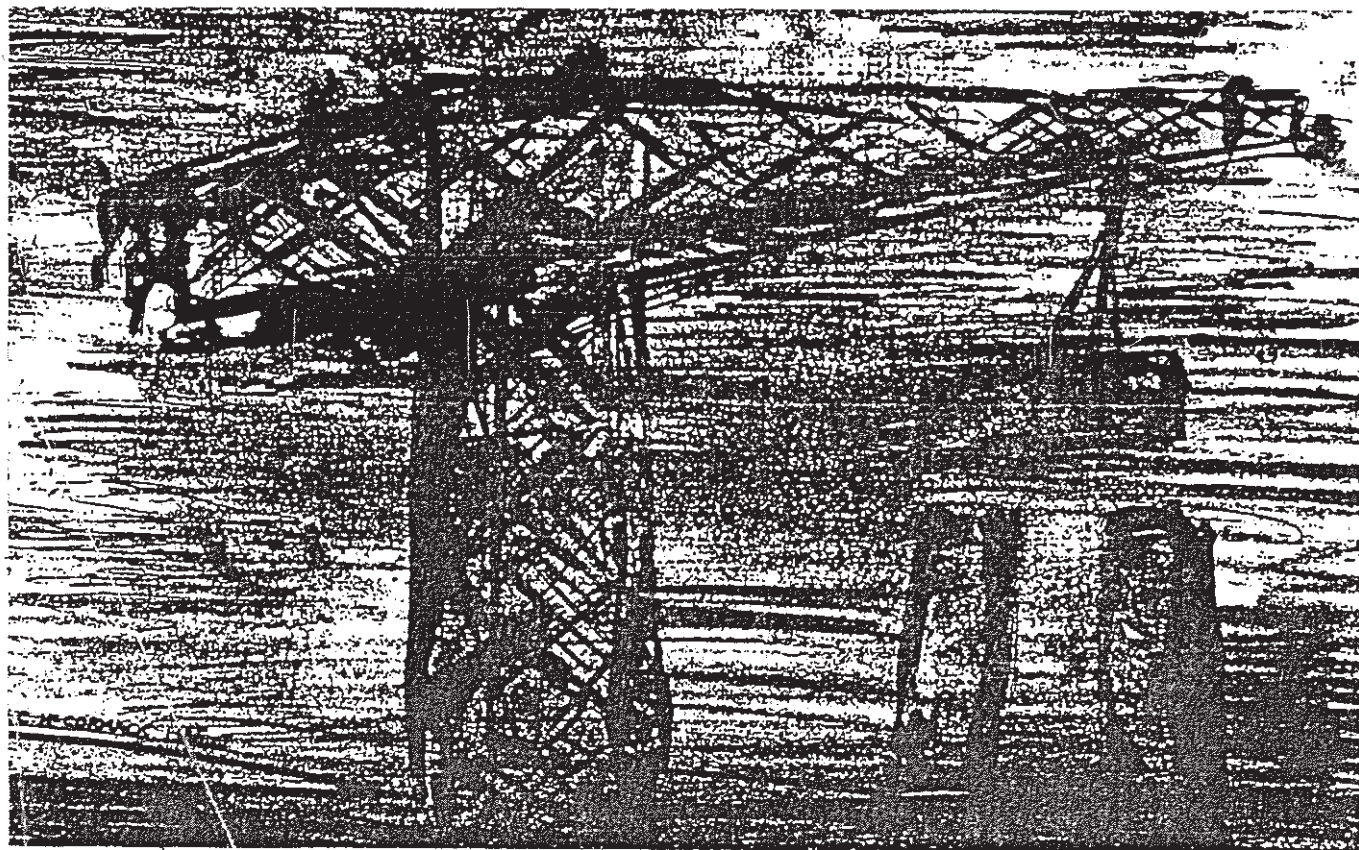


TAG

85

GLASGOW

ANNUAL CONFERENCE OF THE
THEORETICAL ARCHAEOLOGY GROUP
PROGRAMME & ABSTRACTS



	9.00	10.00	11.00	12.00	1.00	2.00	3.00	4.00	5.00
MONDAY 16 TH	T217								AGRICULTURAL REPRODUCTION
	T218					COMPUTERS ARCHAEOLOGICAL			AND THEORY
	T316					PRAGMATIC			ARCHAEOLOGY
	T415					WITHIN SITE ASSOCIATIONS			URBANISM...
TUESDAY 17 TH	T217	ARCHAEOLOGICAL PHILOSOPHY							
	T218	SETTLEMENT THEORY &	ARCHAEOLOGY PRACTICE			SETTLEMENT ARCHAEOLOGY II			ARTEFACTS...
	T316	READING THE	SIGNS ...			INFORMATION CULTURAL			AS A RESOURCE
	T415	QUANTITATIVE THEORY &	METHODS PRACTICE			SOCIAL OF			CONSTRUCTION SPACE
WEDNESDAY 18 TH	T218	IDEAS OF	DIFFUSION						
	T316	PRODUCTION & EXCHANGE	WARFARE						
	T415	COPING MATERIAL	WITH THE RECORD						

LUNCH

BOOKSHOP : T 210

POSTER SESSIONS : T 212

TEA & COFFEE
Served in : T 315
Biscuits !! in : T 310 → 314

TABLES GLASSHOW: TIME TABLE

TAG '85
ADAM SMITH BUILDING

Programme

MONDAY 16th DECEMBER

T217 AGRICULTURAL REPRODUCTION

Organisers: TAG Committee

Chair: Martin Jones

4.00-5.30 Andrew Fleming: The Genesis of Coaxial Field Systems
Annie Milles: Agriculture in Early Historic S.W.
Scotland
Iain Banks: Technology Levels as a Settlement
Determinant
DISCUSSION

T218 COMPUTERS AND ARCHAEOLOGICAL THEORY

Organisers: Gary Lock, Paul Reilly and Sarah Colley

Chairs: Paul Reilly and Gary Lock

2.00-3.30 Julian Richards: Data Always Expands to Fill the Space
Available: Computer-Driven Theory in
Archaeology
Clive Ruggles: Archaeology and the Two IT's
Nick Ryan and Databases, Data Models and
Dan Smith: Archaeological Theory
DISCUSSION

3.30-4.00 TEA

4.00-5.30 Sarah Colley and Different Ways of Viewing the
Stephen Todd: Problem-Computer Graphics, a
Relational Database and the
'Explanation Loop'
Duncan Brown: What Have Computers done to the
International Ceramic Research
Centre?
Dave Evans: Management Theory and Information
Technology in the Heritage
DISCUSSION

T316 PRAGMATIC ARCHAEOLOGY

Organiser: Vince Gaffney

Chair: Francis Pryor

2.00-3.30 P.Wardle: Peripatetic Pots, Potters, or
Provisions?- the Distribution of
Late Bronze Age Pottery in Eastern
Yorkshire
A.Boddington: The Theory of Pragmatism:
Archaeological Measurement Theory
C.Heron: Archaeo-Geophysics and the Site,
Ohm Sweet Ohm!
V.Gaffney: Whatever Happened to Analytical
Field Survey?
DISCUSSION

3.30-4.00 TEA

4.00-5.30 R. Hingley: An Attempt to Integrate Theory and
Data in the Study of Iron Age
Settlement
E.Scott: Romano-British Villas: Practical
Lessons for Tactical Fieldwork
R.Yorston: Theory and Method: Some Observations
from a Scientist
DISCUSSION

T415 WITHIN-SITE ASSOCIATIONS, AGENCY AND ARCHAEOLOGICAL
INFERENCE: BEYOND RITUAL EXPLANATIONS

Organiser: Keith Ray
Chair: Keith Ray

2.00-3.30 Keith Ray: Compound Temporality and Situated
Practices
John Barrett: The Field of Discourse:
Contextualising Archaeological Data
Colin Richards: Altered Images, a Contextual Approach
to Orcadian Chambered Tombs
Paul Lane: Past Practices in the Ritual Present:
Examples from the Welsh Bronze Age
DISCUSSION

T415 URBANISM AS AN INTEGRATED RESPONSE

Organiser: M.N.Morris
Chair: J.F.S.Walker

4.00-5.30 M.N.Morris: Approaches to Urban Settlement
Systems and the Energy Base
J.F.S.Walker: Roman Urbanism: a Facet of
Imperialism
S.R.Bryant: The Small Feudal Town in Medieval
Society
DISCUSSION

5.30-6.00 DINNER: REFECTORY

Please make your way to the refectory as
soon as conference sessions end.

RECEPTION
HUNTERIAN MUSEUM

7pm

Late Licence G.U.Staff Club

TUESDAY 17th DECEMBER

T217 ARCHAEOLOGICAL PHILOSOPHY

Organiser: TAG Committee

Chair: John Chapman

9.15-10.45 Jes Martin: Theory in Archaeology or
Archaeology in Theory
Lester Embree: As the Twig is Bent, so Grows the
Philosophy of Archaeology
Michael Fotiadis: "Site" as a Model of
Archaeological Practice
DISCUSSION

T218 SETTLEMENT ARCHAEOLOGY: THEORY AND PRACTICE

Organisers: TAG Committee

Chair: Ian Ralston

9.15-10.45 A.Guidi: Detecting Social organisation from
Burial Data: A Case Study from the
Early Iron Age of Central Italy
Donnie A. Mackay: Beyond the Wire Fence
M.Ilet et.al.: Settlement Processes and Social
Change in Prehistoric N. France:
A Regional Study in the Aisne Valley
DISCUSSION

10.45-11.15 COFFEE

11.15-12.45 A.Holl: Mound Formation Processes and
Cultural Transformations: A
Perichadian Case Study
E.Grant: Historical Analogies for Settlement
and Land Use in Neolithic Arran
A.Gunn: Sea Power and the Western
Highlands of Scotland
DISCUSSION

T316 READING THE SIGNS: MEDIEVAL HISTORY FROM ARTEFACTS

Organisers: Stephen Driscoll, Margaret Nieke, Cathy Coutts

Chair: Alan Lane

9.15-10.45 Stephen Driscoll: Power and Authority in Early Scotland:
Pictish Stones and Other Documents
Dave Barrett: Coins and the Nature of Power
Margaret Nieke: Penannular Brooches: Secular
Ornament or Symbol in Action?
Ewan Campbell: Imported Pottery in the Early
Historic West
DISCUSSION

10.45-11.15 COFFEE

11.15-12.45 Paola Filippucci: Waiting for the Barbarians?
John Moreland and: The Carolingian Renaissance:
Mark Edmonds Ideal and Reality
Cathy Coutts and Across the Barricades
Julian Thomas:
DISCUSSION

T415 QUANTITATIVE METHODS: THEORY AND PRACTICE

Organisers: James Bell and Steven Mitham

Chair: James Bell

9.15-10.45 James Bell: Bridging the Channel: Understanding Cartesian Method in French Archaeology
Dwight Read: Mathematical Schemata and Archaeological Phenomena: Substantive Representation or Trivial Formalism?
Steven Mitham: Reindeers and Risk: The Upper Palaeolithic in SW France
DISCUSSION

10.45-11.15 COFFEE

11.15-12.45 James McGlade and P.M.Allen: Prehistoric Locational Behaviour: A Swidden Horticultural System
Ezra Zúbrow: The Simulation of Kinship and the Rise of the Family
Christopher Carr: Theoretical Issues Pertinent to Inductive Predictive Modelling of Settlement Location Choice

12.45-2.00 LUNCH: REFECTORY

T218 SETTLEMENT ARCHAEOLOGY: THEORY AND PRACTICE II

2.00-3.30 Peter Chowne: The Development of Iron Age Society in Lincolnshire
A.M.Bietti Sestieri: The Prehistoric Survey of Rome
DISCUSSION

T316 INFORMATION AS A CULTURAL RESOURCE

Organiser: David Evans

Chair: David Evans

2.00-3.30 David Fraser: Current users of Archaeological Information
Mike Corbishley: The Future User
Cherry Lavell: Archaeological Publications: Their Nature and Use
DISCUSSION

3.30-4.00 TEA

4.00-5.30 David Baker: Information Services: Their Current Range and Their Policies in Meeting the Various Needs of Users
Chris Peebles: Progress in Information Services in the United States' Historic Environment
David Evans: The GB Experience with Information Services of the Historic Environment
DISCUSSION

T415 THE SOCIAL CONSTRUCTION OF SPACE

Organiser: Margaret Nieke

Chair: Margaret Nieke

2.00-3.30 Bill Hillier: Discovering House Genotypes
Henry Glassie: Structural Analysis of Vernacular
Architecture, a Transatlantic
Comparison of Results
Chris Evans: The Circle Exploded: A Consideration
of Concentric Plan Causewayed
Enclosures
DISCUSSION

3.30-4.00 TEA

4.00-5.30 Thomas Markus: Monuments to the Elite and Responses
to Entrepreneurial Vigour: A
Comparison of 18th and 19th Century
Edinburgh and Glasgow
Martin Lawler: Lark Rise to Coketown: Approaching
Industrialised Communities
DISCUSSION

T218 ARTEFACTS: EXPERIMENTATION AND ANALYSIS

Organiser: Caroline Wickham Jones

Chair: Caroline Wickham Jones

4.00-5.30 Maisie Taylor: Tales of the Unexpected: The Effects
of Waterlogging at Etton Causewayed
Enclosure
Deborah Olavsson: Prestige and Practicality: Using
Experiment to Evaluate Swedish
Neolithic Flint and Groundstone Axes
A. van As: Pottery Typology in Theory and
Practice
Gordon Bronitsky: Bridging the Gap Between Laboratory
and Field in Ceramic Theory
DISCUSSION

5.30-6.00 DINNER : REFECTORY

PARTY
G.U. UNION
8pm

WEDNESDAY 18th DECEMBER

T218 THE IDEAS OF DIFFUSION

Organisers: Nick Merriman and Tim Taylor

Chair: Nick Merriman

9.15-10.45 Nick Merriman: Diffusion and the Specificity
of Cultural Forms
Mike Hitchcock: The Eclectic Bimaneese of Eastern
Indonesia
Tim Taylor: A Small Steppe for Mankind
DISCUSSION

10.45-11.15 COFFEE

11.15-12.45 Kevin Greene: The Ideas of 'Diffusion' in a Proto-
Historical Period: Gothic Metalwork
Phil Mason: The Early La Tene in the SE Alps:
Prestige Exchange and Diffusion
Simon Buteux: Diffusion, Radiocarbon and the
Megaliths
DISCUSSION

T316 PRODUCTION AND EXCHANGE STUDIES

Organisers: Alison Sheridan and Marie-Louise Stig Sorensen

Chair: Alison Sheridan

9.15-10.45 Alison Sheridan: The Story so Far: A Fruitful Commerce
in Ideas, or Just an Over-Production
of Hot Air?
Marie-Louise Stig Sorensen: There's More to Trade than Dots on
Maps: A Social Study of the
Production, Distribution and
Consumption of Hallstadt C Swords in
Europe
David Tomalin: Textual and Formal Attributes of
British Biconical Urns: Evidence for
Cultural Change
Finbar McCormick: Livestock Exchange in Early
Christian Ireland
DISCUSSION

T415 COPING WITH THE MATERIAL RECORD: CLEAR THINKING AND SIMPLE
MATHEMATICS

Organisers: Robin Boast, Chris Chippindale and Michael Czwarno

Chair: Robin Boast

9.15-10.45 Phillip Steadman: Grammars of Design: The Case of Small
House Plans
Chris Chippindale: A Shape-Grammar Treatment of
Megalithic Orkney
Frank Brown: A Generative Grammar of Planning in
Medieval London
DISCUSSION

10.45-11.15 COFFEE

11.15-12.45 Katherine Boyle: Linear Programming and Late
Palaeolithic Bones
Robin Boast: Plastic Design Systems: A Case for
British Beakers
James Bell: Thinking Clearly about Quantitative
Methods in Theoretical Archaeology
Michael Czwarno: Keeping it Simple
DISCUSSION

T316 WARFARE

Organiser: Colin Richards
Chair: Colin Richards

11.15-12.45 Nick Thorpe: Beakers and Battle-Axes: Bronze
Age Warfare?
Roger Mercer: Prehistoric Warfare
Ross Samson: The Medieval Castle: Stronghold or
Status Symbol?
David Breeze: War in a Cold Climate: Romans and
Barbarians on the Northern Frontier
Mark Bowden and Hillforts and Enclosures: Monumental
David McOmish: or Military Construction in the Iron
Age
DISCUSSION

LUNCH: REFECTORY

CONFERENCE CLOSES

COMPUTERS AND ARCHAEOLOGICAL THEORY

Organiser: Gary Lock, Paul Reilly (North Staffordshire Polytechnic) & Sarah Colley (IBM UK Scientific Centre)
Chairperson: Paul Reilly & Gary Lock (North Staffordshire Polytechnic)

Due to a variety of pressures archaeologists are increasingly using computers. As this new technology is gradually absorbed into our daily routines, how much time is spent in sitting back and critically assessing what affects this is having on underlying archaeological theory? We all operate within a theoretical framework of some description or other, and although archaeologists are, as yet, far from becoming a bunch of technocrats just how do computers influence recording and what is eventually done with the data? This session will almost certainly not provide many answers but it could produce a few questions.

Data always expands to fill the Space available: Computer-Driven Theory in Archaeology

-Julian Richards (Leeds University)

It is widely accepted, or at least it should be amongst a TAG audience, that data is "theory-laden", ie. that it is recorded within a theoretical paradigm, and embodies the concerns of that paradigm. It is not so generally held that this is a reciprocal relationship, and that theory might also be said to be "data-laden".

It will be argued that the development of archaeological theory has been technologically determined. As one of the latest types of technology to be harnessed in the service of archaeology, computers are currently affecting the range of data available, the types of research conducted, and the theoretical framework. Recent trends will be related to the advent of computers, and predictions will be made for the future.

The paper will discuss how computers will change the way archaeologists do research (previously, people have been given PhD's for what will shortly be a one-line command), and how they could influence what is recorded on excavation, and may bring greater precision, but not greater objectivity.

Archaeology and the two IT's

-Clive Ruggles (Leicester University)

In many archaeological problems a classical "hypothesis testing" methodology makes it desirable to try to obtain "fresh" data upon which to test a hypothesis, though this is often impossible or impracticable. It is becoming increasingly common, especially in view of the IT revolution and the ready availability of large bodies of computerised data, in effect to test a number of different hypotheses on the same data. This renders significant levels quite misleading unless account is taken for the fact. This can be achieved to some extent by a Bayesian approach, which can lead to large computer simulations as a way of comparing hypotheses. Information Theory, an approach taking some of it's fundamental ideas from Computer Science, gives a new perspective on how we examine data, form hypotheses,

and subsequently compare them. It is possible that Information Theory can provide a useful analytical and computational tool for investigating archaeological data.

Databases, Data Models and Archaeological Theory

-Dan Smith & Nick Ryan (East Anglia University & Kent University)

The increasing level of computer literacy witnessed amongst archaeologists in recent years is a reflection of wider trends in academic and professional communities. This process is characterised by a greater integration of computing methods into normal working practice, and contrasts with an earlier phase in which computers were employed in restricted, often highly specialised, applications. There is a shift of emphasis away from statistical analyses of primary data sets towards general purpose data management as a basis for both qualitative and quantitative analyses as well as the satisfaction of ad hoc queries.

It has often been stated that a major benefit of computerisation lies in the way that users are forced to examine the nature of their data more critically and to record it more systematically than had hitherto been necessary. In the case of statistical techniques, a thorough appreciation of the rules and assumptions of the underlying models is a prerequisite to their successful application. However, it is not so widely appreciated that this is equally true of data management systems. These systems were developed to deal with static collections of "facts", and consequently have been applied most successfully in cases where the view of the data is both static and highly formalised.

Archaeological data is not always so readily structured into a form consisting only of static views of entities and their relationships. It often includes dynamic (eg. chronological) components, and the object of research may be to attempt to discover structural relationships rather than presuppose them. These problems tend to maintain the separation of data management and analysis, and to limit the utility and theoretical acceptability of current techniques. This paper will discuss the limitations of current data models and examine how recent developments in computing may further the integration of computers into the archaeological research process.

Different Ways of Viewing the Problem - Computer Graphics, A Relational Database and the "Exploration Loop"

-Sarah Colley & Stephen Todd (IBM UK Scientific Centre, Winchester)

Archaeology often involves collecting large amounts of data, the exact significance of which is not always immediately clear. Database management systems offer an obvious aid to coping with this problem. At the same time, much archaeology is concerned with spatial relationships, and computer graphics are increasingly used to investigate these.

At the IBM UK Scientific Centre the Winchester Graphics System, which includes a relational database, the Peterlee Relational Test Vehicle, has been used to investigate a number of archaeological problems. The link between the database and the

graphics is crucial. The power and flexibility of the database allows the archaeologist to ask complex queries of his/her data. The results of the query can be quickly displayed as a picture, using the graphics system. The graphical display makes the data readily comprehended. The picture either solves the archaeological problem or leads to further hypotheses. The archaeologist can then return to query the database and produce new pictures, and so on. This "exploration loop" is a powerful tool for the investigation of archaeological problems. It relies on close interaction between the database and the graphics, but most of all on the interaction between the archaeologist and the pictorial representations of the data.

This paper will discuss how the "exploration loop" influenced ideas about site-formaton processes at sites in Southern England.

What have Computers done to the International Ceramics Research Centre?

-Duncan Brown (Southampton Museums)

This paper will examine the way in which computerisation has affected the study of medieval pottery in Southampton, and explore the possibilities a computered future offers.

Pottery in Southampton goes through two recording processes. The first is a spot-dating programme performed on site immediately after washing and is designed to provide a roughly dated framework to aid interpretation of the excavation as it is in progress. This data is entered onto a portable machine on site, for instant recall. The results may be subjected to statistical analysis at the same time allowing a preliminary breakdown of the assemblage before the second process is begun. This is a full sorting and recording system, where every fabric and form type is quantified, entered onto a disk on a desk-top PC and also subjected to statistical analysis.

Computers have affected both systems. The spot-dating programme is almost a result of computerisation, and is certainly more sophisticated because of it. The full process has benefited greatly. The advantage of computerisation is that it has allowed the same set of data to be examined from many more different viewpoints. The computer is not regarded as a giant calculator, rather as a key to the opportunity to pose many more problems. Because data analysis can be performed so fast there are no bounds to the way in which an assemblage may be approached other than those imposed by the ceramicist. At the ICRC those bounds are being removed.

Management Theory and Information Technology in the Heritage

-Dave Evans (RCHM England)

The discipline of archaeology is on the verge of a new era. Increasing power and decreasing cost of facilities, together with a heightened technical awareness in society generally, will soon allow relevant information to be available in homes and libraries, potentially in great detail. The design, development and operation of cataloguing projects, documentation systems and the like will require able management, sufficient resources and a means of assessing the "effectiveness" of the product. The

combination of these needs produces a mix of Management and Information Sciences but, as opposed to the more common service, as enjoyment and education. It is this latter emphasis that makes archaeologists a striking case to study; it has such a great potential for service.

I will discuss how our current situation, in a period of increased awareness, may be used to represent the effect of technology on the structure of archaeological information and its management.

PRAGMATIC ARCHAEOLOGY

Organiser: Vince Gaffney (Forge Mill Museum)

Chairperson: Francis Pryor (Fenland Archaeological Associates)

In recent years a general discontent has arisen concerning the position of theory in archaeology. Similarly, it is obvious that simple qualification of data is not in itself sufficient for "analytical" archaeology, as the interface between data and theory is seldom homogeneous. It is not the aim of this paper to call for a new school of theory in an effort to paper over the cracks, but to illustrate the respectability of theory and data, as well as demonstrate their compatibility. It is felt that the papers in this session, although perhaps novel in their own field, represent a general trend in archaeology towards reliable testing of data resulting in meaningful statements about the past. As usual, similar trends may be viewed in related academic subjects, if not society at large. This paper will discuss the relevant external and internal factors that have produced the need for parameterisation of archaeological theory and its relevance to archaeology in 1985.

Peripatetic Pots, Potters or Provisions: the Distribution of Late Bronze Age Pottery in Eastern Yorkshire

-Peter Wardle (Bradford University)

This paper seeks to demonstrate that trade in raw materials, containers and finished vessels can be distinguished by adopting a pragmatic approach to the analysis of pottery. The different variables that can be practically studied on small rim sherds are temper, clay, manufacturing method, rim diameter, sherd thickness and form. These are examined and correlated with particular reference to manufacturing sites.

Three such sites, Thwing, Staple Howe, and Devil's Hill are considered. It is shown how a diverse range of products was manufactured and yet a proportion of their ceramics was still imported. These are restricted to either thin-walled small vessels or very large, thick-walled heavy-duty wares. At each of these sites, vessels made with local clays occur, but tempered with igneous rock. These vessels were always made and finished in the same way. The distribution of this fabric is used to demonstrate the existence of a peripatetic potter as opposed to trade in raw materials.

These assemblages are contrasted with Scarborough Castle Hill, where a disproportionate amount of heavy-duty wares occur. These are distinctive in form, fabric and method of manufacture. Further contrasts are considered with LPA-IA assemblages from "open" settlements. These assemblages are much smaller and differ greatly in overall composition.

The Theory of Pragmatism: Archaeological Measurement Theory

-Andy Boddington (Durham University)

Archaeological data is inherently imperfect. The non-random filtering processes of pre-depositional, depositional and post-depositional processes both narrows the range of data types available and distorts the distribution of the data. It is only possible to conduct archaeological experiments on a small scale and most archaeological data has been collected in a scientifically uncontrolled manner. The filtering processes and the inability to experiment combine to produce an archaeological data-set which is essentially inadequate to test most archaeological theories. Yet purely empirical description of data is unlikely itself to produce results of any theoretical importance. For any given theory, the constructs that are capable of measurement require isolation and the assumptions that link the measurement variables with the constructs clearly stated. Particular attention should be given to the statistical level of measurement (nominal, ordinal, ratio) involved. It is thus possible to specify just which propositions can and cannot be tested with the data at hand. Unmeasurable theoretical constructs must then be judged reasonable on the basis of archaeological, historical and ethnographic experience as they cannot be directly tested with archaeological data.

Illustrated with an example from the analysis of cemetery practice.

Archaeo-geophysics and the Site, Ohm, Sweet Ohm!

-Carl Heron (Bradford University)

The use of geophysics within archaeology has rarely been used other than as a locational tool. However, geophysical prospection has an analytical role over and above that of detecting areas of prime excavational interest. This paper will discuss the need to set geophysical results within an integrated archaeological context in order to maximise its informational potential. Using results from a number of European and British sites, the relevance of geophysics to a variety of archaeological problems will be shown.

The days of using geophysics simply as the last-ditch attempt to find the best area to dig are over. Geophysical survey is analytical and should be used as such.

Whatever Happened to "Analytical Field Survey"?

-Vince Gaffney (Forge Hill Museum)

In Britain the first half of the 1980's witnessed an increasing interest in the potential of field survey along with a rapid proliferation of surveys in many parts of the country. After initial concern with the problems of methodology, discussion has revolved around the need for "Analytical Field Survey". How far we have achieved such an analytical format is debatable. It may be said with some conviction that much work is merely descriptive. Since Field Archaeologists have rarely been able to match results from increasingly complex field strategies with comparably sophisticated analytical approaches, much of our

field data remains inexplicable at the end of the day. The problems are basic and demand that field surveys are designed in line with the theoretical questions being asked.

Discussions regarding analytical procedure should follow pragmatically from this basis rather than opportunistically. Examples of such approaches will be given in the paper. Unless we can reconcile the theoretical basis of survey with methodology, the theory gap will continue to the detriment of the discipline as a whole.

Integrating Theory and Data in the study of Iron Age Settlement

-Richard Hingley (Warwick Museum)

If archaeology represents the study of past human society, any pragmatic approach must attempt to bridge the interpretive gap between theory and data. Unless data can be used to provide some form of understanding of past societies, the practice of data-collection can have little more academic respectability than train-spotting. However, a theoretical stance of speculation with little reference to data is inadequate in that such speculation will replicate the collective knowledge of modern society without asking relevant questions of the archaeological evidence.

How can archaeological theory and data be integrated?

The case-study which forms the substance of this paper is of an area of southern Britain in the Iron Age and proceeds in two main stages. Firstly an attempt is made to interpret settlement evidence through the use of a theory. This theory is then subject to analysis through a more detailed consideration of the archaeological evidence. The result is a complex interpretation of social organisation and the transformation of society through time.

Romano-British Villas: Practical Lessons for Tactical Fieldwork

-Eleanor Scott (Newcastle University)

Romanists have traditionally approached their period as one which fortuitously has an "historical framework". Villa studies have been conditioned by the fact that pioneers of the subject (like Richmond) have tried to fit villas into this "historical framework", for they assumed that villas would fit in. The "known" "historical" facts about Roman villas, gleaned from such Latin authors as Varro and Columella, have greatly influenced the way in which Romano-British rural sites have been explored and recorded. The real nature and history of individual sites has been sacrificed for the Greater Good of validating the "historical framework".

This paper will discuss a more contextual and pragmatic approach to the study of Romano-British villas, arising in part out of the results from the Maddle Farm Project. Projects such as this have demonstrated a positive relationship between surface scatters and sub-surface material, and this has important implications for the recognition of sites through fieldwalking. This will greatly enlarge the number and extent of villa sites known in Britain and thus assist in more rigorous settlement analyses.

It is not true that the specific nature of Roman sites can

only be determined through excavation. A rigorous fieldwalking programme which plots the positions and concentrations of off-site artefacts will find distinctive patterns which may relate to particular types of site. For example, sites with an agricultural function will have a different patterning of off-site pottery concentrations than sites with a religious function.

The general applicability of the Maddle Farm data will be discussed, and it is suggested that this level of survey will not only enable us to understand site economies, but will also enable Romanists to classify unexcavated sites; it may be that in the future it is fieldwalking and not excavation which will answer our questions concerning the nature of sites and tenurial relationships. Fortunately, fieldwalking costs less than excavation and it is also less dangerous to the sites.

Theory and Method: Some Observations from a Scientist

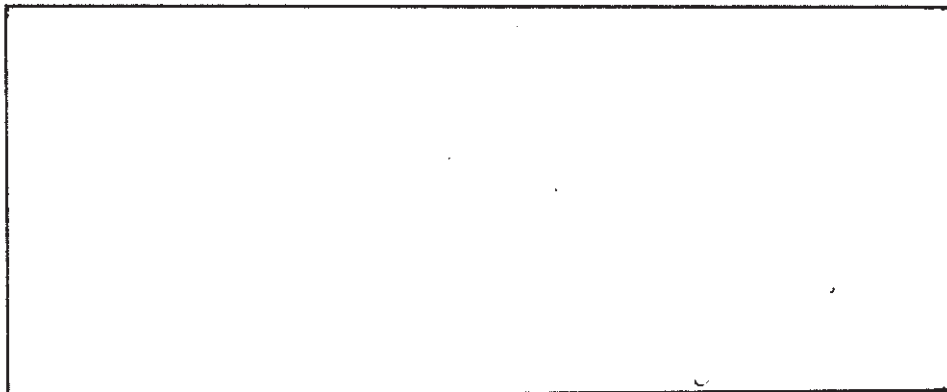
-Ronald Yorston (ISTEL Limited, Redditch)

The advent of the "New Archaeology" has brought controversy, and provoked a debate on the relationship between theory and practice and on the scientific method in archaeology.

The usefulness of theory depends on its relevance to experimental problems: where theory neglects the constraints of experiment it ceases to have any practical value. It is suggested that there are factors at work in the natural sciences which lead to a close relationship between theory and practice.

In importing scientific techniques into archaeology, some have also sought to smuggle in the scientific method. There are problems here, relating both to the appropriateness of the scientific method in a subject like archaeology and to the validity of such concepts even in the "hard" sciences. For example, the hypothetico-deductive framework proposed by some philosophers of science is not necessarily a good model of how science works: practising scientists frequently work in a much less rationalist mode.

In this paper the problems of theory and method are considered from the viewpoint of a research scientist with experience in physics and computer science. By drawing on experience from "hard" science it is hoped to shed fresh light on the debate in theoretical archaeology.



WITH-IN SITE ASSOCIATIONS, AGENCY AND ARCHAEOLOGICAL INFERENCE:
BEYOND RITUAL EXPLANATIONS

Organiser & Chairperson: Keith Ray (Cambridge University)

Compound Temporality and Situated Practices: Some arguments against the use of reductionist logic in archaeological inference

-Keith Ray (Cambridge University)

This brief paper opens with an outline of a processualist view of the nature of the archaeological record and the scope of archaeological inference. Issue is taken with the notion that archaeological deposits can only be interpreted as the consequence of long-term processes of adaptation to changing material and social conditions. Archaeological deposits/artefacts do not have a unitary temporal or activity referent. Rather they incorporate evidence both for immediate interaction and the long-term reproduction of social systems. The aim of archaeological inference should therefore be to recognise both event and process as implicated in the archaeological record, situating both in reference to the conditions for social reproduction in each historical context the deposits/artefacts derive from. The structured use of analogy is essential not for the reconstruction of descriptive ethnographics of the past, but for producing historically and culturally meaningful models for alternative interpretations of the material record and the place of agency and material culture in social reproduction.

The Field of Discourse: Contextualising archaeological data

-John Barrett (Glasgow University)

This paper offers a methodology by which archaeology may begin the empirical recovery of historical knowledge from archaeological data. This rejects such current approaches as: a) "let's speculate about what might have happened in the past and see if it fits our data" (this speculation is sometimes known as theory and these procedures have been called "positivism" or "hypothetico-deductivism"); or b) "let's assign units of observation single unambiguous values and meanings" (empiricism, now known in archaeology as middle range theory).

The approach which will be followed here will suggest that our historical knowledge depends upon the kind of social theory we develop and the methodological competence with which we let this theory guide our encounters with archaeological data. These data are the means by which we know anything about the past, and their quality determines the quality of our knowledge. Because society is reproduced by humans who negotiate their relations with each other through the control of cultural resources, action on and the exchange of those cultural resources, and the reproduction and transformation of those resources by this discourse, it follows that material culture both structures this discourse and has no single meaning within it. Our methodology must allow for this ambiguity, and instead of attempting to "read-off" social conditions from unambiguous observations we should investigate how humans reproduced their conditions by inhabiting a particular cultural universe.

The bronze age settlement and burials at South Lodge will be investigated to demonstrate this methodology and explore the way authority within one particular field of human discourse was reproduced and extended into other fields. A demand for an archaeology of the "day to day" will be made, empirical in its procedures and human in its scale.

Altered Images: a contextual approach to Orcadian chambered tombs

-Colin Richards (Glasgow University)

Neolithic chambered tombs, whilst maintaining a prominent position in archaeological research, have tended to be dealt with on a general level, instigating general models to explain their inception and distribution. The results of this line of enquiry has to date done little to increase our understanding of the chambered tomb in terms of its role in the social world and how this may change through time.

This paper examines these problems within a contextual frame-work. The excavated chambered tombs of Orkney provide a good data base for this type of analysis which is concerned with the way in which the tombs vary through time. It will be shown that the problems of dealing with a type of monument which has continued accessibility may be turned into an advantage in understanding the way in which it assumes a changing role through time. This, therefore, allows the wider possibility of examining variation in social discourse, embodied in the tomb, through the Neolithic Period.

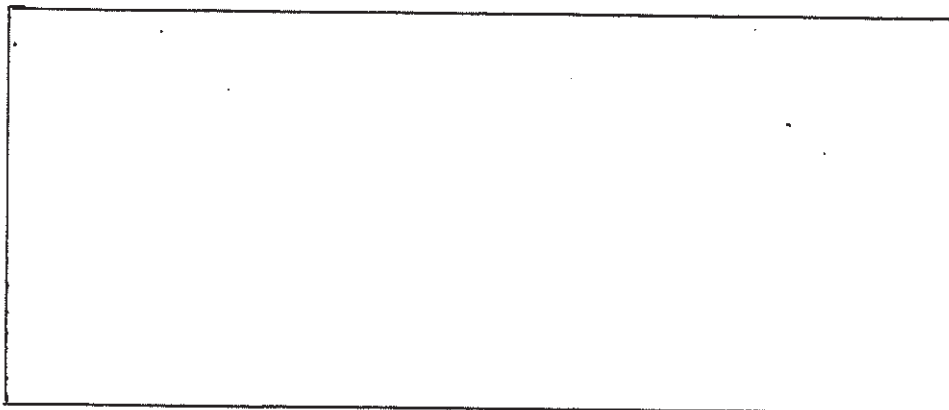
Past Practices in the Ritual Present: Examples from the Welsh Bronze Age

-Paul Lane (Cambridge University)

The overall object of this paper will be to review some of the principles used to distinguish ritual from domestic deposits. In the first section of this paper a brief critique of some of the assumptions that lend credence to this type of dichotomy will be forwarded. The theoretical issues raised there will be then pursued with reference to archaeological material from certain Bronze Age funerary monuments in Southern Wales. In particular, the relationship between the material traces of "burial rituals" and earlier deposits of apparently "domestic refuse" will be examined.

Drawing on the theoretical propositions forwarded in the first part of the paper, it will be argued that the later "ritual" re-use of a "domestic" site should be viewed as the outcome of intentional actions. In other words, one of the contextual attributes of the later material is its specific spatial location above past structures and cultural remains. The intentional nature of this relationship points to an interpretative reading of those same past structures/remains, or possibly a more general identification with the past. In an effort to explain why a link between the present and the past entered into the burial/funerary rites, the material traces of the latter, at the specific sites, will then be examined, with

reference to the wider context of local social and economic structures. The paper will conclude with a few general observations and suggestions for future work.



URBANISM AS AN INTEGRATED RESPONSE

Organiser & Chairperson: MN Morris (Winchester Archaeology Office)

It is possible to define several factors which have led to the relatively self-contained and non-theoretical approach which has been traditional in British urban archaeology. Firstly, there are the practical considerations such as the limiting nature of funding and the technical complexities of extracting and manipulating the often large bodies of data. Secondly, the intellectual framework of the urban archaeologist has deep foundations; based on the classical tradition for the Roman period, and the work of historians for the Medieval period. It is no coincidence that some of the most stimulating theoretical work has been undertaken using pre-Roman and mid Saxon evidence.

For various reasons however, the situation has been changing and the study of Roman and Medieval urban settlement systems is becoming one of the more exciting areas in British archaeology.

The three diverse papers presented in this half session attempt to reflect this development, emphasising the role of urban evidence in characterising and explaining cultural change at the broadest level.

Approaches to urban settlement systems and the energy base

-MN Morris (Winchester Archaeology Office)

In recent years, the instability of energy production in complex societies and its influence on culture change has formed a rewarding area of study. There are perhaps two interlinked approaches to this topic, both utilising existing methods of archaeological analysis:- firstly, direct examination of the techniques of energy production and extraction. Here the emphasis might be on site catchment analysis, land utilisation patterns, and environmental and technological evidence. Secondly, analysis of the social organisation. To a greater or lesser extent the structure of the social hierarchy may reflect risk buffering strategies; and the study of functional groupings may provide insight into the particular problems relating to the maintenance of the subsistence base and the channels of energy and information exchange. This paper, concentrating on the latter

approach reviews some of the problems of analysing pre-industrial urban settlement systems. Several classes of data are briefly considered including burial practice, built space, and artefacts, with examples drawn from the British evidence.

Roman Urbanism: a facet of Imperialism

-JFS Walker (Manchester Archaeological Unit)

This paper will deal with some aspects of Roman towns and seek, using a general systems model, to explain the variability in urban forms displayed within the Empire.

The work will focus on the role of vici, which are civilian settlements beside, or near to, forts.

Although vici are a coherent morphological group, they display a number of unusual characteristics. It is usually assumed, for instance, that the existence of a vicus depends on the wealth emanating from the nearby fort and yet it is also thought that some suitable forts do not appear to have vici. The symbiotic relationship of the fort and vicus is thought to be clearly demonstrated by the fact that if a fort is abandoned then so is the vicus. However, there are many cases where the vicus, instead of being abandoned, develops eventually into a large and complex town. This paper will attempt to reconcile these contradictory observations by explaining the true role of the vicus using an adapted catastrophe model.

Some of the variability in the record of the development of vici can be related to wider economic activity. It seems probable that those vici that collapse when a fort is abandoned only occur in areas of partially developed countryside so that the mapping of such sites reveal areas which, despite some overall increase in economic activity, failed to be integrated within the wider economy of the Empire.

This failure to develop could be the result of a number of factors ranging from social resistance, to energy flow problems. Here it is suggested, however, that the root cause of the problem is the economic system of the Empire. It is suggested that the expansion of the Empire is the result of specialisation in agriculture which needed complex buffer systems to support it, and that these systems contain within themselves limitations. An attempt is made to show how not only vici, but economic changes confirm the plausibility of both the urban and general model, and some predictions are made that can be used to test them.

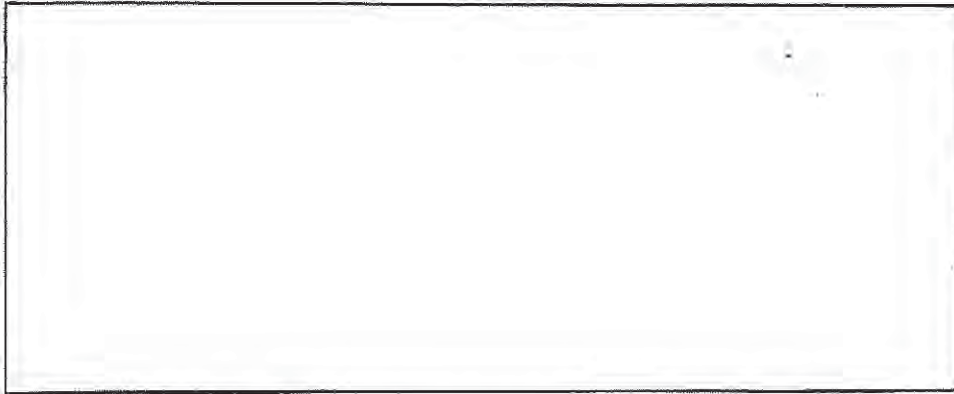
The Small Feudal Town in Medieval Society

-SR Bryant (Manchester Archaeological Unit)

The traditional view of urbanism as a social and economic form distinct from the rest of society has recently begun to give way to a broader theoretical approach by urban sociologists and historians, who increasingly see towns as integral elements of wider complex social systems. This approach is evident in some of the recent research by archaeologists on classical towns, but has yet to be applied seriously by archaeologists to medieval towns.

The medieval historian R. Hilton has identified the small medieval town in particular as a characteristic feature of feudal society which was necessary amongst other things to facilitate the extraction of agricultural surpluses by feudal lords from the

peasantry. It will be argued that small medieval towns, because they are poorly represented in historical sources and have a relatively low archaeological profile, have been neglected as an archaeological data base, and could be a potentially important source for examining the material culture of feudal society.



AGRICULTURAL REPRODUCTION

Organiser: TAG Organising Committee
Chairperson:

The genesis of coaxial field systems

-Andrew Fleming (Sheffield University)

The open fields of medieval England have never wanted for theorists, explaining their function and origins for more than a century now. But there is little in the way of an origin theory for prehistoric field systems, and notably the "coaxial" systems laid out over quite large areas according to one major orientation. In this paper it is argued that these field systems originated in the need to solve management problems where access to land was supposed to be governed by "egalitarian" principles perhaps under strain as population and social differentiation increased. It is further suggested that adoption of these field systems was an attempt to resolve the classic "commoners' dilemma", but that it actually created more serious problems for the commoners, paving the way for "ownership" of land and hastening the arrival of landless classes.

Agriculture in early historic SW Scotland: modification by political, economic and social factors influencing environmental remains

-Annie Milles (University College, Cardiff)

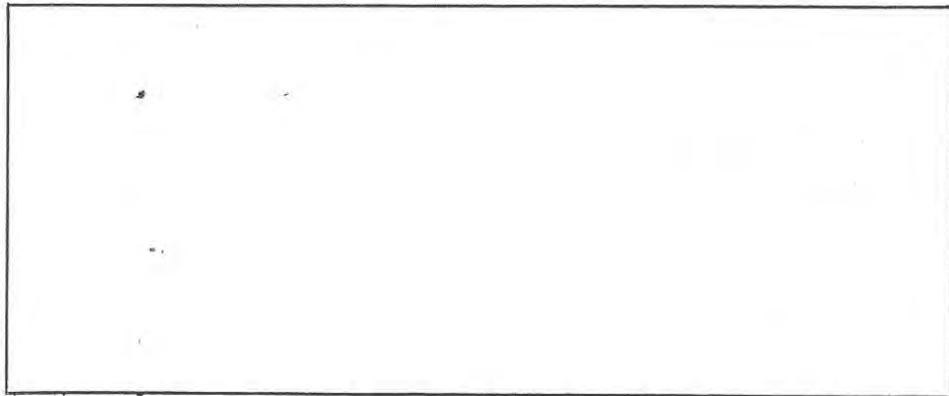
Food is a basic requirement of life, met largely in this period by the rearing of stock and the growing of crops. Although the processes involved in farming itself are largely understood, those relating to the subsequent processing and distribution of agricultural products are more difficult for archaeologists to perceive. In this paper it is suggested that the distribution of agricultural products is modified by political, economic and social factors which could be identified from detailed study of environmental material. The evidence relating to agriculture in

SW Scotland will be discussed and compared with the evidence of the charred plant remains from Dunadd.

Technology Levels as a Settlement Determinant

-Iain Banks (Glasgow University)

In societies with a low level of agricultural technology, a large degree of co-operative effort is necessary, voluntary or otherwise. With similarly low levels of communication and transport, this will require a clustering of settlement with few isolated individuals. This, then, suggests something about relationships between settlement, technology and social structure which this paper will attempt to consider in the context of early historic Ireland and the post-medieval Fens.



ARCHAEOLOGICAL PHILOSOPHY

Organiser: TAG Organising Committee

Chairperson:

Theory in Archaeology - Archaeology in Theory

-Jes Martens (University of Aarhus)

In this paper it is claimed that the reason why the so-called New Archaeology in the beginning of the Eighties has stopped its rapid progression must be sought in its very basis: the way of applying theories to archaeology. It seems that rather prefabricated notions of society as well of history have been adopted without questioning their validity or their background - and, what is even more important, without letting the interplay between theory and praxis come into function. The theories are therefore neither verifiable nor falsifiable. We have begun at too high a level of abstraction. Instead a model of society is suggested from which all historicistic and ethnocentric elements are excluded. This must be our starting point in developing a purely archaeological theory of history and culture.

interplay?
theory free from hist/ethn assumptions?
str model
rationality - ? central

begin history of science } philos of arch.

real Ontology

As the Twig is Bent, so Grows the Philosophy of Archaeology

-Lester Embree (Duguesne University)

After theoretical archaeology's florescence in the 1960s, philosophers began to write articles about it in the 1970s and books in the 1980s. This short period has seen continuing change in the philosophy of science generally and some dialogue between philosophers and archaeologists, with which archaeologists have not always been satisfied. Is the trend that such a subspeciality in the philosophy of science is emerging in which philosophers of the discipline of archaeology will be speaking chiefly to themselves and other philosophers of science rather than to archaeologists and, if so, what will they be talking about?

WLeBl's R
↓
naturalism.
card = part of
bird's eye.
But define his in
his terms!
Ethno-sciences
WAS?

→ world

"Site" as a Model of Archaeological Practice

-Michael Fotiadis (Indiana University)

In regional field research, sites are treated either as entities intuitively identifiable (on the basis of some mental template the archaeologist has acquired through training) or as discoverable through one or another set of empiricist procedures. The latter view espouses the rigour of twentieth century operationalism, and, for that reason, is now adopted in field projects in both the Old and the New World. For all its unquestionable merits, however, this view subscribes to a "realist" philosophical position, as much as the former view. For example, for both views sites are objective, "real" entities, only awaiting the archaeologist to locate them, measure them, excavate them, etc.. There is good evidence (from the history of archaeology, from recent theoretical discussions and from limited yet successful field projects in "site-less" archaeology) for the contrary, namely that sites are analytical constructs, whose relationship to archaeological data is at best problematic. This point would, however, be trivial if in the course of its demonstration we turn away from the flexible semantic domain of "site" and its critical functions in contemporary archaeological arguments. That domain and functions emerge as the author examines from a semiotic viewpoint various archaeological texts and carries out a thought experiment. It is observed that current definitions of "site", when explicit, are incompatible with the semantic dimensions of the term in archaeological texts outside those definitions. It is further shown that, when "site" is so defined as to encompass those dimensions, the definition at first seems loose (it does not distinguish, for instance, a site from an occupational floor, an horizon, etc.). Yet, so freed from narrowly conceived operationalist rigour, this definition subsumes a model of the highly sophisticated directions of today's archaeology. As is argued, that model is not only extroverted but introverted as well, the latter in the sense that it admits self-reflection in the archaeological enterprise. It is in self-reflective practice that archaeology constructs itself as a theory.

'site' as
interdiscipl,
discourse.
ONTOLOGICAL
ENTITIES
operational
at empirical
definition
↓
realist
concept
(sites as
'hard facts')
of expedient
template of
'site'
DATA SITE PROBLEM
↓
superimposed
by

Plato's Bell - site definition + no ~~theoretical~~ presupps.

SETTLEMENT ARCHAEOLOGY: THEORY AND PRACTICE

Organiser: TAG Organising Committee
Chairperson: Ian Ralston (Edinburgh University)

The Development of Iron Age Society in Lincolnshire

-Peter Chowne (Trust for Lincolnshire Archaeology)

This paper will examine the nature of society in Lincolnshire in the second half of the first millennium BC. Established views on the settlement, tribal centres and territories, the economy and land division will all be challenged using the evidence from recent excavations at Old Sleaford and Tattershall Thorpe supported by the results of survey in the Bain Valley. An alternative model for the development of Iron Age society in Lincolnshire will be put forward.

Settlement processes and social change in prehistoric northern France: a regional study in the Aisne valley

-P. Brun, J. Dubouloz, M. Ilett (Unite de Recherche
Archaeologique No. 12)

After more than ten years of intensive fieldwork, a substantial body of data is available for early agricultural groups in the Aisne valley. Knowledge of the Bandkeramik, Michelsberg and, to a lesser extent, SOM periods (c. 4000, 3000 and 2500 bc respectively) has now reached a point where it is possible to envisage the analysis of changes that occurred during the first millennium and a half of an agricultural way of life in this region.

Using settlement, burial and subsistence data, as well as observations on the spatial organisation of sites, an outline of the major social and economic changes is proposed. An attempt can then be made to elaborate a space-time model, combining established fact with hypotheses - a model which should help orientate future research.

Beyond the Wire Fence

-Donnie Mackay (Elgol, Isle of Skye)

"Landscape Archaeology" has become the fashionable aspiration of archaeological fieldworkers in the last few years. The Royal Commissions' inventories are increasingly presenting images of sites within their local landscape context rather than the site specific drawings of the past. This paper will examine the recent efforts by field surveyors to portray landscapes and suggest possible future strategies of recording, publication and presentation in order, not only to satisfy the archaeologist's demand for a more realistic presentation of our cultural heritage but also to satisfy the public's demand for a more detailed and explanatory guide to the countryside and its historical changes.

Mound formation processes and cultural transformations:
A Perichadian case study

-Augustin Holl (University of Paris X-Nanterre)

Archaeological sites are resulting from a combination of a vast array of processes, which can be partitioned into natural agencies and human behaviourally induced phenomena. After a short review of the ecological context of the Perichadian plain and its implications for the late prehistoric human settlement, in that specific area, an analysis of formation processes is carried out. Using personal field observations and actualistic researches carried out elsewhere in the African continent, various criteria are selected for the evaluation of the kinds of information which can be gathered from the mound of Mdaga, a site excavated from 1960 to 1968, pertaining to cultural transformations. My main purpose in writing this paper, is to build a coherent set of problems, insisting on their archaeological visibility, in order to devise archaeological test procedures for my current field research in the region of Houlouf.

Historical Analogies for Settlement and Land use in Neolithic Arran

-Eric Grant (Middlesex Polytechnic)

Current knowledge about the Isle of Arran in the Neolithic is largely confined to the evidence of about 20 chambered cairns, most of which were badly excavated last century. Renfrew and others have suggested that the distribution of these cairns can be interpreted as territorial markers of segmental society, while the apparent coincidence of the supposed cairn-marked territories and the best agricultural land has frequently been referred to. However, recent spatial analysis and reinterpretation of these monuments suggests that the pattern is not a simple one. There are clusters of cairns as well as a more evenly spaced pattern while detailed field survey of physical attributes of the land shows that the situation is much more complex than had been assumed.

The question that arises is, given the paucity of Neolithic data on Arran, can a more detailed analysis be made of the supposed relationship between chambered cairns and the agricultural capability of the land? Detailed land use maps survive for much of pre-enclosure Arran and these documentary sources have been used for modelling the distribution of population and the different intensities of land use (arable, pastoral, moorland) during the historic period. This is compared with the distribution of chambered cairns and supposed territories in the Neolithic in order to see to what extent the distributions coincide or differ as well as putting forward possible explanations for the degree of correlation between historic and prehistoric variables. The paper will conclude with an evaluation of the theoretical and practical uses of historical data for constructing prehistoric analogies.

Sea-Power and the Western Highlands of Scotland

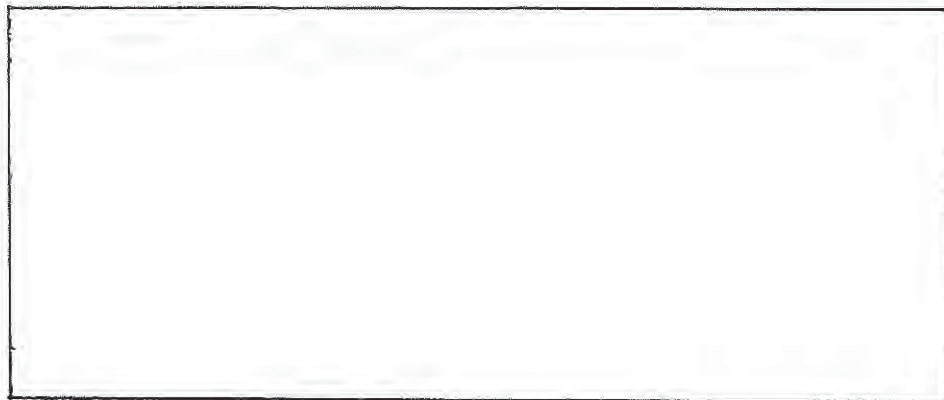
-Alison Gunn (Glasgow University)

The Western Seaboard of the Highlands of Scotland is an area dominated by the sea. The treacherous waters around the Isles provided the unifying factor in an otherwise inaccessible region of narrow inlets and islands.

Throughout history and probably prehistory the area was dominated by whoever controlled the sea-ways. Control of the best ships and crews could, and did, lead to the establishment of an autonomous kingdom within the Isles and the neighbouring shores of the mainland.

Using the historical evidence for the rise of the power of the Dalriadic Scots; the Norse; Somerled of Argyll and the Isles and the later Lordship of the Isles, I would like to suggest that the archaeology and history of the Western Highlands cannot be studied without an understanding of the importance of sea-power. The process of gaining and maintaining control of safe harbours and strong-points can account for the siting of many of the monuments throughout the Western Highlands and can throw light on some of their functions.

The sea was the life-line of the Isles and it is a vital factor in the study of the whole area.



READING THE SIGNS: MEDIEVAL HISTORY FROM ARTEFACTS

Organiser: Stephen Driscoll, Margaret Nieke (Glasgow University)
& Cathy Coutts (Sheffield University)
Chairperson: Alan Lane (University College, Cardiff)

Power and Authority in Early Historic Scotland- Pictish Stones and Other Documents

-Stephen Driscoll (Glasgow University)

The inhabitants of northeast Scotland responded to the coming of Christianity and literacy by erecting hundreds of carved stone monuments. On art historical grounds it is agreed that this Pictish sculptural tradition spans the sixth to eleventh centuries AD. Pictish stones have attracted scholarly attention because they are finely sculpted. But even more remarkable than the creativity of this "primitive" art form are its sudden appearance and its broad distribution. Certain of the decorative motifs reappear across the vast expanses of northern Scotland that once formed Pictland. It is the careful repetition

of design coupled with their broad range that have led scholars to postulate that the repeated motifs, consisting of animals, beasts, objects and geometric abstractions, constitute a symbolic system. The meaning of the symbol stones remains obscure. Cautious scholars have been content to assess the artistic merits of Pictish sculpture; a few have made sustained attempts at explaining the meaning of the art and none have proposed interpretations which allowed the monuments an active role in mediating human social relations.

This analysis seeks to establish the meaning of the symbol stones by treating them as a discursive medium through which statements about social relations were articulated. Recent archaeological investigations now suggest that the early stones were funerary monuments, while the later, decorated cross-slabs were almost certainly the foci of community worship. Thus there survives some information about the specific social contexts of these monuments. More generally, the study of such contemporary documentation as exists makes it clear that the floruit of the stones coincided with the emergence of a powerful, unified Pictish monarchy. It may in fact be the case that literacy, or more specifically documents, provided the inspiration for these innovative monuments. A parallel may be drawn between the political role of early documents and the proposed function of the stones: both may be regarded as ideological technology, access to which was restricted. Moreover, it may be that just as the written charters of Anglo-Saxon England were essential tools for authorizing the accumulation of property by the church and nobility so too the Pictish stones played an essential role in legitimizing the social transformations leading to the development of the Pictish kingdom.

Coins and the Nature of Power

-David Barrett (Sheffield University)

Coinage is a source of evidence that has been little tapped by historical archaeologists, yet it is potentially of considerable importance in the study of both the ideological and economic structures within a society. Coin-use can be seen as a means of measuring the degree of social control exercised over aspects of a social system by an elite. This paper explores the idea that coinage developed as a means of both internal and external exchange in response to the decline in the importance of outward display, and disposal, of "prestige" goods in the middle-Saxon period. The decline in the use of this form of "power marker" correlates with the increasing use of land-ownership as the basis of wealth, and the increasing centralisation of economic control by the elite.

Penannular Brooches: Secular Jewellery or Symbol in Action?

-Margaret Nieke (Glasgow University)

Penannular brooches are a form of celtic metalwork which have been subjected to several detailed analyses, mostly heavily biased towards an art-historical approach. In contrast there has been little attempt to examine the social context of these artefacts. This paper seeks to redress this balance,

concentrating on brooches being produced during the early historic period, when it appears that they had importance as symbols of office, and were being manufactured in various defended sites, probably under direct royal control. As well as having a secular importance, penannulars also evoked religious connotations, and the variety of strands of evidence in support of this will be examined.

Throughout the paper discussion will focus upon the types of question raised by these artefacts, and the methodology whereby their study should be approached.

Imported Pottery in the Early Historic West

-Ewan Campbell (University College, Cardiff)

Recent interest in imported pottery, both in the early and full medieval periods, has stimulated discussion on the development of exchange mechanisms. This lecture will look in detail at an early example of such a trading system as illustrated by the distribution of Thomas' E ware. This ware is important due to its wide distribution in the Celtic west and its seventh century flourish.

The pattern of distribution represents a radical change from the earlier, sixth century, trading network based on the Mediterranean. A detailed analysis of the distribution of the vessels and forms appears to show redistribution from a number of centres of importation. These secular centres have a variety of other imported objects (metalwork, glass), and several have royal associations. Examination of the pottery and its on-site distribution suggests that it was not used as "kitchenware" but as containers for scarce commodities. Recent scientific analyses and site finds provide new information on the nature of these commodities.

It will be suggested here that this control of the redistribution of commodities served two functions. Firstly, royal authority was enhanced, by control of access to exotic prestige goods. Secondly, alliances were consolidated by the exchange of gifts. These alliances could be between regional powers (eg. Dal Riada and Pictland), or between power groups within a region (royalty and church).

The traditional archaeological approach to ceramics in the medieval period has focussed on questions of chronology and, more recently, provenance. It is hoped that this study will have shown how wider questions concerning the function of pottery in society can be investigated using simple techniques of distribution analysis and ceramic taphonomy.

Waiting for the Barbarians?

-Paola Filippucci (Sheffield University)

This paper examines the historical and archaeological evidence for the 7th century Lombardic "invasion" and conquest of Italy. It is suggested that the historical accounts of the event may not be factually accurate descriptions, but heavily biased statements influenced by ideological and political realities at the time of writing. Archaeological research in this period has been guided by the historically derived model of a "barbarian invasion", and founded on a simplistic equation between artefact

style and ethnic identity. An attempt is made here to reconsider the archaeological data, which is primarily in the form of burials, in view of recent developments in mortuary analysis. The patterns which emerge are tentatively explained by a model in which flows of "prestige" goods and commodities link a "tribal" economic and political system in inland Italy, with the last vestiges of the Roman/Byzantine market networks in coastal regions in the late 6th and 7th centuries. In view of this, the concept of a "barbarian invasion" is unnecessary as a means of explaining the patterns found in the archaeological record in this period.

The Carolingian Renaissance: Ideal and Reality

-John Moreland & Mark Edmonds (Sheffield University)

Much recent theory in archaeology has stressed the importance of the notion of social reproduction, and has concerned itself with the possibility of using archaeological data to examine how this was facilitated. As with most theoretical archaeology, medieval archaeologists have so far contributed little to the solution of this problem. We would contend, however, that the historic periods offer considerable potential as an area in which ideas can be tested and methodologies developed which are appropriate to tackling these issues. Drawing on the recent work of archaeologists, art historians, and especially historians of the medieval "mentalite", we hope to demonstrate that this is indeed possible, and to present the so called Carolingian Renaissance in art, architecture and learning as a "mechanism" for ensuring the continuation of existing inter- and intra-societal relations in the face of increasing division and contradiction.

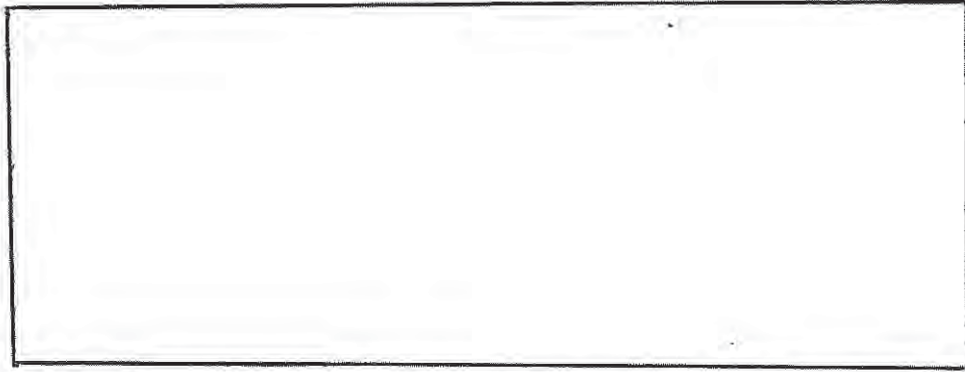
Across the Barricades

-Catherine Coutts & Julian Thomas (Sheffield University)

The gulf between theory and practice is nowhere as visible as in medieval archaeology. Here, the bastard child of prehistoric archaeology and medieval history sits uneasily, disowned by both its parents. The practitioners of medieval archaeology are rarely able to deal competently with historical documentation, yet have traditionally shunned the insights available to them from the theoretical perspectives of prehistoric archaeology. Where these innovations have been adopted, however, their use is often eclectic and unquestioning, divorced from any commitment to a particular theoretical position. A parasitic relationship thus develops in which the medievalist ransacks the theoretical literature in search of often inappropriate models and jargon which do more to inflate his or her ego than to elucidate the past.

We intend to show that medieval archaeology offers a unique opportunity to test the validity of theoretical constructs concerning the relationship between material culture and society. In drawing purely upon ethnography for sources of information concerning exchange, symbolism, ideology and social organisation, the prehistorian is in danger of contributing to a new orthodoxy which restricts the recognition of the variability of the ways in which societies operate and are constituted. Where we have the

material record of a documented society, we stand a chance of being able to further our understanding of these relationships. So while it may be readily acknowledged that medievalists have a lot to gain from conversing with prehistorians, we hope to show here that this dialogue need not be one-sided.



• QUANTITATIVE METHODS: THEORY AND PRACTICE

Organiser: James Bell (University of South Florida) &
Steven Mithen (Cambridge University)

Chairperson: James Bell (University of South Florida)

Bridging the Channel: Understanding Cartesian Method in French Archaeology

-James Bell (University of South Florida)

While the English speaking world has been dominated by the Baconian view of knowledge, the French-speaking regions and Mediterranean Basin are under the aegis of the Cartesian view. Unlike Francis Bacon's induction, in which theories are extrapolated from empirical data and speculation transcending data is taboo, Rene Descartes' deduction encourages theory generation through speculative thinking and conveys a sceptical attitude towards data. In other words, the Cartesian approach incorporates a different method for gaining knowledge and markedly contrasting criterion for legitimating it. This Cartesian heritage, perhaps more than language, has been a wall to communication and the source of much misunderstanding of those across the Channel. This essay will attempt to build a bridge by explaining how Cartesian method has guided theoretical archaeology on the other side.

Three sections comprise this paper. The first outlines the Cartesian view of knowledge and the seventeenth-century milieu which gave it birth. The second will show how the Cartesian approach has directed theory building and theory choice in French archaeology. The third will offer specific recommendations for improved dialogue and fruitful exchange amongst archaeologists on both sides of the Channel.

Mathematical Schemata and Archaeological Phenomena: Substantive Representation or Trivial Formalism?

-Dwight Read (UCLA)

Mathematics, as the eminent philosopher Charles Peirce has stated, is "reasoning with specially constructed schemata." When there is isomorphic relation between the schemata and real world processes, the mathematical reasoning provides a formal construct that becomes a model for real world phenomena. The extraordinary success in the physical sciences of using mathematical schemata as a language and formalised system through which properties and relations of the physical universe can be expressed and logically examined has naturally led to emulation by other scientifically oriented disciplines. Yet the basis for that success - representation of fundamental relations in the form of mathematical schemata - seems impossibly elusive in the social sciences in general and archaeology in particular. The elusiveness, it will be argued and illustrated by example, stems not from the all too real difficulty in finding "universal laws" of behaviour with their concomitant expression in the patterning found in the archaeological record, but from the fact that "laws" are sought at the wrong level. Mathematical representation has been most successful in the physical sciences when it is at the level of fundamental relations and not at the level of phenomena representing the consequences of those relations. By analogy, formally representable theory appropriate to archaeological phenomena must, if it is to escape triviality due to excessive particularism, account for relations at a level more fundamental than the immediately observable, behavioural level and its correlates.

Reindeer and Risk: Modelling Upper Palaeolithic Economies

-Steven Mithen (Cambridge University)

The paper constructs a mathematical model to simulate reindeer hunting in Upper Palaeolithic Perigord. It examines the relationship between yield, risk and hunting intensity. Population density estimates and quantitative measures of risk faced by hunters are derived. The population dynamics of a reindeer herd is simulated with the use of data from modern Norwegian reindeer and a Leslie Matrix model. Exploitation of the herd by humans and wolves is simulated to determine the equilibrium reindeer population and sustainable predator populations at each feasible hunting intensity. A maximum human population density of 0.042 persons/Km sq. is derived. It is demonstrated that as hunting intensifies the risk faced by the hunters rapidly increases and I suggest that the social complexity of the period functions to buffer against such risk.

Prehistoric Locational Behaviour: a swidden horticultural system

-James McGlade & PM Allen (Halifax, Nova Scotia)

Models of prehistoric locational behaviour have traditionally been tied in a deterministic way to environmental variables and least cost strategies associated with notions of optimality. While such correlations may be relevant, they take

little or no account of fluctuations or the complex array of human cognitive decisions which characterise the process of settlement movement over space and time.

This paper sets out to more fully integrate these discontinuous stochastic variables into a comprehensive dynamical framework, and presents by way of example a locational model of Iroquoian shifting agriculture using data from prehistoric and protohistoric Huron sites in southern Ontario:

The Simulation of Kinship and the Rise of the Family

-Ezra Zubrow (SUNY, Buffalo)

Cemetery excavations provide good evidence for the abstract patterning of ancient mortality. Cemetery data, appropriately analysed, allow the reconstruction of the age-profiles of the living society, and good estimates of crucial factors for social structure (eg. whether grandparents die before grandchildren are born, so that at any one time there are effectively only two living generations). This has profound consequences for major aspects of social reproduction, and indicates which ethnographic sources provide, or do not provide, appropriate models for prehistory.

FAST
TURN-OVER

↳ by time kids are 11, prob. parents dead
↳ start work early
↳ have kids early

Theoretical Issues Pertinent to Inductive Predictive Modeling of Settlement Location Choice

-Christopher Carr (Arizona State University)

Current approaches to inductively and statistically modeling the decision processes that determine settlement location among mobile to semisedentary populations involve assumptions about and can shed light on a number of behavioural phenomena. These include: the balance of logistic and residential mobility used; risk-minimisation in subsistence strategies; catchment definition; how the natural environment is cognised (as individual resource characteristics or biophysical communities) and the conditions determining different modes of perception; the level of detail with which global choice sets are partitioned; the simultaneous or sequential nature of decision processes; and the effect of population density on settlement decision processes. These theoretical issues become involved in analysis explicitly or implicitly through the researcher's choice of analytic technique, variables, the scale of the units of observation, and the scale of the research universe. Appropriate and inappropriate choices of method and data structure are discussed in relation to the enumerated assumptions about behaviour.

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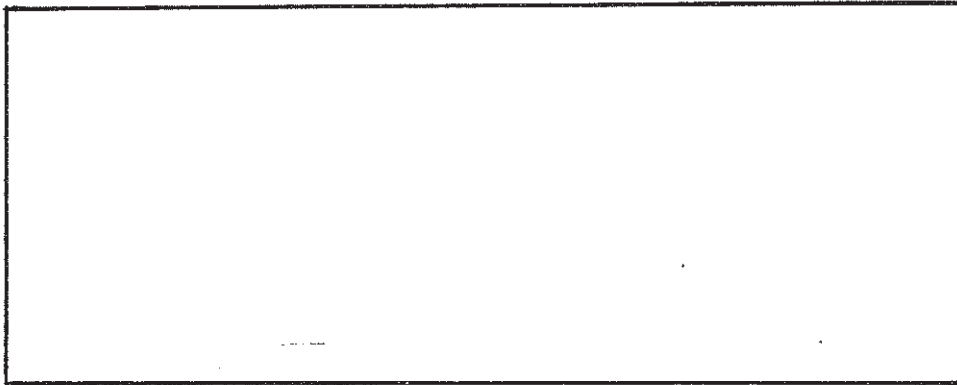
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Detecting the Social Organisation from the Burial Data: A Case-study from the Early Iron Age of Central Italy

-Alessandro Guidi (Soprintendenza Archeologica)

The case-study is the Early Iron Age necropolis of Quattro Fontanili at Veii; a very well known archaeological site for the English scholars. The A. studied the chronological sequence of this graveyard; the conclusion was that the majority of the graves can be referred to the first half of the 8th century BC, a key-phase for the detection of a clear social stratification in the Middle Tyrrrenian area communities, immediately prior to the aristocratic tombs of the following period. In this group the A. recognised a first period (II A1) with few tombs exactly datable; a second (II A2) with a big number of graves and, in the end of the phase, probably around 750 BC, some impressive "chiefly tombs". In this work the A. applies to the two periods IIA1 and IIA2 different types of analyses comparing the results of each, trying to define their field of application for a more or less precise detection of the social structure in the archaeological record.



INFORMATION AS A CULTURAL RESOURCE

Organiser & Chairperson: David Evans (RCHM England)

Current Users of Archaeological Information

-David Fraser (HBMC England)

Before any attempt can be made to discuss a Heritage Information model for future users of archaeological information, it is necessary to examine closely the current users of such information and to ensure their needs are catered for in any future theoretical or practical scheme. This paper examines the nature of use made of archaeological information for;

- a Planning and Conservation
- b Archaeological Research
- c Leisure and Recreation

and concludes that the first category of use is by far the most frequent in Britain today. All future users have particular requirements, but the role of the planners must figure largely in the design of any model of heritage information flow.

The Future User

-Mike Corbishley (HBMC England)

This paper concentrates on archaeological education, and its role in conveying information to society as a whole. I will especially examine the practical aspects of this problem, i.e. what are the desirable trends in archaeological education and how can we plan for them.

Such planning must centre on two issues, namely;

- a SCHOOL INVOLVEMENT WITH THE HISTORIC ENVIRONMENT should be promoted along the present lines, that is;
 - a.1 PROJECT WORK on the Historic Environment
 - a.2 EXAMINATION WORK in Secondary Schools (CSE/AO/A levels and forthcoming GCSE exams).
- b ARCHAEOLOGICAL INVOLVEMENT WITH SCHOOLS from professionals, and some amateurs, should be co-ordinated as (for example);
 - b.1 CBA/HBMC involvement in the school curriculum
 - b.2 COUNTY/UNIT/MUSEUM records being made more widely available.

Archaeological Publications: Their Nature and Use

-Cherry Lavell (CBA)

Archaeological publications can be divided into half a dozen main categories:

- 1 academic level works (archaeologists addressing other archaeologists);
- 2 educational works (formal and informal, schools and WEA course material);
- 3 interpretational works (guidebooks, heritage trails, OS period maps, etc.);
- 4 popular, "leisure" books and magazines on archaeology;
- 5 lists of monuments for planning, conservation, and cultural resource management purposes; "countryside treasures" lists, etc.;
- 6 reference works, "where to look things up", resource manuals.

Lastly there are works which form the "unacceptable face" of archaeology: magazines on treasure hunting, the leyline literature, von Daniken and his ilk; and the relatively harmless but often inaccurate portrayals of the historical novelists; do these represent an interest which can be built on or not?

Information Services: their current range and their policies in meeting the various needs of users

-David Baker (Bedfordshire County Council)

The recent evolution of information systems concerned with the Historic Environment has been influenced by several factors. These include;

- a The emergence of the concept of the Historic Environment, with its associated increase in the volume of potentially storable data.
- b An expansion in the range and demand for such information
- c Enormous advances in Information Technology
- d The recognition that heritage information is part of the cultural resource, and is therefore of importance in itself.

In an overall model of heritage information services we will focus upon the common components of /EDUITIES/R and /EPOLICIES/R.

The /Eduties/R cover the /Edata/R and the /Eusers/R. Those relating to the /Edata/R require /Iaccuracy, consistency and security/R, those to the /Euser/R /Iaccessibility/R.

The /Epolicies/R cover what data are held, and in what form. These will be derived from the terms of reference defined for an individual service.

Individual information services can be subjected to these analyses (which we will look at in more detail) though it is possible that clear characterisation will not emerge. Much will depend on clarity of objectives, resources and the current stage of development.

At this stage there may be merit in exploring and attempting to agree the broadest and most general model for a network of Heritage information services. This would need to be one based on collaboration rather than interdependence, and would be a useful stimulus towards the vital preliminary stage of self-definition by individual services. Electronic Data processing will be of central importance, but considerations of this must not give priority to user accessibility over data quality.

Progress in Information Services in the United States' Historic Environment

-Christopher Peebles (Indiana University)

I hope to identify the main projects and services in the USA which are relevant to an effective National Information System for the Historic Environment. I will discuss these in outline, covering matters ranging from environmental conservation through education to archaeological research.

A recent major project in documentation and computerisation of the Historic Environment, on a USA-basis, has been initiated by the National Parks Service. This will draw upon State-based expertise and information systems and will hopefully provide a foundation for further information services in a broader range of

applications.

The range of projects to be considered includes;

- a EXCAVATION ARCHIVES monitoring and conserving
- b BIBLIOGRAPHIC REFERENCING for the US CRM programme.
- c CONSERVATION of archaeological sites and Historic Buildings, and the records associated with this work.
- d GEOGRAPHIC INFORMATION SYSTEMS A project which involves state and national co-ordination for the use of geographically distributed information.
- e EDUCATION PROGRAMMES principally of the National Parks Service.
- f ARCHAEOLOGICAL PUBLICATIONS and the effect of the major conservation journals.

The GB Experience with Information Systems of the Historic Environment

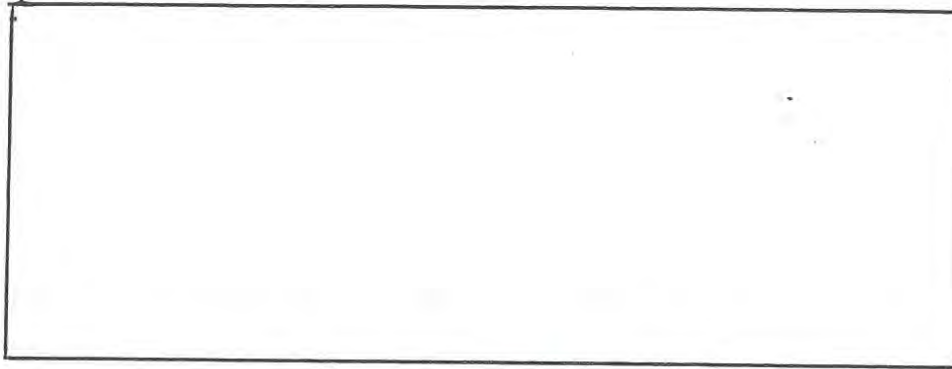
-David Evans (RCHM England)

I will start my paper by setting out what an ideal National Information System would be. This will be an attempt to show that, via more effective publication and other informative programmes, we may bring together the scattered aims of Local History, Local Amenity, Education, Tourism and Academia in the Historic Environment. The present information structure in the UK is ineffective in producing such benefits.

We will then discuss how to set about designing and implementing a feasible system. The major components are (following on from the UNESCO model);

- a OBJECTIVES ie. an idea of the wider benefits which should accrue from such a system and an idea of its terms of reference.
- b EFFECTIVENESS in defining and meeting User Requirements and the needs of the information service.
- c EFFICIENCY in designing, developing and operating an information system.
- d FEASIBILITY in terms of what is acceptable, possible and affordable. Major elements of this are;
 - d.1 POLITICAL ACCEPTIBILITY ie. who will accept an information system in which forms
 - d.2 TECHNOLOGICAL DEVELOPMENTS especially in Information Technology
 - d.3 AVAILABLE RESOURCES including time, budget, staff and accommodation.

Overall, I hope to build on the example of past successes and failures, and the current rising trend of user demand, to propose how we might allocate our available resources in practice.



THE SOCIAL CONSTRUCTION OF SPACE

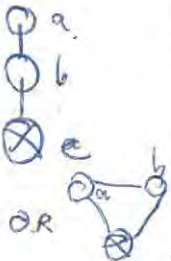
Organiser & Chairperson: Margaret Nieke (Glasgow University)

Discovering House Genotypes

-Bill Hillier (University College London)

"Space syntax" is a set of techniques developed at the Bartlett School of Architecture and Planning for the analysis of patterns of space in buildings and towns. It works at three levels: how space patterns can be represented; how they can be analysed as systems of relations; and how they can be interpreted in terms of functional descriptions. One application of the technique is in the identification of spatial types. In this paper a sample of vernacular houses from rural France (supplied by the Musee des Arts et Traditions Populaires) is analysed to show how underlying types, or "genotypes", can be identified by formal means, using both spatial and functional data. The analysis demonstrates that the common objections to formal analysis - that, for example, "it all depends on the 'meanings' that people assign to space" or that "it all depends on how the space is used" - are invalid, because spatial patterns not only "represent" but also "constitute" aspects of culture and social organisation.

JUSTIFIED
GRAPH



Structural Analysis of Vernacular Architecture: Transatlantic Comparison of Results

-Henry Glassie (University of Pennsylvania)

Constructing a transformational account of house design in one small area of Virginia led to the recognition of a pattern in historical development in domestic architecture that, in turn, demanded an explanation. The explanation then called for testing and a test was conducted in the western border country of Ireland where houses should have undergone a change around 1900 that paralleled the change in Virginia around 1760. The old Irish house like the old house of Virginia was socially open and visually asymmetrical. The Irish house indeed changed in 1900 in a way comparable to the change in Virginia, but the causes for the change, since they occurred within living memory, could be

more fully understood: the explanatory structure - relevant for vernacular housing throughout northwestern Europe and colonial America - could be shaped with more complexity and sophistication.

The Circle Exploded: A consideration of concentric-plan Causewayed enclosures

-Chris Evans (Cambridge University)

Though Neolithic causewayed enclosures have been the subject of extensive research, yet the implications of the concentric ditch-ring pattern which is common to a number of them have been largely neglected. This paper will concern the general spatial organisation of causewayed enclosures and in it will be discussed the various classification schemes proposed for these enclosures. It will be argued that the recently proposed "geometric design" of these sites is inappropriate and instead spatial orders may prove to be a more relevant concept.

The plans of three concentric-plan causewayed enclosures (Windmill Hill, Orsett and Briar Hill) will be analysed, all of which have three concentric ditch rings though of varying relative diameter/ring ratios. While the plans of some of these enclosures would suggest a phased or sequential ring construction, the apparent maintenance of the ditch systems through recutting would indicate an intentional concentric division of space. This concentric layout can be interpreted as a hierarchical spatial organisation in terms of access and division between its centre and periphery and which may relate to dominant "spheres" of function. This basic spatial principle must be considered in attempting to understand this form of enclosure and it has major implications for the development and emergence of formal "ritual" monuments in the third millennium BC.

Monuments to the Elite and Responses to Entrepreneurial Vigour: a Comparison of 18th and 19th Century Edinburgh and Glasgow Urban and Building Forms

-Thomas Markus (Strathclyde University)

Scotland's governing elite in politics, law, church and the army, was concentrated in Edinburgh in the 18th century. The New Town was designed both to remedy the inadequacies of the medieval Old Town and also to project a powerful image of the social and political power of this class. It relied on European traditions of classical architecture, a bounded grid and a careful location of institutional buildings in relationship to churches and houses. In contrast the explosion of trade and industry in Glasgow in the late 18th century involved rapid growth in various directions especially of middle class and working class housing. This was also accompanied by the creation of new and large institutional buildings. The paper examines the similarities and differences in the grid form of the two cities and in detail, the location and characteristics of key buildings in both cities as a phenomena of the political and entrepreneurial ideologies and practice of the Scottish Enlightenment and Industrial Revolution.

Lark Rise to Coketown: Approaching Industrialised Communities

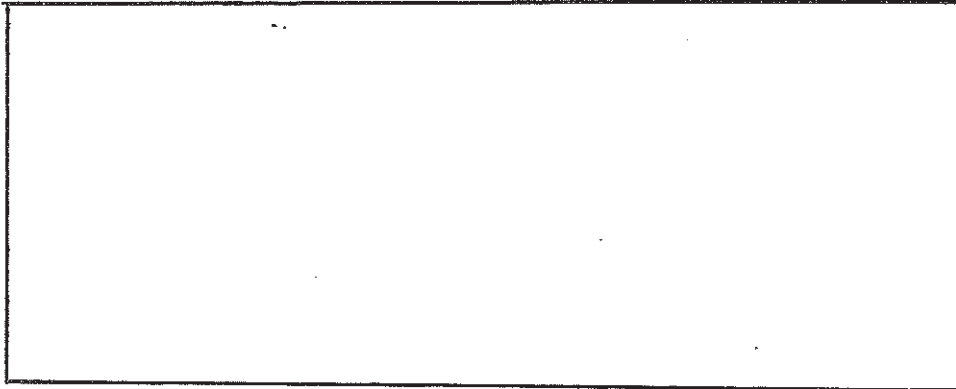
-Martin Lawler (University College, Cardiff)

The coalfield valleys of South Wales during the Industrial Revolution are identified here as a segmental frontier analogous to Turner's evolving frontier settlements across the American West. A derived principle is that large population movements into hitherto underdeveloped marginal lands inevitably transforms the old landscape and its communities. The incoming settlers themselves and their institutions are also forced to adapt to the new environment. What emerges is, for a brief period, a true hybrid, but this society models itself increasingly on the (conceptually) "eastern" civilisation it has sprung from.

A case study is made of the changing structural characteristics of a frontier community at Blaenafon, a boom-town on the coalfield outcrop, between 1785 and 1850.

The Temple and the Palace: Museums as Defenders of Bourgeois Culture

-David Clarke (NMAS)



ARTIFACTS: EXPERIMENTATION AND ANALYSIS

Organiser & Chairperson: Caroline Wickham-Jones (National Museum, Artefact Research Unit)

Tales of the Unexpected: The effects of waterlogging at Etton Causewayed Enclosure

-Maisie Taylor (Fenland Archaeological Associates)

The paper deals briefly with the evolving logic and strategy behind the excavation of waterlogged deposits at the causewayed enclosure at Etton; the results of that strategy and the difficulties encountered.

Having briefly described how the large assemblage of Neolithic wood-working debris was excavated, the bulk of the paper is taken up with the work that has been done so far on it.

A metrical analysis of the material combined with the relationship of the pieces to each other and their three-dimensional relationship to the monument has revealed strong patterning even at a most superficial level.

A detailed study of the material, together with the "normal" (dry) material has led to a number of questions being posed.

These mainly concern the validity of conventional theory based on the examination of dry material alone, now that the subtlety-of patterning in the wet deposits has been revealed.

Prestige and Practicality: Using Experiment to Evaluate Swedish Neolithic Flint and Groundstone Axes

-Deborah Olausson (Lund University)

This paper provides some thoughts about the use of experiment for establishing a tool's value in a society for which no direct information about value systems is available. It is suggested that any given object's value can depend on two opposing conditions: if the object is intended only for some practical function, its value increases the better it performs this task. At the other end of the spectrum are objects which have no practical function but which instead serve some purpose in society to mark status, as a symbol of wealth (so-called "prestige" objects), etc. The value of these objects increases the less they are able to fulfill a practical function, since the amount of time and/or labour expended in the manufacture of such objects requires an investment beyond what is required for subsistence - a surplus. The archaeologist, without direct access to the value system of the society which created the objects he/she studies, can have difficulty determining how much a given object represents value as a practical tool, and which of its attributes represent the extra investment embodying wealth. Faced with this dilemma, one way the archaeologist can begin to evaluate these facets in the objects he/she studies is to establish by practical trials which of the object's attributes are necessary for the tool to work. When these criteria have been established it is possible, also by means of practical trials, to establish how much time/labour is necessary to reproduce the "extra" attributes of a tool and in this way to gain a possible measure of the object's value for its owners. The discussion will develop this argument using the concrete example of flint and groundstone axes from the Neolithic period in Scania, Sweden. Experiments with the manufacture and use of three axe types form the basis of the study.

Pottery Typology in Theory and Practice

-A. van As (University of Leiden)

In spite of a still growing amount of scientific literature on typology, there is still no communis opinio on the type concept with respect to archaeological pottery studies.

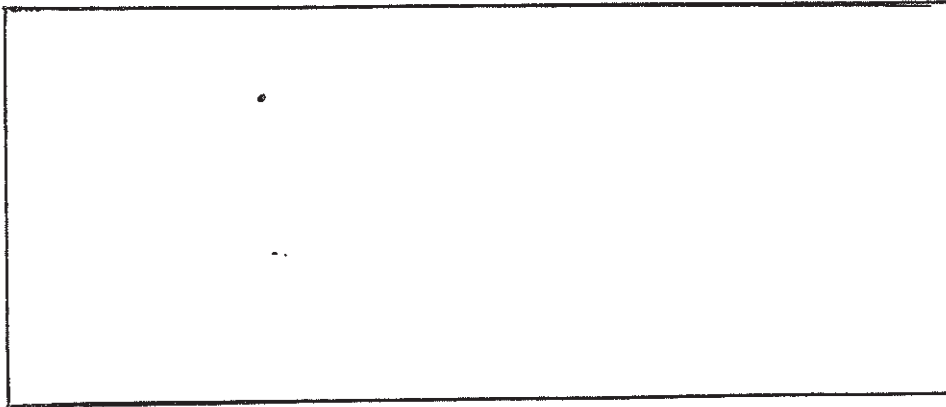
Pottery has many attributes: material, form, decoration etc. These various attributes reflect a system: technology, function, use, trade, kinship etc. Technological research of excavated pottery is basic for the reconstruction of the system.

The type concept as used in archaeology will be critically elucidated from the potter's point of view and on the basis of the existing theoretical/philosophical literature on the type concept. The existence of pottery types and pottery classes will be demonstrated.

Bridging the Gap Between Laboratory and Field in Ceramic Theory

-Gordon Bronitsky (Goethe University, Frankfurt am Main)

Archaeologists interested in the technology and function of ancient ceramics have often relied upon laboratory studies and experiments. Such experiments have measured differences of performance among briquettes in which only one factor is allowed to vary, such as temper, firing temperature, finish, etc.. The growing popularity of such studies has led to growing criticism, focusing on the suitability of such techniques as analogs or explanations for variability and function in actual ceramics. This paper examines the theoretical basis for such studies and suggests a number of theoretical and methodological means for strengthening the links between laboratory experiments and archaeological ceramics.



THE IDEA OF DIFFUSION

Organiser: Nick Merriman (Cambridge University) &
Tim Taylor (Oxford University)
Chairperson: Nick Merriman (Cambridge University)

With the advent of the "radiocarbon revolution" of the 1960's, Childe's classic characterisation of European prehistory as "the irradiation of European barbarism by oriental civilisation" became gradually replaced by one which stressed indigenous development at the local scale. The redating of European prehistory made "diffusion" a dirty word by showing that the theories of Perry and Eliot Smith were entirely wrong, and the work of Penfrew and others showed that phenomena such as megaliths or the adoption of metallurgy need not or could not be explained by conventional diffusionist interpretations.

Subsequent work has built on the new foundations supplied by C14 dating to the extent that "diffusion" is still a word rarely mentioned by archaeologists except in a pejorative sense.

Recently, however, some archaeologists have become interested not so much in looking for general processes of cultural change, but in explaining the variability of the archaeological record. This has led to a call for studies of a particularist nature which take into account the context and historical trajectory of individual societies in an attempt to account for the specificity of cultural forms. Thus in contrast to a systems approach, where explicit boundaries have to be drawn, the historical particularist approach has - theoretically, if not in practice - no boundaries, and the interactions and influences of different social groups upon one another becomes of central

interest. In other words, "diffusion", whether of people, ideas, language, objects, material culture traits or ways of doing things must become a major topic of interest in understanding why certain groups adopt specific cultural forms and others do not.

This session has arisen from the feeling on the part of the organisers that most archaeologists have continued to work with a concept of diffusion without calling it by that name. Instead they have tended to look at "influences", and these influences have been studied from an economic point of view as trade and exchange. It is felt that the time is ripe for a recognition that "diffusion" in the sense outlined above does occur, and that a simple distinction into "influence", "trade" and "invasion" hides the fact that they can be seen as part of the same diffusion process.

It is not intended here simply to re-hash old arguments concerning independent invention versus diffusion, or diffusion versus invasion. It is suggested instead that a reconsideration and reformulation of the ideas of diffusion, with a particular emphasis on the role of ideology (hence the double-edged title), can be potentially useful in trying to explain cultural variability.

It is hoped in this session to use recent work from anthropology, material culture studies and ethnoarchaeology, particularly concerning ideology and prestige/gift exchange and consumption to attempt to aid the understanding of specific cultural change. The aim of the session is not to be comprehensive, but thought-provoking. The papers have all been chosen in an attempt to give a spread of ethnographic, protohistoric and prehistoric societies to indicate the potentialities of such an approach in each area.

Introduction: Diffusion and the Specificity of Cultural Forms

-Nick Merriman (Cambridge University)

The introduction will consist of a very brief history of the ideas of diffusion and an explanation of why we feel that the question of diffusion should be resurrected, along the lines of what has been written above. It is suggested that where the old concepts of diffusion and current treatments of trade and exchange can be criticised is in their failure to consider in the particular case why certain social groups influenced, or were influenced by, other social groups, or why particular items of material culture were chosen to emulate other societies. Old diffusionist approaches treated material culture like a gas which diffused across parts of Europe, and many contemporary treatments of trade and exchange either assume (in the case of the example chosen here) that certain groups would naturally want to emulate other societies, or they do not consider why some forms of material culture were the vehicles of emulation and others were not. It is only by studying the previous history of material culture use (ie. which things were used in which contexts) in the area in question that one can attempt to explain the particularity of material culture.

As an example, an attempt is made to explain why specific Mediterranean goods were imported into Hallstatt-period circum-Alpine Europe. It is suggested that Mediterranean wine amphorae, mixing vessels and drinking vessels were imported into those societies because they fitted into a tradition of ceremonial

drinking and feasting by the elite which stretched back at least a thousand years. Their meaning was thus appropriate for their acceptance into circum-Alpine society and for their desirability as scarce items by a ruling stratum which had to base its claim to authority both by reference to the traditional past (heroic fighting, drinking and feasting) and by securing new ranges of scarce items with which to demonstrate its power.

The Eclectic Bimanes of Eastern Indonesia

-Mike Hitchcock (Horniman Museum, London)

Numerous contemporary Biman designs are similar to those found on other Indonesian islands. Scholars such as Gittinger and Jasper have interpreted these common designs in terms of the influence that other cultures have had upon the Bimanes: they are perceived as recipients rather than innovators. This, however, is not how Biman craftsmen see themselves and evidence from the highlands of the region and an analysis of craft processes appears to contradict simple diffusionist models. This specific ethnographic case will be used as a starting point for a discussion of some of the problems of anthropological theory regarding diffusionism.

A small steppe for mankind?

-Tim Taylor (Oxford University)

This paper will look at evidence for long distance contacts and population movements over the Eurasian steppe, taking examples from the migration period, with a discussion of the significance of the distribution of "Hunnic cauldrons", and from the Thraco-Cimmerian and Scythian period, looking at the distribution and development of animal-style mobiliary art. It will be emphasised that there is often no simple correlation between historical "peoples" and "typical" material artifacts, although both travelled over long distances. The role of prestige artifacts and ceremonial hunting in legitimating the power of the ruling stratum will be assessed in attempting to explain the distribution of mobiliary art.

The ideas of "diffusion" in a proto-historical period: Gothic metalwork

-Kevin Greene (Newcastle University)

The Goths provide an interesting blend of historical and archaeological study, as they emerge from north European obscurity into the contemporary accounts of their neighbours and subjects in the Roman world. Goths controlled Italy, Spain and parts of France around AD 500, and a considerable quantity of metalwork survives from these areas, as well as from south Russia and the Danube region. The adoption, modification and abandonment of different types of ornamental metalwork can be traced over a period of three hundred years (c. AD 400 - 700), and can be assessed in the light of historically documented interactions between Goths, Byzantines, Romans and Germans.

The Early La Tene in the South Eastern Alps: Prestige Exchange and Diffusion

-Phil Mason (Oxford University)

The aim of this paper is to examine the processes behind the diffusion of Early La Tene artefacts into the South Eastern Alps by examining the contexts in which the artefacts concerned were found. The group chosen for study is the Dolenjsko group of North Western Yugoslavia. Here La Tene style artefacts are only known from mortuary finds and can be divided into two chronologically distinct contexts. In the first, earlier, context they are found only in the rich warrior graves and in the second, later, context they are found much more widely in the mortuary record. In the first context the artefacts comprise swords, belt parts and occasionally bronze helmets, vessels and horse gear, which are part of a widespread tradition of rich warrior grave furniture. In the second context, however, the artefacts comprise mainly indigenous forms of fibulae and belt fittings imitating styles of South-western Germany.

It is suggested that the first context of the La Tene artefacts in the Dolenjsko group represents the introduction of foreign items into an existing prestige good system. This can be seen as part of an effort by local elites to maintain and reinforce their position by constantly searching for new prestige items. The second context, it is suggested, represents the integration of La Tene artefacts and ideas into the cultural repertoire of the Dolenjsko group. The context suggests that they are no longer the preserve of the upper levels of the elite, who cease to be materially represented in the mortuary evidence. This interpretation contrasts with the model proposed for Late Hallstatt/Early La Tene development in South-western Germany (Pauli 1972), where La Tene artefacts are seen as entering the system via the lower levels of society and are gradually adopted later by the elite.

Diffusion, radiocarbon and the megaliths

-Simon Buteux (Cambridge University)

Amongst the most dramatic casualties of the "Radiocarbon Revolution" were the various diffusionist explanations of the spread of megalithic tombs which had prevailed into the 1960's. Although it was only particular diffusionist arguments - and not diffusion per se - which had been shown to be invalid, many of the new approaches to megaliths largely disregard this process, concentrating rather on general explanations of function and origins.

It is argued in this paper that "diffusion" is not incompatible with these new approaches, but rather helps to extend our understanding of megaliths. Furthermore, radiocarbon dating has in recent years undermined some of the simple local sequences of tomb evolution which have been proposed, and it is suggested that consideration of long range interaction and diffusion can help elucidate the more complex patterns emerging. The argument is illustrated by examples drawn from the Scottish and Irish megalithic tombs.

PRODUCTION AND EXCHANGE STUDIES

Organiser: Alison Sheridan (Queen's Belfast) & Marie-Louise Stig Sorensen (Cambridge University)

Chairperson: Marie-Louise Stig Sorensen (Cambridge University)

The story so far: a fruitful commerce of ideas or an over-production of hot air

-Alison Sheridan (Queen's Belfast)

This paper offers a brief critical review of the major developments in prehistoric/early historic exchange and production studies, focusing on their role in "social archaeology". The uncritical use of ideas borrowed from economic anthropologists such as Polanyi and Sahlins is criticised on theoretical and methodological grounds. The need for specifically archaeological models, which acknowledge the potential and limitations of the available data, is emphasised; and examples of the successful use of such models are cited. It is argued that the most promising approach is to adopt and develop the general, flexible model of socio-economic processes as set forth by Friedman and Rowlands in their Evolution of Social Systems.

There's more to trade than dots on maps: a social study of the production, distribution and consumption of Hallstatt C swords in Europe

-Marie-Louise Stig Sorensen (Cambridge University)

Artificial distribution maps - and, in particular, maps of items such as Hallstatt C swords - have traditionally been interpreted as indicators of trading routes and of the spread of particular "fashions" in prehistory. This approach, however, provides few insights into the nature of the societies in question. A more fruitful approach, and one which is adopted here, is to regard trading as a social activity - that is, as the outcome of specific choices within a specific local cultural context. By applying social theory to the study of prehistoric trading, and by expanding the focus of investigation to cover the production, circulation and consumption of items within particular cultural contexts, a far greater understanding of the motives and relationships of the participants can be achieved.

Textural and formal attributes of British biconical urns: evidence for cultural change

-David Tomalin (Isle of Wight Museum)

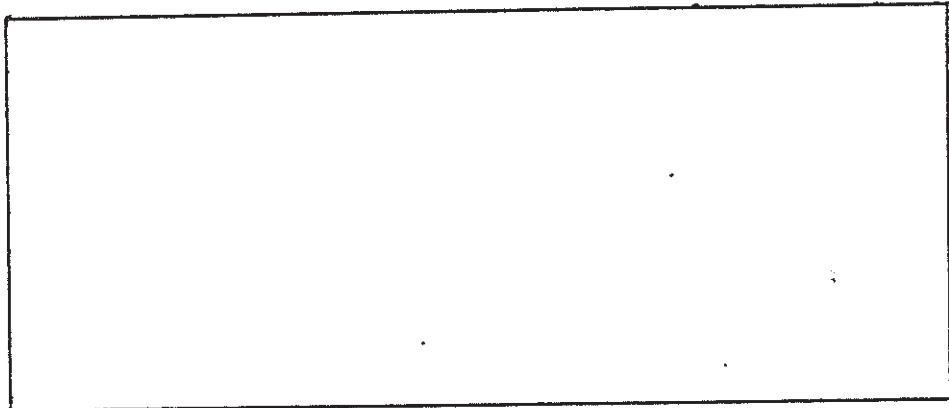
Textural and formal analysis of Wessex biconical urns, and comparison with earlier and contemporary pots of the Food Vessel/ Urn and Collared Urn traditions, has revealed that the former were clearly an intrusive, alien ceramic in southern Britain. A Continental origin for the biconical urn tradition can be traced, and it is argued that introduction into Britain was associated with an actual influx of craft specialists. The appearance of a variety of other novelties, such as faience beads, seems to be broadly contemporary with this; and the impact of such

innovations on indigenous craft production can be detected in, for example, the use of encrusted decoration on urn-sized vessels (a feature borrowed from the biconical urn tradition). The socio-economic background of this intrusive cultural complex, and the reasons for its introduction into Britain, are discussed.

Livestock exchange in Early Christian Ireland

-Finbar McCormick (Queen's, Belfast)

In Ireland, a large body of literary evidence concerning the period between c. 500-1100 AD has survived, providing an unparalleled body of information about the social institutions of a pre-urban society. This information is used to help interpret the faunal remains found on sites of the period. It shows how many of the assumptions made in reconstructing early economic systems are inaccurate because they fail to distinguish clearly between the concepts of "trade" and "exchange". Actual "trade", where one exchanged goods for something one did not already have, accounted for very little of the transfer of ownership of livestock and other goods in this society. Instead there was a constant transfer of the ownership of these commodities in order to maintain the social ties that existed between people of different status in this society. The basic assumption that the faunal remains present on an isolated farmstead in a rural society represent the produce of that specific site may not be valid. There are therefore inherent dangers in using this material to reconstruct the livestock economy.



THE MATERIAL RECORD: CLEAR THINKING AND SIMPLE MATHEMATICS

Organisers: Robin Boast, Chris Chippendale and
Michael Czarwno (Cambridge University)
Chairperson: Robin Boast (Cambridge University)

Most applied mathematical analysis in archaeology has centred on the application of more and more sophisticated and complex statistical algorithms, with little or no consideration of the appropriateness of the algorithm for the data, or the questions being asked of the data. It is this lack of concern in archaeology for appropriateness in applied quantitative analysis that has led to an appalling abuse of statistical methods over the past 15 to 20 years. Usually "mathematical methods" is taken as a synonym for "quantitative methods", ignoring the major mathematical possibilities of eg. geometry, set theory, and formal logic.

This session will not waste much of its time on past crimes hideously committed, but will explore both the idea of appropriateness of methods to data, and appropriate mathematical methods for archaeological problems.

The common theme in the session is a respect for the variables that are genuinely accessible archaeologically, and the finding of the best methods for the particular character of data and questions. It is an approach from the bottom up rather than beginning with the elegant abstractions which - so often - prove to have no measurable expression in the archaeological record. Its methods are correspondingly diverse, and they are usually robust and straightforward, as the scrappy nature of most of archaeological data requires.

Grammars of design: the case of small house plans

-Philip Steadman (Centre for Configural Studies, Open University)

The plans of many small houses or flats may be represented as packings of rectangles within rectangular or rectilinear boundaries. Important functional properties of such plans can be related to the dimensions of rooms and to the relations of adjacency, of one room to another, and of the rooms to the exterior. In recent years a number of computer methods have been devised for generating plans of this type exhaustively under given constraints of adjacency and dimension. These methods embody constructive rule-based procedures or shape grammars. The result is a complete enumeration of "possible plans" under the specified constraints.

These may be compared with actual plans found in use in some geographical region and at some historical period. This paper describes an ongoing study of British house plans from c. 1850 to the present. The exhaustive enumeration makes it possible to discover how plan variety is restricted first by the intrinsic nature of the geometrical close-packing of rectangles. The selection of actual plans from within this range of "geometrically possible" arrangements must then reflect the imposition by architects and builders of further constraints of a functional or technological nature, and/or choices made on aesthetic criteria.

This example from house planning is used to raise some general methodological and epistemological questions arising in

an approach to the formal description of artefacts using rule systems or grammars. These include the interpretation of separate rules in terms of distinct operations in the actual design and construction processes; the benefits and limitations of the exhaustive enumeration of spatial patterns; and the explanatory status of grammars of design.

A Shape-grammar treatment of megalithic Orkney

-Christopher Chippindale (Cambridge University)

The concept of "grammars" is increasingly being applied to the study of art and artefact systems in archaeology, in response to the limitations of typology and in recognition of the power of a rule-based approach. Usually, models deriving from linguistics are employed. Unfortunately, they are inappropriate. Their parameters and variables have no equivalents in the three-dimensional space inhabited by artefacts. The focus of linguistic study is in the relationship between meaning and its expression; in prehistory, we have no idea of meaning, and only fragments of its expression in material culture. (This is why symbolic and structural archaeology are dodgy, while symbolic and structural prehistory has been a disaster.)

Architectural studies, which often deal, as archaeology does, with old buildings, have long used "grammatical" analogies in a rather unsystematic way. One talks of the "language" or the "syntax" of a particular architectural tradition, or contrasts "formal" (tightly rule defined) and "vernacular" (craft) styles. Stiny shape-grammars formalise this useful but unsystematic approach into a rule-based system of geometry.

A Stiny shape-grammar is presented for the megalithic chambered tombs of Orkney, a class of prehistoric material in whose study conventional typology has proved notoriously unhelpful; some of the insights it presents are explored.

Stiny shape-grammars offer to archaeology a methodology derived from the specifics of spatial systems (rather than the alien particulars of structural linguistics), and one which has already been widely tested on a range of historical material. Preliminary work on a range of archaeological material has confirmed its power in formalising hard-to-define concepts such as "style". Essentially, it is no more than systematic description, but the act of description itself provides insights, and the systematic description gives a point of departure for morphological comparison, studies of affinity and derivation, and so on, using simple set theory and simple statistics.

A generative grammar of planning in medieval London

-Frank Brown (Centre for Configurational Studies, Open University)

London, though unique in many respects, provides a good example of the kind of building pattern associated with medieval towns: densely aggregated, visually complex, without any obvious order. Patterns of this type are often characterised as "higgledy-piggledy" or chaotic. The geometrical irregularity, however, is deceptive. At the local level, at least, buildings were set out in a fairly consistent way, in accordance with

customary practice, and sometimes also with explicit regulations.

In this paper, a generative grammar or model is described which was designed to shed some light on the principles which underpinned building development in London. Drawing in part on historical evidence and in part on hypothesis, the historical process of development was interpreted as a set of rules, governing the relationship between buildings and plots. The rules were amplified and refined by computerisation of the model. With the aid of the computer model, different possible building configurations were generated for a variety of hypothetical blocks of land, and the results tested against the historical record.

The paper gives an account of the rule-based approach, illustrates some of the configurations generated by the grammar, and asks what conclusions (formal and social) can be drawn with respect to London's growth.

Linear programming and late prehistoric bones

-Katherine Boyle (Cambridge University)

The later palaeolithic of SW France is a classic case of a successful hunter-gatherer economy, using a diversified subsistence base. Simple linear programming indicates the particular values and weaknesses of dependence upon particular food resources, and shows how these were best combined into a viable subsistence strategy.

Plastic design systems: a case for British Beakers

-Robin Boast (Cambridge University)

A long-standing problem for archaeology has been the measuring of affinity (similarity) between objects and groups of objects. Another long-standing problem for British archaeology has been the accurate description of the stylistic variability of the British beakers. This paper attempts to accommodate both problems in one measure - a relational grammar of the beaker stylistic pattern.

Through the use of a relational grammar that defines the rules used at different levels of the production and organisation of a design, a measure of similarity that considers both the design elements and their organisation on the pot, has been developed. Not only does this measure provide higher resolution to the measure of similarity, but also provides the probabilistic conventions by which the design was produced.

The implication of this method for both stylistic analysis and beaker study is considered.

Thinking Clearly about Quantitative Method in Theoretical Archaeology

-James Bell (University of South Florida)

Mathematical analysis, statistical techniques, and simulation modelling have all been fruitful for theoretical archaeology. These methods can enhance the clarity of theories

that were no more than remotely conceivable in earlier periods. Furthermore, each passing year will likely show a significant increase in applications. This quantitative trend should be embraced, in my view, but there is a danger: there are not infrequent misapplications, from those which are simply diversionary and wasteful to those which are grossly misleading and harmful. This essay will explore how misapplications come about and why. More often than not the culprit can be interpreted as an unexamined view of scientific knowledge underlying quantitative techniques. This can lead to compulsive use rather than clear thinking about how they can and should function in theory building.

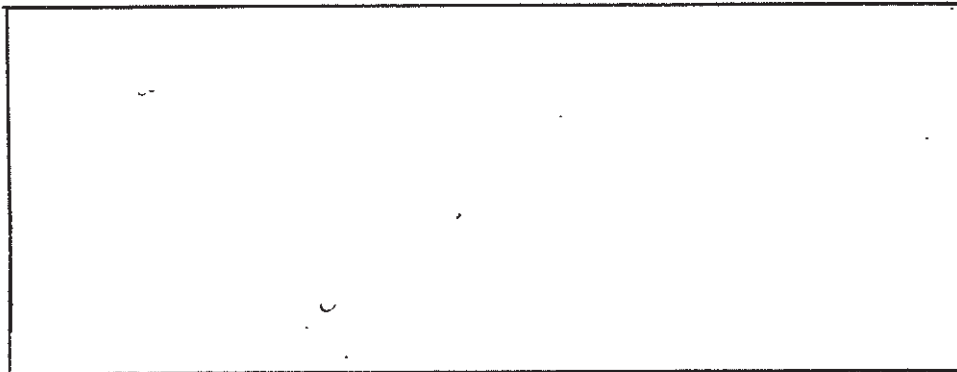
This essay is broken into three sections. The first develops general guidelines for applying quantitative techniques. The next outlines the functions of quantitative techniques implied by a number of prevalent views of science, with an especial emphasis on inappropriate roles. Examples from archaeological literature provide illustrations. The third section shows in more detail how one can beneficially apply quantitative methods while avoiding the pitfalls.

Keeping it simple

-Michael Czarano (Cambridge University)

The filthy reality is that quantitative methods are treated like some kindergarten rhythm band. There's lots of potential among all the cacophony. The problem isn't in the methods - they work just fine, thank you. Rather, the difficulty is in the way we approach the whole question of mathematical modelling in general, and the use of statistics in particular.

The major problem appears to lie in the belief that the use of quantitative methods somehow makes archaeology 'scientific'. Unfortunately, the truth is more complex: a scientific approach requires the application of formal logic in the formulation of archaeological questions. This paper will consider the need for a formal logic of inquiry which is consistent with the type of methodological requirements encountered in the use of quantitative analysis. Examples will be drawn from the ugly archaeological analyses which break the rules. Implicit within any formal logic approach is the KISS principle (Keep It Simple, Stupid), therefore, within the context of question definition, the principle of methodological simplicity will be stressed.



WARFARE

Organiser & Chairperson: Colin Richards (Glasgow University)

Beakers and Battleaxes: Bronze Age Warfare?

-Nick Thorpe (University College, London)

Traditional views of a horse-riding Beaker warrior aristocracy clearly require reassessment in the light of recent doubts expressed as to the existence of a "Beaker Folk". The evidence for Beaker period warfare does not suggest permanent conquest, but perhaps endemic raiding. The large scale "battles" at causewayed enclosures in the Earlier Neolithic, and at hillforts in the Later Iron Age, do not occur in the Earlier Bronze Age. There is a lack of impressive fortifications whatsoever.

However, there is evidence for the use of arrowheads as offensive weapons. This is in the form of deaths apparently caused by archery derived injuries. Such evidence varies in quality from the simple presence of barbed and tanged arrowheads in the grave next to a body to the finding of broken barbed and tanged arrowheads next to the skeleton with the tip of the arrowhead embedded in the skeleton. At the same time, the production of fancy arrowheads and wristguards suggests that a degree of social importance was given to archery, and by implication to warfare as well. The competitive nature of Earlier Bronze Age society is behind this occasional bubbling over into physical conflict.

Neolithic and later warfare in the British Isles

-Roger Mercer (Edinburgh University)

The Medieval Castle: Stronghold or Status Symbol?

-Ross Samson (Glasgow University)

Medieval fortifications and castles are almost exclusively explained by historians, archaeologists and "castelologists" as responses aimed at ensuring personal safety in times of growing violence. The symbolic aspects of castles are usually neglected. The first goal of this paper will be to discredit the simple correlation of castles with military requirements or general violence by reviewing a wide range of historic situations in which fortified architecture suddenly became prominent, or conversely was totally absent. Each phenomenon can be found to occur during times both of relative peace and near endemic warfare. Examples extend from late Roman towns, to the early medieval phenomenon of incastellamento in Italy, to Scottish Baronial architecture in the post-Reformation. The second goal of this paper will be to trace the development of late Roman villa architecture and town walls through the Merovingian and Carolingian periods and to offer a new and unorthodox explanation for the development of motte and donjon castles, based on changing attitudes towards social divisions rather than the traditional explanation of a response to Viking threats.

War in a Cold Climate: Romans and Barbarians on the Northern Frontier

-David Breeze (HEM Scotland)

Roman literature not only informs us how Roman armies fought, but is also the main source of information about their enemies. Frontiers rarely feature in Roman literature, but archaeology is an important source of information. Excavations on Hadrian's Wall, for example, have demonstrated a sequence of building which allows assumptions to be made about the functions of the various parts of the frontier complex. The linear barrier together with the observation towers were concerned with frontier control, while the troops in the forts were there to protect the province. Examination of the frontiers might also inform us about the opposition, the tribes to the north.

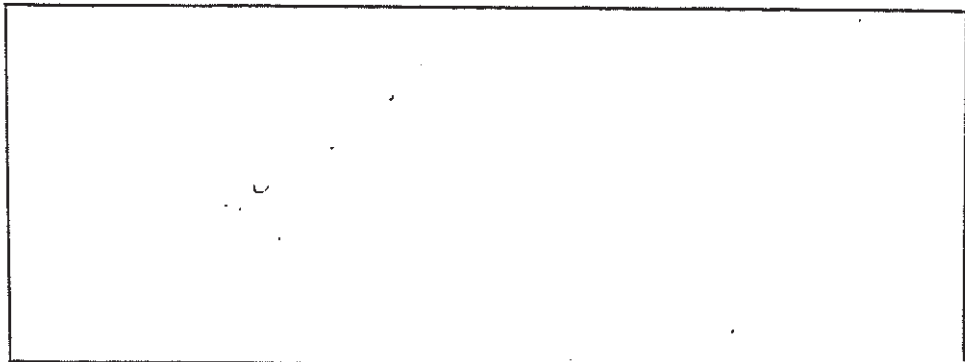
The northern frontiers were built within a relatively inflexible framework. Thus variations in the disposition of the troops stationed on them may be significant. On both Hadrian's Wall and the Antonine Wall there are such variations. The relationship between the concentrations of troops on the frontiers and the known areas of Iron Age and Romano-British settlements and routeways will be considered.

Iron Age Hillforts: Monumental or Military Construction?

-Mark Bowden & Dave McOmish (RCHM England)

Several writers in the past have commented upon the non-functional aspect of hillfort "defences" but none have discussed the problem in depth. Hillfort ramparts may have two distinct roles other than defence. Firstly, they may enhance the prestige of the site and its occupiers. This is especially true of multivallate sites and sites with elaborate entrances which reinforce isolation in the way suggested by Richard Hingley. Secondly, they may have a ritual, or apparently non-rational, aspect which is more difficult to isolate but which may manifest itself in such features as animal burials and burnt gateways. The evidence for hillforts withstanding attack is meagre and may all relate to re-use in a Roman context. The literary evidence does not seem to suggest hillforts as the foci of active combat in inter-tribal warfare.

These two non-defensive roles may also apply to the smaller late Bronze Age and Iron Age enclosures of southern England. The ditches of many enclosures display elements of possibly ritual deposition while the elaborate funnel and antennae entrances of other enclosures reflect prestige and isolation.



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