Guest editorial

The university as an arena for sustainability transition

The year 1968 was a momentous year of spontaneous rebellion around the world. Throughout that year, a wave of protests by environmental, civil rights, anti-war and pro-equality movements swept the world (Kurlansky, 2005). A disproportionally large number of these protests was organised or supported by university students (Werenskjold, 2010), culminating in, e.g. the "May event" in France or the "Tlatelolco massacre" in Mexico. Environmental movements, civil rights movements, anti-capitalist and anti-communist movements, and other emancipatory movements that are concerned with what we now call sustainable development, can trace their origins or rallying point to 1968 (Klimke and Scharloth, 2008). Paradoxically, this revolt may have destabilised progressive politics while unifying conservatives, paving the way for the current global neoliberal clamp-down (Ferhat, 2019; Harvey, 2007; Hilton, 2016).

Half a century after this spontaneous explosion of global awareness of societal problems, the need for sustainability is more urgent than ever. Consequently, the social and societal role of higher education (HE) in sustainability transitions has been a growing theme in research. These transitions can both entail the involvement of external stakeholders in the university, through transdisciplinary approaches (Tejedor *et al.*, 2018), as well as using the own organisation as a living laboratory for sustainability transition processes (Leal Filho *et al.*, 2019). Meanwhile global sustainability issues have turned out to be "super wicked problems" (Levin *et al.*, 2012), as the distinction between "facts of life" and "problems to be solved" or between acceptable and unacceptable solutions is rooted in deep-grained ideological divides (Hopwood *et al.*, 2005). While the role of universities in sustainability transitions is being discussed in the literature (Cortese, 2003; Leal Filho, 2011) the implementation of these transition in Higher Education Institutions (HEIs) is painfully slow (Lozano *et al.*, 2015).

HE traditionally covers four realms of activity, being education, research, campus operations and management and community engagement (Bessant *et al.*, 2015). To guide the integration of sustainability in these realms and to explain Sustainable Higher Education (SHE) additional dimensions are identified by various authors (Adams *et al.*, 2018; Leal Filho, 2011; Lozano *et al.*, 2013, 2015). Various (sub-)dimensions, aimed at further incorporating sustainability in HE, have been specified, adapted or added, and these dimensions show that SHE is more complicated and elusive than "traditional" HE (Table I). The most extensive set of dimensions currently distinguishes campus operations, institutional framework, assessment and reporting, on-campus experiences, education, research and outreach and collaboration (Lozano *et al.*, 2013, 2015).

An in-depth review of the literature regarding sustainability in HE has revealed that the focus is predominantly set on "greening the campus" initiatives and on educational approaches (Karatzoglou, 2013). Regarding organisational factors, the focus has been set on human factors that influence change processes (Verhulst and Lambrechts, 2015), and on the hidden complexities influencing the integration of sustainability (Hoover and Harder, 2015). Regarding educational approaches a variety of perspectives is presented, aimed at, for example, individual sustainability competences (Rieckmann, 2012; Wiek *et al.*, 2011); curricular innovation (Lidgren *et al.*, 2006); and transformative approaches "beyond sustainability" (Jickling and Wals, 2008).

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Source	Dimensions					
Bessant et al. (2015)	Campus operations and management			Research	Education	Empowerment
Leal Filho (2011)	Campus operations	Blueprints strategies Holistic handling	Development of conservation ethics - staff	Research quality	Education quality curriculum greening Development of conservation ethics-students	partnerships and projects development of conservation ethics-others
Adams et al. (2018)	Campus operations	Institutional guidelines and framework	Audits On campus experiences	(Implied, not specified)	curriculum redesign	building local … networks to influence behaviour
Lozano et al. (2013, 2015)	Campus operations	Institutional framework	Assessment reporting On campus experiences	Research Outreach: joint research	Education On campus experiences	outreach and collaboration partnerships

Table I.
Dimensions of SHE
as described in the
literature

It is commonly accepted that SHE should teach students a systems perspective, but it is often ignored that a systems perspective is required to study and understand SHE. By looking at the interactions between multiple levels of the system the struggle to achieve SHE within the neo-liberal hegemony can be explained and analysed (Deleye *et al.*, 2019). This multilevel perspective reveals how academic actors are embedded in institutionalised HE regimes that in turn are embedded in the global socio-political landscape. Both the global landscape and the HE regimes show conflicts and contradictions between awareness of the emerging sustainability crisis and the unassailable dominant social paradigm (Kilbourne *et al.*, 2001; Deleye *et al.*, 2019). This gives rise to system structures that only allow the absorption of sustainable development by incremental changes that do not challenge the existing hegemony. In their analysis, Deleye *et al.* (2019) show how the majority of mid-level system characteristics reinforce the neoliberal suppression of sustainable development initiatives. The primary purpose of these structures is to defuse the threat to the neoliberal agenda of socio-economic development. Within the hegemony of neo-liberal managerialism and sustainability, individual initiatives towards education for sustainable development emerge as niche innovations, supported by small actor networks or individual pertinacity (Deleye *et al.*, 2019).

Given the broad attention towards the United Nations (UN) sustainable development goals (SDGs), one might wonder whether these approaches also facilitate the process of defusing, as each of the SDGs is further specified in objectives, targets and indicators. As such, broad and invigorating global statements in UN reports are reduced to manageable compromises, further translated to feasible policies, and finally reduced to measurable rubrics and indicators. So, for example, the UN call for integration of sustainable development into education systems is reduced to improvement of skills and lifelong learning, and measured as percentage of people that received any training in the four weeks preceding the survey (Plesniarska, 2019). Only by focussing explicitly on the indicators one can see what is lost in translation. The intrinsic paradigm conflicts that are identified by Deleye *et al.* (2019) are exacerbated as subtly conflicting demands and requirements to HE (Plesniarska, 2019). Drawing on European policy documents Plesniarska (2019) shows how the UN vision of HE as main driver for sustainable development is reduced to measurable outcomes in policy formulation. To compare national performance these measurable outcomes are further reduced to simple indicators, like percentage of graduates and their employability split by gender. UN guidelines and European policy documents provide one possibility to focus on the integration of sustainability in HE, but other tools and instruments to assess and report the sustainability integration process have been developed in the past decades as well (Yarime and Tanaka, 2012; Son-Turan and Lambrechts, 2019). In a comparison among Turkish universities Son-Turan and Lambrechts (2019) reveal that such instruments offer considerable freedom in what and how to report. However, depending on the instrument applied and the choices of the HEI when reporting about their efforts to integrate sustainability, objective indicators are focussing on, e.g. environmental performance of campus operations, or the number of courses with "sustainability" in their title (Son-Turan and Lambrechts, 2019). Again, these results might point to the defusing process of neoliberal influences at play, in which indicators are being (mis-)used (Lyytimäki *et al.*, 2013; Son-Turan and Lambrechts, 2019). These papers describe how the UN agenda on education for sustainable development has been reduced to policy on education for sustainability (Plesniarska, 2019), how academic leadership in sustainable development has been relinquished for rankings on measurable indicators in predefined

rubrics (Son-Turan and Lambrechts, 2019), and how HE lost its critical potential and has been reduced to an underbudgeted service industry in a highly competitive market (Deleye *et al.*, 2019).

The focus on sustainability in HE led to the formulation of "(key) competences for sustainable development" or "individual sustainability competences", also referred to as capabilities, skills and mind-sets. However, it becomes apparent that within this dimension of SHE, the focus is rather a reductionist approach to prerequisite competences and/or skills requested by industry (Lambrechts *et al.*, 2018, 2019). This has led to the definition of different competences, as well as operationalisation measures and rubrics to facilitate their integration. Within teacher education context, Cebrian *et al.* (2019) present a study on the development of these competences as perceived by students themselves. Reflective approaches of self-perception and self-experienced change are valuable, especially within teacher training, to facilitate an awareness process among students. Emblen-Perry (2019) present an active, experiential learning and teaching method, in which students are challenged to assess and report the social, environmental, and economic sustainability of a fictional company. By actively searching relevant information on this company in a closed but disordered digital environment, students should enhance their sustainability competences. A self-report shows that students perceive their sustainability knowledge, information literacy, and employment skills to be improved by the course (Emblen-Perry, 2019). On the one hand, both cases point towards the importance of self-perception and reflective approaches; however, on the other hand, one should keep in mind possible reductionist approaches in competence development, certainly when it comes to using them to assess learning processes.

Given the current systemic context of education, it is no surprise that most students adhere to a reductionist technofix paradigm. Apparently unaware of the quip that to every human problem there is a well-known solution – neat, plausible, and wrong (Mencken, 1921), they seek simple fixes for apparently simple problems. Teaching a systems approach should make students aware of the complex feedbacks and unwanted side effects that invalidate the most obvious and plausible solutions, and trigger a paradigm shift in students. Platje *et al.* (2019) discuss the effect of targeted education that is focussed on a specific "well-known solution" in transport economics. During the intervention, the rebounds and feedbacks that cause this "solution" to backfire were discussed in detail. The results indicate that the targeted education reduces support for this specific solution for this specific problem, but that the reductionist technofix paradigm is not weakened. Nor is a systemic ecological paradigm strengthened by the intervention (Platje *et al.*, 2019). A possible explanation for this limited effect is offered by Cogut *et al.* (2019), who go deeper in the effects of single-issue awareness. They show that in distinct behavioural domains as transport and waste prevention external interventions have different effects on individual behaviour. Especially in transport, the effects may be highly counterintuitive. The spill over from targeted interventions therefore seems limited.

Finally, SHE is discussed in this special issue in terms of external effects on the local or regional community. Two case studies discuss these aspects of university-community collaboration. First, Quest *et al.* (2019) show how academic staff can create positive externalities by volunteering in sustainable projects. Their case describes a long-term relation between the university and an urban partnership to initiate a transition towards a sustainable food city. In contrast, De Hooge and Van Dam (2019) show how academic students can create positive externalities by being assigned to a consultancy project.

Their case describes a very short relation between the university and a regional partnership to initiate a transition towards a sustainable food network. Despite the limitations of case study research, these last two papers illustrate that there is no single sustainable road to development, but that many contrasting ways to the same goal can be followed sustainably. In the final paper, Paradowska (2019) describes the positive and negative impact of a Polish university on municipal and regional transport systems in terms of rivalry and excludability. Students fail to perceive their own rivalry and the related costs in private transport. Restrictive measures to discourage commuting private car are unlikely to have positive effects, whereas creating and supporting alternative and accessible sustainable modes of transport to the university campus may benefit both university and town.

Deleye *et al.* (2019) warn that the focus on individual successful case studies has two negative effects for the study of SHE. First, the detailed description of a diversity of practices presents SHE as highly ambiguous and overly complicated. Second, the focus on successful case studies ignores the systemic aspects that frustrate a radical transition to HE for sustainable development (Deleye *et al.*, 2019). For HE to regain its relevance as SHE, critical assessments are needed on the issue how HE currently contributes to unsustainable development (Sterling, 2008; Taleb, 2012). A major goal of science is to establish the validity or invalidity of common sense, and therefore SHE has the duty to expose the non-sustainable choices made by HE and society (Kampen, 2017). A critical reassessment of education is needed to challenge the unsustainable assumptions and worldviews that are institutionalised in HE. Most notably among these is the neoliberal worldview with its primacy of efficiency, profit, and eternal growth (Koris *et al.*, 2017; Tight, 2019), but also the persistent positivist belief in ultimate sustainable solutions (Pretty, 1994). Nevertheless, and paradoxically, while the need for radical change became more manifest the hegemony of neoliberalism and positivism in academia has only become stronger over the past decades (Bessant *et al.*, 2015).

The year 2019 is marked by a global wave of climate strikes and protests against the establishment. Now more than ever HE needs to reclaim its relevance for students with regard to sustainable development. In order to do that, a continuous critical assessment is needed of the paradigms and axioms that guide activities in all realms of SHE. To prevent the "sustainable solutions" of today from becoming the threats to sustainability of tomorrow, a permanent academic revolution may be necessary.

Wim Lambrechts
Faculty of Management, Science and Technology, Open Universiteit,
Heerlen, The Netherlands
Joost (Johannes) Platje
WSB University in Wroclaw, Wroclaw, Poland, and
Ynte K. Van Dam
Wageningen Universiteit, Wageningen, The Netherlands

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