

BLACK BOX PARTNERSHIPS

– Architectural Innovation and Education in the Age of the UN 17 Sustainable Development Goals¹

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In a recently-circulated call for papers for the conference “Cities, Communities and Homes,” the organizers stress the urgency of a more reflected and responsible housing architecture.² To underscore their earnestness, they issue the following claim: “The housing we build determines the growth, survival or evolution of the communities we form.”

It’s been said before. The phrasing is commonsensical enough. In context the quotation appears matter-of-fact: a mid-paragraph, consensus-appealing postulate intended to boost a common cause—far from a statement to be picked out and remarked upon. Nonetheless, the word “determine” stands out. Upon reflection it seems capricious, almost absurd. Does housing really “determine” all of that? And does saying so not also declare to future conference delegates (architects, planners, activists, scholars), that “we” who build houses not only shape the communities who will dwell in them, but that their chances of prosperity (“growth, survival or evolution”) lie ultimately in ‘our’ hands? If the resounding analogy between “the houses we build” and “the communities we form” is enough to substantiate such a strong reading, then what is most remarkable is that the phrasing could at first seem so perfectly

ABSTRACT

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1. This refers to UN Resolution 70/1. “Transforming our world: the 2030 Agenda for Sustainable Development” - resolution adopted by the UN General Assembly on 25 September 2015.

2. *Cities, Communities and Homes: Is the Urban Future Livable?* Conference organised by University of Derby and AMPS, held at University of Derby, 22-23 June, 2017. The CFP is available at: <http://architecturemps.com/derbyconference>.

commonsensical. At a time when architects (among many others) are called upon to tackle immense political and social challenges—lately under the formally ratified aegis of the 17 UN Sustainable Development Goals, (SDGs)—it seems that “we” architects et al. would do well to confront common sense determinism before anything else.

It would be easy to trace this established and common-sense determinism to the modernist tradition and its insistence on the decisively architectural undertaking of bettering not only houses and cities, but also communities, public civility, and social life.³ Still prevailing, apparently, is the ambition of ensuring social progress and political stability through physically improved life conditions, as perhaps stated most memorably in that famous essay headline in Le Corbusier’s *Vers Une Architecture*: “Architecture ou Revolution.”⁴ It follows that architecture’s scope of responsibility would include nothing less than the total stewardship of life conditions in an urban, secular and corporate-driven world. Historically, it would be possible to trace the spirit of this curatorship to the late 18th century, when a budding response to the emerging industrial production and the new erratic mass population were attempted by e.g. Ledoux, Durand and others.⁵ What subsequently matured in the 19th century as phalansteries, familisteres, associations for workers’ housing, Garden Cities, Haussmannian boulevards, Red Vienna and so on, was admittedly motivated by various different political interests and analyses but sprang from the presumption that political intention transformed into architectural form shapes urban life. This key tenet is still rehearsed in many a freshman course and introduction to modern architecture and needs no further belabouring here. The strategic promise of architecture has not eluded anyone. The question today, however, is whether we (who? architects, citizens, paperless, inhabitants, policymakers, *participants*?) are ready to exchange the simplistic determinism of earlier generations for more timely forms of causality – for example effect, affordance, and agency.

In our age, when social housing projects from the 1960s are being demolished all over Europe, or are otherwise bemoaned for their social failures, one may note that it seems easier for us to say that we got the programming or the scale wrong than to admit that something might be

fishy with the modernist idea of intentional determinism.⁶ What’s at stake, then—if we admit that less is presently understood about architectural agency than “we” seem keen to admit—is not merely a manner of speaking but a time-honoured and occasionally blinding conviction about what architects and architecture can do.

To critically bear in mind this overly optimistic faith in architecture’s role in forming societies might be necessary when discussing how—or whether architects should support an agenda such as the implementation of the UN’s sustainable development goals. Being the most ambitious and comprehensive global sustainability strategy of our time, its impact on planning offices, architecture schools, studios, engineering firms and other stakeholders is already significant.⁷ Recently, the Royal Danish Academy of Fine Arts joined the ranks as the Schools of Architecture, Design and Conservation committed to having all their final thesis projects include a statement on how the SDGs had been taken into account during the design. Furthermore, incentives have been installed to promote SDG project partnerships with organisations and firms outside the school. This article, written in collaboration between the KADK candidate program Political Architecture: Critical Sustainability (PA:CS) and Smith Innovation, a Danish consultancy firm for the building industry, results from such a collaboration. Together we attempt to scrutinize the 17th SDG goal, which focuses on partnership as a condition of possible implementation of all other goals. The goal of partnership, as the 17th goal is sometimes referred to, is about how “to mobilize, redirect and unlock the transformative power of trillions of dollars of private resources to deliver on sustainable development objectives.”⁸ Moreover, it claims that “partnerships between government, the public sector and civil society are required for a successful sustainability agenda.”

The question we ask is deceptively simple: how do partnerships operate in the building consultancy business and in the educational research sector to further the SDGs, and what can be said, based on experiences from both sides, about the impact that architecture and architects are likely to wield on society to come? Put another way, the partnership that has resulted in the publication of this article presents a particularly suitable

condition for the text that you are presently reading—engendering, however, its somewhat kaleidoscopic and para-academic impression. At the same time, each ‘partner’ presents a case study of a particular partnership model pertaining to their own domain: these are what we have intended to study and compare in view of answering the question above. Although both parties have yet to see any of the trillions of dollars mentioned by the UN, we have been working intently, on both sides, to unleash as much transformative power as we can in each respective field. Both partners can be said to work in view of exploring sustainability although neither identifies with a strong sustainability ideology or discourse. As the cases studied are projects that we are currently managing, we have ventured out into a form of action research. Scholarly objectivity has not been established in any strong sense. A cross-critical review process has, however, involved all authors during the collective writing process and this has to some extent enabled us to maintain checks and balances. While we cannot claim scientific credits, we argue that the study meets the demands of an academic essay.

Klimaspring – a partnership model for sustainable development?

Klimaspring is a Realdania-funded campaign⁹ that supports the innovation, design and market introduction of new rainwater management solutions for dense urban environments. The campaign is managed by Smith Innovation, which facilitates the developmental process from ideas to marketable product. What sets the campaign apart from other similar projects is the explicit acknowledgement that viable solutions will not be achieved by any singular company, authority or discipline. Itself a multi-disciplinary firm, Smith Innovation specializes in managing and administering complex cross-disciplinary innovation processes. Klimaspring brings together an extensive multitude of distinctly different methods, understandings, preconditions, skill sets, and networks, embodied in participating professionals, organizations, authorities and companies. The task is in part to transform this group of individual participants into a multitude of partners venturing out into unchartered territories without disengaging any of the particular skills, obligations or commercial interests that drive them. To facilitate partnerships that imply a partial abandonment

3. Cf. Iain Boyd White, ed., *Modernism and the Spirit of the City*, (Abingdon: Routledge, 2003).

4. Le Corbusier, *Vers Une Architecture* (Paris: Les éditions G. Crès, 1923).

5. Michel Foucault and Paul Rabinow, “Space, Knowledge and Power,” in James D. Faubion, ed., *Michel Foucault: Power The Essential Works* (London: Allen Lane, 2000), 349-364.

6. Cf. *High-rise Housing in Europe: Current Trends and Future Prospects* eds: R Turkington, R. van Kempen, F. Wassenberg (Delft: Delft University Press, 2004).

7. Consider for instance the Oslo Manifesto: Design and Architecture for the SDGs; also the recent collaboration between The Pritzker Prize and the Sustainable Development Goals Fund, and the Green Building Research Institute partnership with the UN SDGs.

8. <http://www.un.org/sustainabledevelopment/globalpartnerships>.

9. RealDania is a non-profit philanthropy organization that focuses on “improving the quality of life and benefit the common good by improving the built environment.” See www.realdania.dk.

of participants' professional safe zones requires a clear frame, method, openness, encouragement, and a strongly shared goal. What began, in the case of Klimaspring, in complete hospitality to diverse ideas developed after a period of peer scrutiny and cross-disciplinary analysis into 15 pre-projects, which eventually narrowed down to seven mature projects considered commercially viable and possible to implement on a large scale.

In the face of recent changes in precipitation patterns, characterized by increasingly frequent cloudbursts and torrential rains in Denmark, Smith Innovation argues that new transversal solutions are needed to prevent flooding in dense city areas, solutions that no one yet masters or even knows what are. Discovering these may imply that previously separate tasks may have to be undertaken in cross-disciplinary coordination or entrainment with other tasks, their organization may have to traverse protected borders between civil society, corporate domains and government. This in turn may prompt political regulation and reform along with a redistribution of entitlements and opportunities, but it is not a matter of revolution. Much as water crosses urban boundaries, new solutions must traverse distinct domains—legally, technically, spatially, institutionally, in terms of ownership, knowledge, aesthetics and market—but the implementation must nonetheless build upon what is already present and operative. Rather than imagining two autonomous systems working in parallel, one old and one new, a condition of implementation is that Klimaspring projects change things that are already working. Every project upgrades system performance by means of a supplementation that is developed by thinking differently about the problems at stake.

The premise in the case of Klimaspring is that excess rainwater forms a problem that 'business as usual' cannot solve; consequently, 'thinking outside the box' becomes necessary although this does not extend to scrapping the existent sewage system. To foster an environment where this is encouraged, Klimaspring has created partnerships that encompass diversity in knowledge base and in disciplinary approach. Architectural or design thinking has been a key part in almost all partnerships, since the ability to conjure up spatial solutions by synthesising elements of a trans-disciplinary problem is central to the partnership

WATERWAY is a road system for visible climate adaptation in the cities, where the city's existing areas and surfaces are utilized for efficient rain water management. At the same time, the road system adds new value and functionality to urban areas—e.g., by making room for greenery alongside the road. WATERWAY is an innovative approach to road construction developed in a collaboration between the construction industry, the water industry, and specialists in urban planning.

As a road system, WATERWAY consists of open or closed water channels. An open channel makes the water visible in the street and contributes to giving identity to the local area as well as new experiences for the residents.



model applied. One example is the project 'Vandvejen' ('Waterway'), initiated as a project partnership (or 'consortium') by the leading European roads manufacturer Colas. The project seeks to combine water management, road construction and architecture in a single system solution, re-thinking paved roads as part of the adaptation to climate change in densely built-up areas.

For a successful adaptation to increasing rainfall in dense city areas, it is necessary to supplement the drainage system with sustainable urban drainage solutions. The problem, of course, is not just one of increasing water volumes from the sky. In towns and cities, these climate adaptation solutions must also confront the increase in runoff areas that took place during the last century. In Copenhagen alone, the run-off percentage is now at around 80%. If major damage is to be avoided in densely populated urban areas, rainwater management must actively involve the runoff areas—streets and roads being the most ubiquitous ones.

'Vandvejen' transforms the street into something more and other than a transport system. It consists of two basic parts: a concave road profile that transports the water, and a 'Blue Box,' a narrow canal, open or closed, to receive the water. This drain can be placed either in the middle of the street or asymmetrically toward one side, making space for new recreation facilities or green areas. The 'Blue Box' is capable of receiving rainfall up to the desired service level, whereas the road profile ensures an extra capacity to deal with extreme events. After cloudbursts, the entire street transforms into a building-safe water reservoir; while under normal conditions the profile diverts water away from paved areas and building facades and eliminates the risk of water entering into cellars, etc. During the design process, it was agreed to take the entire street space into account. Considering it a dynamic location rather than a mere conveyor, the team of architects, utility engineers, municipality service administrators, legal advisors, concrete manufacturers, machine and road specialists collaborated intensely to create a robust and flexible model for waterproof and attractive urban spaces able to accommodate diverse user groups with different interests and abilities while maintaining safety for road users.

This might sound like a simple and reasonable adjustment—and it is—but in the construction industry, to flip the standard convex profile of a city street is radical business. Now, the strength of a simple and convincing solution is on its own not enough to do away with the industry’s time-honored practices and common sense. It may not even suffice to hold together a party of invested project collaborators who each bring their habitus along with their competences, skills and goodwill. Vandvejen would not have been possible without a diverse partner group willing to listen to each other, but it is equally true that partnerships do not create or sustain themselves out of nothing.¹⁰ The patience, energy and translation services required must come from somewhere, especially when project ‘drought’ periods come along. Likewise, attention to milestones reached and to the road map ahead must be brought out to all at the right moments. Changes must be accommodated, and the map occasionally redrawn, without partners losing faith or sense of momentum and direction.

Water flow might be easily determined, but the process of redirecting the party of human and non-human agents which determines it in an urban environment has to be facilitated. This would seem like a matter for conventional project management, and it would have been, had it not been for the great X: the black box. This is where you go when you have to stop doing what you do best, where you will have little use of best practice, established knowledge, and common sense¹¹; it’s where you cannot quite argue your standpoint and back up your case with experience or economy. And there, says Smith, is where the problems at hand say we have to go—together. For a while, or at least until something else, something yet unknown, has been put together that is worth learning more about, we stay in the black box to ‘unlearn,’ to bracket our presumptions.¹² A stairway leads out of the box: step by step each new idea is tested at ever higher levels of conceptual and practical counterforce. A formal handrail through the box and out is offered by RealDania and Smith Innovation, and although it is not designed for everything to make it through, it leads toward new solutions but also to new knowledge.

The partnerships that make it through the black box have learnt to learn things differently. Those that discontinue



10. The partners of ‘Vandvejen’ are Colas, Envidan, Schulze + Grassov, Middelfart Municipality and Middelfart Spildevand, Skanderborg Municipality and Skanderborg Forsyningsvirksomhed.
11. See “Black Box Method” developed by InnoSupport. <http://www.innosupport.net/index.php?id=2080>.
12. An affinity can be traced between the Black Box approach and the method of *epoché* or bracketing developed by philosopher Edmund Husserl. See the entry “The Phenomenological Reduction” by John Cogan at *The Internet Encyclopedia of Philosophy*, <http://www.iep.utm.edu/phen-red>.
13. Mikkel A Thomassen et al. “Klimaspring – A Case Study in Facilitating New Rain Water Management Solutions” (forthcoming in the Resilient Cities book series, book 5, IREEMS). A note about user involvement should be made. User appreciation is as indeterminable as the learning outcome for project members. Users were not partaking in the process of making Vandvejen. They could have been, but perhaps during the innovation process the partnership diversity was extensive enough. Certainly, the value of user input will be indispensable during actual implementation.

along the way have likewise gained valuable competences, even if the proposed solution didn’t make it through. Knowledge production operates irrespective of common sense or established method, which is why the knowledge outcome is impossible to determine in advance. Most importantly, it is not—indeed, it must not be—contained by method. Smith says: “If we wish to change the world we have to be prepared to change ourselves (or just a small part of our professional pre-presumptions). Progress is just as much about gaining new insights as it is about creating new solutions. New solutions and new knowledge are each other’s prerequisites, and driving both forward means to partake in a constant negotiation, where everybody and nobody knows the result in advance.”¹³ Now, in spite of all that has been said in favour of the new, the transitory, the unsettling and the coming, one should make no mistake about the importance of the steady, the positioned, the tough, the slow and the immobile. To bracket presumptions and best practices is not to jettison *all* established knowledge and habitus; rather, even if much of it must be tested and modified at times, retaining certain trustworthy practices is a prerequisite for complex innovative operations and functions to be executed. If we can talk at all about progress, this is both in a sense of moving forward and in a potentially destructive or bifurcating sense.

In this volatile balancing act lies the transformative power of architecture: not in some mythical, unfounded ability of the architect to determine the future, but in a capacity to preserve (not to conserve but to build upon!) what already exists by ceaselessly calling for an unsettling mode of confronting built space, for example by asking what it is able to do.¹⁴ Architects in the consultancy business may sound this call by facilitating challenging, at times uncomfortable partnerships for new sustainable solutions and competence development in line with the SDGs. Turning now to the research/education domain, we shall find that conditions for establishing similar partnerships are quite different, as are of course institutional affiliation, daily business activities and overall goals.

Political Architecture: educating architects in a partnership environment

In November 2016, The Royal Danish Academy of Fine Arts (KADK) made a three-year commitment to work with



the 17 sustainable development goals. Among various implications, this requires all graduate students to engage with the SDGs, critically or in the affirmatively, in their final projects. With the target formally established, several questions emerge: how to scale the commitment from school management to individual thesis project; how to make sure that a critical approach toward ideological mass manoeuvring remains intact; and how to take advantage of the opportunities that arrive with the temporary commitment?

In terms of organisation, the KADK Schools of Architecture, Design and Conservation have been through a rough patch lately. An institutional merger in 2011 inaugurated a period of comprehensive reorganization, management restructuring, repeated lay-offs, and massive long-term budget cuts alongside student reduction plans, reprioritization cycles, research identity crises, and campus downsizing. During the massive reorganization, when all educational departments were closed and an entirely new palette of master and bachelor programs were chosen, some of those emerged more or less straight from the drawing board with no or very little continuity from previous department profiles. Among these were the master program 'Political Architecture: Critical Sustainability', which welcomed the first group of students in Sept. 2014. An international program of approx. 30 students, PA:CS has since defined itself through an iteration of pedagogical techniques, a range of prioritized skills and competences and a preoccupation with the question of political architecture, often framed as an inquiry into what architecture does or can do. KADK's recent commitment to the SDGs offers PA:CS an opportunity to frame these goals and their implications within the program's agenda. This includes, as suggested by the final part of the name, a critical stance toward the universal sustainability ethos and a belief in anchoring commitment to sustainable practices in rigorous thinking and creative propositions rather than in question-free adoption.

Based on certain decisive differences in objective, strategy, function, and prosperity relationships—differences which scale the program relative to the school—it will be argued in the following that this relationship could fortuitously be considered a form of partnership.¹⁵ Furthermore, a similar relationship could

be said to exist between the PA:CS student body and the program itself. Hierarchically positioned between the program and the school one also finds an administrative body comprising two or three masters programs and one bachelor program; this is called an institute. Vertically and laterally, a number of partnership relations would connect these educational entities, offering them the possibility to move closer or farther apart as would benefit teaching, research, network or direct impact on the profession or built environment.

Partnerships with firms and studios outside the school are currently encouraged on all levels. The autonomy and self-sufficiency of partners, however, are what prevents the customary use of the term 'partnership' for internal school relations. These are conventionally considered as institutional relations, and it is understood that the smaller entities are dependent on the larger ones for sustenance. But in the event of institutional relationships' weakening, for example due to organisational volatility and/or leadership crisis while alternative models of program sustenance appear increasingly viable, there could arise possibilities for a relationship mutation. Unlike the case of Klimaspring examined above, where distinctly different partners negotiated their alterities under the collaborative umbrella facilitated by Smith Innovations and Realdania, an emerging partnership network structure at the KADK would be coextensive with increased differentiation, individual profiling, measurable impact, and specialisation. That, one may argue, is exactly where the current trend is heading.

In order to show how a trend is an effect without a localisable root cause, and that trends are certainly not caused by management decisions, it may suffice to trace a recent development in the PA:CS yearly cycle. What is crucial when talking about trends are the forces that consistently but variably tug and push on organised practices, persistently also in the face of little effective movement. A particular trend concerns an integral part of the yearly cycle at PA:CS, which is the field trip in the fall semester. Three weeks long, and with a destination chosen for its cultural remoteness and political complexity, the fieldwork provides each student with the possibility to design his or her political and architectural brief and their project for the year to come. Although the



field trip itself is not about to change, students' collective will to respond to it marks a trend.

An equivalent of sorts to the black box described above, the field trip is a situation scrambler that forces students and staff alike to bracket presumptions and operational expectations as these rarely apply. Other ways of enquiring, of looking, of establishing contact—even across steep language barriers—are pursued. Often continuing after returning home, local contacts develop into Facebook friends, project development partners, network nodes, even on occasion real friendships. In equal measure, overcoming these invariably foreign conditions teaches us to learn differently, that is, to build new knowledge.

Ever since the first field trip to Chittagong, Bangladesh, the PA:CS program directors have entertained the ambition of returning after each year to showcase student projects that might inspire local architects, planners and policy makers, possibly to incite a moment of reflection on both sides over common-sense practices. Had this idea not found near univocal student support (and occasional financial support), the exhibition in Chittagong would never have happened, and a similar event would actually have happened in Sendai, Japan, the following year. Two graduates were hired as curators for the first event; for the following, unrealized, one, two students volunteered for the job. As a slightly unconventional development that year, one student dedicated his project to an attempt at thinking architectural education without simulation. What would a school be like where students actually built useful buildings for the city or for private developers based on solid research and state of the art technology? The trend of seeking actual impact had been affirmed earlier during writing classes that year, where students had been encouraged to produce essays with a real readership, discourse, and media outlet in mind, and finally to attempt publication.

A new level of partnership between students and staff was reached in 2017 as a collaboration unit comprising both parties managed to develop a planned, extracurricular return trip to Tbilisi, Georgia into a week-long architectural event featuring exhibitions, seminars, workshops and lectures.¹⁶ The writing class earlier that spring targeted

readerships particularly invested in the local Georgian issues that individual projects addressed, seeking to impact or mutate the discourses that presently order and delimit the range of public disputes and knowledge production. Each design project seeks likewise to challenge conventions while being mindful of continuing from what is already operative. All of PA:CS's first-year students participated in the project and contributed to the event not only with works exhibited but also by activating their individual network of local stakeholders. Partnerships that have matured over distances since the previous year's field trip were now actualized again, as the opportunity to act on shared concerns was made available during the days of the event. Participation was secured from local government, NGOs, civil society, education, local businesses and the informal market. Once again, the local architecture school, Ilya University, with which PA:CS partnered during the fieldtrip, was on board assisting with practical matters and offering lectures and other content.

As an example of how partnerships may operate in architectural education to support an SDG agenda, one might highlight that the SDGs are not an explicit theme or framework for the event. Rather than adapting to, or following its formal universal decree, each project departs from local conditions—spatially, economically, and socially—and seeks through research and design to investigate how advantages and benefits might be redistributed with additions and modifications to its built environment. This, it seems, is how Sustainable Development Goals might begin to be achieved: through a myriad of changes of actual practice, stimulating partnership incentives as an alternative to the authorship attitude.¹⁷ Individual and shared competence development in critical sustainability means learning how to understand, practically and intellectually, a multitude of different conditions for change. Conditions for implementing a more sustainable society are different in Tbilisi than in Chittagong or in Ishinomaki, Japan. Conditions for partnership are also very different. The ambition of PA:CS is to help create a generation of architects that are able to contribute with insight to the reorganization of local life conditions, knowing, of course, that they will never be able—or willing—to *determine* the life of dwellers or their chances of prosperity.

Architects literally un-learn the truism of building strong communities or healthy and beautiful life conditions. And they are wary of the type of general utopian assertions which saturate the profession, for example, to improve life conditions, to build a greener society. They ask: For whom?; at the expense of what?; for the furthering or the hindrance of what else? It is indeed possible to be creative and sceptical at the same time, and architects need to recognize that every creation is an intervention into something that already works, to the detriment and benefit of various practices.

If PA:CS is about to establish a partnership relationship with its students (who, as a pseudo-autonomous body sometimes reaches out to suggest modifications or new elements to improve their education), then something similar might be said about the program relative to the school. Since the institution declared its commitment to the SDGs, the sole act in support of the political cause has been to delegate to final thesis students the task of issuing a statement about their project's SDG relevance—a move that ensures visibility during the diploma exhibition at no institutional cost.

If it is not yet partnership-type relations that structure KADK and its programs, then at least these relations look very much like something that operates like a partnership. It is temporary; it is valued for its limited yet vital mutual benefits; and it is project based; it is constitutive of distinctly allocated resources, competences, concerns and operations; it operates through regular meetings dedicated to project maintenance and development. These characteristics belong to a partnership model and the trend clearly points toward its implementation, formally as well as informally. Yet as long as one partner is the sole recipient and distributor of the funds for all, the institutional integrity remains at KADK. And perhaps for the better: what is more important about these organisational transformations, seen in the light of the discussion above, is that future graduating students are likely to identify with a very different 'we' than the one bequeathed from a modernist institution. The next generation of architects are already showing evidence of partnership skills and a sense of professional identity that reaches wider and is more diversely applicable than the conventional image of the pencil-and-ruler-man who creates better societies from his desk.

14. See Peter Bertram, *Invention of a Problem* (Copenhagen: The Royal Academy of Fine Art, Schools of Architecture, Design and Conservation, 2013).
15. For a useful introduction to public-private partnerships, see Ronald McQuaid, "The Theory of Partnerships: Why Have Partnerships," in Osbourne, ed., *Managing Public-Private Partnerships for Public Services: An International Perspective* (London: Routledge, 2000), 9-35. For an illuminating concept analysis, see Ros Carnwell and Alex Carson, "The Concepts of Partnership and Collaboration," in Carnwell and Buchanan, eds., *Effective Practices in Health, Social Care and Criminal Justice* (London: Open University Press, 2008), 3-22.
16. See *Political Architecture 2017 Tbilisi*, Camille Filbien et al., eds, (Copenhagen: The Royal Academy of Fine Art, Schools of Architecture, Design and Conservation, 2017).
17. This is to some extent in line with the partnership thinking coined in UNDG's *Mainstreaming the 2030 Agenda for Sustainable Development*, but it points from 'national' to 'local impact.' See *Mainstreaming the 2030 Agenda for Sustainable Development: Interim Reference Guide to UN Country Teams*, United Nations Development Group, 2015, available at <http://www.undp.org/content/dam/undp/library/MDG/Post2015-SDG/UNDP-SDG-UNDG-Reference-Guide-UNCTS-2015.pdf> . Accessed 24 Aug 2017.

Conclusion

The 17th SDG, concerning implementation of sustainable solutions through partnerships, must be conceived under somewhat different conditions in an educational institution compared to a consultancy firm. For the latter, it offers an opportunity to innovate and develop new solutions and new knowledge from distinct stakeholders and providers, an opportunity that involves a number of challenges: mainly, perhaps, that of bringing and keeping differences together. Important conditions of operation include the funding of an economic free-zone which relaxes participants' demands on project profitability, and motivation skills to convince partners to enter into the black box where un-learning enables competence development. For the educational institution, the partnership model is an opportunity to loosen up an institutional structure of strong internal integrity. Important conditions of operation include the acknowledgement of emerging autonomies crisscrossing the institution, and viable platforms and techniques that ensure preservation and mutability alike. Such acknowledgment is conditional only if it also extends to funding, administration, and regular re-calibrations of projects, duties and time schedules.

Perhaps the 17th goal should have emphasised implementation as much as partnership – the latter already being unavoidable in terms of the governmentality praxis of liberal societies in the 21st century. Partnerships are messy, unpredictable, attention demanding, expensive and easily evaporating—especially, this is true of 'black box' partnerships. Ineluctably, they are nonetheless a part of the hand we've been dealt in the pursuit of furthering constant knowledge production. Hence, the goal of implementation *by way of* partnership is not so certain. Partnerships may swallow resources just to maintain themselves, so much so that they preclude any chances of implementing more than a fraction of the intended project. Everyone has been part of innovation projects that wilt away and slip through the fingers despite all good intentions. It seems that *production skills* in black box partnership environments are a commodity that is currently being developed in educational and innovative environments. Such a skill set must be recognized as key for student employability and an asset to foreground during the transition from school to labour market.