



## DR. JOHN WOODWARD, F.R.S. F.R.C.P. (1665-1728)

Dr John Woodward, F.R.S., F.R.C.P. (1665-1728) is the author of the penetrating observations, on the collection and registration of all sorts of geological objects then called "fossils", featured on our cover. These were not published until the year of his death 1728, but Dr V.A. Eyles has shown that these directions were issued probably only in manuscript to various collectors Woodward employed to augment his collections. They probably date from between 1700-1705. For words written 270 years ago they have an incredibly modern ring - advocating both good basic recording in the field i.e. abundance of specimens, whether in situ or not, if in situ at what depth and finally whether in a normal or abnormal stratigraphic situation, but also good curatorial techniques recording all this information in a register and numbering the individual specimens to correspond.

Woodward's earlier 1696 "Brief Instructions for making observations in all parts of the world" has been recently (1973) reprinted with a fine introduction by Dr V.A. Eyles by the Society for the Bibliography of Natural History. Dr Eyles has also published "John Woodward 1665-1728 a bio-bibliographical account of his life and work" in J. Soc. Bibliography Nat. Hist., Vol. 5, part 6, pp.399-427, 1971, to which all seeking further information must refer. Woodward qualifies as the first really scientific collector of geology and is a model for the topic of our AGM.

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EDITORIAL

Neglect, which is highlighted in this issue occurs largely as a result of ignorance and apathy. Anything that can be done to overcome these two evils can only be beneficial. Because of the nature of our profession there must be a large section amongst us with only a rudimentary knowledge of geological curatorial procedures. They look through the Group for help. Collections, unfortunately, do not select their curators and those latter less specialized must not be deterred from seeking advice and assistance WITH CONFIDENCE. Specialist groups are frequently viewed with some suspicion by larger organisations. We aim for wholehearted collaboration by all. The Newsletter tries to express these aims and offers information and a means of communication between all concerned - and CONCERN is something that should be felt on a national level at the state of our collections.

B. W. Page.

PROGRAMME:

One-day meetings have been arranged for 13th December at the Geological Society and 21st March at Sheffield Museum.

GEOLOGICAL MUSEUM MEETING

The Group's first meeting was held, appropriately enough, at the Geological Museum, London, on 18th October. 77 people assembled in the lecture hall for the introductory talk - an impressively high turnout from a membership of 83, but clearly the audience must have included staff from both the British Museum and the Geological Museum who were not members of the Group - an encouraging sign of interest among potential future recruits.

The programme centred around 'The story of the Earth' exhibition. In his introductory talk, Fred Dunning described the layout and gave a lucid and forthright account of the problems which had been met in producing the displays. He also outlined the changes which had been made since the gallery opened and those being carried out in the near future.

An examination of the gallery itself followed, with members of staff in attendance to answer questions. Those already familiar with the displays took the opportunity to go behind the scenes to discover, among other things, just how the erupting volcano effects were contrived.

On the mezzanine floor, a spirited group of soft-toy dinosaurs introduce the newly opened 'Story of Life' displays. The main feature here is an illuminated Tree of Life, which traces the colour-coded phyla through the geological column. Also included is a Pepper's Ghost display contrasting the landscape of the Thames estuary today with that of the Hoxnian interglacial. A popular exhibit, to judge from one boy's excited yell: "Hey Jimmy, there's a man changing into a gorilla!" Purists might object that the boy had missed the point (especially since the 'gorilla' was not Swanscombe Man but his modern descendant, sombrely clad in Home Counties overcoat and tweeds) but it clearly provided him with the afternoon's most memorable moment.

Finally an outline was given of the Museum's plans for the future. New permanent displays will include 'Britain before Man' on the ground floor; 'Fossils of Britain' replacing the first floor regional displays and, eventually, a new Economic Geology gallery on the top floor. This exhibition programme is expected to take 20 - 25 years to complete and, after so successful a start, should provide ample opportunities for further visits by the Group.

We would like to thank the staff at the Museum for their help and hospitality.

G. Tresise

PALAEONTOLOGICAL TYPE SPECIMENS

The importance of type specimens in palaeontology (and zoology) can never be over-emphasised. They are (and remain) the basic raw material by which species in the animal kingdom are defined. They must remain so in palaeontology for the long foreseeable future despite the advances made with numerical taxonomy for living animals. David Owen (1964, p.288) has rightly described them as the greatest treasures of natural history museums.

Their safe and recorded existence is thus a matter of vital importance to taxonomists who study the animals, and museum curators who guard the material for their definition. As the International Code for Zoological Nomenclature (I.C.Z.N.) 1964 states in its Article 72 f. "Value of types - Holotypes, syntypes, lectotypes and neotypes (and one must add paratypes) are to be regarded as the property of science by all zoologists and by all persons responsible for their safe keeping".

The five categories of type specimens mentioned above constitute the only primary (i.e. defining) types recognised in taxonomy, and these are the categories which most need to be recognised and identified in Museum Collections and Publications. The important difference between Primary and Secondary type specimens is not sufficiently emphasised by Swinton in his discussion (1948).

Definitions of the five primary type categories are as follows:

(a) Types defined by the original author of the species at the time of its definition.

(i) Holotypes

(a) Single specimen - If a new nominal species is based on a single specimen, that specimen is the "holotype", and should be labelled as such.

(b) Specified type - If an author states in the description of a new nominal species that one specimen and only one is "the type" or uses some equivalent expression, that specimen is the holotype, and should be labelled as such.

(ii) Syntypes

If a new nominal species has no holotype under the provisions of (a) and (b), all the specimens of the type-series are "syntypes" of equal value in nomenclature, and should be labelled as such.

(iii) Paratypes

After the holotype has been specified all remaining specimens (if any) of the original type series are "paratypes" and should be labelled as such.

- (b) Types defined by an author subsequent to the species original definition.

(iv) Lectotypes

If a nominal species has no holotype or if the holotype is lost, any zoologist (or palaeontologist) may designate subsequently one of the syntypes as the "lectotype". Remaining syntypes then become "paralectotypes".

(v) Neotypes

Subject to important conditions a zoologist (or palaeontologist) may designate another specimen to serve as "neotype" of a species if no members of the original type series (i.e. holotype, syntype, paratype and lectotype) are still in existence through proven loss or destruction. The loss of holotype or lectotype only is not sufficient cause for the designation of a neotype contra Swinton 1948 p.72 and Owen, 1964, p.289. Article 75 c.(3) of the I.C.Z.N. states all original type material must be proven lost or destroyed, before this action can be taken.

These definitions must be strictly observed by reference to the original published descriptions. Thus if a species was based originally on only one specimen there can by definition be no paratypes or syntypes for that species.

The I.C.Z.N. code makes the following Recommendations relating to Museum practice concerning type specimens which must always be adhered to:

Recommendation 72A. Institutional custody - A zoologist who designates a holotype or lectotype should deposit it in a museum or other institution where it will be safely preserved and will be accessible for purposes of research. Deposit of neotypes in a museum or other institution is mandatory [Art. 75c (6)].

Recommendation 72B. Labelling - A zoologist designating a holotype, lectotype, or neotype should unmistakably label the specimen in a way that will clearly indicate its status.

Recommendation 72C. Information on labels - When designating a holotype, lectotype, or neotype, a zoologist should publish all information that appears on the labels accompanying the specimen, so as to ensure the future recognition of the specimen.

Recommendation 72D. Institutional responsibility - Every institution in which types are deposited should

- (1) ensure that all are clearly marked so that they will be unmistakably recognized;

- (2) take all necessary steps for their safe preservation;
- (3) make them accessible for study;
- (4) publish lists of type-material in its possession or custody; and
- (5) so far as possible, communicate information concerning types when requested by zoologists.

The five categories defined above constitute the only primary sorts of species types recognised by the I.C.Z.N. Many other secondary type terms have been introduced - for fullest discussion see D. L. Frizzell, 1933. Some are useful such as:

- (a) Topotype - any specimen of a species coming from the same locality and geological zone as the holotype or syntypes of that species.
- (b) Metatype - a specimen identified by the original author as conspecific with his species, and from the same locality.

Swinton 1948, Owen 1964 and Morley-Davies 1961, p.273, all use plesiotype as an additional useful secondary category, but this term has been the subject of 3 different definitions (see Frizzell, 1933), and is best ignored. Morley-Davies' discussion of the Rules of Nomenclature is in other ways an adequate summary (1961, pp. 262-277).

Some secondary type categories seem even less useful at least in geology. My favourite is the entomologists Isotype - a specimen collected by the same person on the same day, in the same locality and as nearly as possible equivalent to the holotype; a category reflecting the differences in collecting techniques between geology and entomology. One is tempted cynically to ask if an isotype collected 10 minutes after the holotype but on a different day would be valid?

For general taxonomic problems nothing can replace the official I.C.Z.N. code for zoological objects. Botanists are bound by the International Code for Botanical Nomenclature and there is a separate one for Bacteria.

The best introductory text, although by a botanist, on problems of taxonomy and type concepts is

C. JEFFREY, 1973 - Biological Nomenclature. Edward Arnold, London. 69 p. available in paperback and containing a useful glossary of terms.

R. E. BLACKWELDER, 1967 - Taxonomy. A text and reference book. John Wiley & Sons, 698 p. is an exhaustive text book.

A system of physically marking type and figured specimens and those merely cited in the scientific literature is obviously essential. If, therefore, a specimen gets divorced somehow from its original label its importance can still be instantly recognised and rescue organised.



The British Museum (Nat. Hist.) system is worth wider application. Here all type and figured specimens have a small green circular tab attached to them (a paint blob is equally suitable if removable and placed with care so as not to obscure any vital feature of the specimen). Types then have HT (holotype) or PT (paratype) etc. written on the blob itself to further identify them. The type specimens are further housed in lurid pink trays for instant recognition. The accompanying labels will also state the type category and the author and place of publication.

Merely cited specimens in the same system have a similar but red tab or blob affixed. But this sadly is by no means yet general practice.

Dr. M. G. Bassett of the National Museum of Wales as noted in the first newsletter (p.13) is collecting published lists of type, figured and cited palaeontological material in Museums in the British Isles. As our first contribution to this we are very glad to have the following listing for the Sheffield City Museums from Tim Riley following I.C.Z.N. Recommendation 72D(4).

H. S. Torrens

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American Midland Naturalist 14, 637-668.

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An Introduction to Palaeontology.

3rd edition. Thomas Murby & Co.

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Care of type specimens.

Museums J. 63, 288-291.

SWINTON, W.E. 1948

Notes for Students. III Type-specimens.

Museums J. 48, 72-73.

TYPE SPECIMENS IN THE PALAEOLOGICAL COLLECTIONS OF SHEFFIELD CITY  
MUSEUMS, ENGLAND

A few fossils in the collections of Sheffield City Museums have at various times been considered as primary type specimens. This paper places on record those so noted, together with relevant data and citations. It is of course possible that further type material is present in the Museum's collections, but is unknown to the author.

ANIMALIA  
SCAPHOPODA

"Dentalium" sorbi King 1850 HOLOTYPE  
Magnesian Limestone, Permian.  
Conisborough, Yorkshire.  
Presented by H. C. Sorby, 1880.  
Accession number: H.27.11.80.777

The specimen was described but not figured by King (1850, p.218) and has been cited by Howarth (1910, p.192).

TRILOBITA

Griffithides longiceps Portlock var. angustata SYNTYPE  
H. Woodward 1901  
Carboniferous Limestone.  
Stoney Middleton, Derbyshire.  
Purchased from Rev. Urban Smith, 1888.  
Accession number: H.88.1103.

Griffithides longiceps Portlock var. angustata SYNTYPE  
H. Woodward 1901  
Carboniferous Limestone.  
Wetton Mill, Staffordshire.  
Purchased 1893, ex. Thomas Bateman Collection.  
Accession number: H.93.118.

Var. angustata was erected jointly on H.88.1103 and H.93.118 by Woodward (1901, p.152-4, plate VIII, figs. 6 = H.88.1103, 7 and 8 = H.93.118.)

PLANTAE  
SIGILLARIACEAE

Sigillaria sol Kidston 1897 NO STATUS  
Barnsley Thick Coal, Middle Coal Measures (Westphalian B)  
Kilnhurst, near Rotherham, Yorkshire.  
Presented by C. Bradshaw, 1900.  
Accession number: H.1900.50.

E. Howarth (1910, p.192) stated that the [holo] type of Sigillaria sol Kidston is in the collections of Sheffield City Museum. He presumably refers to this specimen (H.1900.50). However Crookall (1966, p.391) states that the holotype and only known specimen is in the Kidston Collection (No. 1407), Geological Survey and Museum. Crookall (1966) also figures specimen No. 1407 and it does indeed agree with Kidston's original figure. Kidston (p.57) received his holotype in 1888 from Mr. C. Bradshaw, from the same locality as the Sheffield Museum specimen.

(C. Bradshaw at this time was Assistant Curator at the Sheffield City Museum.) The Sheffield Museum specimen has no status as a primary type, although it is certainly a Metatype (an unofficial term for "a topotype subsequently identified by the author of a species subsequent to its erection"). Howarth and Crookall's statements above both need correction: Howarth as to the status of the Sheffield specimen, Crookall as to number of specimens known.

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Museums and Art Gallery in 'British Association Handbook'; Sheffield 1910.

##### KIDSTON, R. 1897

On the fossil flora of the Yorkshire Coalfield, Second Paper. Trans. Royal Society Edinburgh, vol. XXXIX, pt. 1, No. 5.

##### KING, W. 1850

A monograph of the Permian fossils of England. Palaeontogr. Soc. Monogr. vol. III, pt. 1.

##### WOODWARD, H. 1901

Note on some Carboniferous trilobites. Geol. Mag. decade IV, vol. VIII.

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GEOLOGICAL COLLECTIONS AND COLLECTORS OF NOTE

1. LICHFIELD MUSEUMS (pre 1850) postscript

As a result of the article in the first GCG Newsletter some more information about the Lichfield collections - described by Thomas Kelly (1970, p.110) as the first public provincial museum in England - can be added.

Dr. C. L. Forbes of the Sedgwick Museum, Cambridge, has kindly looked into the problem of the Sedgwick ichthyosaur Reg. No. J.47003 noted in the article, as recorded from the Lias of Lichfield where there is none exposed. He confirms that it is the specimen recorded by Seeley 1869 as the "Anterior part of the snout of a long-nosed Ichthyosaur ... from near Lichfield". In the same work (preface, p.iv) Adam Sedgwick wrote "In 1821 our (the Sedgwick Museum's) first plesiosaur was obtained by purchase at an auction of fossils which had been collected by a naturalist of Lichfield. [This] genus was at that time so little understood that the specimen now mounted in our Museum was put up in the same lot with a very fine portion of the head of a small Ichthyosaur; and the two had been catalogued as portions of one animal".

The Sedgwick specimen (J.47003) must thus have formed part of lot 150 at the sale which was, according to the sale catalogue, "A most uncommon and fine specimen of the Proteo-saurus EXTREMELY RARE with a set of drawings of both sides, in chalk, as large as the specimen. This specimen was found in a stone quarry at Wilmcote, near Stratford-upon-Avon, 30 feet below the surface. It is a fossil of extreme curiosity and interest and "partakes of the formation of various animals" (sic - see above!). A specimen has been sold for 100 guineas."

This account bears out the details of this "specimen" given by White Watson in 1811, and the locality of the Sedgwick Museum ichthyosaur snout can now be corrected after 153 years! But the associated plesiosaur cannot now be identified.

It may be possible to identify this as a contemporary description and engraving of it has been discovered thanks to some more detective work and help from the Bristol University Medical Library staff. The sale catalogue also states, referring to lot 150, "For a particular account see Medical and Physical Journal for Feb. 1801". In fact the correct reference is for February 1811, vol. 25, no. 144 pp.97-101 with a plate, "Remarks on Fossil Remains" by Joshua Brooks. This is the same reference as that quoted by George Cumberland (William Blake's friend) in 1829 (p.347) as Brooks Journal,

vol. 25, page 101, which was previously untraceable. Cumberland wrongly quotes the depth of the fossils discovery as 80 ft.

Brooks (or Brookes as he appears in the Dictionary of National Biography) lived from 1761 to 1833 and was a famous anatomy teacher in London who was elected F.R.S. in 1819. He, like Dr. Richard Wright of Lichfield, built up a famous museum mainly of anatomical interest at a cost of £30,000 which was dispersed once again by auction in March 1830.

Brooks, writing from the "Theatre of Anatomy, Blenheim Street, London", sent in an engraving of the Wilmcote "specimen" to the Journal because of its interest to naturalists as an apparently extinct species of crocodile or alligator, but differing from existing species in the form and disposition of its teeth.

The engraving shows that the "fossil" was indeed composite, as Adam Sedgwick claimed, for it depicts an ichthyosaur skull together with the majority of a headless plesiosaur skeleton. The skull is now in the Sedgwick Museum specimen J.47003, and it is hoped that the plesiosaur may also now be recognisable amongst the Sedgwick Collections from the engraving.

Brooks says the engraving was done by a young gentleman who had studied anatomy under him, Alfred Jukes of Birmingham. It is possible he is a relative of Frederick Jukes of the General Hospital Birmingham who published on Silurian trilobites and cephalopods from the Birmingham area in the Magazine of Natural History series, vol. 2 in 1829, which would suggest, if so, a family interest in fossils.

The Sedgwick Museum also acquired the other notable fossil mentioned in the sale catalogue namely lot 138 "Jaw with teeth of the Great Mastodon, a rare and most magnificent specimen". This was presented to the Sedgwick Museum in 1822 by the Rev. Mr. Newling who bought it at the sale.

Joshua Platt, a benefactor to the Lichfield Museum, who was mentioned in the article, died on December 26th, 1776 as the Gentlemen's Magazine records (Vol. 46, p.580). "In his 80th year universally regretted Mr. Joshua Platt of Oxford, well known to Naturalists for his Treatise on the Belemnite published in the Philosophical Transactions /Royal Society, Vol. 55, 1767/. His manners gained him the respect and esteem of all who knew him". This would make him born in 1696. Platt himself recorded his age as 73 in 1772, so he must have lived in fact from 1699-1776.

References see page 59.

H. S. Torrens  
Keele University

GEOLOGICAL COLLECTIONS AND COLLECTORS OF NOTE

2. NORTHAMPTON CENTRAL MUSEUM

In the Museums Assistants Group News for November 1973, a letter from Phil Doughty appeared concerning the collections at Northampton Central Museum and their lamentable state of decay. His acid comments, so unfortunately accurate, came at a late stage in this saga, the pages of which were first opened to me by Dr. H. S. Torrens of Keele University whose repeatedly frustrated attempts at locating type and figured material in the collections led to my being asked to undertake a rescue operation to restore some semblance of order. The details of that operation and its discoveries are felt to be instructive and should serve as an illustration to the staff of more fortunate museum departments of geology as to the dangers of inadequate curatorial care. They should also serve as a warning to those members of the profession who are guilty of similar crimes. The work was carried out during the summer of 1972.

The floor space allocated as a geology store is approximately 450 sq. ft. and this contains 9 stacks of Dexion shelving, 2 large drawer units, 2 small drawer units, and 2 large showcase/drawer units. Whilst this was a deceptively tidy arrangement, the additions to this were most certainly not:-

- 2 tea chests bursting with specimens including splendid Solenhofen fossil material at the bottom of one. (see p. 47)
- 1 large hamper of assorted specimens. (see back cover)
- 1 elephant skull
- 4 elephant tusks
- 1 elephant foot
- 1 crocodile skull with handle for easy articulation of the jaw
- Several boxes and cartons, all full.
- A collection of modern corals.
- An empty coin cabinet.

Apart from these notables, more specimens together with other flotsam and jetsam were scattered liberally throughout the store. An examination of the contents of all of the cabinets and boxes revealed a collection of some superb material, filthy with dust and in total disarray. Most of the material affected belonged to the collection of Lord Northampton who was

president of the Royal Society for 10 years, 1838-1848, and the Geological Society in 1820-1822. More fortunate was the second major collection at Northampton, that of Beeby Thompson whose partly curated material has remained virtually as he left it, though suffering from dust and occasional serious pyrite rot. Pyrite decay was in places more advanced (see back cover).

Judging from the newspapers acting as dust covers (which they didn't) there have been two periods of curatorial activity, for better or worse. One was in 1922, presumably by Thompson since that was the year his collection was purchased by the Northampton Museum Committee, and the other in 1946 by person or persons unknown. In the intervening periods chaos had reigned and remained supreme up to the present day. The problems of producing order from this mess were not so much mental as physical. All of the cabinet drawers were full and since most of them contained assorted material initial sorting consisted of constant shuffling and re-shuffling of drawers and specimens. This was made more difficult by the state of the cabinets. Many drawers were ill-fitting or broken and were rarely interchangeable. There was very little working space and so sorting progressed on the floor and in a neighbouring store though under somewhat obstructive conditions. Dr. Torrens had had the foresight to ask the museum to obtain two large cartons of cardboard trays which were used extensively throughout the exercise.

During a period of many weeks, several tasks ran concurrently. The major question which raised itself when confronted with the collections as they stood, was on what criteria should the material be first sorted and then stored? It was obviously impossible at first to try and locate a single category when it was scattered throughout the collection and so more obvious criteria had to be used at first and refinements introduced later. As well as the basic sorting, specimens were first cleaned and checked for any items of importance, e.g. material of named collectors; type or figured specimens of which Hugh Torrens had prepared an initial list of type and figured material known or expected in the collections from previously published statements. Any of the latter that were found were put aside and checked against the literature to gather all relevant information. An eye was kept on the various handwriting on labels since comparisons often betrayed the origins of a specimen.

Leaving aside the Thompson Collection, which was already curated to some extent, the most obvious initial project was to gather together all of Lord Northampton's material, recognisable by printed labels bearing the words ... 'Collection Lord Northampton' together with any relevant data.

Sometimes specimens were only known to belong to this collection by a clear rectangular area where a label had formerly been attached. Within this grouping it was soon necessary to form subdivisions. These were usually under zoological and stratigraphic headings, e.g. Chalk Echinoids; Chalk Asteroids. Other criteria were used when it was felt to be important: all of the Solenhofen (Germany) U. Jurassic material was sorted together and then subdivided into fish and crustacea. The collection of cephalopods from Christian Malford, Wiltshire formed such a distinct group that they were stored under the locality name. The Devonian polished corals formed another easily recognisable group. Many specimens could not be shown to be a part of the Lord Northampton Collection, but often it was apparent that this was their origin, usually by the methods of development of the specimens concerned. In these cases the material was sorted as 'Lord Northampton - uncurated'.

Specimens which did not belong to this collection were likewise sorted under a variety of headings, depending usually on the apparent quantity of material involved. Lias fossils were abundant and could be sorted zoologically. It was also useful in this case to differentiate between local Lias and non-local Lias. In the latter group a set of French Lias was discovered and isolated. Again, when a locality was found to be important, the material was sorted accordingly, e.g. Hunstanton Red Chalk. Handwritten labels often provided clues to the origin of a specimen. A lot of material was united by having labels written in crude black italics and this was noted.

It was apparent at an early stage that the abundant Tertiary fossils were of no great importance except a collection of Sicilian Phocene material made by Lord Northampton (who had a house at Palermo) at the instance of Charles Lyell who visited him there, and to enable more urgent work to be continued they were therefore sorted merely as 'Tertiary Molluscs'. Future work can improve on this. Whenever specimens belonging to a particular collection were discovered they were stored under the collector's name, e.g. Porter Collection; Jesson Collection. This was felt to be very important since it is in such named collections that valuable specimens are often to be found.

Some detective methods of sorting were occasionally necessary. A collection of Polyzoa from Ranville Normandy France was found in which all the specimens had originally been stuck to cards but had since become detached. Matching of specimens was easily accomplished by comparing the remains of glue and paper on the specimens with the damaged areas on the cards.



Any material left over which could not be easily classified or which was unidentified and poor in quality was sorted as being 'loose'. Some zoological sorting was possible when numbers permitted. Sorting for size was also convenient on occasion. Any other obvious grouping was employed where possible. Some of this loose material has been made available to the Schools Loan Service of the museum though very little was utilised for this purpose. Some important material may yet remain unrecognised in this category, any people seeking as yet undiscovered material are urged to bear this in mind.

It should be stressed that all of the tasks outlined were carried out simultaneously and none was truly finished until the end of the project. Because of the expansion of the collection due to the sorting with no corresponding expansion in the space available many compromises had to be made. Some drawers are more full than they should be but in the light of the previous history of the collections it was felt that accessibility was more important than over-cautious treatment. After all the drawers had been cleaned and waxed, they were numbered and labelled with Dymotape. The Dexion shelving was numbered for easy reference. A card index was drawn up so that any large or important category could be soon found. This should provide an initial check for anyone wishing to work on the collections, though searches for more specialised material may still prove difficult. A detailed card index was also made of each type and figured specimen which were individually numbered and locked away in the drawers underneath the geology displays in the top gallery (Northamptonshire Room) of the museum. Both these indices are located in the store.

Much of the concern over the collections at Northampton was about the fossil collections and the types hidden in them. In addition to these however there was a large mineral collection, largely formed again by Lord Northampton. Due to a lack of expertise in identification this material was left alone until Dr. R. J. King became interested and started work on it at the University of Leicester. He has reported to me that all of the specimens he has seen were filthy and often battered though of a high mineralogical standard. His treatment consisted of cleaning, identifying, numbering and cataloging. Conservation measures were also taken where necessary. He has in some cases been able to match specimens with labels found in envelopes with the collection. His task is now completed, having dealt with specimens approaching 2,500 in number. Of these he has indicated that 150 are of some importance. It is unfortunate that since the vast majority of specimens have no accompanying data, the remaining collection is virtually worthless, except as a teaching collection.

I would like to record here my personal appreciation of Dr. King's work, undertaken completely voluntarily. He has received no official thanks and in fact received a complaint at the beginning of the job which was, however, retracted. All specimens have been returned to the museum and the catalogue deposited with Mr. R. Moore, the museum Archaeologist.

After 2 months intensive work, the geology store was left in a fairly accessible condition. Measures were taken to protect much of the collection from dust. Over 45 type and figured specimens were unearthed, most anticipated but with some true finds. It is hoped a full list will be published in the future jointly with Hugh Torrens. During the project many identifications were carried out by him and by Dr. T. A. Getty, now of Portsmouth Museum. Since then, Mr. J. B. Delair of Caledonian Land Surveys Ltd. has studied the vertebrate material and has identified and listed over 400 specimens. His catalogue is also lodged with Mr. Moore.

I have recently made a return visit to Northampton to check on the condition of the collections 2 years after the project was completed. The signs are not good. Though the collections themselves have remained undisturbed, dust has penetrated into many of the drawers. Two tea chests of tropical seashells have appeared taking up much of the floor space. The rest is occupied with a heavy piece of shoe manufacturing machinery and a table covered with boxes of boots and shoes. Newly acquired geological material, brought in as enquiries and gifts, has been left lying around at random. The elephants have also returned.

The state of affairs at Northampton can be ascribed to various agencies. Naturally enough, much of the blame has fallen on present personnel but this blame cannot be placed squarely. The criticism by Phil Doughty may be accurate but it is not far reaching enough. The administrative set-up at the museum has never been good, and progress has been hindered by an apparent lack of interest at higher levels. An example of this is that even though pressed by the Museum for many years the appointment of a Field Archaeologist was never approved, and yet Northampton Development Corporation saw fit (quite rightly) to appoint an Archaeologist with full back-up facilities and no shortage of man power. What price a Geologist? The position now, under a Leisure and Recreation Department is even worse since the Curator has lost direct access to his committee. Surely no profession can allow this kind of treatment to be handed out arbitrarily to its members. What also of previous Curators - they must also share some of the blame. Should one blame any of the present staff, who working under difficult conditions are presumably only trying to improve their department's efficiency, albeit with dubious tactics? Short of total re-

organisation it would seem that the only hope for the collections at Northampton (and this not only includes geology) is if they are removed on loan to national museums where their safety is assured, until such time as Northampton is able and prepared to fulfill its responsibilities. As David Owen has said in the Museums Journal vol. 63, p.389-90, 1964 "The prerequisite of the provincial museum holding type specimens is a suitably qualified member of the staff always in charge of the types with fossils a geologist. The small museum without had much better place its type specimens in an institution whose staff are appointed primarily to care for the specimens." But the real solution to the problems at Northampton does not lie in the hands of geologists, though fortunately we are now in a position to help each other. The solution lies with the 'profession' and until it wakes up, Northampton and museums like it will sleep on.

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John A. Cooper,  
Leicestershire Museums

#### IMPORTANT

I should be pleased to hear from anyone who believes that further material should be present in the Northampton Collections. Some important material may very easily remain unrecognised. Searches could not be exhaustive, either, of the literature or the specimens themselves.

J.A.C.











































































