for discovery. Do we want to stage-design as model messages that can be unfolded like an Advent calendar or a wrapped present (Fig. 20 a)? You do not always have to display everything at once: Sometimes the recoiled roll of paper tells a story of a long story in itself like an urban design scroll (Fig. 20 b). Once again, this methodology greatly increases interest among participants and results in creativity in participation, which in turn clearly promotes inclusion in planning and decision-making processes.
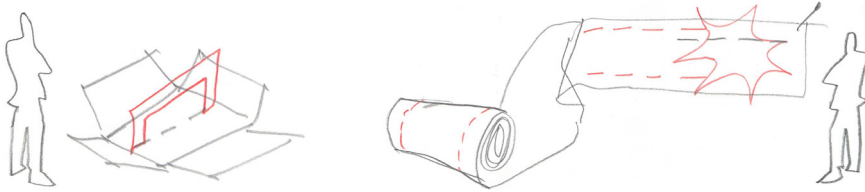
Figure 20 a,b. Game design: Stage-design like surprise box puppet show for layering of vistas and plug play referring to the depth layers in landscape architecture (left). Pathetic endlessness: Partially recoiled printouts to mark absurdities in urban design such as energy balances and land waste (right).

5. Stage design / art fair booth: Let us offer immersion to the environment in question, analogue and digital. How about two-sided circular presentations with a first wall of information on the outside to be augmented on the inside, perhaps with punctures, tunnels and windows between both sides (Fig. 21 a)? We are about to get used to the enormous bandwidth of real-time 3D inputs. Let's expose us and the audience to ever more intriguing yet at least partially self-explanatory virtual and augmented realities, all the way into semi-automatic, view controlled and data driven BIM complexity (Fig. 21 b).
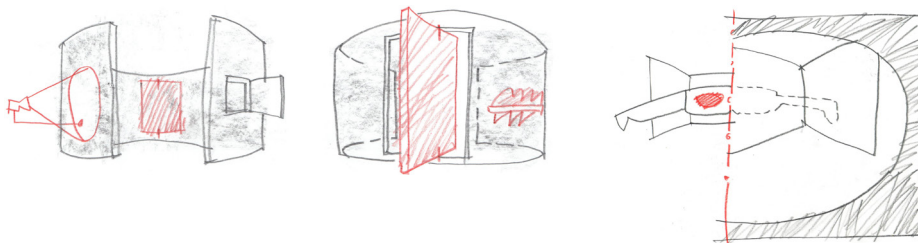
Figure 21 a,b. Immersive presentations: Suddenly, a thesis has an inside and an outside. People proverbially move in and out including pivot doors and Advent calendar windows (left). Anaglyph images and sophisticated just-in-time VR projection with head-mounted displays (right).

Let us declare an imperative of experimentation in visual studies. Again, a wide corridor of visual tactics opens up. On the one side, Edward R. Tufte *deducts* general rules for the "the non-erasable core of a graphic" including the avoidance of "chart junk". Marshall McLuhan (1964) concludes *inductively* "the medium is the message" with rather untested consequences. The "medium" works by itself in real-time, whereas a Tufte's "data-ink ratio" offers us an instruction manual for calculable outcomes in the future, elsewhere. Let us lay out new fairways.

4. Conclusion: We no longer Objectify Distant Places. Let Us Plan Our Own Global Backyard with the Help of Our Personal "Flipped City Classroom" ...

> "Truth clashes with the rule book. The rule book !sn't !interested !n !t."
> Phil Beadle (2017, p. 37)

Inclusive urbanism in education has to shine a light on digitalisation according to Bunz (2013): a "silent revolution" that "transforms knowledge, work, journalism and politics without making too much noise." Assessments like the worldwide Programme for International Student Assessment (PISA) on "school pupils' scholastic performance on mathematics, reading and science" as well as the European Bologna Process to ensure "comparability in the standards and quality of higher-education qualifications" aim at inductively compiled *status quo* table summaries. Beyond the approaches for teaching, the presented methods of representation also show the great potential in the context of citizen participation in urban design and planning processes. The presentation and design methods can also be used to a considerable extent for the more involved inclusion of citizens within urban decision-making processes.

Let us challenge these studies from a variety of angles. Digitalisation does not only stands for the measurable (*inducible*) content of work, what people do and what people will work with in the next generation. It also outlines that those jobs with low thresholds on pattern and problem recognition – *deductible* and *inducible* capabilities – are easiest algorithmisable and, therefore, may gradually disappear from the job market.

Moreover, what a market it is! We have to panic, according to Greta Thunberg, the environmental activist on climate change. Our world house is on fire, indeed. Let us yell "Extinction Rebellion"! In the Anthropocene, we will have to review, redesign and convert most urban structures due to the necessity to cleverly intensifying sustainability in contrast to extensive

growth in the 20th century. Complying with the rulebooks will become redundant. Graeber (2018) named well paid but frustrating employment "bullshit jobs" that we do not want to perform if we aim for non-material fulfilment. "Why do we as a society not object to the growth of pointless employment?" (p. 193). What education shall we provide for our students on the edge of potentially total algorithmisation? Bregman (2019) asks:

"Which knowledge and skills do we want our children to have in 2030? Then, instead of anticipating and adapting, we'd be focusing on steering and creating. Instead of wondering what we need to do to make a living in this or that bullshit job, we could ponder how we want to make a living. This is a question no trend watcher can answer. How could they? They only follow the trends, they don't make them. That part is up to us." (p. 171)

In light of urbanisation, demographic transition and global climate change everybody should start to research their unique local environments respectively. What will such research turn out to be? Supposedly as a fluid mix of regularities and contingencies, a low-threshold form of applied philosophy. We have to put the screws on algorithmisation in terms of what will be reasonably left over to humans in what Harari (2017) calls "the great decoupling" between "ethics and economics" (p. 360).

Therefore, I augment methods to teach, simultaneously, strolling the site sturdiness, drawing and design, acquisition of context knowledge and ethic reflection. I envision a flipped city classroom model to rescue education from testable feeding of facts to a renaissance of students' personal interests in urban studies, their curiosity. Focus shifts to dialogue-open presentation forms and methods for two reasons: Since it has to be intellectually overt, not goal-bounded, flipped classrooms constantly feedback and from their visualisations by abductive reasoning: We learn about directions by trial, as Cheshire Cat famously confirms to Alice in Wonderland by Carroll (1866):

"Alice: Would you tell me, please, which way I ought to go from here? The Cheshire Cat: That depends a good deal on where you want to get to. Alice: I don't much care where. The Cheshire Cat: Then it doesn't much matter which way you go. Alice: ...So long as I get somewhere. The Cheshire Cat: Oh, you're sure to do that, if only you walk long enough." (p. 89)

Second: quoting Marshall McLuhan's 1964 "the medium is the message", urban studies could to shift from the across-the-board task fulfilments in terms of a singular design proposal to '*do we understand the* singularity *of the very piece of the world under investigation?*' as pluralistic, downright relative, if not productively contingent, process.

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