

World Heritage, Art and Economics : The World Heritage Convention in the light of Economic Theory

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by

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This paper is an attempt to show how heritage, art and economics have been and remain very closely related throughout their history and how together, through this relationship, they have led to the making of the "International Convention for the Protection of the World Cultural and Natural Heritage",. It also tries to illustrate how heritage and particularly World Heritage, is looping the loop by returning to its origins - economics and economic rationality.

For the sake of simplicity, I shall concentrate on the cultural immovable heritage, even if most of what follows applies equally to movable objects and to natural sites.

1. The Origins of the World Heritage Convention

It is often considered that the World Heritage Convention is rooted in the International Campaign for the Safeguarding of the Temples of Nubia in Egypt and, to illustrate the point, reference is made to the speech given by André Malraux at the launch of the campaign, when he said (and this is a free translation) :

"... Beauty has become one of the major enigmas of our times, that mysterious presence by which the monuments of Egypt unite with the statues of our cathedrals or of the Aztec Temples, those of the grottos of India and China – to the paintings of Cezanne and Van Gogh ... - in the treasure of the first world civilization".

To continue later in the same speech :

"the first world civilization publicly claims world art as its indivisible heritage".

The roots of a World Heritage, which is unique and worthy of being protected by all, stretch way back in time.

In 1931, the first International Conference for the Preservation of Historic Buildings was held in Athens and, although it brought together only Europeans, the second, held in 1964 in Venice, included representatives from Mexico, Peru and Tunisia. Meanwhile, in 1937 under the auspices of the League of Nations, the Athens Conference called for the safeguarding of the "World Cultural Heritage".

However the need to protect unique monuments or representations of the genius of humankind started centuries before. When the emperor Charles the Fifth, saw that the Mosque of Cordoba, built under the reign of Abdel Rahman (758-788 a.d.) and completed by the great Calif Al-Mansour in 987, was being destroyed by the priests in order to enlarge the chapel erected in its centre, he ordered them to stop because "they were destroying what could be seen nowhere else, to build what exists everywhere."

Whatever its origins, the World Heritage Convention is today the most successful and universal international legal instrument for the protection of immovable heritage, be it cultural or natural. 158 States have ratified it and have placed more than 630 sites under its protection.

The Convention has achieved many successes in protecting heritage under threat from War or as a result of deliberate destruction : the recent cases of the Cairo ring-road on the Giza plateau, the Galapagos Islands, Byblos in Lebanon, the Kakadu National Park in Australia or the very recent case of the El Vizcaino whale sanctuary in Mexico are just some examples of its successes.

The Convention has also been successful in raising awareness among decision-makers and society at large about the values and importance of heritage, about universality and the unicity of our world. Because of the prestige attached to the World Heritage List,

the Convention is also attracting donors and investors – institutional and private – to invest in World Heritage sites. International and regional development funders, private companies such as hotels, travel agents and even entrepreneurs from other sectors, are concentrating on World Heritage cultural sites, particularly cities.

However the prestige attaching to the Convention has its drawbacks.

Inscription on the World Heritage List is becoming an aim in and of itself : added prestige, heightened visibility, are deemed to ensure guaranteed revenues from tourism. States parties to the Convention are indeed becoming more interested in the revenues generated by an inscription than in the virtues of universality and of protection and passing over of the site.

This interest in the tourism market value of the inscription on the World Heritage List explains to a certain extent the competition taking place in the nomination process between the "haves" and the "have nots" : those countries with the administrative ability to understand and to manage a nomination process which involves technical, scientific and political (lobbying) difficulties nominate and list more sites than others : more than 30% of the sites listed belong to 5 European countries and this imbalance in the representativity of the List continues to grow. The link between tourism and the Convention is getting stronger. A simple reading of the list of nominations over the last years is enough to show that it is the countries where tourism is already strong which nominate the most and that the universal exceptional value of the nominated sites tends increasingly to be forgotten in the process.

Hence, the economic worth of heritage remains very present in the minds of those who own it. If some countries keep submitting more and more sites which evidently have less and less of a "universal exceptional value", if there are more and more cultural sites nominated than natural ones, it is because of the economic returns expected.

Are these returns limited to the direct impact of tourism or is there more to it ? Before addressing this question, the concept of heritage must be further investigated.

2. The concept of Heritage and its origins

2.1 Birth of the concept

From the outset, the difference between the French word "*patrimoine*" and the English "heritage" must be noted ; they bear different historical contents.

Although the origin of the word is the Roman "*patrimonium*" (from *Pater Monere*), i.e. what belongs to the family, its origins can be traced back to Ancient Greece when it represented the land, the estate that produced the family's basic commodities. It could neither be traded nor sold : it was to be transmitted from one generation to the next.

It seems that the concept started under the economic regime of what has been called the "*oikos*", a non-market economy where, according to Johann Karl Rodbertus, a German economist of the 19th century, it symbolised the family estate. This concept and the economic system built up around it met with some criticisms : the controversy was between the "modernists" who believed that Greece's economy was very advanced and structured and the "primitivists" who considered it to be "archaic".

Because of historical confusion – there is no exact reference to a given period, and of the controversy surrounding it, the word "*oikos*" became an easy tool to explain the "natural economy" in which money, markets and trade had little impact of the whole system of production. In such an economy, the family had to possess its means of production since it was impossible to address its needs through emerging and little monetarized markets which were functioning through a system of barter.

Joseph Schumpeter further clarifies the rationale of the Graeco-Roman economy when, in his "History of Economic Analysis" (1954), in Chapter I, "Graeco-Roman Economics", he writes :

"... their Oeconomicus (*oikos*, house, and *nomos*, law and rule) meant only the practical wisdom of household management; the Aristetolian *Chrematistics* (Possession of wealth), which comes nearest to being such a label, refers mainly to the pecuniary aspects of business activity."

And he further continues :

"Greek thought, even where most abstract, always revolved around the concrete problems of human life."

On this period of Ancient Greece and on the importance of agriculture in its economy, Fernand Braudel writes about "The Land or the Commodity" by reminding us that land is the true value. It is the major production factor with manpower. Accumulation of wealth came through the accumulation of land and labor (for the latter, the *hectémores* being the ideal example). This wealth - wheat, olive oil, etc. - had to be traded, exchanged and this could take place only in the presence of markets and of specialized traders.

Thus the "*patrimoine*", heritage, gained the status of non-exchangeability. It is in this context – which became the subject of lengthy debate among the economists of the late 19th and early 20th century - that the concept of the "*patrimoine*" which could neither be sold nor traded, emerged ; a concept which would gain weight and recognition throughout the 20th century.

Here, a word of caution is needed : one must keep in mind that the distinction between pre-market and market economies (that between the modernists and the primitivists) serves us to avoid an "*inversion of perspective*" which, as Polanyi puts it, could lead to read into Antiquity "modern" phenomena which in reality are archaic or primitive : the "*patrimoine*" of Ancient Greece (i.e. the *Oikos*) may be the father of our "*patrimoine*", but it is of a different ilk and serves different purposes.

How then did the "*patrimoine*" or heritage change through time until it became a mainly cultural and aesthetical object ?

2.2. "Heritage" as we understand it

Roman law reinforced the notion of family heritage by introducing a quasi identification between the "Pater familias" who is its protector and transmittor and the "patrimonium". The "pater familias" brings to the "patrimonium" his personal values – the intangibility of his social status, together with the personal obligation of its transmission.

It is usually agreed that the institutionalisation of the notion of "common heritage" and the introduction of intangible values in the concept of "Heritage" were brought about by the French Revolution. In 1792, the revolutionaries begun destroying physical representations of the « Old Regime » : castles, palaces, private domains, monasteries, churches, etc. The Convention, which headed the Revolution, became alarmed by the loss of wealth caused by this destruction and decided to protect the "monuments". It entrusted a special commission with this task. The purpose of such protection was twofold :

- To protect the wealth of the country and put it at the service of the new regime ;
- To give this new regime an historical dimension, and root it in tradition, thus legitimizing it : from belonging to a family or a community the monuments became the property of the State.

It is then that the concept of "national heritage" was born. With this "national heritage", the French Revolution created the artistic memory, the notion of monuments and the heritage of forests and estates.

This was followed by the listing of monuments and sites (in 1810 by the French Minister of the Interior, Alexandre de Laborde). Once these lists were published, the bourgeoisie was keen to visit the sites, thereby starting the first "tourism" activity, then called "*excursions*". From the list of monuments, it became easy to move to the "classification" of these monuments according to their order of importance (1834, Prosper Mérimée).

With the Industrial Revolution, two important things occurred from the point of view of heritage. First, the bulk of production, of revenue generation, was no longer driven by agriculture. Industry took over, thus relieving the land, the estates, of a large part of their economic function, and therefore widening the gap already opened by the French Revolution between the concept of heritage, of patrimoine as we know it now and the original meaning of the Greek (the *oikos*). Second, a large economic surplus was generated thanks to the new production processes and the colonies. This surplus enabled the State to devote more of its resources to the protection and enhancement of its "national heritage" which was increasingly

becoming a heritage of beauty, of aestheticism, of picturesque sites. Romanticism prevailed.

Meanwhile, the results of discoveries and exploratory expeditions, which Europe was hearing about thanks to the emerging media, together with a new "universal thinking" were pointing to the notion of a single world, a single humanity. The search for universality was also challenged by the destruction taking place in European cities and in the colonies owing to the pressures of economic growth and the needs of emerging industry.

The modern notion of "*patrimoine*" - which already lost much of its economic value was born under specific economic circumstances : those of the Industrial Revolution in Europe, i.e. once agriculture was replaced by industry as the main sector of production. The "patrimoine", initially land related, was no longer needed to produce the wealth of the Nation.

2.3. Different cultures, different contents

This is why the concept of heritage in the Western World is so different - for example - from the African concept of heritage, or from that of the Pacific Islands. In such places, the spiritual value of a site, of an object or of a monument remains the main reason for protecting it and ensuring its conservation as part of the "patrimoine". These regions have not experienced the same economic and political processes as the Western World.

Moreover, the availability of materials has influenced the types of techniques used and of "patrimoine" built up, while each type of material has determined the development of specific building techniques and of art.

In the civilizations of "stone" constructions for example, monuments have survived down through the centuries : most of these monuments are cathedrals or places of worship or erected for the dead (Egypt). The same applies to the prehistoric sites so far uncovered.

But creativity is the product of our environment as much as of our needs. In her book "The Conditions of Agricultural Growth – The Economics of Agrarian Change Under Population Pressure" (1965),

Ester Boserup, a Danish economist, has explained the process of technological innovation, based on demographic pressures on arable land. Similarly, the French anthropologist André Leroi-Gourhan, has shown the impact of the environment and of the materials available on the techniques developed by humankind : technological innovation is brought about by human needs whilst the types of materials available determine technical innovation ,and the sorts of tools developed.

In Japan, temples are built of wood and their builders have devised very specific techniques in order to withstand earthquakes – the balancing effect of the roof supporting poles. In civilizations or cultures of "earth", builders have privileged form and elaborate façades. Where nomadism or pastoralism was the rule, places of worship and sacred places were natural - as opposed to man-made areas.

Religious monuments of worship are as much the product of the architect who has designed them than of the very many workers who have built them. Although we assign to these monuments cultural functions (religious), we should not lose sight of their social and economic function which can be compared to those of the modern large scale public works undertaken, for example, to revitalize the economy after the Great Depression. In limited monetarized markets or local markets, it was necessary at times to redistribute wealth from the landlord or the Church and to provide food for the poor. Social cohesion in times of hunger or war could also be achieved by such large scale, labour-intensive projects.

Here again, we run the risk of looking at things from the past through our modern eyes, ascribing them values which their builders or owners had no notion of.

As Sir Alan Peacock, the British economist, reminds us,

"A large proportion of artefacts are not produced with the idea of reminding us of our past ... they become identified as heritage goods usually by archaeologists and historians who have obtained some form of official recognition or public acceptance of their status as experts in determining their artistic or

historical significance. These experts exercise a pronounced effect on the accretion process which is reinforced by their influence as holders of senior positions in the heritage services which are provided by public institutions not normally subject to market forces."

The difference between the economic role played by these monuments when they were being built and the economic function of infrastructure projects of modern times derives from the very limited "investment multiplier" effect these monuments could have. The goods created by the construction of these monuments had little impact on the rest of the economy.

2.4. The introduction of Beauty and Aestheticism

Some words are necessary here on beauty since it has become a major reason for listing a site or a monument and the most powerful attraction for tourists of all races and nations. Again, we return to Greek civilization and particularly to Plato whose reflections on "beauty" have influenced all western thinking. In one of his "discourses", "Hippias Major", Plato says of beauty that "there is a beauty in itself which ornates all other things and makes them appear beautiful when this form is added to them". The word used by Plato for form is "*eidos*", the idea - which, in this sentence, is nothing but beauty itself. And today, we list, protect and classify "beautiful" places and monuments quite often for very personal, subjective, psychological reasons.

It is during the industrial revolution that the memorial function of the monuments gradually started to be replaced by art, a trend begun during the Renaissance. Previously, the function of a monument was to remind us of deity, of power, or of a victory. Perfection in construction as well as the ornamental aspect of the monument were sought, but not necessarily beauty.

Until the XVth century "art" (from the Latin "*ars*", i.e. activity, know-how), referred to a set of technical activities, related to a trade. The idea of aestheticism, as we understand it, only appeared when art gained recognition, through its new acception, as an intellectual activity which could not be reduced to a single technical task.

This happened once again as a result of a change in the economic process. The transition from a small scale production system (*artisanal*) to a capitalistic mode of production radically changed the status of the artist. This change released the artist from the domination of the guilds and their feudal structures. In the Middle Ages, the object of art had to conform to the requirements of the commissioner to meet its future functions (religious, ornamental, celebration,...); this was gradually changed and more freedom was left to the creativity of the artist. At the same time, the price of works of art increased drastically. Prices no longer related to the materials used; instead they reflected the reputation of the artist, his market value.

The intrusion of beauty, aestheticism and of picturesque, which has developed a quasi psycho-analytical bond between us and our cultural "heritage" has provoked an inflation of this "heritage" at all levels of social organization : local, regional, national and international, even though the meanings of "heritage" or "patrimoine" are not shared by all cultures in the World. Sometimes, the concept of "heritage" or "patrimoine" simply do not apply. Nevertheless, there is a growing "heritage" market in our world and it has entered an inflationary spiral. In a sector – that of heritage – where the supply of goods is limited by the sheer nature of these goods – you cannot produce archaeological sites or the Pyramids or a cathedral – their availability is finite, our modern societies are creating more « heritage » by enlarging progressively the notion of heritage which includes more and more recent monuments; this reduces further the market value of such goods.

To repeat again the words of André Malraux : "Beauty has become one of the major enigmas of our times."

3. The Economic Values of Heritage

Must heritage have an economic value ? If we were to follow John Maynard Keynes, then the answer is yes. It is not only a matter of intrinsic value, but rather, according to Keynes a matter of use value. He once suggested that if artistic resources were not fully employed, then it would be worth knocking down the majority of buildings in South London next to the Thames and replacing them with the best of contemporary buildings and parks laid out like St. James's.

3.1. The Different Types of Value

Tourism, which is becoming a major sector of the economy, is not the only source of economic value for heritage. In a recent publication, Ismaïl Serageldin provides us with a very clear list of the economic values of heritage.

From the more tangible to the intangible values, Serageldin divides the Total Economic Value of Cultural Heritage Assets in two major categories : the Use Value and the Non-use Value. Between these two categories lies the "Option Value". The explanations provided by Serageldin are best to understand these different values :

" ... Total economic value is usually decomposed into a number of categories of value. [It] generally include the following :

- Extractive (or consumptive) use value,
- Non-extractive use value and,
- Non-use value.

Extractive use value. Extractive use value derives from goods which can be extracted from the site. ... In historic living cities, there are direct uses being made of the buildings, for living, trading, and renting or selling spaces. ... Unlike a forest, the use of a historic city does not deplete it unless the use is inappropriate or excessive, denaturing the beauty of the site or the character of the place. At some level, a parallel exists to extractive use of a forest being kept at sustainable levels.

Non extractive use value. Non-extractive use value derives from the services the site provides. ... The parallel for historic cities is clear: some people just pass through the city and enjoy the scenery without spending money there, and their use of the place is not

captured by an economic or financial transaction. Measuring non-extractive use value is considerably more difficult than measuring extractive use value. ... those likely to have the most relevance to the valuation of cultural heritage are aesthetics and recreational value :

- *Aesthetic value.* Aesthetic benefits are obtained when the fact of sensory experience is separate from material effect on the body or possessions. Aesthetic effects differ from the non-use value because they require a sensory experience, but aesthetic benefits are often closely linked to physical ones.
- *Recreational value.* Although the recreational benefits provided by a site are generally considered together as a single source of value, they are a result of different services which a site might provide. ... A historic area could have rest stops, vistas, and attractive meditation spots, in addition to shopping bazaars and, of course, monuments....

Non-use value. Non-use value tries to capture the enrichment derived from the continued existence of major parts of the world heritage. Even if not likely to visit these sites, one would feel impoverished if the sites were destroyed. In many cases, this benefit is referred to as ***existence value*** (the value that people derive from the knowledge that the site exists, even if they never plan to visit it) ... Other aspects of non-use value include the ***option value*** (the value gained from detaining the option of taking advantage of a site's use value at a later date, akin to an insurance policy), ... Non-use values are the most difficult types of values to estimate. Yet, this category of value has obvious relevance for the assessment of cultural heritage sites."

3.2. The economist's perspective : estimating value

The most common method to estimate the economic value of heritage is that of Contingency Valuation. There is however, in my view, another approach worth envisaging : since at its beginnings, heritage was basically an economic factor, then one can consider heritage as an economic commodity and try to analyse its economic role and returns. In this framework, heritage becomes an economic "asset", since its protection and management represent "future economic benefits".

3.2.1. The contingency valuation.

This technique is a direct product of Welfare economics, a sector of economic theory dealing particularly with the provision of public services and the well being of the community. Contingency Valuation is based on a survey conducted among representatives of the target population potentially interested in a heritage element. This sample is asked about its Maximum Willingness to Pay (MWP) to secure a public service or avoid its loss or deterioration.

Applied to a heritage element, this technique enables the decision-makers to estimate the economic value the society gives to a given heritage, thus providing basic information for the cultural heritage policy to apply.

At its beginning, during the sixties, Contingency Valuation was more a theoretical tool and its first applications were geared towards the valuation of protecting natural and recreational areas. It has become nowadays used regularly by a variety of actors - from national decision makers to international organizations - and is used for all types of cultural goods, from museums collections to sites and historic cities.

3.2.2. Heritage as a commodity

The total economic value of a site can be considered to be at least equal to the total revenues its various uses generate over time, its most intangible values being impossible to calculate.

Therefore, to maximize its value as well as its return to the economy, the lifetime of a cultural site must be as long as possible since, as opposed to other "commodities", a cultural site is unique and cannot be replaced : when a tool becomes obsolete, we can buy a new one ;

there is no such thing in cultural heritage since whatever the value of, say, a building by Sir Norman Foster or Frank Lloyd Wright, never in our foreseeable future, can they replace a roman amphitheatre. They are simply different and each one is unique. The fact that any heritage site is unique and cannot be replaced gives it a special economic value.

The second limitation to this economic perspective of heritage derives from that peculiar perception and that personal relationship we have with cultural heritage. It is this perception and this relationship that tell us how much, in almost monetary terms, is our heritage worth.

This imposes upon the custodians of the site the duty to ensure its full protection, so as to enable it to last as long as possible. The site must not be consumed rapidly ; better still, it should not be consumed at all.

This extended protection has an economic return known as the "reward of waiting" or the "reward of abstinence". Instead of spending, consuming or simply destroying a heritage site, its owners – State, local community, private owner – decide to keep it. This decision could well have been taken against a possibility of high returns from a touristic or construction operation. Since heritage sites are not abundant and will never meet the exceeding and ever increasing demand - to quote Mrs Robinson – there should be property in them in order that they may be used in an effective manner. It is the scarcity of these capital goods which makes income from their property possible. How does this apply ?

Let us now consider that heritage is a commodity and that as such, it is a tool – or factor – of production. Here, Piero Sraffa, an Italian economist who taught at Trinity College and at Cambridge University provides an important contribution to the estimation of the value of a commodity such as heritage. In his major work Sraffa writes on Fixed Capital, being a durable production tool, entering annually into a production process in the same way as, say, the raw materials which are regularly consumed in the production. In this perspective, a heritage site or a cultural monument will be considered as being (a) a fixed capital and, (b) a commodity which contributes to a production process. For the sake of this presentation, the text of Sraffa will be used as a guide and either the site or the monument shall be referred to as "heritage" .

Heritage therefore is a durable production instrument which is part of the means entering yearly in a production process like any other means of production consumed in the process. At the end of the period (say, a year), what remains of the heritage used in the process will be dealt with as a portion of the joint annual product of the branch, the main output of which being the negotiable commodity which represents the main subject of the process. In our field of economics of heritage and to simplify the explanation, we can suppose that the subject of the production branch are the returns from tourism.

Let us consider for example a knitting machine which together with the thread, the energy etc. contributes to the production process. At the end of the production period under consideration – any given year, the machine has aged by one year; it has been utilised, it has become older by one year and it would then emerge at the end of the production period as a new commodity together with the socks it had produced. This implies that the same machine, at different ages, be treated as as many different products, each having its own price, its own value.

Consequently, a branch which uses a durable production instrument must be looked at as being subdivided in as many separate processes as there are years in the total life of the instrument. Every one of these processes uses an instrument of a different age and every one produces, jointly with other commodities, an instrument that is older by one year than the previous one used in the process.

In the case of heritage, sites and monuments can be assimilated to such commodities as Sraffa defines in his process, replacing the knitting machine with a heritage site. Surely enough, it produces goods, generates revenues, together with other commodities used in the process : hotels, restaurants, buildings, travel, etc.

In doing so however, exactly like the knitting machine, the site is confronted with depreciation. In economic terms, its market price will therefore change; but we do not need to sell to know its market value.

Here, we return to the notion of "option value", but with an economic, market oriented bias. We can say that the value of a site

or a monument is equivalent to the value of goods it produces.

The value of heritage is therefore equal to the sum of all the revenues its existence generates, minus the costs of its management and of the maintenance of its heritage values.

If V_t = value of site at year (t),

R_t = total revenues generated by the
existence of the site (s) in year (t),

C_t = management and maintenance costs of
site (s) in year (t),

Then

$$V_t = R_t - C_t$$

Where $R_t = R_{a,t} + \dots + R_{z,t}$

Being the sum of all the direct and indirect revenues induced by the presence and utilisation of the site, such as :

- entrance fees (tickets) and related costs,
 - sales of maps, guides, souvenirs, etc.
 - restauration, parkings, ...
 - hotels and recreational activities,
 - transportation to and from the site,

taking into consideration the fact that every one of these activities induces a variety of related economic activities in the national context.

And where

$$C_t = C_{a,t} + \dots + C_{z,t}$$

Costs ranging from the cleaning of the site, its presentation, scientific research and publications, and, depending of the fragility of the site, the direct and indirect costs of its physical maintenance and continuous rehabilitation to match the degradation caused by its utilisation.

Theoretically, if we assume that a tool such as a heritage site produces revenues with a constant, regular efficiency throughout its existence, the annual cost of its maintenance and management to cover its depreciation must be constant if we want the prices of all the units (different types of revenues) produced by this tool (heritage) to remain equal through time. This annual cost will be equal to a fixed annuity, the value of which - calculated on the basis of the general rate of return (r) - is equal to the original price of the tool (or economic value of heritage). If this direct economic value is $V_{(0)}$ and the life of the site (n) - which in the case of a physical cultural heritage should be as long as possible, the annuity will become :

$$V_{(0)} \times [r(1+r)^n]/[(1+r)^n - 1]$$

However, we had considered that the annual processes of production differ one from the other by the sheer fact that the production tool (heritage), produces at the end of every process a new tool, a new commodity, older by one year from the previous one. Its value therefore varies with its age - or better, with the number of years of its use. Therefore, year after year, more of the returns of heritage should be devoted to its protection and presentation.

Thus, if

V_{t_0} = direct use value of the site in year t_0 ,

V_{t_1} = direct use value of the site in year t_1 ,

dV_{t_1,t_0} = variation of the direct use value
between t_1 and t_0 (which can be negative),

and,

TR_{t_0} = total direct use revenues in year t_0

TR_{t_1} = total direct use revenues in year t_1

TC_{t_0} = total maintenance and presentation
costs in year t_0

TC_{t_1} = total maintenance and presentation
costs in year t_1

Then,

dV_{t_1,t_0} should be equal or higher than $[(TR_{t_1} - TR_{t_0}) - (TC_{t_1} - TC_{t_0})]$ if
the site is to retain its values.

This relationship however depends also on the type of the site and on
the amount of direct use it can absorb (among other uses, visits). A
fragile site like, for example, a prehistoric or a phoenician
archaeological site, cannot receive the same numbers of visitors and
accommodate the same types pf uses than a roman amphiteater or a
historic building. Similarly, historic cities - as it is well known -
cannot accomodate too many tourists if they are not to become
mono-economies.

These relations can be best explained in a diagramme. In the
following diagramme, the vertical axis (OY) represents the revenues
generated by the use of heritage and the horizontal axis (OX)the life
of this heritage. The (OZ) diagonal represents the fragility of the
heritage considered - fragility increases closer to (0). The isoquant
curves A, B and C represent the relationship between revenue and
duration of heritage of different fragility.

For a given level of revenue (Oy), the less fragile heritage (curve C)

will have a life duration of $(0f)$ and the most fragile a life duration of $(0d)$. For a revenue of $(0v)$, lower than $(0y)$, the life duration will increase to reach $(0x)$ for the less fragile.