

Cyber Archaeology and Preservation of Cultural Heritage - Emerging Trends in Archaeological Research

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Abstract: This paper examines the new & emerging trends of historical research called popularly as cyber archaeology and focuses on the issues relating to promotion of historical research through creation of big data base with digital support systems. Cyber archaeology supports huge data base in opposition to conventional data processing techniques which are not only insufficient but also out dated. The archeological survey of India is conserving over 3,600 monuments one lakh rare books drawings manuscripts etc but there have been several shortcomings in the process of conservations. Central Audit report reported that out of 1538 structures surveyed 81 are missing. In this context modern digital technology help to reinvent the historical past and such modern digital tool is Big data. This is a huge data base where data is analyzed assessed to unveil known correlations and patterns in historical research. Mathematical and statistical models are applied to find trends. archeology study needs to power the fruits of human progress in the field of technology for better insights into complex problems drastically improving chances of resolution so that cultural and historical heritage may live longer.

Keywords: Cyber archaeology, emerging trends, archaeological research

I. Introduction

Indian history reflects cultural plurality and this plurality has provided multi disciplinary approach to study and conservation of historical artifacts. Archeological survey of India is committed to protect and conserve these monuments. Cyber archaeology supports huge data base in opposition to conventional data processing techniques which are not only insufficient but also out dated. The archeological survey of India is conserving over 3,600 monuments one lakh rare books drawings manuscripts etc but there have been several shortcomings in the process of conservations. There is a need to use the computer analytics to data capture data analysis, data storage, data transfer, data share, data visualize, data query, data innovation are needed to expand the historical enquiry.

The use of

1. **Drone technology** - Drone technology is constantly evolving as new innovation and big investment is bringing more advanced drones to the market every few months. Unmanned aerial vehicle technology and science in the widest aspect covers everything from the aerodynamics of the drone, materials in the manufacture of the physical UAV, to the circuit boards, chipset and software which are the brains of the drone.
2. **Satellite imagery**- Drone technology is constantly evolving as new innovation and big investment is bringing more advanced drones to the market every few months. Unmanned aerial vehicle technology and science in the widest aspect covers everything from the aerodynamics of the drone, materials in the manufacture of the physical UAV, to the circuit boards, chipset and software which are the brains of the drone.
3. **3D-data capture**- 3D Data builds well-designed spatial data products and offers a full array of services that make it easier for tax assessors to gather onsite property data. By using their products, their clients can focus and prioritize the other parts of their job, like valuation and customer service, secure in the fact that data core to their job was collected using advanced technology and well-trained staff.

These approaches can be used more effectively in order to protect the history of this multi cultural nation. virtual monitoring of the data gathered from historical sites can be analyzed through these digital tools.

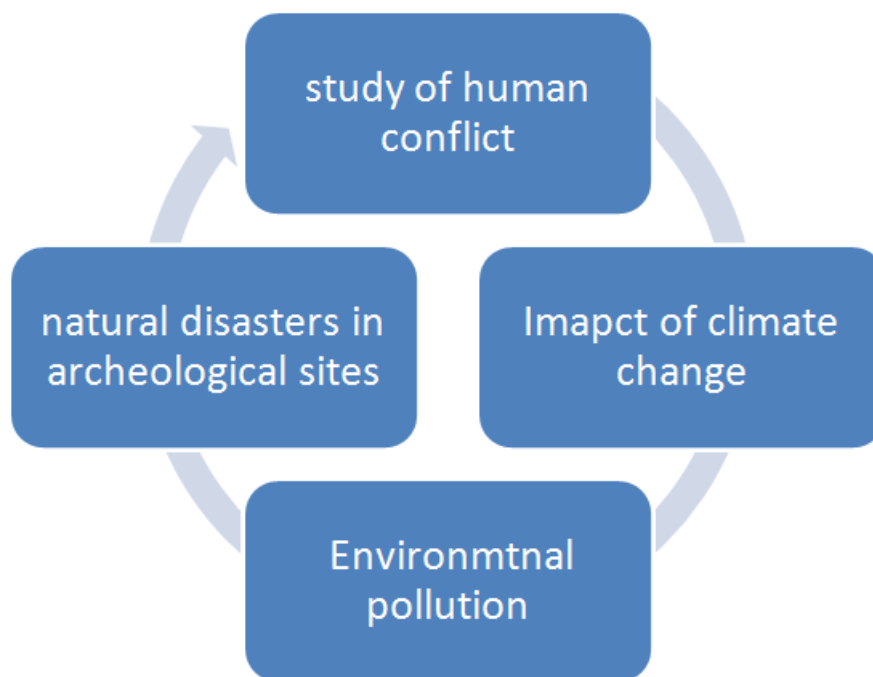
The concept called Big data- This is a new concept where in conservation of archeological past is made easy with huge digital tools. this has a three way support to

1. Academicians
2. Industry
3. Private Agencies

It helps to provided a complete digitalized heritage preservation method applying traditional archeological orientation it co-relates

1.	Demographic data
2.	Climatic data
3.	Environmental data
4.	Regional data
5.	Geographic data
6.	Cultural data
7.	Technological data

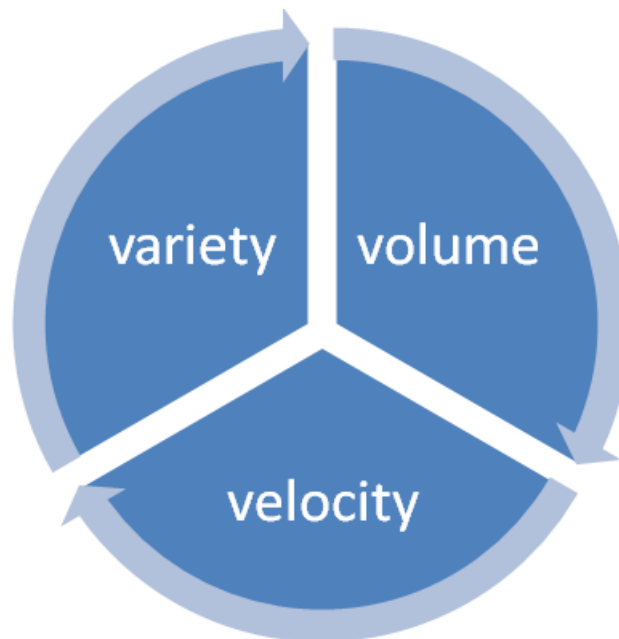
This biz data has very modern technological tools which are applied to study of human conflict environmental pollution as shown in this table (1)



The big data serves as supportive digital tool for

1. Data Capture
2. Data Analysis
3. Data Storage
4. Data Transfer
5. Data Share
6. Data Visualize
7. Data Query
8. Data Innovation

As notified earlier big data works with three Vs



Professional Evaluation of Digital Scholarship in History is an expanding discipline hence digital support systems can be supportive to historical enquiry. .

Benefits of Cyber Archeology

1. Cyber Archeology supports researchers to reinterpret history.
2. Cyber Archeology technologies have newer opportunities towards cultural communication dissemination of historical knowledge
3. Cyber Archeology supports on historical evolution awareness creation.
4. Cyber archeology creates possibilities of communicating effectively about historical places, objects, and historical settings.
5. Cyber Archeology provides historical knowledge to a non history learner. or for a common man.
6. Cyber Archeology creates virtual experience the environment of life , war , culture , expansions and expedition.

II. Conclusion

Thus archeology study needs to empower the fruits of human progress in the field of technology for better insights into complex problems drastically improving chances of resolution so that cultural and historical heritage may live longer. There is a need to use the computer analytics to data capture data analysis , data storage , data transfer , data share , data visualize , data query , data innovation are needed to expand the historical enquiry with upgraded technological tools as created from time to time . These approaches can be used more effectively in order to protect the history of this multi cultural nation. virtual monitoring of the data gathered from historical sites can be analyzed through these digital tools.

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