Do We Know What We Are Doing?
Reflections on Learning, Knowledge, Economics, Community and Sustainability

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By

Rolf Jucker

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"This is a timely text, from someone who is widely respected in the field, and has considerable strengths. Firstly, it deals with issues that are growing in importance, something which people on the ground increasingly acknowledge, even if governments don't. Secondly, its 'end of Decade' timing is perfect. Thirdly, its focus is such that it represents a way of approaching issues that are relevant to the existential problems we face. And, lastly, it is clear-headed about its subject.

Of course, a new Rolf Jucker book is always something to look forward to. Rolf is a person to admire because of the sincerity and commitment he brings to his work, and he is someone whose work you admire for its intellectual coherence, its ability to communicate difficult ideas, and for the sustained challenge and stimulus you get from reading."
—Emeritus Professor William Scott, Centre for Research in Education and the Environment, University of Bath, UK

"His work always impressed me because he wasn't afraid to ask uncomfortable questions and push the debate further. His main focus is on how to make sustainability happen in practice rather than on academic debates about terminology. His new book is again an important contribution to the international debate on education for sustainability because it asks some necessary questions about impact and effect of educational activities. Rather than hoping that input – lectures, lessons, teaching materials and courses – yields desired effects, we should, he suggests, focus on helping social learning in the real world.
I am happy to recommend his work not just to 'education for sustainable development' practitioners but to people interested in education in general."
—Professor Stephen Sterling, Centre for Sustainable Futures, Plymouth University, UK

"Dr Jucker is one of the world's leading experts in the field of learning for sustainability and has played a significant national role in promoting policy and practice in Wales and the UK more generally. More recently he has contributed to national policy and practice in Switzerland especially in the context of school education. He is the author and co-author of a number of books and refereed papers in the field of learning for sustainability."
—Professor Stephen Martin, Visiting Professor in Learning for Sustainability at the University of the West of England, Honorary Professor at the University of Worcester, Chair of the Higher Education Academy's Sustainable Development Advisory Group (2009–2013), co-founder and president of Student force for Sustainability (now called Change Agents–UK), UK

“Through a penetrating semantic analysis that ranges widely across the literature, Rolf offers a refreshing re-examination of the notion of sustainability and how we educate for it. (…) Rolf impressed me immediately with his grasp of the bigger picture whilst simultaneously holding a profound understanding of what makes things happen at the local level. His humanitarian and pragmatic views on today’s social and environmental matters are a welcome counterpoint to the entrenched opinions and vested interests that prevail.”
—Emeritus Professor Patrick Dillon, Graduate School of Education, University of Exeter, Professor of Applied Education, Faculty of Philosophy, University of Eastern Finland

“Unlike many reformers whose thinking is still dominated by what they learned from their professors in the last decades of the 20th century, Dr Jucker is an ecological thinker who understands the world as emerging, relational, and co-dependent – and not a world of fixed entities and abstract ideas. Thus, he is able to explain the nature and importance of exercising ecological intelligence, and to explain the educational reforms that are consistent with understanding the interdependencies between cultural and natural ecologies. In short, he is a leading thinker in the field and advocate of educational reforms that address the deep cultural roots of the ecological crisis.”
—Professor Emeritus Chet Bowers, Portland State University, USA

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ACKNOWLEDGMENTS

I was always ambiguous about acknowledgement pages: on the one hand, they seem often so unnecessary, calculated and gossipy. But on the other hand, gratitude and acknowledging help, support and inspiration is a beautiful thing: it is a way of giving back a tiny bit of what made your work possible. So here we go:

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nonsense discussions with Paul Thomas over the last 30 years are especially dear to me as is his friendship, and the intellectual rigour of Patrick Zobrist has helped me shed some of the superficial snake-skin of my arguments. However, I feel most grateful and indebted to Susanne whose life-sharing and -support over the last 34 years has helped me find my unique way and make me what I am today.

“a gentle plan demands a merciless departure. those who want to think ahead need to think about the here and now. anticipating the future means understanding the present. thinking and acting today is the true vision for the future.” (Braun 2009: 223; my translation)

“A powerful superstition of modern life is that people and conditions are improved inevitably by education.” (Berry 1990: 24)

“The creature that wins against its environment destroys itself.” (Bateson 2000: 501)

CHAPTER ONE

INTRODUCTION

There is an increasing awareness – not to speak of the scientific evidence – that humankind is indeed creating serious problems for itself, due to the unsustainable ways in which it interacts with its life-support system, planet Earth. This is not exactly a new insight – just think of *Silent Spring* by Rachel Carson, originally published in 1962, more than fifty years ago. Since then, there have been bigger and smaller environmental and political movements all over the world to motivate people to do something about this, with varying degrees of success. More and more people in the educational field too – from pre-school to university and informal learning – came to the conclusion that education was key to solving these problems. Early on, in 1977, there was a first international conference on what was at that time called Environmental Education (EE) in Tbilisi (1977). Later on, there developed numerous other so-called adjectival educations, such as global, peace, political or health education.

In 1992, this movement to address sustainability issues through education gathered pace at the Rio Earth Summit and was reflected in chapter 36 of *Agenda 21* (1992) where we read:

> "Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues." (*Agenda 21* 1992: §36.3)

This holistic understanding of education – which recognised that people needed more than technical fixes to learn to live sustainably – has led the United Nations, at the second Earth Summit in Johannesburg in 2002, to declare the UN Decade of Education for Sustainable Development (ESD) for the period of 2005–2014. We have now reached the end of this UN Decade of ESD. This seems a good moment to reflect on the achievements (or not, as the case may be) of educational attempts to contribute to solving, effectively, the question of human survival.

My arguments in these pages can be briefly summarised in the following way: It might be wise to adhere, in our analysis of the UN decade of ESD results, or indeed the effects of ESD or education in general, to the same standards and principles we ESD educators tend to demand from practitioners in the field: systemic understanding, critical thinking, value based decisions, and above all, a regard for real outcomes in the real world, rather than good intentions and nicely written reports. In other words, it might be wise not to be guided by our wishes and unreflected assumptions – for example about what education can and cannot achieve – but to ask ourselves a lot of often hard questions, about what we really know, about what really works, about our real behaviour, rather than what we believe we are doing; questions we tend to ask our opponents more often than ourselves. As a conclusion, it might then be wise to *act* on these lessons we can draw from this UN decade.

A short note on terminology: I prefer to use the terms "Learning for Sustainability" (LfS; as defined by Strachan [2012: 6]) (rather than "Education for Sustainable Development") and "sustainability" (rather than "sustainable development"). It is central to the argument in this book that learning always applies to all of us, whereas education quickly introduces a dichotomy between educators/teachers versus learners, blinding us to the need for educators to learn in complex sustainability situations. Furthermore, the inherent contradictions of the term "sustainable development" – fusing the Western concept of limitless economic growth and "development" with the notion of "sustainability" which, as will be made clear, is based on the fact that limitless material growth is a physical impossibility – have been pointed out before (Sachs 1999: 34; Jucker 2002: 29). As a compromise, I have opted to use the term sustainability throughout, but to continue to use ESD. I do this not even because it is the term widely used, but since I am talking mostly about the current state of education in general and ESD in particular, which is far too often not LfS and as such caught up in the mental model of *un*sustainable *development* rather than sustainability.

To prove this point, I refer to two influential textbooks on ESD in Switzerland. In Kyburz-Graber the entire debate on growth is absent, i.e. silenced. The economic sphere is treated exclusively via themes like individual identity through work, corporate social responsibility and sustainability as innovation (Kyburz-Graber 2006: 81ff.). This means on the one hand re-enforcing the mental models of "autonomous individuals" and "progress", and on the other, the inability to arrive at a whole-system perspective which lies outside of the narrow boundaries of dialogue "allowed" by the business community. The text also uses the three-circle

model of sustainable development which was introduced in Rio 1992 by the World Business Council for Sustainable Development and which is, as we shall see, wholly inadequate in so far that it posits economy and ecology as equal systems where in fact the former is a sub-system of the latter. Even worse, if you will, is an influential theoretical text on ESD (Künzli David 2007). In the elaboration of what sustainable development means, the planetary reality of biogeochemical limits or planetary boundaries is silenced: there is simply no mention of it at all. The text even goes further to state that for ESD one cannot formulate compulsory topics (Künzli David 2007: 76). Is it at all conceivable to have meaningful ESD without focussing on planetary limits, their conflict with our central mental models of "growth", "progress", "development", "freedom" and "autonomous individual"? We are presented with a postmodern fog, which pretends that there are no such things as physical laws of the planet or criteria by which we can decide whether something is sustainable or not (Künzli David 2007: 35). No surprise then, that Künzli David goes even a step further in promoting the "progress" myth. Ironically, just before the paragraph where she states that ESD "is not allowed to propose a fixed concept" of sustainable development, she mandates that sustainable development must be conceptualised "in a positive and optimistic manner" (2007: 34; my translations). There is simply no way that we can legislate this. What a transition to a sustainable society requires is a systemic and honest analysis of the *un*sustainability of the current situation and propositions for solutions, which are systemically coherent and consistent with the non-negotiable planetary boundaries. The results can be positive or negative, depending on whether you win (most likely poor people) or lose (most likely Euro-American consumers), and this will undoubtedly influence your attitude (optimistic or pessimistic outlook). Let me make this crystal-clear: Künzli David's book is a research text, which claims to lay sound foundations for ESD in Switzerland (or the German-speaking countries in general). Yet, if we look at the excessive ecological footprint of Switzerland and agree with David Selby that we should not so much talk about education for sustainable development but about education for sustainable contraction (Selby 2007), we know that we in Euro-American societies will face a lot of "despair, pain, grief and loss" (Selby 2007: 259). How will we be able to cope with this reality if we adhere to the dogma of "positive and optimistic"?

I have quoted these two examples just to make clear how much in-depth reflection and clarification we need if we want to finally arrive at something resembling *learning* for sustainability. This book is an attempt

to ask some of the necessary questions if we want to get there, and suggests some areas where we might successfully look for answers.

CHAPTER TWO

SUSTAINABILITY = HUMAN DEPENDENCE ON THE BIOSPHERE

If we apply enough self-critical distance – crucial since we tend to be inherently biased towards what we try to promote, i.e. favour ESD as ESD practitioners –, we come to some unsettling conclusions. But let us start at the beginning: There is some fundamental confusion about the relationship between sustainability and ESD. The basis for our entire discussion on sustainability and ESD has to be the scientific understanding that no human life is possible without a functioning biosphere:

> "The concept of strong sustainability is based on the scientific fact that all human life and activity occurs within the limitations of planet Earth, or the 'biosphere' where humankind lives, including all societal functions, such as the economy. It is a self-evident truth that without a functioning biosphere there can be no society or 'sociosphere', and without a sociosphere there can be no societal functions, including an economy or 'econosphere'." (phase[2] 2013, see fig. 2-1 below)[1]

Let me give you a flavour of our dependency on the biosphere. Humans can only survive without water for roughly three days, and water is absolutely crucial for almost all areas of (industrialised) life, especially health, food, energy and industrial production, domestic water supply and sanitation. Here are a few water facts:

- Total usable freshwater supply for ecosystems and humans: less than 1% of all freshwater resources.

1 Chandran Nair goes even further: in his model, natural capital "on which human life depends and which is the basis for all production" is the most important, followed by secondly human and thirdly social capital: "Only after all of this do we come to economic capital, the least important of the four." (2014; see also Nair 2011)

- Water scarcity affects almost every continent and more than 40 % of the people on our planet.
- By 2025, 1.8 billion people will be living in areas with absolute water scarcity, and two-thirds of the world's population could be living under water stressed conditions.
- The world's population is growing by about 80 million people a year, implying increased freshwater demand of about 64 billion cubic metres a year; this means an additional 1 trillion cubic meters of water is needed by 2025 for agriculture alone to feed these people.
- In 60 percent of European cities with more than 100,000 people, groundwater is being used at a faster rate than it can be replenished. (Source: UN 2012; Seametrics 2012)

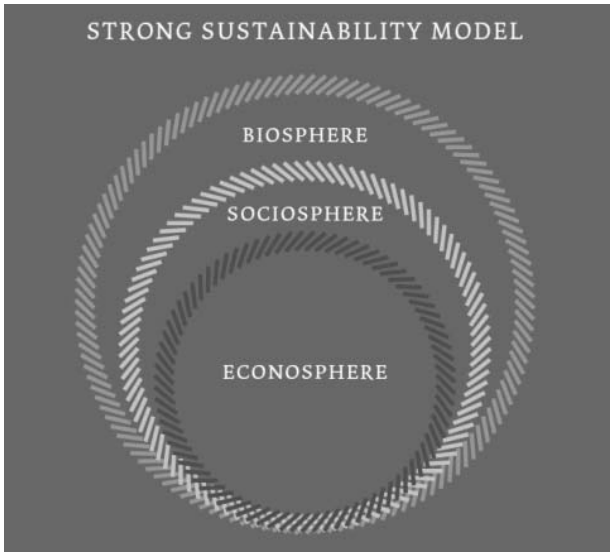

Fig. 2-1: Strong Sustainability Model (phase[2] 2013, © SANZ Inc. 2009)

Put this together with Paul Ehrlich's "I = PAT" formula, used to describe the impact of human activity on the environment, and you see that we are running into immense problems: human impact (I) increases with increasing population (P)[2], with increasing affluence (A) and with increasing resource

2 See Bello (2013: 173–180) on why population growth is indeed a massive problem, despite the fact that most people in the West prefer to ignore it for fear of being politically incorrect. Bateson states that "the population explosion is the

intensity of technology (T) (Ehrlich 2013), and all three parameters are rising fast...

But we are dependent on the biosphere in much more intimate ways which run counter-intuitive to our culturally and historically constructed understanding as "autonomous" individuals. In Greek, "autonomous" means "having one's own laws". This is exactly *not* the case, we are governed by the laws of nature. This means, that in very fundamental ways we are not individuals[3], but interdependent beings, starting from the fact that we physically only exist through the merger of human cells in the act of reproduction.

Following on from the Rio Earth Summit in 1992, hundreds of scientists, coordinated by the Center for Health and the Global Environment at Harvard Medical School, have compiled a comprehensive report, called *Sustaining Life*, in order to document what is known about how other species contribute to human life and health. The result is mind-blowing in its obviousness: we humans would not be able to survive a single second if it were not for the help of myriads of other species (see also Rose 2006: 18). We could not digest food, we would not have many medicines left if we discounted those provided by nature, our food would not grow; in fact, we ourselves could not grow and stay alive. The editors write in the preface:

> "Edward O. Wilson once said about ants, 'We need them to survive, but they don't need us at all.' The same, in fact, could be said about countless other insects, bacteria, fungi, plankton, plants, and other organisms. This fundamental truth, however, is largely lost to many of us. Rather, we humans generally act as if we were totally independent of Nature, as if we could do without most of its creatures and the life-giving services they provide, (…)." (*Sustaining Life* 2008: xi)

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single most important problem facing the world today" and "that the very first requirement for ecological stability is a balance between the rates of birth and death." (Bateson 2000: 500) According to calculations from many different positions planet Earth cannot sustain more than 3 billion people (high estimate) in the long run (see discussion in Latouche 2011: 150–157). See also Glenn Strachan's guest box on population, below p. 39.

3 I am very grateful to Douglas Lummis for pointing out to me that the term "individualism" was coined by Alexis de Tocqueville in his *Democracy in America* (2002) and is defined as a failure of understanding. Tocqueville, in his day, did not have an ecological awareness, but he understood very perceptively the "individual's" dependence on society, history and tradition. "Individualism", he argued according to Lummis, is an American illusion.

Sustaining Life makes palpable not just the amazing richness of biodiversity – "the number of individual microbes on Earth is thought to be as high as 4–6 x 10^{30}, a count that some have said may be one billion times more than the total number of stars in the universe!" (2008:10) –, but also its necessity for human survival. Are we truly aware how closely knit and intensely interrelated this dependency is? Researchers have

> "identified more than 700 distinct bacterial species, as well as an assortment of archaea, fungi, and amoebas, that reside in the human mouth (with the total number of organisms in the mouth estimated to surpass six billion). And some 800 distinct microbial species, almost all of which are bacteria (…) have been found living in the human intestine." (*Sustaining Life* 2008: 11)

Furthermore, around one hundred trillion creatures live in, and on, each human being, most of them in the intestines, and the bacteria in our guts carry a diversity of about 3.3 million genes, compared to roughly 20,000 human genes in the host (Charisius & Friebe 2014: 14).

So Donna Haraway is clearly right if she asserts:

> "I love the fact that human genomes can be found in only about 10 percent of all the cells that occupy the mundane space I call my body; the other 90 percent of the cells are filled with the genomes of bacteria, fungi, protists, and such, some of which play in a symphony necessary to my being alive at all, and some of which are hitching a ride and doing the rest of me, of us, no harm. I am vastly outnumbered by my tiny companions; better put, I become an adult human being in company with these tiny messmates. To be one is always to *become with* many. Some of these personal microscopic biota are dangerous to the me who is writing this sentence; they are held in check for now by the measures of the coordinated symphony of all the others, human cell and not, that make the conscious me possible. I love that when 'I' die, all these benign and dangerous symbionts will take over and use whatever is left of 'my' body, if only for a while, since 'we' are necessary to one another in real time." (Haraway 2008: 3–4; emphasis in the original)

She goes on to quote Gilbert who writes "that the *embryonic co-construction* of the physical bodies (...) means that we were 'never' individuals." (Haraway 2008: 32) Gregory Bateson, coming from a different, systemic angle, argues in a similar vein:

> "There is a Power greater than the self. Cybernetics would go somewhat further and recognize that the 'self' as ordinarily understood is only a small part of a much larger trial-and-error system which does the thinking,

> acting, and deciding. This system includes all the informational pathways which are relevant at any given moment to any given decision. The 'self' is a false reification of an improperly delimited part of this much larger field of interlocking processes." (Bateson 2000: 331)

If we truly acknowledged the implications of the above, our carefully constructed illusion of an autonomous, independent individual would vanish. In fact, we do need a new understanding of who we are in terms of body and mind, and these much loved mental concepts – such as "self", "I", "autonomous individual" – are an impediment to this new (-old) understanding.[4]

But it goes on. McGilchrist in his comprehensive *The Master and his Emissary* shows that this inter-, or rather, de-pendence starts at the very beginning. Our capacity to think, the fact that we are social beings capable of emotions and empathy, is dependent on the right brain hemisphere being open to (sensory) input from the world. Or, to put it differently, since we are talking about education here, *learning* would be impossible if we were truly autonomous, separate. The right hemisphere "has to be open to whatever it is that exists apart from ourselves, as much as possible without preconceptions not just focussing on what it already knows, or is interested in." (McGilchrist 2009: 38) Without this "alertness", "sustained attention" and "vigilance" "we cannot become aware of anything we do not already know" (ibid.: 39). Our capacity to perceive other living creatures, rather than man-made objects, stems from the right hemisphere's "capacity for empathy – as well as from its capacity to see the whole" (ibid.: 55). McGilchrist concludes that without our integration into the world with our senses, "social understanding in the sense of empathic connection, as well as understanding how others feel, what they mean not only by what they say in context, as we have seen, but by their facial expressions, their 'body language' and tone of voice", would not be possible (ibid.: 66).

I believe this is an important point. We are far too quick in retreating into our well-defined and culturally desired and requested notion of the "autonomous individual", yet in reality there is hardly anything at all that is not "us", not co-constructed. Steven Rose puts this very clearly in his

4 In a sense you could say that the modern tethered internet-creatures are disconnected monads, but this only shows the problem of our current approach to the world: "It could be said that the typical World Wide Web surfer today, sitting alone in front of a PC screen, is increasingly a monad with no direct windows onto reality, encountering only virtual simulacra, and yet immersed more than ever in a global communication network." (Zizek 2008: 34)

attempt to explain how humans became what they are today: "Autonomy is precisely what cannot occur. Development occurs in context; the developing organism cannot be divorced from the environment in which it develops." (Rose 2006: 114) This means that it is only meaningful to think of ourselves – and our capacity to think and be conscious, self-aware – as interdependent:

> "Our existence is posited on our continued dialectic with the natural and social world that surrounds us, for as persons we cannot be monads, autonomous isolated individuals. I argue that our mental processes, and indeed consciousness, are created in and constituted by those relationships." (Rose 2006: 310)[5]

Sure enough, each of us is different – with our personal history and experience, with our unique microbiome (Charisius & Friebe 2014: 23), and, of course, there is no less social diversity than there is biodiversity –, but most of what we as "individuals" are is dependent on other people, other species, other thoughts thought before us, knowledge discovered by others, emotions culturally encoded, behaviour socially legitimised. C.A. Bowers reminds us eloquently that this applies especially to language. We generally consider that we are "thinking our thoughts" in our own individual language. But if we use certain words, use a particular language, this language "thinks us", i.e. to a certain extent predetermines what we are thinking, in terms of mental models and concepts which shape what we are capable of thinking if we use them. In other words, concepts such as "individualism", "freedom", "liberalism", "tradition", "conservatism" or "intelligence" (see Bowers 2011: 73–90) "carry forward the silences and prejudices" and reinforce "the deep cultural assumptions" of earlier times, and these are taken for granted rather than consciously reflected upon (Bowers 2011: 90). Of course, we can transgress this boundedness, but this requires self-critical reflection and *learning*, i.e. input from the outside world to enable different experiences, new knowledge and alternative perceptions, so that we can arrive at new understandings and different mental models.

I must add a further layer to my argument about dependencies. There are, what we call, ecosystem services which make human life possible in the first place. I quote – and through the arguments above I am surely legitimised to quote extensively, since assuming that I conceived all of this

5 Indeed, to underline what we actually *lose* if we conceive of ourselves as "self", "individuals", Esteva & Prakash speak of the "individual self" into which we "dis-member" ourselves (1998: 73).

myself is part of the human hubris I am talking about here[6] – from *Sustaining Life* again:

> "Earth's mosaic of ecosystems – forest, grasslands, wetlands, streams, estuaries, and oceans – when functioning naturally, provides materials, conditions, and processes that sustain all life on this planet, including human life. The benefits that all living things obtain from ecosystems are called 'ecosystem services'. Some are very familiar to us, such as food[7] and timber that are essential for our lives and important parts of the global economy. What are equally important, but certainly less well recognized, are the array of services delivered by ecosystems that do not have easily assigned monetary values but that make our lives possible. These include the purification of air and water, the decomposition of wastes, the recycling of nutrients on land and in the oceans, the pollination of crops, and the regulation of climate." (*Sustaining Life* 2008: 75; see ibid.: chapter 3)

Fully aware of the difficulties of putting monetary value on things that are quite literally invaluable, Costanza *et al*. have tried to calculate an overall value of these ecosystem services which we take for granted. They arrive with a conservative estimate at the figure of $33 trillion, nearly twice the global gross national product which at the time of their study was around $18 trillion (Costanza *et al*. 1997).

This interdependence, of course, has further dimensions. About 60% of Switzerland's ecological impact, for example, is produced abroad. This means that Swiss people are dependent for more than half the impact of their lifestyles on other people and natural resources and ecosystem services in other places (EEA 2011: 4, fig. 1.2).

Yet, it goes even further, right into the heart of social relations and human interaction. Eva Illouz, in her sociological studies about human relationships – particularly with regard to what we call love – concludes:

> "Such advice – substitute love for self-love – denies the fundamentally and essentially social nature of self-value. It demands from actors that they

6 I am guided here by Wendell Berry: "Works of pride, by self-called creators, with their premium on originality, reduce the Creation to novelty – the faint surprises of minds incapable of wonder. Pursuing originality, the would-be creator works alone. In loneliness one assumes a responsibility for oneself that one cannot fulfil. Novelty is a new kind of loneliness." (Berry 1990: 9)

7 For the importance of soil, food sovereignty and land to our survival, see Leopold 1968: 99–178 and Bello 2013: 260–268. In this context, Carlo Petrini, the founder of the international Slow Food Movement, calls our current unsustainable way of life an "ill and violent development model" (2013: 8; my translation).

> create what they cannot create on their own. The modern obsession and injunction to 'love oneself' is an attempt to solve through autonomy the actual need for recognition, which can be bestowed only by an acknowledgement of one's dependence on others." (Illouz 2012: 151)

David Graeber adds an interesting layer to this when he shows that mutuality and sharing are "*foundation of all human sociability*": "for most human beings, the most pleasurable activities almost always involve sharing something: music, food, liquor, drugs, gossip, drama, beds." He concludes that mutuality and sharing – what he calls "baseline communism" – are so important because they represent "a recognition of our ultimate interdependence that is the ultimate substance of social peace." (Graeber 2011: 96–103, here 99; emphasis in the original). Some indigenous peoples, such as the Indians of Peru, have a keen awareness of this:

> "The nature of the human in the Andes is to be 'in relation'. Conversation, dialogue, participation, communal life are constitutive of it and not the isolation of each being. Community, the collective, is not external, but is the basis of existence." (Vasquez 2005: 37–38)

Meadows repaints this picture of interdependence on different systemic levels:

> "The real system is interconnected. No part of the human race is separate either from other human beings or from the global ecosystem. It will not be possible in this integrated world for your heart to succeed if your lungs fail, or for your company to succeed if your workers fail, or for the rich in Los Angeles to succeed if the poor in Los Angeles fail, or for Europe to succeed if Africa fails, or for the global economy to succeed if the global environment fails." (Meadows 2009: 184)

In summary, we need to replace the arrogance of human separateness and hubris with Kumar's advice:

> "For survival and the good life we need humility. We come from the soil and we will return to the soil. We are part of nature, neither above it nor separate from it. (…) For our existence and experience, for our happiness and health, for our nutrition and nourishment, we depend on the Earth. We depend on the love of the beloved, the beauty of the beautiful and the goodness of the good. Embracing vulnerability and humility, let us declare our utter dependence on the Earth, and on each other: You are, therefore I am." (Kumar 2002: 183; see also Suzuki 1992)[8]

8 There is a further important aspect to this humility, which Steven Rose points

We have seen that our dependence and interwovenness applies to many different areas, but the fundamental underlying truth is that the biosphere is the limiting frame (including "constraints of structure, of physics, of chemistry" [Rose 2006: 20]) for all our human action, be it social, economic or individual. If we want to survive, we cannot but respect this frame.

This clearly has consequences for education in general, but even more so for any education which aims to enable people to constructively meet the challenges of sustainability. ESD is clearly not some free-floating educational endeavour in a void or a virtual world, but educational action within this non-negotiable context and these dependencies. The aim of ESD is to help bring about sustainability, or, to phrase it the other way round, not to interfere destructively with the long-term functioning of the life-support system planet Earth. I reiterate, because it needs to sink in: There is no human life possible outside of it.

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out. There is nothing in evolution which marks out humans as special: "(...), there is no pre-ordained arrow of evolutionary change, some inexorable drive to complexity. There is no tree of life with humans on the topmost branch; no *scala natura*, no higher or lower, no more or less primitive, despite the ease with which these terms are regularly tossed about. All living forms on earth today are there as the consequence of the same 3.5 billion years of evolution, and all are more or less equally fit for the environment and life style they have chosen." (Rose 2006: 19; see also 37)

CHAPTER THREE

ESD IS VALUE EDUCATION AND BY NECESSITY NORMATIVE

Understanding the reality of our human dependence on the biosphere should also help to clarify two other issues which led, and still lead, to useless infighting all along the UN decade of ESD, which I address in this and the next chapter.

First, education, of course, is and has to be normative, as John Hattie has stated: "Education, however, is never neutral, and its fundamental purpose is intervention or behavior change. This is what makes teaching a moral profession." (Hattie 2009: 254) If you check out curricula and frameworks for education around the globe, you always come across this normative dimension, and rightly so, because you cannot establish a functioning community or social structure without a set of values and norms. In Switzerland, for example, the two regional curricula for the German- and French-speaking parts state:

> "In compulsory education pupils develop fundamental knowledge and skills *as well as a cultural identity which enables them (...) to find their place in society and the workplace*." (Grundlagen für den Lehrplan 21 2010: 8; my emphasis)

> "The inter-cantonal Commission of Education Ministers of the French- and Italian-speaking parts of Switzerland affirms that the *transmission of fundamental values of communal life in a democratic society* as well as the acquisition of a sound general education is the corner stone of compulsory education for all." (CIIP 2003: 1; my emphasis)

This is still couched in fairly benevolent humanist language. Yet, we know from the history of education, that the main purpose for the introduction of compulsory state schooling during the Industrial Revolution was *not* to produce free, independent human beings, but to mould the workers to the requirements of the industrial capitalist system, "to prepare people to 'take their places' in an industrial society" (Berry 1990: 25): "the idea of

education is exclusively modern. Born with capitalism, education perpetuates it." (Esteva *et al.* 2005: 21) Or in the words of Grillo Fernandez, from a contemporary indigenous perspective: "The task of education is to make us functional to the order that suits imperialism." (1998: 210)[1] Miller summarises some of the key issues that compulsory schooling addressed at that time:

- "punctuality, obedience to non-fealty/non-divine authority
- acceptance of the pre-determination of tasks and objectives
- diffusing and inculcating the organizational attributes of anonymous urban life, mass-citizenship and the administrative state
- shared codes of group behaviour in contexts like factories or urban agglomerations (punching-in, commuter train schedules, etc.)
- facilitat[ing] articulation and expression of demand for mass-consumption and welfare state services by universalizing the experience of 'outsourcing' formerly family-only or local-only functions
- augmenting the size and fitness of the population available for increasing the division of labour in industrial work and life which
- increases the inter-changeable wage-labour ready proportion of the population for both goods and services production
- relieves parents of working-day child-minding responsibility." (Miller 2007: 14–15; my emphasis)

When it comes to the European Commission, this is no different today. Their 2012 initiative "Rethinking Education" is quite upfront about the objectives of education. The initiative aims to "ensure that young people develop the skills and competences needed by the labour market" (EU 2013). In the official communication to the EU Parliament, under the title "EDUCATION AND SKILLS – A CORE STRATEGIC ASSET FOR GROWTH", this is further developed:

> "European education and training systems continue to fall short in providing the right skills for employability, and are not working adequately with business or employers to bring the learning experience closer to the reality of the working environment." (EU 2012: 2)

1 This is nowhere more obvious than when capitalist culture meets indigenous culture in (neo-) colonialism: the indigenous people are always forced to deny and forget their culture, knowledge and traditions (see, for example, Gerber & Lippuner 2001: 47): "For the oppressed, the social majorities of the world, education has become one of the most humiliating and disabling components of their oppression, perhaps even the very worst." (Esteva *et al.* 2005: 20)

It has been impossible for me to find US legislation which explicitly states the purpose of education, but a review article by Jones suggests that historically there have been the following points which would reinforce my hypothesis of a normative approach:

- "To prepare children for citizenship
- To cultivate a skilled workforce
- To teach cultural literacy
- To help students become critical thinkers[2]
- To help students compete in a global marketplace." (Jones 2012)

We do not like to talk about it, but there is strong research evidence to suggest that "the specific form of education system, characterized by universal compulsory classroom schooling, is an indispensable component of an industrial growth society" (Miller 2007: 2).[3] By consequence it is clear – bearing in mind the saying attributed to Einstein: "We cannot solve our problems with the same thinking we used when we created them." – that we have to fundamentally redesign our education systems, indeed our overall approach to education and the values and aims underlying it, if we want to escape the destructive growth ideology associated with the Industrial Revolution. As Serge Latouche (2011) and David Selby (2007), amongst many others, have made abundantly clear, a sustainable society is only conceivable with de-growth and contraction, i.e. entirely outside the concept of "economic growth".[4]

In our case, the norms (what is possible and what is not possible, what is allowed and what cannot be allowed) have to reflect, respect, and do justice, to the laws of physics governing life on Earth and these are, as we have seen above, non-negotiable, whether we like it or not. So, rather than fretting that ESD could be normative, manipulating, indoctrinating (to which I reply: show me any education system in history that was not normative, and thereby indoctrinating[5]), we should accept the necessity of

2 On why the concept of "critical thinking" reinforces capitalist consumer society, see below, p. 57.

3 Diamond makes clear how education works (and worked) differently in indigenous, small-scale traditional societies the world over (2012: 202–206).

4 That this is good and not bad news, because it opens up the possibility of a convivial (Illich 1973) and abundant frugal (Latouche 2011) society, is an issue for another book.

5 Merriam-Webster defines "normative" as "determining", "conforming to" or "prescribing norms or standards" (as in "normative behavior" or "normative rules of ethics"). Also, "indoctrinate" is defined as "to teach (someone) to fully accept the

a normative framework, which can either be clearly defined by science or else has to be negotiated democratically, and use it as our basis. In any case, denying facts that no amount of wishful thinking can change has never been a sensible starting point for change.

ideas, opinions, and beliefs of a particular group" (Merriam-Webster 2014a & b).