

Articles

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Marriage between Nature and City

WHAT HAPPENS?

I travel all over the globe as an itinerant bricklayer trying to serve people who build their homes and their cities. The people are the masters I try to serve, but I am a doctor's son and I learned early in life that you cannot help a man unless you understand him and his problems. I hear cries, speeches, promises and declarations about restoring the balance between Man and Wildlife, but I do not see any action on the scale we need.

During the day I see so many signs of this interest that I have become convinced there is now an ongoing love story between Man and Wildlife, with all sorts of lovers, from real to false, from learned to uninformed, from honest to dishonest, from those who work for the benefit of Man and Wildlife to those who work for their own profit.

At night I sit back and remember that Man has had similar love stories and experiences throughout his history. As a hunter for hundreds of thousands of years, and as a farmer and small-city dweller for thousands of years, he always managed to turn his love into marriage, establishing a balance between himself and Wildlife. We will follow the same road, I say, and I go to sleep. Then I have a nightmare because I remember that Man has achieved all this by trial and error. How many hunters have gone hungry because of burned forests, and how many farmers have failed after too-intensive farming?

I cannot sleep as I think that if we follow the normal process of trial and error, we will learn only at the end, after several generations, and it will be too late. Is there no other road ahead, I ask? And then I remember that we live in an age of science and technology: we can better learn from our mistakes, better understand the laws of the game, better set goals and achieve them, than previous generations.

OUR MAJOR MISTAKES

It is early morning. From my window I see blocks of flats where we live our lives and where our children grow, and I understand why we are completely separated from Nature and out of balance with it. It looks as though we were born into a world of machines.

"Oh no," I say, "it is better when we see the city from the rooftops." I go up in the elevator and then I understand why we are so confused about our relationship with Nature. From the roof we see as if we were eagles, and we often feel the urge to attack as they do, instead of living our lives peacefully. "Oh," I say, "it is better if we do not

go so high," remembering how unhappy children and mothers can be when they live above the third floor, out of contact with both Nature and people.

But then I recall that we have been told by many, beginning with Le Corbusier, to take gardens and wildlife upstairs. "A beautiful idea," I say, "but my clients cannot pay the very high cost." We do not do it and instead use plastic plants.

"The situation is much better," I say, "in the suburbs." I drive my car there, and on the road I admire how well we are bringing Nature and Art together. But when I reach a suburb and climb a bell tower to admire the human balance with Nature, I almost fall down when I see what controls the human road. The machine, invading space, imposing danger, noise, and polluted air, is my master, and poor Nature is retreating.

"It does not matter," I say, "if we cannot bring Wildlife into our city we can solve our problems by placing a green belt around it, an encircling but separate area outside the city limits, as many experts recommend." I smile, but then I remember chastity belts, and the mothers who try to keep their children as they are at the age of three by dressing them in children's clothes into adolescence. "No belts," I say, "they will choke our cities to death."

What am I going to do with the babies born tomorrow in the cities themselves, and the farmers who need to come into the city for their education and health? Cities with belts cannot accept them - once the cities' perimeters are fixed, they cannot grow, expand - but even tyrants could not restrict the growth of cities. Why not let cities grow more naturally while letting Man be closer to Nature?

I am sad and feel the need to begin speaking about Wildlife, about saving the land and ocean resources. Then I meet the landowners who look angrily at me and ask: "Why do you deal with my land?" I turn toward the oceans but cannot find any owners; they do not belong to anyone when we pollute them, but they are claimed by many nations when they are rich in fish and in oil. The Mediterranean is of great interest to national fleets, but who is taking action about its being the dump for more than 100,000 tons of oil per year? I get confused and go out for a walk.

The pollution by traffic in terms of space, noise, breathing air, complexity and confusion is increasing, and people stop me to ask, "Where can we go? Which cities are the most livable ones?" I answer by describing some beautiful, clean, small cities in the Aegean Islands. People become enthusiastic and ask, "Do they have colleges, hospitals, sports grounds?" "Oh no," I say, "they have not," and I explain that if they did they would be as big as other cities and would suffer from the same problems. "All right," they

answer, "we will visit them as tourists." But there are millions and millions of tourists, so I never mention the small city I like most. It must remain virgin or it will be spoiled as are the others by invasion.

I try to escape. I run away and I recognize that I get confused by speaking in such general terms about houses and cities, green belts and oceans, pollution and escape from it. The more I talk the greater my confusion. Can I not deal with the problem better?

THE SEARCH FOR TRUTH

"Let us work hard," I say, "and find the truth about our future." Again I remember medicine and how our doctor predicts our future - by studying our family histories (Did our fathers suffer from cancer or ulcers?) and our own past and present situation. Today we cover 156,000 square miles of our globe, or 0.26 percent of the total land surface, with all our settlements (from megalopolis to village), and 5,070,000 square miles, or 8.8 percent, with our farming. The rest of the earth is covered by forests, pastures, and a very large part which cannot at present be used for any purpose. We really interfere with about 9 percent of the land, but we directly pollute parts of the remaining 91 percent.

The medical examination continues and studies the growth rate and problems of adolescent mankind, because it is in adolescence that organisms can get out of balance most easily. In this way we find that our settlements grow at the rate of 2 percent per year in terms of population and about 3 to 4 percent in terms of surface, because people get higher incomes, more machines, and move out into the countryside. In this way, the polis turns into a dynapolis,(Ref. 1) a multi-centered city whose centers are subject to expansion, increased pressures, or both, rather than a static city. This happens everywhere but at different speeds, depending on many factors, such as incomes, mechanization of transport and government policies. The result is that by the year 2000 the total of our settlements will cover twice as large an area as at present and the large urban ones even more than double.

The growth of our settlements is not always the same. Villages and small cities may stagnate or disappear, while big cities grow at a higher rate the larger they are. This is inevitable, as the abandonment of the Stone Age caves by hunters was inevitable when farming was invented.

From the Stone Age until today, man has always been guided by five principles:

The maximization of his potential contacts with nature, with other people, and with the works of Man, such as buildings and networks. He instinctively reaches out.

The minimization of the effort required for his actual and potential contacts. He prefers to conserve his energy.

The optimization of his protective space.

The optimization of the quality of his relationship with his environment. He creates a value system and tries to achieve the best of his alternatives.

The balance among the previous four principles.(Ref. 2) For these reasons his largest settlements will grow especially in plains and near the water. This is how civilization started and this is the only possibility for it to continue.

By the year 2000 the global population is going to be around 7 billion people, about double what it is now. The global urban population, however, will be 4 times larger: from approximately 1 billion to between 3 and 4 billion, because growth is focused only on cities. The result will be that we are going to have 14 megalopolises instead of the 11 now being formed, and many tens of very large urban systems with more than 10 million people each, and hundreds of metropolises with millions of inhabitants. Such a situation means increasing incomes and energy per capita (the average growth is going to be 2.5 percent for incomes and energy) but it does not mean that some low-income areas are going to grow as much as the others. Cities do not necessarily provide equality.

I remember the case of the mother who, learning that her son gained 12 pounds in one year, thought that at the age of 55 he would be 580 pounds and refused to give him any food. "But how old is he?" asked the doctor. "Just 15," she said, and the doctor smiled. As we have such mothers today, I have to remember that the rate of growth is going to slow down anyhow as it already is doing in many countries, and the global population is going to level off between 15 and 21 billion people some-time around 2100 A.D. and remain stable for an unknown time, until another revolutionary change occurs. (I once asked the Paleolithic hunters when the Neolithic period was expected and they laughed at me.) The global population is going to become urban, and all human settlements are going to form the global city or Ecumenopolis.(Ref. 3) "Frightening," I said when I saw it, "I cannot believe it!" and I went to sleep with the help of a stiff drink.

FROM LOVE STORY TO MARRIAGE

I dream I am in the middle of a beautiful valley under Mount Olympus; I am sitting under an elm tree near the river with cool water that runs to the Aegean. I scream, "Why build cities and destroy such a scene?"

"Because," Artemis, the goddess of wildlife, tells me

smiling, "Wildlife, that is Nature, created Man, and considers him its best child and always helps him to develop in proper balance with Nature. We work well together and this is why Man is ascending."

"And what about the many bad things that Man brings about against Nature and himself?" I ask.

"Oh, this is natural!" Artemis replies. "We are not tyrants to impose our will. We try to inspire Man to do the right things and let him learn by trial and error. He now finds himself in the middle of a crisis but I help him again by inspiring the young who fall in my domain."

"I know Apollo," I said. "He has always inspired the creation of the beautiful cities we all admire, but why should we not try to bring Wildlife and cities together?"

"Because," she answers, "you also need extended cultivations in order to make Man happy and safe and able to build cities for his own benefit."

"Don't we spoil Wildlife in this way?" I ask.

"Not necessarily," she answers, "and as you are a Christian who perhaps does not believe in your ancient gods but in the more modern ones, you must remember that in Genesis (2,15) it is said, 'The Lord God took the man and put him in the garden of Eden to till it and keep it.'"

"What then can be the relation between Wildlife and Man in such a complex situation, and who should prevail?" I ask.

She smiles again and answers, "It is a love affair and certainly no one should prevail in it if we want it to succeed."

I then begin to travel inside the cities where the love affair is very clear. I stop at a courtyard and see, even in such a small place which can belong to either poor or rich people, that everybody from a child to a very old person can sit happily and enjoy the exchange of kisses and caresses between Nature and city. I move to the front courtyard to communicate with people and then enjoy the street. "Where are the automobiles?" I ask myself, and I find myself higher up, looking over the neighborhood where the love affair is everywhere - I am told that where formerly the machine was in control, it is now in a special corridor under the houses below the straight wall separating them. I can see how we moved from highways into deepways, just as we changed from water ditches to underground pipes; from railways to underground metros.

I fly higher up and then I begin to understand how the

love affair develops into a system of Nature infiltrating through avenues, streets and narrow paths, entering every house; when I am even higher up and can see an entire city consisting of small communities infiltrated by Wildlife I can understand why the real love is not shown by belts but by embraces.

My dream takes me higher still and I begin to worry as I remember the global city or Ecumenopolis covering our whole planet, but then I see a different situation from what I expected - not a planet covered with a city but a blue and green planet with a city covering a very small part of it. I am very happy because I realize that the real love story means an Ecumenopolis within a global garden or Ecumenokepos, in the same way in which the city of Florence in the Renaissance was not the walled city but the green plain surrounded by green hills and mountains in the middle of which was a built-up city.

I then begin to realize the old love story between Wildlife and city which was never expressed by safety belts but by infiltration, and I visit many parts of it from the smallest to the largest. I see not only the green Nature infiltrating the built-up parts, but also the blue Nature, the water running in rivers, canals, waterfalls and fountains in small streets where children can assemble and play with it.

Everywhere I feel the third basic element of Nature, fresh air, caressing me and making me happy. Now I see that Nature and city brought me into their love story by satisfying my senses of sight, sound, smell and touch. "And my taste?" I ask myself. I bend, pick a strawberry, and I eat. "Oh, what a love!" I say, and then I wake.

"How beautiful is the love story we dream of and talk about," I say when I wake, but as I am a bricklayer, I feel again the need to build. I need to turn the union of Nature and Man into a successful marriage, because otherwise I may see the two lovers fighting each other instead of living peacefully together.

I turn from the dream land into my office and proceed to long years of research which leads to four proposals that can make the marriage possible. If you ask me whether I can justify them by science I will say "No," and any biologist or ecologist is entitled to laugh at them, but then I will ask, "Do you have a more scientific proposal to make so that I can follow you?" If not, as all the famous experts I asked this question of have answered, then let us follow these proposals, which are based on continuation of an eternal practical human experience.

First proposal: We must divide our global land surface into twelve zones, not according to national boundaries or political domains but suiting geographic, human and wildlife requirements.

- **Zone 1: Real wildlife (40%).** Man should not enter, except authorized scientists. We need its virginity.
- **Zone 2: Wildlife visited (17%).** Man enters it, but without machines, and does not stay in it.
- **Zone 3: Wildlife embraced (10%).** Man enters it without machines and stays in temporary camps.
- **Zone 4: Wildlife invaded (8%).** Man enters it without machines and lives in permanent, well-built camps.
- **Zone 5: Wildlife conquered (7%).** Man gets control of it to protect and enjoy it with all his facilities.
- **Zone 6: Natural agriculture (5.5%).** Man cultivates in open air and enjoys the landscape.
- **Zone 7: Industrial agriculture (5%).** Man cultivates by covering the plantation to control climate and production.
- **Zone 8: Man's physical life (5%).** In open land Man lives as close to Nature as possible and interacts with it in recreational pursuits.
- **Zone 9: Low-density city (1.3%).** What we sometimes call a suburb or small town, with proper gardens.
- **Zone 10: Middle-density city (0.7%).** What may be called a normal human built-up area.
- **Zone 11: High-density city (0.3%).** What was the traditional city we now admire or the business district.
- **Zone 12: Heavy industry and waste (0.2%).** What we want to separate from Man's everyday life.

In such a way we give 67 percent or two-thirds of the total to continuous wildlife (of which a very big part cannot be visited anyhow) and even more, 83.7 percent of the total, to different types of wildlife including isolated ones, and 94.1 percent if we add man-made cultivation. Man keeps control of 33 percent of the land surface but builds cities on only 2.5 percent. This is not fantasy; it is based on calculations of future needs.

Second proposal: The same must happen to all our water resources, though this will be even more difficult to accomplish than the apportionment of land because water, always moving, always in flux, more closely fits Heraclitus's notion of reality - impermanence and constant change - than land. How do you contain parts of a flowing river? We should not forget that water covers 71 percent of our global surface and is 65 to 70 percent of our own body. We need lakes, rivers and parts of the oceans to

remain virgin as well as other parts to invade. Thus we must develop twelve zones for water.

Third proposal: The first two proposals are valid on a global scale, but to be practical in a world where we pretend (not South Africa) that we are all equal, the divisions must be made by nations. If one European nation has already eliminated more than 67 percent of its wildlife, as many have, it cannot insist that Africa should save wildlife without contributing some financial or technological support that might otherwise have gone to preserving its own wildlife. We cannot achieve our goals without justice. We need a proper distribution of resources and obligations.

Fourth proposal: To implement our three proposals of good intentions for Nature, Man and Justice, we ask that 10 percent of all military forces be dedicated to the implementation of common goals. Though this may sound highly impractical to many students of human nature and history, we know Man's potential for change and his freedom to choose new values. It is not impossible for him to do this. Consider that the national guards and army reserves of some nations already devote considerable energy to reforestation projects and creation of community parks. The big and small powers which invade the Mediterranean with their fleets can save it from biological death if they turn ten percent of their fleets into a nature-protecting police force. This would prove that those nations believe in the marriage.

Are these the only proposals to achieve our goals? Certainly not, and mankind is moving ahead from declarations to specific studies, especially after the UN Stockholm Conference and efforts such as the UNESCO program on Man and the Biosphere,(Ref. 4) the Pacem in Maribus(Ref. 5) movement to save the Mediterranean, and many others. The meaning of my proposals is that we must insert dimensions in all our decisions in order to make them work, and to remember that Man is the measure of all things.

After forty years of work I came to the firm conclusion that we will not have a global problem of space for several generations, provided we start using space as wisely as the successful Man of the past. Today man has the technology, including computers, to analyze and compare his alternatives instead of working these things out through trial and error.

THE HAPPY END

I am convinced that, if we follow such a practical road, the love story will turn into a marriage that will make our globe a paradise, the big garden Man has always dreamed of, because more than 94 percent of our globe can be wildlife and plantations even with up to 20 billion people.

Why am I an optimist? Not because of my dreams at night but because of my action in the day. When new countries such as Ghana and Zambia have the courage in difficult times to remove industry from the city and plantations and create special zones for it,(Ref. 6) when a Detroit civic leader had the courage to prepare plans proving that Nature can be saved in an ideal way even in such an industrial center,(Ref. 7) we can believe in Man.

Can we really achieve all our dreams and proposals on all these scales and save wildlife even in the center of cities? I look down from my office and I see what we did as a private group in 1958 in our own building in the center of Athens. I walk down into the courtyard which is open day and night to everybody, and I move out into the street under ancient trees which we not only saved by changing the habit of cutting trees in order to build, but strengthened and multiplied them. We live in the midst of a happy marriage. If a small private company without any financial or government support can do it, Man can do more. Let us believe in him and help him build his paradise as a marriage of Ecumenopolis and Ecumenokepos, the global city and the global garden.

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