

Reconceptualizing museum communication: a call for media studies

Mariko Murata*

1. Background

This paper discusses the significance of considering media studies in museum communication. Museum studies had long been a discipline mainly dealing with curatorial work such as the classification, the collection, and the conservation of objects. Exhibiting was a secondary matter, not to mention that communicating with visitors was of little interest to them. However, in the 1960s, things started to change. Over the years, museums began to consider education a crucial part of museum studies, and in fact now define themselves as 'learning institutions', which serve the public and offer informal learning. It is this identity as a learning institution that encouraged the study of visitors.

The topic of visitor studies arose in the beginning of the 20th century, but had to wait for half a century to start developing into a field. Since its drastic growth in the 1970s, the field has been recognized as the tool to enhance museum communication. This field, which deals with how the visitors behave, react, or learn in museums, basically applies survey-based methodologies grounded on learning theories.

Before visitor studies came into being, museums studies hardly dealt with issues on communication nor visitors. Therefore, the growth of this discipline in itself was a major step forward. However, although the study has the potential to improve communication and to solve existing issues to a certain extent, it lacks an important perspective: a holistic approach which considers museums within the social context.

Visitors' experiences cannot be judged by learning theories alone, nor by surveying them only on-site.

On the other hand, the topic of communication theories appeared in papers on

*Graduate School of Interdisciplinary Information Studies, The University of Tokyo

Keywords : Museums, Communication, Visitor studies, Media studies

museums from time to time. These papers attempted to apply communication theories in order to explain the relation among the museums and the visitors. This trend has two stages. The initial papers attempted to apply the mass communication theories of that time but the debate died out instantly. In the 1990s the topic was resurrected, this time as an alternative to visitor studies.

The two areas, visitor studies and museum communication theories, sometimes co-existing and sometimes functioning as counters, are the only areas in which museums studies deal with communication. The significance here is that media studies is discussed with close relevance to the practical issues which are intrinsic to museums. When researchers in sociology or media studies talk about museums and their historical, social and political functions, they tend to be highly -abstract and heavily-theoretical so that the museum professionals feel the arguments to be inadaptably to museum practice. It is thus essential to have the argument of museum communication within the museum context.

On the other hand, neither of the studies reflect the complex power system which affects the museum, and do not fully cover the reality of museum communication. Besides the fact that museums offer interaction between objects and people, and among people, they belong to the intricate web of social, political and economical powers.

This paper attempts to clarify and discuss the state of argument of museum communication by critically examining these disciplines and their relations. In doing so it mainly deals with the traditional models of media studies which the museum field has mostly adopted. The first task is to briefly go over the history of visitor studies and point out some of the derivative issues. It will then introduce and analyze some of the papers which tried to adopt communication theories within the museum context. The state of these arguments will then be put together into a simple diagram, which will highlight what the studies have covered and uncovered. Eventually, the point is made clear that media studies are crucial to the whole museum practice.

2. Visitor studies as a communication enhancement tool

The study on visitors which appeared in the beginning of the 20th century developed drastically after the 1970s, seeking ways for better communication among museums and visitors. The study focuses on understanding the visitors' needs and their ways of communicating within the museum, and to improve the museum environment.

Visitor studies and its survey-based methodologies could be explained as something quite equivalent to the audience research of mass media. It aims to observe what the visitors do in a museum, what they are thinking, how they are learning, and their degree of satisfaction. The methods used vary from tracking, timing, interviews, questionnaires, focus groups, observations, and other survey methods. Chandler Screven defines visitor studies as 'the systematic study of visitors to museums and other public educational settings and how content, design, and other features in these settings affect changes in a visitor's knowledge, attitudes, involvement level and understanding' (Screven,1999).

Since its first paper in 1916¹, visitor studies has established various methods applied from different disciplines². They include the tracking and timing of Edward Robinson and Arthur Melton, the qualitative method of Alma Wittlin, and the naturalistic evaluation method of Robert Wolf & B.L Tymitz³. Robinson and Melton, psychologists of Yale University, were the first to carry out systematic and quantitative surveys. They attempted to define the visitors' interests by tracking and recording their behavior, and are thus called behaviorists. On the contrary, Alma Wittlin proposed a more qualitative method such as interviews and questionnaires. Her methods are eventually expanded by Robert Wolf, who proposed a naturalistic evaluation method based on anthropology.

The current major methods of visitor studies are those adopted from educational evaluation by Harris Shettel and Chandler Screven during the 1970s. Shettel claimed that the early evaluation methods⁴ lacked in objectivity and cohesiveness (Shettel, 1968). Screven applied the educational evaluation that used experimental measuring methods and made a categorization of four evaluations: front-end evaluation, formative evaluation, summative evaluation, and remedial evaluation (Screven, 1976).

Front-end evaluation aims to know the user's interest and degree of knowledge in certain areas before planning the concrete exhibit or program. It usually takes the form of an interview of the visitors. Formative evaluation is carried out during the stage of developing an exhibit (program). It uses a mock-up to check if the designed object or system functions well. Summative evaluation is performed after the exhibit is finished and open to public (or after the program is over). It examines the effect through surveys such as tracking, timing, observations, interviews, questionnaires, etc. Finally, remedial evaluation is carried out with the purpose of modifying the present exhibit or program. Remedial evaluation is sometimes not distinguished from

summative evaluation.

The trigger for the adoption of educational evaluation was the Elementary and Secondary Act launched by President Johnson which claimed all educational programs (including museum programs) to be evaluated from a social point of view (Hein,1998). It was mandatory for all the organizations that received financial aid from the country to assign 5-10% of the budget for evaluation and to prove the validity of the programs. The act has encouraged the whole American society to develop new ways of evaluation, not to mention the museums. This is how the four evaluations developed during this period, and influenced the way the subsequent visitor studies turned out.

The educational evaluation-based theory was clear and realistic, and it encouraged museums to carry the plan out. Furthermore, these evaluation methods were effective to acquire the federal funding. However, it is also an undeniable fact that these methods that developed for grant acquisition have become the trigger to narrow the area of visitor studies. Although front-end and formative evaluation are methods that were newly applied in the 70s, summative and remedial evaluation are concepts which have unified all existing methods into one framework i.e., evaluations carried out after exhibit or program completion. This means that the practice of four evaluations is a concept that has integrated all traditional methods into a single time-axis according to when the evaluation was performed. Such framework of arranging all evaluation in a single timeline automatically narrows the covered area of visitor studies and consequently, several fundamental problems have derived from the situation.

First of all, only methodology (how to evaluate) is of topic, and the area (what should be evaluated) has hardly been discussed. Secondly, visitor studies has heavily concentrated on exhibits while there is much more to it. Of course the exhibit plays the most important role in the relation between museums and visitors. All the same, we do need to point out that a great portion of research performed as visitor studies is exhibit evaluation.

Since the current evaluations tend to concentrate on exhibit evaluations, they only examine the visitors when they are actually on-site. However, if visitor studies is aimed at finding out about visitors, evaluations must consider not only the inside of museums but also the social environment that surrounds the museum. It must take into account the broader and holistic communication of the museum and the visitors⁵. Although now museums have started to consider themselves to be more comprehensive, this tendency is still strong.

It was not until recently that visitor studies began to show a sign of change. In the 90s museums had finally started to question the conventional surveys using experiments and scientific techniques and began to realize that other viewpoints were necessary when researching the visitor. The study started taking in various research domains such as anthropology, sociology, psychology, pedagogy, and media studies. Although this process is still fragmentary and lack in concrete methodology, it can be called a sign of an important change.

However, besides the fact that visitor studies has yet to be improved, the field itself is not enough to cover all museum communication. In other words, although visitor studies is an effective tool to enhance communication to some extent when designed properly, doing visitor studies alone does not solve the whole communication issue. This is because museums are institutions composed of multiple elements in society and are directly affected by them.

In fact, the above problems with visitor studies are themselves the result of such social structure. The system of the federal funding has made evaluation results to be quantitative, over-simplified, and ignorant of the real issues the museums carry. Randi Korn states that evaluation is strongly embedded in the political and the social forces of the institution. (Korn,1993) Evaluations became the institutions' major concern, and the budget, the staff, the direction and all other aspects of museums were influenced strongly by them.

This is why we need to carefully consider about media studies when seriously thinking about the museums' future. The next chapter introduces some of those rare papers which discuss the possibility of museum communication theories. In her book 'Museum and their Visitors', Eilean Hooper-Greenhill has revisited and introduced some of the initial papers dealing with museum communication process(Hooper-Greenhill, 1994). The argument here is based on these papers.

3. Museum Communication Theories

3.1 Application of communication theories to museums

The initial and brief application of communication theories to museums was a feature of the 1960s. At that time, the trend was to refer to McLuhan, or to explain everything using communication related jargon, and this prompted the short debate.

Here, I would like to go over some of the papers that could be called the seeds of the discussion.

The term 'communication' appeared frequently in papers of the 1960s. For example, Stephan F. De Borhegyi described the exhibits of science museums as visual communication, and compared it with university lectures (DeBorhegyi, 1963). Alma Wittlin described exhibits to be means of communication and analyzed the risk of being misinterpreted from a biological and cultural point of view (Wittlin, 1968&1971). Weiss, R.S and Boutourline, S.Jr conducted a simple visitor survey, and stated that 'effective communication of knowledge' in a museum was very difficult (Weiss and Boutourline, 1963).

The idea that exhibits were communication media was already popular, and numerous exhibit evaluations were conveyed under the pretext of measuring communication effectiveness.

Duncan Cameron was the first person to apply the mass communication model systematically inside museums (Hooper-Greenhill, 1994). Cameron described that in the primary system of the museum, the exhibitors are the transmitters which encode the messages, the real things(exhibit) are the media, and the visitors are the receivers who decode the messages (Cameron, 1968). He also mentioned the effectiveness of feedback loops where the decoded message can be fed back to the exhibitors and compared to its intended message.

According to Cameron, while a professional exhibitor can decode the intended message implemented in the exhibit, the museum visitors basically cannot because they do not share the specialized knowledge. This statement arises under the assumption that the encoded message is the 'correct' answer and that it should be decoded 'properly'. The assumption is due to the trend of mass communication theory at that time (with a bit of time lag for adoption) rather than Cameron's viewpoint alone. The term 'encode-decode' used by Cameron only suggests that of electric signals and does not imply the diversity of the receiver.

Here, the exhibits are the only means by which communication is relayed. The museum was not yet considered as a holistic institution. Eugene Knez and Gilbert Wright also discussed the matter based on Cameron's idea (Knez and Wright, 1970).

Roger Miles extended this communication system to the process of producing the exhibit, where other activities of the museum interfere (Hooper-Greenhill, 1994). He called the museum to be a 'disabling system' (Miles, 1985) by visualizing the exhibit

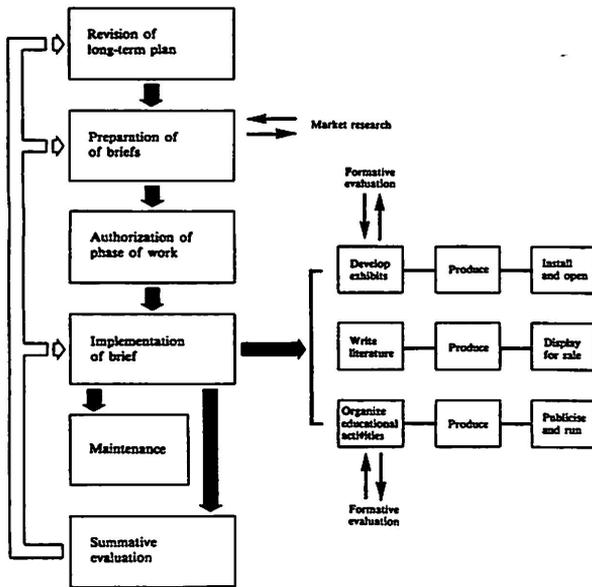


Fig.1 the new model proposed by Miles

process using a linear communication model. According to Miles, in the current museum system, the informational flow is one-way traffic and feedback is impossible. Instead, he proposed a new model (Fig1) saying that by incorporating feedback loops, evaluations, and other activities inside the model, the information is designed to flow in all directions.

These papers which dealt with museum communication theories did not develop into

further discussion. With some time lag likely to occur when adopting something from a different discipline, the bullet theory or hypodermic injection model was applied as the communication theory. When interpreting this theory in a museum context, it meant that by making a 'perfect' exhibit, the museum could convey the same intended message to the visitors. Although this assumption was relatively close to what the museum professionals those days were thinking, the model had worn out before the discussion developed and could not convince them of its significance. In other words, the problem was two-fold. On the one hand, the mass communication model was already out of date by the time it went into practice, but on the other hand, the museums themselves were also lagging behind in the field of communication. So what could have been a problem, need not necessarily have been one.

It was partially because of this dual time-lag that it took some time for museums to learn the fact that each visitors came to the museum with their own 'agenda' (Falk, 1996), and reacted differently and individually. Moreover, they began to realize that museums were not just exhibits and concluded that a museum could not be explained by applying such communication models after all.

3.2 reassessment of the communication theories

In the 1990s, when museum studies began to diversify and visitor studies has developed as much as was possible given its history, the spotlight fell once more on the as yet embryonic study of museum communication theories. The study was reassessed, particularly in Europe, with regards to the effectiveness of visitor studies.

At this time, the theory of reception was employed in order to reform the bullet theory. For example, Sandra Bicknell applied the sender-receiver model into her goal-oriented approach and goal-free approach to evaluation and utilizes them in her own exhibit evaluations (Bicknell, 1995). In the goal-oriented approach, there are three messages: 'A' dispatched by exhibitors, 'B' transmitted by media and 'C' interpreted by visitors. Here the important point is that the message does not transmit identically like electric signals but they change while being conveyed. According to Bicknell, evaluation is the method to compare these differences. The goal-free approach is basically the same as the goal-oriented but does not have a goal to be achieved and thus message 'C' is open-ended. These Bicknell models basically modify that of Cameron's model which was based on the bullet theory, and to such an extent, his evaluation models have integrated the viewpoint of media studies.

However, most of the time, perspectives on media studies are offered as a tool to criticize visitor studies. Bernhard Graf, who did a research project in the Deutsches Museum in Munich claimed that several educational theories and approaches transferred to the museum by curators and designers between 1960 to 1980 did not work because they did not assume the mass-media manner of visitors (Graf, 1994). Heiner Treinen who worked with Graf on this research stated that the behavior of visitors resembled that of receivers of other mass media and that visitor studies are unable to cover this issue (Treinen, 1993). He pointed out that the museum visitors are in the state of 'active dozing'(an active movement of non-purpose, which does not lead to problem solving nor a realistic future plan) and 'cultural window shopping'(the act of wandering back and forth). In such conditions, they do not learn anything new from the environment and thus what they experienced did not equate with what they learned, despite the behaviorists' theory.

Furthermore, Lauro Zavala emphasized that current museum studies lacked the viewpoint of the theory of reception and cultural studies (Zavala, 1993). He criticized

formative evaluation and other administrative evaluations saying they only concentrate on the targeted visitors. He argued that the exhibiting side was incorporated into the web of complex relations of symbolic power and was not determined by the expectations of visitors nor cultural appetites, and therefore the current visitor studies tools were insufficient to analyze those frameworks.

In the 1990s, perspectives on media studies were drawn mainly for the purpose of criticizing visitor studies. In other words, the trend that had once faded away reappeared as an alternative or a counter to visitor studies. This positionality has been achieved due to the development of the field of visitor studies. Back in the 1960s, when visitor studies was still in development, it was impossible for the area of media studies to continue. Their relationship as counters are effective in that while criticizing or being criticized on the surface, they co-exist and depend on each other. That is to say, in the field of museum studies, these two areas are the only areas dealing with communication, and since both are important areas to cover museum communication, the co-existence is essential to the further development of both areas. Though the papers which talk about the necessity of media studies are still only a small portion, these areas will probably become more and more important in the future.

On the other hand, some papers have adopted the viewpoint of media studies without being so essential or direct, and thus have been well received by museum professionals. The way they exploit the perspective is not immediate, but we recognize the apparent effect.

Hooper-Greenhill argued that museum communication could not be defined by exhibits alone but was an integration of all museum elements (Hooper-Greenhill, 1994). She proposed a 'holistic approach to museum communication' (Fig 2) and avoided using a linear model. In her diagram, she described that the experience of the museum is made up of multiple museum aspects such as museum buildings, facilities, shops, the attitude of staffs, the educational programs, etc and that communication policy should be reflected in all stages. Here, the museum communication has managed to step out of the narrow domain of exhibits.

While Hooper-Greenhill expanded museum communication from the museum inside, John Falk and Lynn Dierking proposed perspective from the visitor's side by introducing a concept that blends many disciplines including media studies, cognitive science, psychology and anthropology.

In 1996, Falk and Dierking proposed 'the interactive experience model' which

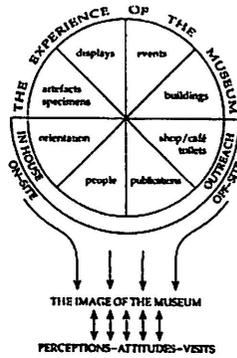


Figure 1.3 The entire experience of the museum contributes to the image of the museum. The image of the museum affects the perceptions and attitudes of people, and will affect whether or not they decide to visit the museum

Fig.2 a holistic approach to museum communication by Hooper-Greenhill

attempted to explain the visitor's visit by their personal, social, and physical context (Falk&Dierling, 1996). They argued that all visitors came to the museum with their unique personal, social, and physical context; in turn, the unique experience of the visitor is generated through the complexity of these three contexts. A very significant point is that they have made clear that communication depends not only on the exhibits alone as was previously thought but also depends on what the visitor chooses to see. They also offered a perspective of 'museum experience' which considered a lot more than just the actual time spent within the museum: to them the museum experience started the moment they decide to go to museums and continued at least until they reached home.

4. the countenance of museum communication

It is important to recognize that these arguments, which may seem too narrow a perspective to sociologists and media researchers, are significant in that they attempt to adapt and discuss the communication theories based on museum practice. To map out what these papers have covered and have not yet covered, I have put these theories together into a single diagram (Fig.3). The data assembled in the diagram clarifies the current state of argument.

Let us explain the model from the very core i.e., the exhibit. In an exhibit, museum professionals now know that the messages sent are not necessarily what the visitors receive. This was not only pointed out by adopting communication theories but was something the visitor studies revealed. Furthermore, the visitors interpret the exhibit

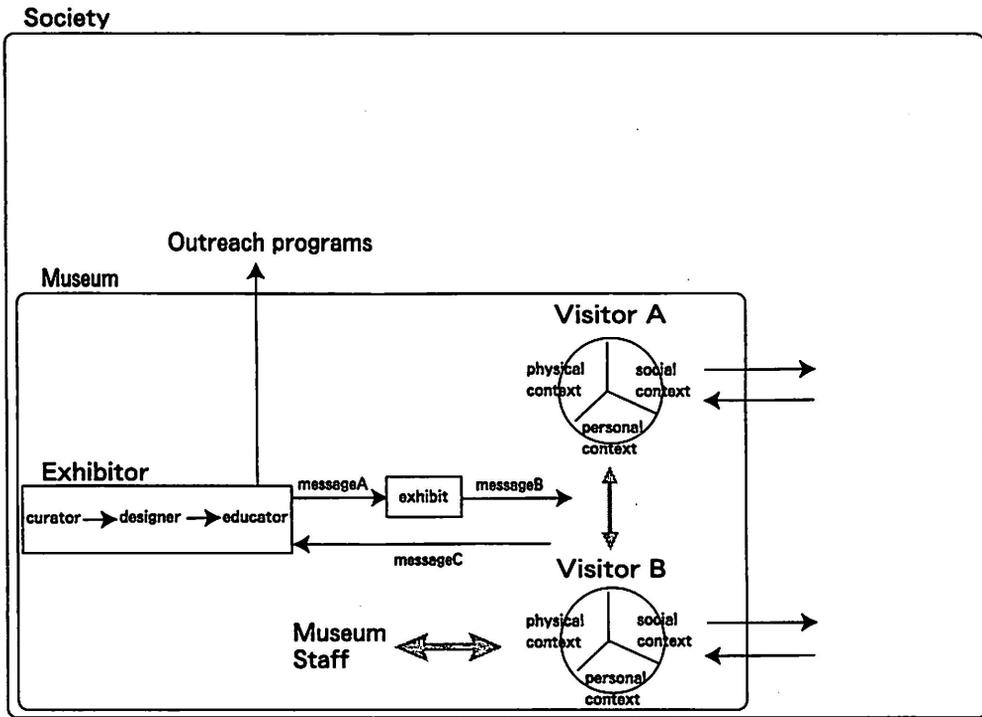


Fig.3 a diagram illustrating the current state of argument on museum communication

not in a passive way but in an active way according to each individual's unique circumstances and personality. While the traditional sender-receiver model with the arrows pointing one way has worn out since Stuart Hall proposed the encoding-decoding model, I will use this type of model to simplify the diagram. The 'interactive experience model' of John Falk and Lynn Dierking distinguishes it from the traditional model.

Another point is that exhibits do not always deliver the impact to visitors. There are visitors who do not receive the conveyed message to any extent. This is due to the visitors' manner of 'active dozing' and 'cultural window shopping', according to Treinen. Such discommunication or indifference is also a part of museum communication. If this is the case, the assumption of visitor studies that visitors always 'learn in museums' must be challenged.

Although abbreviated in this diagram for simplification, the communication between visitors and staff in exhibit halls or restaurants form the flow of information. These are what Hooper-Greenhill called the natural communication (Hooper-Greenhill, 1994). She stated that museums were places where mass communication (messages are

conveyed directly) and natural communication (messages are conveyed indirectly) cross and are woven together. However, we must bare in mind that a museum fundamentally assumes the style of mass communication and itself cannot be changed, no matter how interactive the exhibits get. Exhibitors(senders) are not actually present when the visitors (audience) receive or interpret the message. So their input effectively ends once the exhibit has been set up. Whether it be a traditional exhibit or a hands-on exhibit in a science museum, the fact that the exhibits are already there and unable to be modified by the visitors does not change. So the reason natural communication is crucial is because it becomes an important supplement to the style of mass communication. The natural communication which exists between friends, staff and other visitors contributes greatly to the visitors' experience and none of these factors should be absent. Needless to say workshops and outreach programs play an important part in these matters.

This diagram outlines simply the current state of the argument in museum communication. It illustrates for us a very fundamental issue of both studies: that the discussion is confined to a very small area purely inside the museum and does not take into account the broader perspective of society.

When modeling the communication processes, the information flow inside the museum could be conceptualized quite accurately. These are what the areas of museum communication have achieved so far. On the other hand, the flow of information which connect the inside and the outside are very vague (so that it cannot be visualized), and once the flow goes out of the museum, we cannot specify how it is relayed to the indirect audience. This disparity of information flow well documents the current situation of museums, and it is their future task to bridge the disparity. For as we have seen, visitor studies alone cannot solve these issues, and media studies are still a tool to criticize visitor studies and have not yet shown a concrete alternative.

5. A call for media studies

Researchers from disciplines such as sociology or media studies have been pointing out the museums' historical, social, and political functions and have argued their ideologies in many ways. For example, Roger Silverstone discussed the museum's function of decontextualizing objects by display with regards to other modern media.

(Silverstone, 1988 and 1994)

'Television and exhibition design share at least this: that the communication which they are both engaged in is a complex process of meaning construction which involves the interdependence of producer, text, and receiver in a collective enterprise, one which is not (in the last analysis) complete until the visitor or the viewer has finally left all memory behind.

Such a focus also requires that we see the museum and television as sharing a contemporary culture discourse: one that involves mechanisms of rhetoric and narrative in an essentially broadcast appeal.' ⁶

Here, Silverstone tried to demonstrate how museum communication is no exception to the communication process of electronic mediated culture of today. His viewpoint of treating the museums just like any other media is important and full of inspiring suggestions in explaining the museum function. However, these kinds of arguments do not help museum professionals to improve their everyday practice. Despite the significant implications their viewpoints offer, museum professionals feel they are highly-theoretical and too conceptual for museum practice.

This is because museums are satisfied in identifying themselves 'educational institutions' closed in their own term. To this extent, they have concentrated on education and have adopted many theories on learning. However, when considering the issues we have seen above, the museum's self-identity as a 'learning institution' answers only half of what the museum actually is. Museums are organizations embedded in society and they are automatically given a political role inside the system. This means that museums do not stand alone, and the countenance of a museum is the result of its position. How they were founded, how they obtain grants, how they advertise, how they attract visitors, how people perceive the museum.....all these factors affect the museum institution, and this is what actually 'institutes' the museum, rather than how they define themselves. In short, no factors of the museum can escape the social effect surrounding the museum.

This of course applies to exhibits, which have been the museums main focus all these years. Museum professionals tend to interpret that if we apply the idea of the theory of reception and audience ethnography to museum communication, then the visitors are decoding the exhibit not in a passive way but in an active way according to

each individual's unique circumstances and personality. However, the activeness of the audience alone does not answer the question of how an exhibit is interpreted. On the contrary, the individual interpretation cannot be free of dominant discourses surrounding them in a discursive manner, as Silverstone points out. So the sender-receiver model mapped in the diagram, in reality, cannot be described as such a rigid model because the process subsumes multiple power systems intervening in so many unobtrusive ways. As a result the museum itself is a device incorporated inside the whole power system. These points ought to be taken into consideration when dealing with other museums programs and activities as well.

6. Conclusion

This paper was aimed at clarifying the current state of museum communication through critical analysis of each related area. In the museum field, the field of visitor studies has been playing the major role in communication. However, this field which developed by adopting educational evaluations grounded on school-learning theories does not cover the viewpoint of museum being a social institution. On the other hand, the area of communication theories or media studies in museums are relatively small, and such perspective has hardly been considered by museum professionals. Furthermore, both areas are not comprehensive enough to cover all museum communication.

Another factor in the argument was the realm of media studies or communication studies, which museum professionals assume too conceptual and abstract. It was this paper's intention to emphasize the necessity of bridging these gaps to some extent, and to consider media communication theories effective for museum professionals.

The theories introduced in this paper all come from the traditional media studies and therefore do not cover varied works of recent years. A wide range of studies remain untouched, and it is a future task to examine those recent theories which could be closely-related and useful for the museum field. Having a media studies point of view must be seen as inevitable when designing exhibits, undertaking visitor surveys, marketing, or managing museums. In fact, the perspective affects every single aspect of museum procedures and therein it is the key to defining future museum communication.

Notes

1. Gilman, Benjamin I. (1916). Museum Fatigue. *Scientific Monthly* 2(1), 62-74. Hein introduced an earlier paper of 1884 published in England: Higgins, Henry.H (1884). Museums of Natural History. *Proceedings of the Literary and Philosophical Society of Liverpool*, 183-221.
2. For major papers on visitor studies, see Screven, Chandler.G (Ed) (1999). *Visitor Studies Bibliography and Abstracts Fourth Edition 1999*. Screven & Associates. This book introduces about 1000 papers selected from 7000 sources. For history, see Hein,George E.(1998) *Learning in the Museum*, Routledge
3. Melton, Arthur .W (1933). Studies of Installation at the Pennsylvania Museum of Art. *Museum News* 10(16), 5-8.
Melton, Arthur .W (1936). Distribution of Attention in Galleries in A Museum of Science and industry, *Museum News* 14(3), 5-8.
Melton, Arthur W.(1935) *Problems of Installation in Museum of Art*, American Assosiation of Museums.
Wittlin, Alma S.(1949) *The Museum: its history and its tasks in education*, Routledge and Kegan Paul Limited
Wittlin, Alma S.(1968) Exhibits: Interpretive, Under-interpretive, Misinterpretive: Absolutes and Relative Absolutes in Exhibit Techniques. *Museums and Education* 95-114.
Wittlin, Alma S.(1971) Hazards of Communication by Exhibits. *Curator: The Museum Journal* 14(2), 138-150.
Wolf, Robert L.(1980) A Naturalisitic View of Evaluation, *Museum News* 58(6) 39-45.
4. While the term visitor studies often refers to the whole field, individual studies or cases tend to be called evaluations. There are other definitions which distinguish them by whether the case is a research or not, but there is no absolute definition.
5. Some visitor studies are done by taking interviews on streets or by accompanying a visiting family through the whole process of museum visiting.
6. Silverstone, Roger (1988) Museums and the Media: A Theoretical and Methodological Exploration. *The International Journal of Management and Curatorship* 7, 232.

References

- Alt, M. (1977) Evaluating Didactic Exhibits: A Critical Look at Shettel's Work. *Curator: The Museum Journal* 20(3), 241-258.
- Ambrose, Timothy & Paine, Crispin (1993) *Museum Basics*, ICOM and Routledge
- Bicknell, Sandra (1995) Here to help: evaluation and effectiveness. *Museum, Media, Message*, Routledge
- Bicknell, Sandra & Farmelo, Graham (Ed) (1993) *Museum visitor studies in the 90s*, Science Museum
- Borghegy, S.F. De (1963) Visual Communication in the Science Museum. *Curator: The Museum Journal* 6(1), 45-57.
- Borghegy, Stephan F. de (1965) Testing of Audience Reaction to Museum Exhibits. *Curator: The Museum Journal* 8(1), 86-93.
- Borun, Minda et al. (Ed) (1999) *Introduction to Museum Evaluation*. American Association of Museums
- Cameron, D.F. & Abbey, D.S (1960) Visits Versus Visitors: an Analysis. *Museum News* 39(3), 34-35.
- Cameron, Duncan F. (1971) The Museum, a Temple or the Forum. *Curator: The Museum Journal* 8(1), 11-24.
- Cameron, Duncan F. (1968) A Viewpoint: The Museum as a Communication System and Implications for Museum Education. *Curator: The Museum Journal* 6(1), 33-40.
- Falk, John H. & Dierking, Lynn D (1992) *The Museum Experience*, Whalesback Books
- Falk, John H. (1998) Visitors: Who Does, Who Doesn't and Why - Towards a better understanding of why people go to museums. *Museum News* 77(2), 39-43.
- Falk, John H. & Dierking, Lynn D. (2000) *Learning from Museums: Visitor Experiences and the Making of Meaning*. Altamira Press.
- Gilman, Benjamin I. (1916) Museum Fatigue. *Scientific Monthly* 2(1), 62-74.
- Goldberg, Nita (1933) Experiments in Museum Teaching, *Museum News* 10(15), 6-8.
- Graf, Bernhard (1994) Visitor studies in Germany: methods and examples. *Towards the Museum of the Future: New European Perspectives*, 75-80 Routledge
- Hein, George E. (1998) *Learning in the Museum*, Routledge
- Higgins, Henry H (1884) Museums of Natural History. *Proceedings of the Literary and Philosophical Society of Liverpool*, 183-221
- Hooper-Greenhill, Eileen (1983) Some Basic Principles and Issues Relating to Museum Education, *Museums Journal* 83 (2/3), 127-130.
- Hooper-Greenhill, Eileen (1991) *Museum and Gallery Education*, Leicester University Press

- Hooper-Greenhill, Eilean (1994) *Museum and their Visitors*, Routledge
- Hooper-Greenhill, Eilean(Ed)(1995) *Museum, Media, Message*, Routledge
- Kaplan, Flora E.S. (1995) Exhibitions as communicative media. *Museum, Media, Message*, 37-58.
Routledge
- Knez,Eugene I.&Wright, Gilbert A. (1970) The Museum as a Communication System: An Assessment of Cameron's Viewpoint. *Curator: The Museum Journal* 8(3), 204-212.
- Korn,Randi (1993) Critical Reflections. *Curator: The Museum Journal* 36(4), 251-255.
- Lawrence,Ghislaine (1993) Remebering rats, considering culture: perspectives on museum evaluation. *Museum visitor studies in the 90s*, 117-123. Science Museum
- Marris,Paul&Thornham,Sue (2000) *Media Studies: A Reader(2nd edition)*, New York University Press
- McManus,PauletteM (1989) Oh, Yes, They Do: How Museum Visitors Read Labels and Interact with Exhibit Texts. *Curator: The Museum Journal* 32(3), 174-189.
- Melton,Arthur.W (1933) Studies of Installation at the Pennsylvania Museum of Art. *Museum News* 10(16), 5-8.
- Melton,Arthur.W (1936) Distribution of Attention in Galleries in A Museum of Science and industry, *Museum News* 14(3), 5-8.
- Melton, Arthur W. (1935) *Problems of Installation in Museum of Art*. American Assosiation of Museums
- Miles,Roger.S.&Alt, M.B (1979) British Museum(Natural History): a new approach to the visiting public, *Museums Journal* 78(4), 158-162.
- Miles,Rogers (1985) Exhibitions: Management for a Change, *The Management of Change in Museums*, 31-34 National Maritime Museum
- Miles, Rogers (1993) Grasping the greased pig: evaluation of educational exhibits. *Museum visitor studies in the 90s*, 24-33. Science Museum
- Miles,Roger&Zavala,Lauro(Ed) (1994) *Towards the Museum of the Future: New European Perspectives*, Routledge
- Munley, Mary Ellen (1986) Asking the Right Questions:Evaluation and the Museum Mission , *Museum News* 64(3), 18-23.
- Munley, Mary Ellen (1987) Intentions and Accomplishments: Principles of Museum Evaluation Research. *Past Meets Present*, Smithsonian Institution Press
- Nichols,K.Susan(compiler)&Adams,Roxana(series editor)(1999) *Visitor Surveys: A User's Manual*, American Assosiation of Museums
- Norton, Mary Beth (1994) *A People and a nation: A History of the United States*, Houghston Mifflin Company

- Powell, L.H (1934) Evaluating Public Interest in Museum Rooms. *Museum News* 11(15), 7.
- Robinson, Edward.S (1930) Psychological Problems of the Science Museum, *Museum News* 8(5), 10-11.
- Robinson, Edward.S (1933) Experimental Education in the Museum-a perspective. *Museum News* 10(16), 6-8.
- Screven,Chandler.G (1975) Effectiveness of Guidance Devices on Visitor Learning, *Curator: The Museum Journal* 18(3), 219-243.
- Screven,Chandler.G (1976) Exhibit Evaluation- A Goal Referenced Approach. *Curator: The Museum Journal* 19(4), 271-290.
- Screven,Chandler.G (1986) Exhibitions and Information Centers: Some Principles and Approaches. *Curator: The Museum Journal* 29(2), 109-137.
- Screven,Chandler.G(Ed)(1999) *Visitor Studies Bibliography and Abstracts Fourth Edition 1999*, Screven & Associates
- Scriven,Michael (1991) *Evaluation Thesaurus Fourth Edition*, Sage Publications
- Shettel,Harris (1994) Some Critical Reflections on "Critical Reflections", *Curator: The Museum Journal* 37(2), 78-81
- Shettel, Harris (1978) A Critical Look at a Critical Look: A Response to Alt's Critique of Shettel's Work, *Curator: The Museum Journal* 21(4), 329-345.
- Shettel, Harris (1968) An Evaluation of Existing Criteria for Judging the Quality of Science Exhibits. *Curator: The Museum Journal* 11(2),137-153.
- Shettel,Harris (1973) Exhibits:Art Form or Educational Medium? *Museum News* 51(2), 32-41.
- Silverstone, Roger (1988) Museums and the Media: A Theoretical and Methodological Exploration. *The International Journal of Management and Curatorship* 7, 231-241.
- Silverstone, Roger (1994) The museum is the medium: on objects and logics in times and spaces. *Towards the Museum of the Future: New European Perspectives*, Routledge
- Treinen, Heiner (1993) What does the visitor want from a museum? Mass-media aspects of museology. *Museum visitor studies in the 90s*, 86-93. Science Museum
- Weiss,R.S&Boutourline,S.Jr. (1963) The Communication Value of Exhibits. *Museum News* 42(3), 23-27.
- Wittlin,AlmaS.(1949) *The Museum: its history and its tasks in education*, Routledge and Kegan Paul Limited
- Wittlin,AlmaS.(1968) Exhibits: Interpretive, Under-interpretive, Misinterpretive: Absolutes and Relative Absolutes in Exhibit Techniques. *Museums and Education* 95-114.
- Wittlin, Alma S.(1971) Hazards of Communication by Exhibits. *Curator: The Museum Journal* 14(2),

138-150.

Wolf, Robert L.(1980) A Naturalistic View of Evaluation, *Museum News* 58(6), 39-45.

Zahava,DoeringD.(1999) Strangers, Guest, or Clients? Visitor Experiences in Museums, *Curator: The Museum Journal* 42(4), 74-87.

Zavala, Lauro (1993) Towards a theory of museum reception, *Museum visitor studies in the 90s*, 82-85. Science Museum