UNDERSTANDING MUSEUMS
A proposal: The museum as an autopoietic System

One Friday afternoon some years ago, I was driving along the motorway from Cologne to Düsseldorf airport with my two nine-year-old daughters. I was pressed for time because we had been held up in a traffic jam and I was becoming doubtful whether we would reach the airport in time to collect my son; who was flying unaccompanied for the first time. My daughters were playing cards to relieve the boredom and repeatedly asked: "How much further is it?" To distract and entertain them more than anything else, I said: "We're about to cross the bridge spanning the valley where Neanderthal Man lived ...". "We know about him, "my daughters cried, "we've seen him in Bonn." Aha, I thought to myself, they must have had a trip to the Rheinisches Landesmuseum. They never mentioned that visit. "We're almost there, "I said. "Look to the right". And we drove across the Neanderthal bridge. But unfortunately, because I did not want to slow down and change lanes, we had to overtake a long lorry at that very moment, so we could not see the view from the bridge. "Ah here", my daughters said politely. "But all you can see here is forest". And then came one of those questions that make you realize why you love your children: "Daddy, did Neanderthal man actually live before or after Adam and Eve?"

Now I am not sure how you would have answered such a question under the stress of driving at about 70 mph in heavy motorway traffic and I will not trouble you with the inadequate reply I mumbled at the time. In any case, it brings me to the subject or, to be more precise, the topic, which is the typical starting point for all attempts analyzing museums - namely, an explanation based on the origins of Mankind. The numerous metaphors, which have been applied to Museums, are impressive proof that there is obviously an underlying universal principle which enables the museum to participate symbiotically or - perhaps more accurately - like a vampire in various other human achievements and which makes it into an almost imperial, global organization, comparable perhaps only with that of the Catholic Church.

It is impossible nowadays to give an adequate description of what makes up a museum. Because even if it is perhaps still conceivable to discover how many museums currently exist - that in itself would be a difficult task since new museums are being founded virtually every day and there is also no clear definition of just what a museum is - it would certainly be impossible to ascertain what and how everything is preserved and displayed in these museums. Just compiling a list of all these objects by category would be an enormous and virtually unfeasible task.

But even if one tried to resolve this problem *ex negativo* by asking what in fact cannot be placed in a museum, what category of objects is save from or totally immune to museum collection, one is unlikely to reach a satisfactory conclusion. For experience has taught us that anything which can be collected is the potential basis for a museum and that no one can predict what is collectable and what is actually collected.

However, the fact that it is impossible to come to grips with the concept museum externally does not mean that museums cannot be explained from an internal perspective. And this is precisely what 1 should like to try to do. My proposal for understanding museums is therefore aimed not at creating a new metaphor. It is rather an attempt to describe museums as a universal and dynamic set of functional connections that is obviously highly adaptable - but has entered a structural crisis that calls its further development into question.

So I should like to attempt firstly to describe the museum as an autopoietic, that is a self-reproducing system; secondly, in a kind of trial run, to characterize the major stages of its development; thirdly, to offer an explanation for the crisis in which museums (in

Germany) find themselves; and finally, give a hint for a direction museums might take in the future.

If one speaks of a system this automatically implies that there is something that does not belong to this system. In the General Systems Theory this is called the *environment*. But in the General Systems Theory, systems are defined according to the operational modes with which the system produces itself and distinguishes itself from this environment. So a system is created by a specific operation and this operation in turn defines the system. To put it another way: specific operations coming together create the difference between system and environment: a structure which has two aspects, an internal aspect called system and an external aspect called environment. Or to formulate the same idea in an even different way: through its own operations, a system places itself in a specific historical condition and this is precisely what distinguishes it from its environment.

What I have expressed here in the rather abstract concepts of the General Systems Theory (along the concept of Niklas Luhmann) is basically quite simple. Perhaps the best image for this theory is the snail-shell. Here we clearly have a structure from which we can recognize the operations, which have led to its development, and furthermore a structure, which becomes self-evident as it develops and in its development recalls its own history.

However, this image once again brings us to the external aspect of the museum and we have to go inside to understand its building plan. It is perhaps advisable to draw a distinction at this stage between the two elements, which apply to all museums (with certain exceptions which I shall come to later). These two elements are the *collection* and the *museum-shell* by which I do not just mean the physical building, but the entire technical, scientific and institutional apparatus. With certain specific exceptions, the collection and the shell are not identical. They are different elements, which constitute the museum as a whole and cannot replace one another; a shell without a collection is no more a museum than a collection without a shell.

The system museum thus operates with at least two elements, which interact in a certain way and are different in character. The term *shell* describes an empty, self-contained whole with a certain internal structure, whereas the term *collection* means an indefinite number of individual items that are in some way comparable or share common aspect - and even if it is merely the fact that they have been gathered together in the same location.

This distinction reveals the fundamental operation of the system museum: in terms of the Systems Theory it is a specifically defined internal space into which a number of objects sharing a common feature are brought from its environment. Now, I know that this systemic definition of the museum does not sound very appealing. But it has the advantage of providing a basis on which to raise a number of precise questions, which determine the process of electing objects for museums.

But before I formulate some of these questions, I should like to emphasize an essential idea of Systems Theory: Autopoietic, or self-reproducing does not mean that all the causes for the self-reproduction of a system are within it or arise from it. It is rather the case that the term system describes only the manner (an operation) in which a specific and more or less stable difference is created within the world. Thus, what has to be described is a set of functional connections, basically a *trivial machine* (as Heinz von Foerster would call it) that converts inputs in a determined manner into certain outputs, and in principle always in the same way.

So what are the operations, what is the set of functional connections of the system museum what is its relationship with the world and from which source does it derive its obviously powerful energy'?

I believe the latter is relatively easy to answer because it refers to a basic anthropological momentum which has always applied to all people and societies and continues to apply today: This insight into one's own limitations which develops with growing self-awareness, the fear of losing one's life, the fear of death and of being forgotten. But linked with this insight is the wish somehow to overcome the limits set to life. In short: the consciously aware person lives - whatever specific form the life may take - in a fundamental state of tension between everyday life and the awareness that this is only everyday life. He thus seeks ways and means of overcoming this mere here and now in some manner and rescuing his identity beyond life. This fundamental movement beyond everyday life, this endeavor to gain and preserve an identity can develop in two directions: as an attempt to find security in the past or to determine the future. But memory and the capacity to remember are the essential pre-requisite for both the attempt to find an anchor in the past and the attempt to determine the future.

In our culture, there are two great myths, which deal with the subject of overcoming the contingency of life. They are fundamentally different models of world experience, but both lay claim to universality: the story of Noah and his Ark and the mythical Mouseion, the place where the three or nine muses danced.

I think the story of Noah's Ark can be regarded as one of the original myths of science: Noah was instructed to take two of every species onto his ark; a comprehensive task of differentiating and stock-taking different forms of life, a task which could only be fulfilled with scientific methodology. But in this context, I see two important points in this mythical account: firstly, that the Ark is an artificially created room with an internal structure in which the whole of life is represented by two of each species, and secondly, that this story describes a material collection which is organized in a way that it can have an effect in the future. By contrast, one must imagine the Mouseion, where the Muses danced, as a relatively barren place on Mount Parnassus or some other holy mountain. As a place where capabilities and functions that are important for the development of identity meet and interact: in the shape of the Muses.

I am tempted to regard this mythical Mouseion as the origin of the "Critique of Judgment": as the place where, to borrow Kant's words, it would be possible to compare "the existing ideas against the whole wealth of ideas" and to define "the relationship between imaginations"; or to put in more modern language, as a place of aesthetic rationality with the particular ability to enhance the clarity of an idea without transforming it to a concrete concept. But however one may imagine the mythical Mouseion, it is clear that we are not talking here about a structured space, but merely a place which could theoretically be anywhere and that this place concerns a practice which, however specialized it may be in individual cases, is aimed solely at establishing identity, with no regard for science, by attempting to bring the experiences of the past into the here and now.

Now as far as I am aware, there are no reports of the Muses having danced on Noah's Ark. And if such reports did exist, I doubt that anyone would believe them. For the Ark can hardly have been more than a loud, stinking floating-stable in the form of a ship, where the Muses would never have set a foot of their own free will. On the other hand, one can hardly imagine Noah inviting the Muses onto his Ark, even if God the Father had turned two blind eyes to it. How would Noah have chosen which two of the three or nine Muses to take? But even assuming that he got carried away and did chose two, would these two have been able to reproduce the other Muses like all the other pairs could reproduce their species?

It is sufficiently plausible from just these few considerations to assume that Creation did not envisage a link between these two models of world experience, i.e. no cross-reference between past and future. Creation knows only the eternal process of birth and death, the transitoriness of life. But if that is so, one also has to recognize that neither the Gods nor God planned a connection between the sciences and the arts. Establishing a link between these two fundamentally different, even mutually exclusive principles, is rather a typical project of human beings who do not wish to accept their own mortality and, instead of bowing humbly before Creation, seek ways of extricating their lives from the passage of time. But the place where people attempt to marry what are basically two opposing elements is: the museum.

This is quite easy to see from the basic operation of the system museum. In the museum, the rhetorica1 techniques used to establish identity are related and applied to an area which owes its existence to science, that is to methods and techniques of differentiation or to put it bluntly: the establishment of non-identity. The aim of this operation is to obtain knowledge and the power that comes with knowledge, but without paying the usual price: the loss of the paradisiacal being-at-one-with-the-world-in-which-we-live. But quite the contrary: for self-affirmation and self-reassurance of one' s own cognitive abilities and greatness.

This totally naive desire to have the world as it was given to us, despite the Fall from Grace and all its consequences, is to my mind precisely where the great attraction and dynamism of the system museum lie. On the other hand, this is also the source of its enormous weakness, which unfortunately my wife of all people continually reproaches me for when she says: "You are just toying with bones".

But before I turn to this argument, I should like to attempt a more detailed description of how the system museum operates and what relation it has with the environment. My first thesis is that the relationship between the museum and the reality that it portrays in whatever manner, has an indefinite character but a fixed form. It is not founded on a scientific or methodological base but follows a rhetorical principle, the figure of *synecdoche* or *pars pro toto*, that is the putting of a narrower term for a more comprehensive one or the putting of individual parts for a whole.

The fundamental operation of the system museum therefore consists of a closed circuit which can be outlined as follows: Museum collections are created from interpretations of the reality from which their objects stem; in this sense, such interpretations precede the objects and legitimize them. On the other hand, interpretations of a reality are always developed with the aid of objects - and to this extent, collections of objects precede the interpretation. Structurally, museum collections thus have a self-evident character. They are object connections, which come about as a result of interpretations, which achieve legitimacy through the objects themselves. This circular mechanism applies at all times and in all museums. It also extends spirally into the spatial realm if further elements of this system are observed. Circularity also exists with regard to the criteria on which interpretations are based - each criterion can be developed both out of the reality from which the objects come and from the reality to which the museum belongs. It continues to exist between the objects and the collections of objects, because only those objects, which fulfill the collection criteria, are accepted into collections. But new collection criteria can quite easily be established in order to accept objects, which have so far not found their way into museums. And finally, circularity also exists between the relationship among all the contents and the shell of a museum insofar this comprises all the content but depends on them for its existence.

So the museum does indeed have the structure of a snail-shell and this above all makes it clear that we are dealing here with a living system and not with science. Science is rather a sub-operation within the system museum, but an operation which lost its

subordinate character during the Enlightenment and, by gaining 'the upper hand', made a decisive contribution to the crisis in the museum world.

But before I say a word about this historical phenomenon, I should briefly like to give a systematic portrayal of how the system museum operates in order to accept objects. This is my second thesis: the system museum can only operate with symbols. If objects are not already symbols or - to use Krzystof Pomian's terminology - *semiophores*, they be converted into such. The system museum achieves this by disarming the objects that is stripping them of their practical functions. This decisive operation is conducted by aesthetizising the objects, that is by perceiving them as objects, taking judgment rather than practical use as the measure-stick.

But the visual arts play a key role in the development of this operation. Which brings me to my third thesis: The ways of presenting world-experience and knowledge developed in the visual arts provide the techniques with which the system museum perceives and acquires objects. In other words, the forms for representing the world developed in the visual art are converted by the system museum into techniques for acquiring, distinguishing and appropriating realities and serve furthermore, at least up to the Enlightenment and again nowadays in individual cases, to establish and present the image of the world which every museum explicitly or implicitly represents.

I should now like to draw to a close. Up to the Age of Enlightenment, museums were systems in which, with the aid of rhetoric, synecdoche and pars pro toto, global images of certain communities and their achievements were established. The pyramids of the Pharaohs which embodied ancient Egyptian society; Greek and Roman temples which hoarded and displayed the stolen semiophores of conquered cultures; the Byzantine Constantinople, whose streets were apparently strewn with publicly displayed soils of war; the church-treasures of the Middle Ages with their numerous relics; St. Mark's Cathedral of the Venetian Republic, a unique agglutination of spiritual and worldly power with its corresponding insignia and spoils; finally, the treasures and miracle chambers of early modern times: they were all constellations in which the respecting connection between the preserved objects was only contingent and where structure and shell were legitimized by rhetorical figures with the following aim: to constitute and represent the identity of the respective owner and preserve it beyond the present day.

The Age of Enlightenment brought radical changes and led to the emergence of museums as we know them today. This movement, which occurred at the same time as major social change and a shift in conditions of ownership, also focused scientific attention on object collections. Consequently, the old connections between objects were broken down and restructured. This new structure had its basis outside the power struggles to which the collections owed their existence, namely in the universal and ideally power-free system of the sciences.

One can well imagine the pleasure early scientists experienced when examining the collections of the mighty, applying their new and infallible criteria to distinguish and determine what was valuable and important. But this process was the beginning of a development, the end of which I believe we have now reached. With the scientifically based reorganization of collections, the scientific system took over the museums and the old image of the world, which the traditional collections represente was distorted and subordinated to that of the sciences. In other words, when the archiving and documenting, which until hen had just been one aspect of the system museum, began to legitimize collections and took the place of rhetorical-decorative, rationally based forms of collection and presentation, a process was initiated which turned museums into dinosaurs.

The claim to scientific documentation – best illustrated by the natural history museums, which were built very early and more or less according to Noah' ark principle – led to a

lasting strengthening of the museum world and formed the basis for its enormous expansion, but could not change the basically non-scientific relationship with its environment. Science took and still takes place only inside museums in the context of collections. How certain objects or collections enter a museum has very little to do with science. As you well know, this is usually a question of money, power constellations and other more or less coincidental so-called marginal conditions. But precisely here, in the contingent relationship with reality, lies the decisive weakness of the system "museum" in its relation with the scientific world. This is also precisely where the internal dynamism of the museum has its driving force. Because museums generally administer collections which have not been put together for any specific objective motives, and scientifically based presentations of world images can only be constructed from retrospectively, they to have gladly accept any object which supplements their collection with regard to ideal scientific *canones.*

The fact the museums stand on feet of clay as scientific enterprises and interpolate more or less demanding images of the world with contingent and limited collections of objects, would probably not have become a serious problem had museums not been faced with a fierce competition from mass media, primarily television. This conflict exists mainly because the media are structurally related to museums. Their relationship with reality is also highly contingent and they also produce images of the world. But what makes them serious competitors to museums is not the fact that media treat material, which is new, topical and unattainable for museums and deliver it worldwide into people's living rooms. Their decisive lead derives rather from the fact that they create plausible connections with rhetorical figures from their material. They need no further legitimization for this since they operate with technically generate images and data which, unlike everything museums work with, stem from a system – the system of image-generating procedures - which has a scientific basis as an "objective" reproduction of reality.

This thought brings me to my main thesis: If museums continue to be run as in the past, we shall have a gigantic redevelopment task on our hands in the foreseeable future. But the most noticeable phenomenon for this development lies in the hypertrophic, theoretically unlimited growth of the museum-business, the causes of which I have attempted to outline in this paper. Its sign is the claim to a scientific base with which museums justify their existence but which at the same time prevents them from entering into a debate with the media and the trivial images of the world they disseminate. In short, I believe museums must draw the conclusions from their rhetorical scientific structure and find the courage to argue with the knowledge stored within them and to take a position on what we make out of the world. This means that the rhetorical character of museums cannot remain hidden any longer, but must be employed actively to spread information. This is the only way museums and well-founded knowledge stand any chance against the stodgy diet of images we are fed daily by the media. And this is the only way to utilize the considerable strength of museums, which consists in us not having merely pictures of bones, but the bones themselves.

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