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# Baby steps and giant leaps

Klaus Töpfer

**Keynote speech delivered at the global  
Holcim Awards ceremony**

It is indeed an outstanding honor for me to be asked to deliver the keynote address here tonight. I hope that I appear younger than ever before. But of course, I have to fill you in as to why this might be so. It is probably linked to the fact that some days ago I could pass on the baton of responsibility for UNEP – the United Nations Environment Programme – to my successor, Achim Steiner. But it is mainly due to the fact that I have been a grandfather now for eight months to the day. At the very moment Helen was born, I became preoccupied with a burning question: What will the world be like when she is as old as I am now? That year will be 2072. All the grand statements made during the course of my career prior to becoming a grandfather and being responsible for a grandchild are now

linked to that concrete date 2072. Then I asked myself: What was the world like when you were born 68 years ago? Moreover, how would you respond if your answer was limited by the few things that you now know?

#### **The environmental question**

In those days the earth, this wonderful blue planet, had a population of 2.4 billion people. This number has increased to 6.5 billion within the short span of one lifetime. I sincerely hope, irrespective of my age, that I will live to see the next 75 million inhabitants per year for some time to come. When I was born, the concentration of CO<sub>2</sub> in the atmosphere was 30% less than what we have today. When I was born, there were just over 1 million cars on the globe; there are more than 1.5 billion

cars today. So we must ask ourselves: Can we today extrapolate from what has occurred during our lifetime? Is it possible to anticipate how developments might unfold?

When considering the question of population, development is differentiated based on geographical location. In the region where I grew up in Western Europe, one encounters a more or less stable demographic condition, in some cases even a decline in population. Additionally, there is an increase in the average age overall, significantly changing the structure of society. On the other hand, in Asia, one encounters an entirely different situation. On this continent, there are 3.5 to 4 billion people, comprising roughly 60% of the current global population. If we now do

the math and take into account a relative decrease in the rate of population growth, we will count in 2030 at least 5 billion people on this continent alone. Predominantly, such increases occur in cities. I have learned that there are an additional 180,000 dwellers in metropolitan regions per day. This adds up to 65 million new urban inhabitants per year. Altogether, it is clear that the impact of population development will be significant.

What Marshall McLuhan referred to as a *global village* must now be changed to *global city*, *global agglomeration*, *global scenario*. What are the consequences of this shift in condition? What needs to be done? In this situation, Holcim decided to create a foundation. Of course, if one is an outsider, you will

first assume that it will be a foundation focused on sustainable cement production. Wisely, the foundation pursues a more expanded range of objectives pertaining to sustainable development in general. This, however, raises the ante, for Holcim is very aware that to ask for sustainable construction, one must follow the words of wisdom that charity begins at home. So, we must ask, what does Holcim do at home in its own company? All jury members of the Holcim Awards competition as well as members of the Advisory Board of the Foundation have asked this question first: What is the profile of the company? Is it performing according to its own standards set for sustainable construction? Based on the reports that I reviewed, it is relieving to know that Holcim is indeed taking measures in accordance with the *Global Reporting Initiative*. In that respect, it is equally good to know that efforts are being made to convert waste into an alternative source of energy as well as into raw material for cement production. Keep in mind that the city in which we are now produced slightly more than 3,000 tons of waste per day in the 1980s. Today in Bangkok more than 9,000 tons of refuse are generated daily. Mountains of garbage have to be collected and disposed of. This brings us to the question: Can we make better use of waste than only depositing it in the next landfill, already knowing that this landfill is a time bomb for the future? This question is crucial, touching upon challenging considerations. Regarding incineration plants, we must also ask: Can we not make better use of existing processes with respect to energy production? Well

aware of all the difficult questions raised with regard to the manufacturing of products, with regard to emissions, transportation, and waste, it is good to know that much is already underway in view of sustainability, especially in the production of cement. As a matter of fact, tremendous care is given to the processes involved in making cement.

#### **The green chain**

I was recently chairman of the advisory board for environment of the Winter Olympics in Turin. We were not necessarily convinced of branding the games with the label *Green Olympics*, it being winter and all. But this *green* was placed, so to say, in quotation marks. Nevertheless, great efforts were made.

Can the expression *green* be generally applied, for example, to the building industry? We need not go into details. Still, it is comforting to know that Holcim is taking the necessary measures at home first. Consider what is being done to lower CO<sub>2</sub> emissions. What the company pursued is tied to the question of efficiency, an issue that was intensively discussed and involved considerable self-scrutiny. With an increase of production, you also have an increase in CO<sub>2</sub> emissions. What is obviously needed is a relative decrease in these emissions. The target set by Holcim was a 20% reduction between 1990 and 2010. This objective is sensible in view of the ramifications of a company whose reach is global in scope. Furthermore, this is even more significant because the globalization

process of the company also involves a globalization process of smart technologies.

I am happy to learn that Holcim is very active on these fronts, for example, in Costa Rica with a clean development program that gives incentives to those who are changing their production processes. I could go on and on with such examples. One thing in particular is worth mentioning. You are certainly aware of the overall value chain; from reports on hand I learned that in 2003 there were 6.8 billion US dollars available to purchase or buy products from other companies. Here it is necessary to ask: What is the supplier's qualification program? How can you convey your ideas pertaining to sustainability to those benefiting from the 6.8 billion dollars used in business transactions? Were this to be achieved, if your message were spread, you would have a multiplication factor raised to its highest. In this respect again, the Holcim Awards are not for sustainable cement production alone, although it is good to know that this company places such a demand upon both itself and its suppliers. It should be noted that these examples do not only concern the environment, but just as importantly pertain to the social aspects of sustainable development in construction.

This topic is at the center of a paper that I strongly recommend for reading, a paper delivered by my good friend Simon Upton at the first Holcim Forum 2004 in Zurich<sup>1</sup>. As he thoroughly covers the subject matter, I need not provide you with yet another definition of

sustainable development, as you well know there are plenty thereof.

### **The energy wave**

One must be aware that to establish a foundation for sustainable construction is a noble endeavor. It also serves to lend a new credibility to the construction industry in general and the pursuit of sustainable building practices in particular. Of course this must first of all be linked to the production of individual buildings. It is not only a question of how to address sustainability during the construction phase, as important as this is, but to specifically take into account the use and maintenance of buildings long after construction is completed. There are already many good examples for autonomous structures. One such example is the UNEP regional office here in Bangkok, a facility that is for the most part self-sufficient in terms of water, sewage, and energy. I am convinced that such examples demonstrate not only what we *can* achieve, but moreover, what we *must* achieve. More has to be done along such trajectories. However, this does not have to result in ugly architecture. The challenge is to make buildings environmentally, socially, and economically viable without compromising aesthetic quality – all the while accommodating the necessary functional and structural requirements. That is the challenge and not the other way around. Within this complex framework, energy plays a significant role. For a long time, experts responsible for the built environment, for monitoring climate change, for waste management, etc., always had to, in a sense, “apolo-

gize” in that they called for renewable energy. These apologies came more often than not in the form of unsettling information concerning thawing glaciers, melting Arctic ice caps, and so on. Many apologies and doomsday scenarios later, we still do not have sufficient bravado and support to advance the cause of renewable energy. President Putin’s decision, for example, to halt the gas supply to the Ukraine, offers a very clear example of how important it is to broaden our options and to make better use of energy. So, to integrate the issue of energy into our practices is a very big challenge indeed, reaching into politics, economy, and the socio-cultural realm.

### **The urban dimension**

We have arrived at a moment in time when the model of life-cycle economies predominantly frames debates on sustainability. For a very long time there were those who wanted to retain a linear model of thought according to which every person and every task was compartmentalized. There was somebody responsible for production, another for packing, another for selling, another for consuming, and yet another for waste. As long as this structure was maintained, it could not be expected that those responsible for one area would be concerned for those in another. Those in production and packing would never ask what is done with their waste. But to bring these diverse activities together means a change in the overall development of products. This is what we need: to make the market work with respect to the field of waste management. Therefore we developed the life-cycle economy, the circular

economy as it is called in China. Of course, the same goes for water and sanitation. We must implement the “Millennium Development Goals.” These goals were ratified by more than 180 heads of state and government leaders in 2000 as a comprehensive agenda for development. The objectives go beyond the realm of pure technical solutions and implicate the more extensive sphere of political action. For to have 2.4 billion people with access to proper sanitation – in Bangkok a third of the population suffers from this deficiency – is certainly a political issue. So the interrelated themes of waste management, water, and sanitation must be integrated in the question of what constitutes the scope of sustainability.

Discussion about sustainable construction tend to focus on the fabrication of buildings and their attendant processes. But the building alone soon becomes a white elephant if not seen in the larger context of cities. Without a doubt, the city is one of the most outstanding creations of mankind. Cities have always been a center of cultural concentration; they have always been places of social interaction. As we say in German: “The air of the city makes you free.” Large numbers of people have migrated from rural areas and have left their close-knit social fabric seeking a chance for upward social mobility. Such is their common desire. Cities, the place for economic development, are linked with the urbanization and globalization of the economy. A case in point is the city of Bangkok, which is responsible for up to 40% of the GNP of Thailand. A similar case can be made for Jakarta in

Indonesia. So, if a city loses its economic function and *raison d'être* so to speak, we cannot possibly reach the targets of the Millennium Development Goals. Therefore to link construction to the city and not just to individual buildings is an issue of greatest relevance. Until now, we had a hunch that such questions pertaining to construction were connected to discussions on sustainable development. Now we know that we have to do our utmost to make cities a key part of the solution. This is a challenge that calls again for innovation and creativity concerning sustainability. How do we face it? How do we do it?

At a global level up to 1 billion people live in slums. Many are convinced that these are problems specific to developing countries alone. A huge increase of the population within a short time period implies naturally a genuine growth of the city – yet cities lack the necessary infrastructure to accommodate such increases. Indeed, slums are a problem endemic to developing countries! I should know, I lived for more than eight years in the city of Nairobi in the middle of Africa, in Kenya. There, 3.6 million people live in a wonderful part of the world, but 60% to 70% of them in slums, in total poverty – you cannot even begin to imagine. And if you walk around here in Bangkok you will encounter poverty as well. So how do we deal with this condition? Is it possible to make cities and their agglomerations a part of the solution?

The issue of slums, however, also concerns the developed world. We must ask

ourselves whether we encounter similar problems at home. To answer honestly, we need to admit that this is already a problem of developed countries as well. My feeling is that we are creating cities that can not fulfill their functions, whether in the North or the South. Cities are losing their function irrespective of geographical location. And with this loss, slums are being created at a ever increasing rate. Were you to return with me to my home country Germany, you would see areas in which industries like coal and steel have dramatically decreased. It's very difficult to avoid this. The main difference is that in developing countries slum settlements lie in a peripheral ring in what could be called the suburbs of the city, while they are in the center of the city in developed countries. Inner cities have become slums due to the migration of retailers from the core to the outlying greenbelt. As a result, ever more malls and retail chains spring up on the margins as the city's generative function becomes progressively weakened. So please do not delude yourselves that such processes belong only to the structure of developing countries. For they are active in all parts of the world. To return function to cities is just as important as to promote good construction. How can we integrate people back into the municipal body again? The answer to this question is surely linked to that of the social fabric, to its socio-economic condition, yet another topic that deserves our attention.

#### **The global village**

I believe another main concern that must be addressed is how to handle

the large so-called conurbations. These are not unified entities, however, but rather dispersed, decentralized arrangements. In this sense, Marshall McLuhan's call for "the village" was accurate, notwithstanding its global extent. We are unfortunately no longer stabilizing large metropolitan regions with the aid of comprehensive master plans, instead people are disbanded in decentralized neighborhoods. This is completely foreign to daily life in developing countries where people have a totally integrated understanding of communities, of neighborhoods, of families – call it tribes. In other words, these people are much closer together and are therefore able to integrate. We have to bring this type of integrative capacity back to cities of the developed world. In the so-called developed world, whether one goes to Paris or to Berlin, the majority of inhabitants are unable to integrate themselves into a larger sense of belonging, to identify with a community. Thus the question arises: How can we respond to globalization and its impact on the population at home? Currently, this question cannot be answered sufficiently, and so we must continue to live with this tension. So sustainable development also demands bringing people together in order for them to forge a stronger sense of collective identity. This is a giant challenge! Otherwise we end up with segregation, a type of differentiation without benefits. Thus sustainability in light of globalization necessitates tolerance, not by abandoning your position, but making the effort to understand the other person's position. Tolerance means first being aware of your own position! Only

then can you open to others in a reasonable way. Otherwise, tolerance means to have no position and to accept everything. So in cities, that remarkable invention of mankind, we will have to prove that sustainable development is viable, not as a closed concept, but an open one, one that implies flexibility – vis-à-vis different ethnic groups, religions, beliefs – and flexibility vis-à-vis the built environment which echoes this change in society. This is not to suggest a singular master plan, but to make a plea for changes in the notion of development, to make a plea for better solutions in the future, even at the smallest scale. This is an appeal for integrating the village in the city, learning from them and bringing that knowledge back to the urban realm. I make a petition for the global village.

#### **The sustainable turn**

Some months ago I heard an interesting anecdote, a story about Albert Einstein. Perhaps some of you already know the story, but it is still worth mentioning. Once Einstein gave a test question to his students and after some minutes one of the students asked: “Professor Einstein, it’s surprising that these are the same questions you gave us four years ago.” Einstein smiled and replied: “These are the same questions but in the meantime I have new answers.” I believe that is exactly what sustainability is about: to be aware that we need to continuously revise our answer, that we have to be open to new answers. At the very moment we believe we have found “the answer,” we become ideological and we might as well be forgotten. But, at the very

moment that we are willing to integrate concerns for the environment with social empowerment and economic performance, then maybe we can begin to solve the problems for the year 2072.

I am certain that my granddaughter, Helen, will have a great, great time to discover what Holcim has and will achieve. Congratulations! I saw the last figures of Holcim, and I can only say that they are really a great signal of a dynamic and successful company.

I would be glad if I had had the same increasing figures for UNEP in the last few years of my tenure. Then I could not have hoped for such success, nor could I have imagined possible a world in 2072 where one resource that is unlimited – the brains of young people – might be used to its full extent. The brain and thinking are always linked as well as encouraged by new challenges, by the same questions that need to be answered anew again and again.

This, I believe, is the message from the results of the Holcim Awards. Congratulations to the Award winners, congratulations to those who participated. Above all they know the significance of giving an answer without being certain that it is the right answer indeed, for they are also aware that such an answer will be the seed of a very important question in the future. So don’t believe that only the prize winners have the right answers. For again and again answers are linked with the intelligence of young people around the world. For sure, we will always have new resources of energy;

we will have for sure new chances for recycling water, we will have for sure better chances to avoid waste and to integrate it in the production process, and we will have for sure a planet able to handle 9 billion people in a very humane way. This is the vision that I link with the Holcim Awards.

<sup>1</sup> “Welcome to contested territory”, keynote speech by Rt. Hon. Simon Upton (New Zealand), Chairman of the OECD Round Table on Sustainable Development. Published in *First Forum*, proceeds of the Holcim Forum for Sustainable Construction, Switzerland, 2004 (ISBN 3-7266-0069-8).